



BUILDING A
STRONGER
CEMEX

20-F REPORT 2018

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549**

FORM 20-F

(Mark One)

- REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934
OR
 ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2018
OR
 TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
OR
 SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
Date of event requiring this shell company report
For the transition period from _____ to _____
Commission file number 1-14946

CEMEX, S.A.B. de C.V.

(Exact name of Registrant as specified in its charter)

CEMEX PUBLICLY TRADED STOCK CORPORATION WITH VARIABLE CAPITAL
(Translation of Registrant's name into English)

United Mexican States

(Jurisdiction of incorporation or organization)

Avenida Ricardo Margáin Zozaya #325, Colonia Valle del Campestre, San Pedro Garza García,
Nuevo León, 66265, México
(Address of principal executive offices)

Roger Saldaña Madero,
+52 81 8888-8888, +52 81 8888-4399,
Avenida Ricardo Margáin Zozaya #325, Colonia Valle del Campestre, San Pedro Garza García,
Nuevo León, 66265, México

(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)
Securities registered or to be registered pursuant to Section 12(b) of the Act.

Title of each class

Name of each exchange on which registered

Ordinary Participation Certificates (*Certificados de Participación Ordinarios*), or CPOs, each CPO representing two Series A shares and one Series B share, traded in the form of American Depositary Shares, or ADSs, each ADS representing ten CPOs.

New York Stock Exchange

Securities registered or to be registered pursuant to Section 12(g) of the Act.

None
(Title of Class)

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act.

None
(Title of Class)

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report.

14,983,856,154 CPOs
30,002,628,318 Series A shares (including Series A shares underlying CPOs)
15,001,314,159 Series B shares (including Series B shares underlying CPOs)

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. Yes No

Note—Checking the box above will not relieve any registrant required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 from their obligations under those Sections.

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," and "emerging growth company" in Rule 12b-2 of the Exchange Act (check one).

Large accelerated filer Accelerated filer Non-accelerated filer Emerging growth company

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards[†] provided pursuant to Section 13(a) of the Exchange Act.

[†] The term "new or revised financial accounting standard" refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP International Financial Reporting Standards as issued by the International Accounting Standards Board Other

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow. Item 17 Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

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INTRODUCTION

CEMEX, S.A.B. de C.V. is incorporated as a publicly traded variable stock corporation (*sociedad anónima bursátil de capital variable*) organized under the laws of the United Mexican States (“Mexico”). Except as the context otherwise may require, references in this annual report to “CEMEX,” “we,” “us” or “our” refer to CEMEX, S.A.B. de C.V. and its consolidated entities. See note 1 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

PRESENTATION OF FINANCIAL INFORMATION

Our consolidated financial statements included elsewhere in this annual report have been prepared in accordance with International Financial Reporting Standards (“IFRS”), as issued by the International Accounting Standards Board (“IASB”).

The regulations of the United States Securities and Exchange Commission (the “SEC”) do not require foreign private issuers that prepare their financial statements based on IFRS (as published by the IASB) to reconcile such financial statements to United States Generally Accepted Accounting Principles (“U.S. GAAP”).

References in this annual report to “U.S.\$” and “Dollars” are to U.S. Dollars, references to “€” are to Euros, references to “£”, Pounds Sterling and “Pounds” are to British Pounds, and, unless otherwise indicated, references to “Ps,” “Mexican Pesos” and “Pesos” are to Mexican Pesos. References to “billion” mean one thousand million. References in this annual report to “CPOs” are to CEMEX, S.A.B. de C.V.’s *Certificados de Participación Ordinarios*. References to “ADSs” are to American Depositary Shares that represent the CPOs. The Dollar amounts provided below, unless otherwise indicated elsewhere in this annual report, are translations of Peso amounts at an exchange rate of Ps19.65 to U.S.\$1.00, the CEMEX accounting rate (as defined below) as of December 31, 2018. However, in the case of transactions conducted in Dollars, we have presented the U.S. Dollar amount of the transaction and in most cases, when such amounts are presented in our consolidated financial statements, the corresponding Peso amount is presented in our consolidated financial statements. These translations have been prepared solely for the convenience of the reader and should not be construed as representations that the Mexican Peso amounts actually represent those Dollar amounts or could be converted into Dollars at the rate indicated.

References in this annual report to total debt plus other financial obligations (which include debt under the 2017 Credit Agreement (as defined below)) do not include debt and other financial obligations of ours held by us. See notes 2.6 and 16.2 to our 2018 audited consolidated financial statements included elsewhere in this annual report for a detailed description of our other financial obligations. Total debt plus other financial obligations differs from the calculation of debt under the 2017 Credit Agreement.

We also refer in various places within this annual report to non-IFRS measures, including “Operating EBITDA.” “Operating EBITDA” equals operating earnings before other expenses, net, plus amortization and depreciation expenses, as more fully explained in “Item 3—Key Information—Selected Consolidated Financial Information.” The presentation of these non-IFRS measures is not meant to be considered in isolation or as a substitute for our 2018 audited consolidated financial results prepared in accordance with IFRS as issued by the IASB.

We have approximated certain numbers in this annual report to their closest round numbers or a given number of decimal places. Due to rounding, figures shown as totals in tables may not be arithmetic aggregations of the figures preceding them.

CERTAIN TECHNICAL TERMS

When used in this annual report, the terms set forth below mean the following:

- **Aggregates** are inert granular materials, such as stone, sand and gravel, which are mined from quarries. They give ready-mix concrete its necessary volume and add to its overall strength. Under normal circumstances, one cubic meter of fresh concrete contains two metric tons of gravel and sand.
- **Clinker** is an intermediate cement product made by sintering limestone, clay, and iron oxide in a kiln at around 1,450 degrees Celsius. One metric ton of clinker is used to make approximately 1.1 metric tons of gray portland cement.
- **Gray portland cement**, used for construction purposes, is a hydraulic binding agent with a composition by weight of at least approximately 95% clinker and up to 5% of a minor component (usually calcium sulfate) which, when mixed with sand, stone or other aggregates and water, produces either concrete or mortar.
- **Petroleum coke (pet coke)** is a by-product of the oil refining coking process.
- **Ready-mix concrete** is a mixture of cement, aggregates, and water.
- **Tons** means metric tons. One metric ton equals 1.102 short tons.
- **White cement** is a specialty cement used primarily for decorative purposes.

PART I

Item 1—Identity of Directors, Senior Management and Advisors

Not applicable.

Item 2—Offer Statistics and Expected Timetable

Not applicable.

Item 3—Key Information

Financial Evolution Since 2009

As of December 31, 2008, we had Ps258,094 million (U.S.\$18,784 million) of total debt, not including Ps41,495 million (U.S.\$3,020 million) of Perpetual Debentures (as defined below). Most of our outstanding debt as of December 31, 2008 had been incurred to finance our acquisitions, including the acquisition of Rinker Group Limited (“Rinker”) in 2007, and our capital expenditure programs. The acquisition of Rinker substantially increased our exposure in the United States, which experienced a sharp downturn in the housing and construction sectors caused by the 2007-2008 financial crisis. This downturn had adverse effects on our United States operations, making it more difficult for us to achieve our goal of decreasing our acquisition-related leverage and, given extremely tight credit markets during the height of the financial crisis, making it increasingly difficult for us to refinance our acquisition-related debt.

On August 14, 2009, we reached a comprehensive financing agreement with our major creditors (as subsequently amended, the “2009 Financing Agreement”). The 2009 Financing Agreement extended the maturities of approximately U.S.\$15 billion in syndicated and bilateral bank facilities and private placement obligations. As part of the 2009 Financing Agreement, we pledged or transferred to trustees under security trusts substantially all the shares of CEMEX México, S.A. de C.V. (“CEMEX México”), Cemex Operaciones México, S.A. de C.V. (“Cemex Operaciones México”), CEMEX TRADEMARKS HOLDING Ltd. (“CTH”), New Sunward Holding B.V. (“New Sunward”) and CEMEX España, S.A. (“CEMEX España”), as collateral (together, the “Collateral”) and all proceeds of such Collateral, to secure our payment obligations under the 2009 Financing Agreement and under several other financing arrangements for the benefit of the participating creditors and holders of debt and other obligations that benefit from provisions in their instruments requiring that their obligations be equally and ratably secured. These subsidiaries whose shares were pledged or transferred as part of the Collateral collectively own, directly or indirectly, substantially all our operations worldwide.

Since the signing of the 2009 Financing Agreement, we have completed a number of capital markets transactions, debt transactions and asset disposals, the majority of the proceeds of which have been used to reduce the amounts outstanding under the 2009 Financing Agreement, to pay other debt not subject to the 2009 Financing Agreement, to improve our liquidity position and for general corporate purposes.

As of December 31, 2018, we had Ps207,724 million (U.S.\$10,571 million) (principal amount Ps209,153 million (U.S.\$10,644 million), excluding deferred issuance costs) of total debt plus other financial obligations in our statement of financial position, which does not include Ps8,729 million (U.S.\$444 million) of Perpetual Debentures. Of our total debt plus other financial obligations, 7% was short-term (including current maturities of long-term debt) and 93% was long-term. As of December 31, 2018, 64% of our total debt plus other financial obligations was Dollar-denominated, 26% was Euro-denominated, 5% was Pound Sterling-denominated, 2% was Philippine Peso-denominated and immaterial amounts were denominated in other currencies. See notes 16.1, 16.2 and 20.4 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

In 2018, we embarked on a strategic plan to build “A Stronger CEMEX.” This transformational plan is designed to fortify CEMEX’s position as a leading global heavy building materials company, accelerate our path to investment grade, enhance CEMEX, S.A.B. de C.V.’s total shareholder return and generate long-term value for all of our stakeholders. Specifically, we believe that through this strategic plan, we can rebalance and streamline our existing portfolio in order to better position ourselves to deliver higher growth and greater stakeholder value over the mid-to-long-term by divesting between U.S.\$1.5 billion and U.S.\$2 billion in assets by 2020; achieve recurring operational improvements of U.S.\$230 million by 2020; accelerate our path to investment grade by further deleveraging CEMEX by reducing our debt by U.S.\$3.5 billion between the launch of the “A Stronger CEMEX” plan and 2020; and, subject to the approvals of CEMEX, S.A.B. de C.V.’s shareholders at each corresponding ordinary general shareholders’ meeting, to return value to CEMEX, S.A.B. de C.V.’s shareholders through dividends and stock repurchase programs.

Risk Factors

We are subject to various risks mainly resulting from changing economic, environmental, political, industry, business, regulatory, financial and climate conditions, as well as risks related to ongoing legal proceedings and investigations. The following risk factors are not the only risks we face, and any of the risk factors described below could significantly and adversely affect our business, liquidity, results of operations or financial condition, as well as, in certain instances, our reputation.

Risks Relating to Our Business

Economic conditions in some of the countries where we operate and in other regions or countries may adversely affect our business, financial condition, liquidity and results of operations.

The economic conditions in some of the countries where we operate have had and may continue to have a material adverse effect on our business, financial condition, liquidity and results of operations. Our results of operations are highly dependent on the results of our operating subsidiaries worldwide, including those in the United States, Mexico, South, Central America and the Caribbean (“SCA&C”), Europe, Asia, the Middle East and Africa. Accordingly, the economic conditions in some of the countries where we operate have had and may continue to have a material adverse effect on our business, financial condition, liquidity and results of operations worldwide.

As of December 31, 2018, our operations were mostly in Mexico, the United States, certain countries in Europe, SCA&C, Asia, the Middle East and Africa (as described in “Item 4—Information on the Company—Business Overview”).

For a geographic breakdown of our revenues for the year ended December 31, 2018, see “Item 4—Information on the Company—Geographic Breakdown of Revenues for the Year Ended December 31, 2018.”

While upside and downside risks to the short-term global economic growth outlook seem to be broadly balanced, we believe the scenario is not risk free. We believe that as of the date of this annual report, the possible main downside concerns include risks of slowing global economic growth, particularly due to a shift toward protectionist policies in the context of growing trade tensions between the United States and China; a possibly sharp tightening of financial conditions and its potential impact on the global economy, highly indebted European countries, emerging markets, risk aversion, foreign exchange markets, volatility and financial markets; economic vulnerability of emerging market economies; elections in some Latin American countries and the newly formed governments in some of the countries in which we operate; economic and political uncertainties in Europe; China’s economic performance; political uncertainty in the United States; and geopolitical risks in the Middle East and other regions experiencing political turmoil, including the current situation in Syria. The materialization of any of these concerns may have a material adverse effect on our business, financial condition, liquidity and results of operations.

Furthermore, while a general agreement on trade between the United States and China has not been reached, the cycle of trade restrictions and retaliation between the United States and China has the potential to further weaken global trade and create global economic uncertainty and financial volatility. A worsening of trade conditions resulting from negotiations between the United States and China and the imposition of broader barriers to cross-border trade could not only have a direct impact on trade and investment but also on global economic growth and financial conditions.

The equity market correction in March 2018 following the United States tariff announcement on steel, aluminum and a range of Chinese products, as well as the announcement by China of retaliatory tariffs on imports from the United States, are examples showing that asset prices can correct rapidly and trigger potentially disruptive portfolio adjustments. Financial conditions that exist as of the date of this annual report could tighten sharply and expose vulnerabilities that have accumulated over the years, with potential adverse repercussions for economic growth. High asset valuations, both in emerging and advanced economies, and very compressed term premiums raise the possibility of a financial market correction, which could dampen growth and confidence.

The United States Federal Reserve System has increased short-term interest rates at a measured pace since December 2015. There is a risk that further interest rate hikes could cause Dollar appreciation, a manufacturing slowdown and economic deceleration on the back of slower housing investment. However, a slower than warranted pace of increase in interest rates could result in inflation acceleration and the disanchoring of inflation expectations, possibly leading to swift monetary policy tightening and a potential recession in the United States. The tax code overhaul could further increase the persistent fiscal deficits and unsustainable debt dynamics over the next four years. Also, the current account deficit could increase given the projected impact of the fiscal stimulus on domestic demand in the United States. High fiscal and current account deficits could affect both economic activity and exchange rates. The United States housing sector supply constraints, associated in part with labor shortages, could result in a slower pace of growth in housing starts in the United States.

In the United States, renewed federal budget disputes could lead to lesser than Fast Act-authorization spending levels for highways and streets. Global market volatility and uncertainty surrounding United States trade, such as imposing tariffs on Chinese products coming into the United States, geopolitical concerns and immigration policy, could undermine consumer confidence and investment prospects in the United States. Combined, these uncertainties could have a material adverse impact not only on our financial condition, business and results of operations in the United States, but also on our operations worldwide.

Many emerging market economies have gone through bouts of financial volatility over the past few years. Some large commodity exporters and other stressed economies also weathered substantial exchange rate movements. Though it proved short-lived for most countries, many countries in this group remain vulnerable to sudden shifts in global market sentiment. There is a risk of new episodes of market volatility, increased risk aversion and capital outflows from emerging markets, which could cause emerging markets' currencies to further depreciate. The high level of U.S. Dollar denominated corporate indebtedness in emerging markets constitutes an additional source of instability. Also, emerging markets would face higher global risk premiums and substantial capital outflows, putting particular pressure on economies with domestic debt imbalances. The risk of contagion effect across emerging markets could be significant and have an adverse effect on our business and also on our financial condition, liquidity and results of operations.

In February 2019, the Central Bank of Mexico reduced Mexico's 2019 and 2020 economic growth forecast due to a slowing world economy, weakness in domestic demand and a downward trend in the country's oil production. Slower economic growth in Mexico is likely to have an adverse effect on demand for our products. In addition, any deterioration in the growth perspectives of the United States or in the global economic and financial conditions and risk perception could negatively affect Mexico's economy and therefore our results of operations. On November 30, 2018, the United States, Mexico and Canada signed the United States-Mexico-Canada Agreement (the "USMCA"), which is the result of the renegotiation of the North American Free Trade Agreement ("NAFTA"). The USMCA is intended to supersede NAFTA, but has not yet been ratified by all

signatories and is therefore not in full force and effect. A failure to ratify the USMCA has the potential to erode Mexico's access to the United States' domestic market and could negatively affect investment, development, growth and confidence in Mexico, as well as foreign exchange rates. Other risks that could negatively affect Mexico include the inflation rate not decelerating towards the Central Bank of Mexico's target range, continued decline in oil production in Mexico, manufacturing production not reacting positively to a global manufacturing boost, a contraction of the construction industry and larger than expected domestic demand deceleration for products in our industry.

A fraction of our business is dependent on the unobstructed flow of raw materials, products and equipment between the United States and Mexico. The current United States administration has indicated its intention to enhance control at the border between the United States and Mexico. To the extent implemented, such measures may result in reduction or deterioration of road, rail, air and water services between the two countries, which could increase costs and impact the quality of the services we offer to our clients, thus having an adverse effect on our business and also on our financial condition, liquidity and results of operations.

As a result of a general election in Mexico that took place in 2018, a new federal government and chambers of the Mexican National Congress have been installed. As is the case with most changes in administration, there is uncertainty regarding the impact of this new government's economic and public policies and the impact any policies could have on the economy of Mexico, including on the Mexican Peso, on the foreign exchange markets and in attracting or maintaining foreign investment in Mexico, which could affect our financial condition, business, liquidity and results of operations, particularly in Mexico.

In China, the reliance on stimulus measures to maintain high rates of growth continues. External triggers, such as a shift toward protectionism in advanced economies or domestic shocks, could lead to a broader tightening of financial conditions in China, possibly exacerbated by capital outflow pressures, with an adverse impact on demand and output. Regulators in China have also taken important measures to reduce shadow banking and bring financial activity back onto bank balance sheets. However, when taking into consideration that total credit growth, particularly in the private sector, remains high, efforts to reform the financial sector are likely to stagnate until trade disputes are resolved. The consequences for emerging market economies of weaker economic performance and increased policy uncertainty in China could be significant and could affect our financial condition, business, liquidity and results of operations.

In Colombia, the correction of macroeconomic imbalances, such as inflation, is making progress, but still needs to advance further and could be pressured by recent minimum wage increases. Consumer and producer expectations are gradually recovering. Supported by increased oil prices, economic activity is expected to improve slightly from the low levels seen in recent years. However, a reduction may affect future growth, which in turn could affect our results of operations in Colombia. Civil works investment, mainly with private financing, could be lower than anticipated, especially if additional sources of financing are not secured. The new government has also passed a fiscal reform plan that is expected to reduce the fiscal deficit. However, this too could be affected if oil prices fall. Migrant inflows coming from Venezuela are also likely to present challenges for the government. If any of these risks materialize, it could affect our financial condition, business, liquidity and results of operations, particularly in Colombia.

In Nicaragua, what started as protests against social security reform in April 2018 has turned into calls for President Daniel Ortega's ousting. Continued anti-government protests have resulted in regular outbreaks of violence, which have had and may continue to have a major negative impact on the economic activity of Nicaragua. In December of 2018, the President of the United States signed the Nicaragua Investment Conditionality Act (NICA), which could place conditions on foreign aid and financing to Nicaragua. In the same month, the Organization of American States (the "OAS") activated a legal proceeding that may lead to sanctions being imposed on Nicaragua or Nicaragua being suspended from the OAS. Prolonged social instability and political crisis in Nicaragua could cause a severe economic downturn, which could negatively affect our operations and results of operations in Nicaragua.

In Europe, the environment of negative deposit rates is distorting financial markets and creating uncertain consequences for the banking sector. There is a risk that negative rates would erode bank profitability and curb lending across Eurozone borders, creating other systemic risks to European economies. The economic activity in the Eurozone is expected to continue decelerating after its peak in 2017. There is a risk that the European Central Bank (the ECB) will finish its easing policy too early. Uncertainty about the Euro's performance remains, which could affect our operations in European Union ("EU") member states, which could adversely affect our results of operations, liquidity and financial position, particularly in Europe.

The Eurozone's economic growth and European integration are challenged by a number of uncertainties, including, but not limited to, delays in implementing the needed structural reforms in some European countries; uncertainty regarding the profitability of the European banking system in general and the Italian banking sector in particular; the process of United Kingdom's exit from the EU; and Poland's conflict with EU institutions due to its judicial reform. Further, the renewed popularity of nationalistic policies in Europe is another aftereffect of the financial crisis and its prolonged aftermath. All these factors could impact market confidence and could limit the benefit of the economic tailwinds and monetary policy stimulus for Europe and possibly worldwide, which in turn could adversely affect our results of operations, business, liquidity and financial position, particularly in Europe.

The result of the June 2016 referendum in the United Kingdom to exit the European Union ("Brexit"), and the subsequent commencement of the official withdrawal process by the government of the United Kingdom, has created a certain level of uncertainty regarding the final terms of that withdrawal and the future of the relationship between the EU and the United Kingdom. Brexit is already having an impact on economic activity and financial conditions. At the end of 2018, declines in business investment, consumer confidence and fixed investment growth signaled investor pessimism. On April 11, 2019, with no withdrawal agreement in place, the EU granted the United Kingdom a further extension to the Brexit date until October 31, 2019, subject to certain conditions. It is unclear how and in what timeframe Brexit withdrawal negotiations will proceed and what the potential consequences may be. If there are no negotiated terms of withdrawal reached by the parties, barrier-free access between the United Kingdom, the European Union and the rest of the world could be diminished or eliminated. These border and customs controls could increase costs of materials imported into the United Kingdom and finished goods exported from the United Kingdom. In addition, it is possible that logistical delays created by those controls could delay shipments of materials and supplies. A United Kingdom departure from the EU without a clear agreement governing their economic relationship not only has the potential to significantly disrupt trade relations and border management but also to affect the operations of broad sectors of the United Kingdom economy, such as financial services companies, manufacturing and supply chains and aviation. The overall economic impact of the process surrounding the United Kingdom's departure from the EU, including, if it occurs, a "no-deal Brexit," may contribute to greater instability in the global financial markets and could reduce consumer spending in the United Kingdom and the EU, which could result in decreased demand for our products and has the potential to have a material adverse effect on our financial condition, business, liquidity and results of operations, particularly with regards to our operations in the United Kingdom.

In Spain, the Catalan region conflict resulted in social unrest, and although it seems to have a transitory impact on the local economy, an escalation of the conflict could affect the Spanish economy and performance of the construction sector. Given that the Spanish national government is led by a minority in the parliament, depending on smaller parties, policy stagnation is likely to continue until the next election is held. Early elections, however, cannot be ruled out. These factors could adversely affect our operations and results of operations in Spain.

Significant trade links with Western Europe render some of the Eastern European countries susceptible to economic and political pressures from Western Europe. Labor shortages in Central European countries are expected to become more acute, which could undercut competitiveness in the region. Additionally, Central European countries might experience a reduction in the proceeds they receive from the EU's structural funds over the coming years, which could hinder infrastructure investment in such countries and adversely affect our

financial condition, business, liquidity and results of operations, particularly with regards to our operations in Europe.

In the Middle East, political risk could impact economic growth and adversely affect construction investments. The United States' recognition of Jerusalem as Israel's capital has increased tensions between Israelis and Palestinians. The conflict between Israel and Palestine continues to generate instability and the overall situation in Syria could worsen. Any escalation of this conflict or social unrest in this region may affect our financial condition, business, liquidity and results of operations, particularly in this region.

In Egypt, we cannot be certain if the new government that was elected in 2018 will continue to successfully implement the reforms needed to bring political and economic stability to the country. Any premature easing of monetary policy before inflation expectations are fully anchored, or opposition to reforms by vested interests, could undermine stabilization efforts in Egypt. External risks relate to a worsening of the security situation that could slow the recovery of tourism, a sustained rise of global oil prices, lower growth in Egypt's main trading partners and unexpected tightening of global financial conditions. If any of these risks materialize, it could adversely affect our operations and results of operations in Egypt.

In the Philippines, factors such as increased inflation over the past year, interest rate increases and a potential worsening of the security situation in Mindanao, could adversely affect the country's economy. The current government's foreign policy and the potential change in the constitution towards federalism could have a negative political effect on the country. Such a change could jeopardize the country's infrastructure development plan and eventually affect its economic growth, which would adversely affect our financial condition, business, liquidity and results of operations, particularly with regards to our operations in the Philippines.

In general, demand for our products and services is strongly related to construction levels and depends, in large part, on residential and commercial construction activity, as well as private and public infrastructure spending in almost all of the countries where we operate. Public and private infrastructure spending in countries dependent on revenue generated by the energy sector is exposed to decreases in energy prices. Therefore, decreases in energy prices could affect public and private infrastructure spending which, in turn, could affect the construction industry. This could ultimately affect our financial condition, business, liquidity and results of operations.

Declines in the construction industry are usually correlated with declines in general economic conditions. As a result, deterioration of economic conditions in the countries where we operate could have a material adverse effect on our business, financial condition, liquidity and results of operations. In addition, we cannot assure you that growth in the gross domestic product of the countries where we operate will translate into a correlated increase in demand for our products.

We are subject to effects of general global economic and market conditions that are beyond our control. If these conditions remain challenging or deteriorate, our business, financial condition, liquidity and results of operations could be adversely affected. Possible consequences from macroeconomic global challenges could have an adverse impact on our business, financial condition, liquidity and results of operations.

Political and social events and possible changes in governmental policies in some of the countries where we operate could have a material adverse effect on our business, financial condition, liquidity and results of operations.

In recent years, some of the governments in the countries where we operate, such as the United States, have implemented and may continue to implement significant changes in laws, public policy or regulations that could affect the political, economic and social conditions in the countries where we operate, as well as in other countries. Any such changes may have a material adverse effect on our business, financial condition, liquidity and results of operations.

Furthermore, presidential, legislative, state and local elections have taken place, or are scheduled to take place, in 2019 in several of the countries where we operate, including El Salvador, Panama, the Philippines, Guatemala, Israel and Poland, as well as the elections for the European Parliament. For these countries, as is usually the case when there is a change in governments, a change in federal government and the political party in control of the legislature could result in sharp changes to the countries' economic, political or social conditions, and in changes to laws, regulations and public policies, which may contribute to economic uncertainty and could also materially impact our business, financial condition, liquidity and results of operations. Similarly, if no political party wins a clear majority in the legislative bodies of these countries, legislative gridlock and political and economic uncertainty may result.

We cannot assure you that political or social developments in the countries where we operate or elsewhere, such as the election of new administrations, changes in laws, public policy or regulations, political disagreements, civil disturbances and the rise in violence and perception of violence, is not expected to have a material adverse effect on global financial markets, or on our business, financial condition, liquidity and results of operations.

Difficulties in relationships with local communities may adversely affect our business, reputation, liquidity, and results of operations.

Although we make significant efforts to maintain good long-term relationships and continuous communication with local and neighboring communities where we operate, there can be no assurance that such communities may have or may develop interests or objectives which are different from or even in conflict with our objectives, which could result in legal or administrative proceedings, civil unrest, protests, negative media coverage, direct action or campaigns, including, but not limited to, requests for the government to revoke or deny our concessions, licenses or other permits. Any such occurrences could cause delays or disruptions in our operations or result in operational restrictions, which could materially and adversely affect our business, reputation, liquidity and results of operations.

The 2017 Credit Agreement contains several restrictions and covenants. Our failure to comply with such restrictions and covenants could have a material adverse effect on our business and financial conditions.

The 2017 Credit Agreement requires us to comply with several financial ratios and tests, including (i) a minimum consolidated coverage ratio of EBITDA to interest expense (including interest accrued on Perpetual Debentures and cash payments on preferred stock) and (ii) a maximum consolidated leverage ratio of net debt (including Perpetual Debentures, guarantees and certain leases, excluding convertible/exchangeable obligations, the principal amount of subordinated optional convertible securities and plus or minus the mark-to-market amount of derivative financial instruments, among other adjustments) to EBITDA (in each case, as described in the 2017 Credit Agreement). The calculation and formulation of EBITDA, interest expense, net debt, the consolidated coverage ratio and the consolidated leverage ratio are set out in the 2017 Credit Agreement and may differ from the calculation and/or formulation of analogous terms in this annual report. Our ability to comply with these ratios may be affected by our results of operations, economic conditions and volatility in foreign exchange rates, by overall conditions in the financial and capital markets and the construction sector, and by any monetary penalties or fines we may have to pay as a result of any administrative or legal proceedings to which we may be exposed to. See "Item 4—Information on the Company—Regulatory Matters and Legal Proceedings" for more information on our regulatory matters and legal proceedings.

The 2017 Credit Agreement requires us to comply with a minimum consolidated coverage ratio of EBITDA to interest expense (including interest accrued on Perpetual Debentures and cash payments on preferred stock), for the following periods, measured quarterly, of not less than (i) 2.50:1 for each 12-month period ending on December 31, 2018, March 31, 2019, June 30, 2019, September 30, 2019, December 31, 2019 and March 31, 2020 and (ii) 2.75:1 for the 12-month period ending on June 30, 2020 and on each subsequent quarterly date. In addition, the 2017 Credit Agreement requires us to comply with a maximum consolidated leverage ratio of net

debt (including Perpetual Debentures, guarantees and certain leases, excluding convertible/exchangeable obligations, the principal amount of subordinated optional convertible securities and plus or minus the fair value of derivative financial instruments, among other adjustments) to EBITDA for the following periods, measured quarterly, not to exceed (i) 4.75:1 for each 12-month period ending December 31, 2018, March 31, 2019, June 30, 2019, September 30, 2019, December 31, 2019 and March 31, 2020, (ii) 4.50:1 for each 12-month period ending June 30, 2020, September 30, 2020, December 31, 2020 and March 31, 2021 and (iii) 4.25:1 for the 12-month period ending June 30, 2021 and on each subsequent quarterly date. For the period ended December 31, 2018, we reported to the lenders under the 2017 Credit Agreement a consolidated coverage ratio of 4.41 and a consolidated leverage ratio of 3.84, each as calculated pursuant to the 2017 Credit Agreement based on the definitions prior to the 2019 Credit Agreement Amendments (as defined below). See “Item 5—Operating and Financial Review and Prospects—Liquidity and Capital Resources—Our Indebtedness.”

Pursuant to the 2017 Credit Agreement, we are restricted when it comes to making aggregate annual capital expenditures in excess of U.S.\$1.5 billion in any financial year (excluding certain capital expenditures, joint venture investments and acquisitions to be made by each of CEMEX Latam Holdings, S.A. (“CLH”) and/or CEMEX Holdings Philippines, Inc. (“CHP”) and their respective subsidiaries, and those funded by Relevant Proceeds (as defined in the 2017 Credit Agreement)), which capital expenditures, joint venture investments and acquisitions at any time then incurred are subject to a separate aggregate limit of (i) U.S.\$500 million (or its equivalent) for CLH and its subsidiaries and (ii) U.S. \$500 million (or its equivalent) for CHP and its subsidiaries. In addition, in each case, the amounts of which we and our subsidiaries are allowed for permitted acquisitions and investments in joint ventures cannot exceed certain thresholds as set out in the 2017 Credit Agreement.

We are also subject to a number of negative covenants under the 2017 Credit Agreement that, among other things, restrict or limit (subject to certain exceptions) our ability and the ability of each obligor (as defined in the 2017 Credit Agreement) to: (i) create liens, (ii) incur additional debt, (iii) change our business or the business of any obligor (as defined in the 2017 Credit Agreement, taken as a whole), (iv) enter into mergers, (v) enter into agreements that restrict our subsidiaries’ ability to pay dividends or repay intercompany debt, (vi) acquire certain assets, (vii) enter into or invest in joint venture agreements, (viii) dispose of certain assets, (ix) grant additional guarantees or indemnities, (x) declare or pay cash dividends or make share redemptions, and (xi) enter into certain derivatives transactions.

The 2017 Credit Agreement also contains a number of affirmative covenants that, among other things, require us to provide periodic financial information to our creditors. Pursuant to the 2017 Credit Agreement, a number of covenants and restrictions will, if CEMEX so elects, cease to apply (including the capital expenditure limitations mentioned above) or become less restrictive if (i) our consolidated leverage ratio for the two most recently completed quarterly testing periods is less than 3.75:1; or, for the three most recently completed quarterly testing periods, our consolidated leverage ratio for the first and third of those quarterly testing periods is 3.75:1 or less and in the second quarterly testing period would have been 3.75:1 or less but for the proceeds of certain permitted financial indebtedness being included in the calculation of debt and (ii) no default under the 2017 Credit Agreement is continuing. At that point, the existing consolidated coverage ratio and consolidated leverage ratio tests will be replaced by a requirement that the consolidated leverage ratio must not exceed 4.25:1 and the consolidated coverage ratio must not be less than 2.75:1. However, we cannot assure you that we will be able to meet the conditions for these restrictions to cease to apply prior to the final maturity date under the 2017 Credit Agreement.

The 2017 Credit Agreement contains events of default, some of which may occur and are outside of our control. Such events of default include but are not limited to defaults (subject to certain exceptions) and grace periods, based on (i) non-payment, (ii) material inaccuracy of representations and warranties, (iii) breach of covenants, (iv) bankruptcy (*quiebra*) or insolvency (*concurso mercantil*) of CEMEX, S.A.B. de C.V., any other obligor under the 2017 Credit Agreement or any other of our material subsidiaries (as defined in the 2017 Credit Agreement), (v) inability to pay debts as they fall due or by reason of actual financial difficulties, suspension or threatened suspension of payments on debts exceeding U.S.\$50 million or commencement of negotiations to reschedule debt exceeding U.S.\$50 million, (vi) a cross-default in relation to financial indebtedness in excess of U.S.\$50 million, (vii) certain changes to the ownership of any of the obligors under the 2017 Credit Agreement,

(viii) enforcement of any security against an obligor or material subsidiary, (ix) any attachment, distress or execution affects any asset of an obligor or material subsidiary which is reasonably likely to cause a material adverse effect, (x) expropriation and sequestration of assets of certain of our subsidiaries that causes a material adverse effect, (xi) restrictions not in effect on July 19, 2017 are imposed that limit the ability of obligors to transfer foreign exchange for purposes of performing material obligations under the 2017 Credit Agreement, (xii) any material adverse change arising in the financial condition of CEMEX, which creditors representing two thirds or more of the total commitments under the 2017 Credit Agreement determine would result in our failure, taken as a whole, to perform payment obligations under the 2017 Credit Agreement, and (xiii) it becomes unlawful for us to comply with our obligations under the 2017 Credit Agreement where non-performance is reasonably likely to cause a material adverse effect. If an event of default occurs and is continuing, upon the authorization of creditors representing two thirds or more of the total commitments under the 2017 Credit Agreement, the 2017 Credit Agreement's agent has the ability to accelerate all outstanding amounts due under the 2017 Credit Agreement. Acceleration is automatic in the case of insolvency.

We cannot assure you that in the future we will be able to comply with the restrictive covenants and limitations contained in the 2017 Credit Agreement. Our failure to comply with such covenants and limitations could result in an event of default, which could materially and adversely affect our business, financial condition, liquidity and results of operations.

Changes to, or replacement of the LIBOR Benchmark Interest Rate, could adversely affect our business, financial condition, liquidity and results of operations.

In July 2017, the United Kingdom's Financial Conduct Authority ("FCA"), a regulator of financial services firms and financial markets in the United Kingdom, stated that they will plan for a phase out of regulatory oversight of the London InterBank Offered Rate ("LIBOR") interest rate indices. The FCA has indicated they will support the LIBOR indices through 2021 to allow for an orderly transition to an alternative reference rate. LIBOR indices, in particular the U.S. Dollar LIBOR, are commonly used as a benchmark for our financing agreements and derivatives, which systematically catalogue relevant LIBOR provisions, including uniform trigger provisions intended to identify a test for when LIBOR no longer governs the agreement and/or uniform fallback provisions intended to identify an alternative reference rate, or there may be vast, or slight, differences in those provisions. It is uncertain at this time whether LIBOR will change or cease to exist or the extent to which those entering into financial agreements will transition to any other particular benchmark. Other benchmarks may perform differently than LIBOR or have other consequences that cannot currently be anticipated. As of December 31, 2018, 37% of our foreign currency-denominated long-term debt bears floating rates at a weighted average interest rate of LIBOR plus 241 basis points. A transition away from and/or changes to the LIBOR benchmark interest rate could adversely affect our business, financial condition, liquidity and results of operations.

We pledged the capital stock of some of our subsidiaries that represent substantially all of our business as collateral to secure our payment obligations under the 2017 Credit Agreement, the indentures governing our outstanding Senior Secured Notes and other financing arrangements.

In connection with the 2017 Credit Agreement, we pledged or transferred to trustees under a security trust, the Collateral and all proceeds of the Collateral, to secure our obligations under the 2017 Credit Agreement, our Senior Secured Notes (as defined below) and under a number of other financing arrangements for the benefit of the creditors and holders of debt and other obligations that benefit from provisions in their agreements or instruments requiring that their obligations be equally and ratably secured.

As of December 31, 2018, the Collateral and all proceeds of such Collateral secured were (i) Ps172,617 million (U.S.\$8,785 million) (principal amount Ps173,948 million (U.S.\$8,852 million)) aggregate principal amount of debt under the 2017 Credit Agreement, our Senior Secured Notes and other financing arrangements and (ii) Ps8,729 million (U.S.\$444 million) aggregate principal amount of Perpetual Debentures. The subsidiaries whose shares are part of the Collateral collectively own, directly or indirectly, substantially all of our operations worldwide. Provided that no default has occurred which is continuing under the 2017 Credit Agreement, the Collateral will be released automatically if we meet specified financial covenant targets in accordance with the terms of the Intercreditor Agreement (as defined below).

We have a substantial amount of debt and other financial obligations maturing in the next several years. If we are unable to secure refinancing on favorable terms or at all, we may not be able to comply with our upcoming payment obligations. Our ability to comply with our principal maturities and financial covenants may depend on us implementing certain initiatives, which may include making asset sales, and there is no assurance that we will be able to implement any such initiatives or execute such sales, if needed, on terms favorable to us or at all.

As of December 31, 2018, which does not give effect to the 2019 Credit Agreement Amendments, our total debt plus other financial obligations were Ps207,724 million (U.S.\$10,571 million) (principal amount Ps209,153 million (U.S.\$10,644 million)), which does not include Ps8,729 million (U.S.\$444 million), which represents the nominal amount of Perpetual Debentures. Of such total debt plus other financial obligations amount, Ps13,622 million (U.S.\$693 million) (principal amount Ps13,605 million (U.S.\$692 million)) matures during 2019; Ps22,530 million (U.S.\$1,147 million) (principal amount Ps22,672 million (U.S.\$1,154 million)) matures during 2020; Ps24,254 million (U.S.\$1,234 million) (principal amount Ps24,254 million (U.S.\$1,234 million)) matures during 2021; Ps30,524 million (U.S.\$1,553 million) (principal amount Ps31,104 million (U.S.\$1,583 million)) matures during 2022; and Ps116,794 million (U.S.\$5,944 million) (principal amount Ps117,518 million (U.S.\$5,981 million)) matures after 2022. As a result of the 2019 Credit Agreement Amendments, U.S.\$530 million and U.S.\$530 million, payable under the 2017 Credit Agreement in July 2020 and January 2021, respectively, will now mature in July 2023 and January 2024, respectively, and U.S.\$48 million and U.S.\$48 million remains payable under the 2017 Credit Agreement in July 2020 and January 2021, respectively.

If we are unable to comply with our principal maturities under certain of our indebtedness, or refinance or extend maturities of certain of our indebtedness, substantially all of our debt could be accelerated. Acceleration of our debt would have a material adverse effect on our business, financial condition, liquidity and results of operations. As a result of the restrictions under the 2017 Credit Agreement, the indentures that govern our outstanding Senior Secured Notes and other debt instruments, the current global economic environment and uncertain market conditions, we may not be able to, if we need to do so to repay our indebtedness, complete asset sales on terms that we find economically attractive or at all. Volatility in the credit and capital markets could significantly affect us due to its effect on the availability of funds to potential acquiring parties, including industry peers. In addition, high levels of consolidation in our industry in some jurisdictions may further limit potential assets sales to interested parties due to antitrust considerations. If we need to sell assets to repay our indebtedness but are unable to complete asset sales and our cash flow or capital resources prove inadequate, we could face liquidity problems and may not be able to comply with financial covenants and payment obligations under our indebtedness, which would have a material adverse effect on our business, financial condition, liquidity and results of operations.

In addition, our levels of debt, contractual restrictions and our need to deleverage may limit our planning flexibility and our ability to react to changes in our business and the industry and may place us at a competitive disadvantage compared to competitors who may have no need to deleverage or who may have lower leverage ratios and fewer contractual restrictions. There can also be no assurance that, because of our leverage ratio and contractual restrictions, we will be able to improve or maintain our operating margins and deliver financial results comparable to the results obtained in the past under similar economic conditions. Also, there can be no assurance that we will be able to implement our business strategy and improve our results and sales, which could affect our ability to comply with our payment obligations under our debt agreements and instruments.

We may not be able to generate sufficient cash to service all of our indebtedness or satisfy our short-term liquidity needs, and we may be forced to take other actions to satisfy our obligations under our indebtedness and our short-term liquidity needs, which may not be successful.

Historically, we have addressed our liquidity needs, including funds required to make scheduled principal and interest payments, refinance debt, and fund working capital and planned capital expenditures, with operating cash flow, borrowings under credit facilities and receivables and inventory financing facilities, proceeds of debt and equity offerings and proceeds from asset sales.

As of December 31, 2018, we had U.S.\$599 million funded under our securitization programs in Mexico, the United States, France and the United Kingdom. We cannot assure you that, going forward, we will be able to, if needed, roll over or renew these programs, which could adversely affect our liquidity.

The weakness of the global economic environment and its adverse effects on our operating results may negatively affect our credit rating and the market value of CEMEX, S.A.B. de C.V.'s CPOs and ADSs. If current economic pressures continue or worsen, we may be dependent on the issuance of equity as a source to repay our existing or future indebtedness. Although we have been able to raise debt, equity and equity-linked capital in the recent past, conditions in the capital markets could be such that traditional sources of capital may not be available to us on reasonable terms or at all. As a result, we cannot assure you that we will be able to successfully raise additional debt and/or equity capital on terms that are favorable to us or at all.

We have historically, when needed, sought and obtained waivers and amendments to several of our debt instruments relating to a number of financial ratios. Our ability to comply with these ratios could be affected by global economic conditions and volatility in foreign exchange rates and the financial and capital markets, among other factors. If necessary, we may need to seek waivers or amendments to one or more of our debt agreements or debt instruments in the future. However, we cannot assure you that any future waivers or amendments, if requested, will be obtained. If we are unable to comply with the provisions of our debt agreements or debt instruments, and are unable to obtain a waiver or amendment, the indebtedness outstanding under such debt agreements and/or instruments could be accelerated. Acceleration of these debt agreements and/or instruments would have a material adverse effect on our business, liquidity and financial condition.

If the global economic environment deteriorates and our operating results worsen significantly, if we are unable to complete debt or equity offerings or, if needed, any divestitures, and/or our cash flow or capital resources prove inadequate, we could face liquidity problems and may not be able to comply with our principal payments under our indebtedness or refinance our indebtedness.

The indentures governing our outstanding Senior Secured Notes and the terms of our other indebtedness impose significant operating and financial restrictions, which may prevent us from capitalizing on business opportunities and may impede our ability to refinance our debt and the debt of our subsidiaries.

As of December 31, 2018, there were U.S.\$3,811 million and €1,600 million aggregate principal amount of then-outstanding Senior Secured Notes under the indentures governing such notes. Mostly all of the indentures governing our outstanding Senior Secured Notes and the other instruments governing our consolidated indebtedness impose significant operating and financial restrictions on us. These restrictions will limit our ability, among other things, to: (i) incur debt, including restrictions on incurring debt at our subsidiaries, which are not parties to the indentures governing the Senior Secured Notes; (ii) pay dividends on stock; (iii) redeem stock or redeem subordinated debt; (iv) make investments; (v) sell assets, including capital stock of subsidiaries; (vi) guarantee indebtedness; (vii) enter into agreements that restrict dividends or other distributions from restricted subsidiaries; (viii) enter into transactions with affiliates; (ix) create or assume liens; (x) engage in mergers or consolidations; and (xi) enter into a sale of all or substantially all of our assets.

These restrictions could limit our ability to seize attractive growth opportunities for our businesses that are currently unforeseeable, particularly if we are unable to incur financing or make investments to take advantage of these opportunities.

These restrictions may significantly impede our ability to develop and implement refinancing plans with respect to our debt.

Most of the covenants are subject to a number of important exceptions and qualifications. The breach of any of these covenants could result in a default under the indentures governing our outstanding Senior Secured Notes, as well as certain other existing debt obligations, as a result of the cross-default provisions contained in the instruments governing such debt obligations. In the event of a default under any of the indentures governing our

outstanding Senior Secured Notes, holders of our outstanding Senior Secured Notes could seek to declare all amounts outstanding under such Senior Secured Notes, together with accrued and unpaid interest, if any, to be immediately due and payable. If the indebtedness under our outstanding Senior Secured Notes, or certain other existing debt obligations were to be accelerated, we cannot assure you that our assets would be sufficient to repay in full such accelerated indebtedness or our other indebtedness.

Furthermore, upon the occurrence of any event of default under the 2017 Credit Agreement, the indentures governing our outstanding Senior Secured Notes or any of our other debt, the lenders could elect to declare all amounts outstanding thereunder, together with accrued interest, to be immediately due and payable. If the lenders accelerate payment of those amounts, we cannot assure you that our assets would be sufficient to repay those amounts in full or to satisfy our other liabilities.

In addition, in connection with the entry into new financings or amendments to existing financing arrangements while our debt rating remains below investment grade, our financial and operational flexibility may be further reduced as a result of more restrictive covenants, requirements for security and other terms that are often imposed on sub-investment grade entities.

CEMEX, S.A.B. de C.V.'s ability to repay debt and pay dividends depends on our subsidiaries' ability to transfer income and dividends to us.

Aside from operating certain assets in Mexico, CEMEX, S.A.B. de C.V. is a holding company that owns the stock of its direct subsidiaries and is the beneficial owner of the equity interests of its indirect subsidiaries and has holdings of cash and marketable securities. In general, CEMEX, S.A.B. de C.V.'s ability to repay debt and pay dividends, as well as to generally make other payments, depends on the continued transfer to it of dividends and other income and funds from its wholly-owned and non-wholly-owned subsidiaries. Even though our debt agreements and instruments restrict us from entering into any agreement or arrangement that limits the ability of any subsidiary of CEMEX, S.A.B. de C.V. to declare or pay dividends or repay or capitalize intercompany indebtedness, the ability of CEMEX, S.A.B. de C.V.'s subsidiaries to pay dividends and make other transfers to CEMEX, S.A.B. de C.V. is subject to various regulatory, contractual and legal constraints of the countries in which we operate, including the need to create legal reserves prior to transferring funds. The 2017 Credit Agreement restricts CEMEX, S.A.B. de C.V.'s and its subsidiaries' ability to declare or pay cash dividends (subject to certain exceptions). In addition, the indentures governing our outstanding Senior Secured Notes also limit CEMEX, S.A.B. de C.V.'s and its subsidiaries' ability to pay dividends.

The ability of CEMEX, S.A.B. de C.V.'s direct and indirect subsidiaries to pay dividends and make loans and other transfers to it is generally subject to various regulatory, legal and economic limitations. Depending on the jurisdiction of organization of the relevant subsidiary, such limitations may include solvency and legal reserve requirements, dividend payment restrictions based on interim financial results or minimum net worth and withholding taxes on loan interest payments. For example, our subsidiaries in Mexico are subject to Mexican legal requirements, which provide that a corporation may declare and pay dividends only out of the profits reflected in the year-end financial statements that are or have been approved by its stockholders. In addition, such payment can be approved by a subsidiary's stockholders only after the creation of a required legal reserve (equal to one fifth of the relevant company's capital) and compensation or absorption of losses, if any, incurred by such subsidiary in previous fiscal years.

CEMEX, S.A.B. de C.V. may also be subject to exchange controls on remittances by its subsidiaries from time to time in a number of jurisdictions. In addition, CEMEX, S.A.B. de C.V.'s ability to receive funds from these subsidiaries may be restricted by covenants in the debt instruments and other contractual obligations of those entities.

As of the date of this annual report, CEMEX, S.A.B. de C.V. does not expect that existing regulatory, legal and economic restrictions on its existing direct and indirect subsidiaries' ability to pay dividends and make loans and other transfers to it will negatively affect its ability to meet its cash obligations. However, the jurisdictions of organization of CEMEX, S.A.B. de C.V.'s current direct or indirect subsidiaries, or of any future subsidiary, may

impose additional and more restrictive regulatory, legal and/or economic limitations. In addition, CEMEX, S.A.B. de C.V.'s subsidiaries may not be able to generate sufficient income to pay dividends or make loans or other transfers to it in the future, or may not have access to Dollars in their respective countries, which, as of the date of this annual report, would be the preferred currency to be received by CEMEX, S.A.B. de C.V. to service the majority of its debt payments. Also, because not all of CEMEX, S.A.B. de C.V.'s subsidiaries are wholly-owned, any decision to have any of CEMEX, S.A.B. de C.V.'s subsidiaries declare and pay dividends or make loans or other transfers to us is subject to any minority rights that shareholders may have in the CEMEX, S.A.B. de C.V. subsidiary that is not wholly-owned. Any material additional future limitations on our subsidiaries could adversely affect CEMEX, S.A.B. de C.V.'s ability to service our debt and meet its other cash obligations.

We are subject to restrictions and reputational risks resulting from non-controlling interests held by third parties in our consolidated subsidiaries.

We conduct our business through subsidiaries. In some cases, third-party shareholders hold non-controlling interests in these subsidiaries, such as in the case of CLH, CHP, Trinidad Cement Limited (“TCL”) and Caribbean Cement Company Limited (“CCCL”), among others. Various disadvantages may result from the participation of non-controlling shareholders whose interests may not always be aligned with ours. Some of these disadvantages may, among other things, result in our inability to implement organizational efficiencies, divest or acquire assets and transfer cash and assets from one subsidiary to another in order to allocate assets most effectively. In addition, we are also exposed to third-party shareholders initiating different actions or proceedings against us as controlling shareholders on corporate and corporate governance related matters, which could also harm our reputation and have an adverse effect on our business, liquidity, financial condition and results of operations.

We have to service our debt and other financial obligations denominated in Dollars with revenues generated in Mexican Pesos or other currencies, as we do not generate sufficient revenue in Dollars from our operations to service all our debt and other financial obligations denominated in Dollars. This could adversely affect our ability to service our obligations in the event of a devaluation or depreciation in the value of the Mexican Peso, or any of the other currencies of the countries in which we operate, compared to the U.S. Dollar. In addition, our consolidated reported results and outstanding indebtedness are significantly affected by fluctuations in exchange rates between the Mexican Peso and other currencies.

A substantial portion of our total debt plus other financial obligations is denominated in Dollars. As of December 31, 2018, our debt plus other financial obligations denominated in Dollars represented 64% of our total debt plus other financial obligations, which does not include U.S.\$371 million of Dollar-denominated Perpetual Debentures. Our Dollar-denominated debt must be serviced with funds generated by CEMEX, S.A.B. de C.V.'s direct and indirect subsidiaries. Although we have substantial operations in the U.S., we continue to strongly rely on our non-U.S. assets to generate revenues to service our Dollar-denominated debt. Consequently, we have to use revenues generated in Mexican Pesos, Euros or other currencies to service our Dollar-denominated obligations. See “Item 5—Quantitative and Qualitative Market Disclosure—Operating and Financial Review and Prospects—Interest Rate Risk, Foreign Currency Risk and Equity Risk—Foreign Currency Risk.” A devaluation or depreciation in the value of the Mexican Peso, Euro, British Pound, Colombian Peso, Philippine Peso or any of the other currencies of the countries in which we operate, compared to the U.S. Dollar, could adversely affect our ability to service our Dollar-denominated debt. In 2018, our operations in Mexico, the United Kingdom, France, Germany, Spain, Poland, the Czech Republic, the Rest of Europe (as described in “Item 4—Information on the Company—Business Overview”), Colombia, Costa Rica, Caribbean TCL, the Dominican Republic, Rest of South, Central America and the Caribbean, the Philippines, Egypt, Israel and the Rest of Asia, Middle East and Africa (as described in “Item 4—Information on the Company—Business Overview”), which are our main non-Dollar-denominated operations, together generated 66% of our total revenues in Mexican Peso terms (21%, 7%, 6%, 4%, 3%, 2%, 1%, 2%, 3%, 1%, 2%, 1%, 3%, 3%, 2%, 4% and 1%, respectively) before eliminations resulting from consolidation. In 2018, 24% of our revenues in Mexican Peso terms were generated from our operations in the United States before eliminations resulting from consolidation.

During 2018, the Mexican Peso remained flat against the U.S. Dollar, the Euro depreciated 4.5% against the U.S. Dollar and the British Pound depreciated 5.6% against the U.S. Dollar. Currency hedges that we may be a party to or may enter in the future may not be effective in covering all our currency-related risks. Our consolidated reported results for any period and our outstanding indebtedness as of any date are significantly affected by fluctuations in exchange rates between the Mexican Peso and other currencies, as those fluctuations influence the amount of our indebtedness when translated into Mexican Pesos and also result in foreign exchange gains and losses as well as gains and losses on derivative contracts, including those entered into to hedge our exchange rate exposure. For a description of these impacts, see—“Our use of derivative instruments has negatively affected, and any new derivative financial instruments could negatively affect, our operations, especially in volatile and uncertain markets.”

In addition, as of December 31, 2018, our Euro-denominated total debt plus other financial obligations represented 26% of our total debt plus other financial obligations, which does not include the €64 million aggregate principal amount of Euro-denominated Perpetual Debentures.

Our use of derivative financial instruments has negatively affected, and any new derivative financial instruments could negatively affect, our operations, especially in volatile and uncertain markets.

We have used, and may continue to use, derivative financial instruments to manage the risk profile associated with interest rates and currency exposure of our debt, to reduce our financing costs, to access alternative sources of financing and to hedge some of our financial and operating risks. However, we cannot assure you that our use of such instruments will allow us to achieve these objectives due to the inherent risks in any derivatives transaction.

As of December 31, 2018, our derivative financial instruments consisted of equity forwards on third-party shares, foreign exchange forward contracts, interest rate derivatives related to energy projects fuel price hedging and interest-rate swap instruments related to bank loans, which had an impact on our financial position. The fair value changes of our derivative financial instruments are reflected in our income statement, which could introduce volatility in our controlling interest net income and our related ratios. For the years ended December 31, 2017 and 2018, the recognition of changes in the fair value of derivative financial instruments during the applicable period represented net gains of Ps161 million (U.S.\$9 million) and net gains of Ps692 million (U.S.\$38 million), respectively.

For the majority of the last ten years, CEMEX has significantly decreased its use of both currency and interest rate derivatives related to debt, thereby reducing the risk of cash margin calls. However, with respect to our existing financial derivatives, we may incur net losses and be subject to margin calls that do not require a substantial amount of cash to cover such margin calls. If we enter into new derivative financial instruments, we may incur net losses and be subject to margin calls in which the cash required to cover margin calls may be substantial and may reduce the funds available to us for our operations or other capital needs. In addition, as with any derivative position, CEMEX assumes the creditworthiness risk of the counterparty, including the risk that the counterparty may not honor its obligations to us.

We are subject to the laws and regulations of the countries where we operate and do business and any material changes in such laws and regulations and/or any significant delays in assessing the impact and/or adapting to such changes may have an adverse effect on our business, financial condition, liquidity and results of operations.

Our operations are subject to the laws and regulations of the countries where we operate and do business, and such laws and regulations, and/or governmental interpretations of such laws and regulations, may change. Because CEMEX, S.A.B. de C.V. is organized under Mexican laws, and because of the considerable size of CEMEX, S.A.B. de C.V.'s operations in the United States and the fact that our ADSs trade on the NYSE, we have to comply with the laws and regulations, and/or governmental interpretations of such laws and regulations, of Mexico and the United States, whether or not we operate and do business through a subsidiary located in Mexico or the United States.

Any change in such laws and regulations, and/or governmental interpretations of such laws and regulations, may have a material adverse effect on our business, financial condition, liquidity and results of operations. Furthermore, changes in laws and regulations, and/or governmental interpretations of such laws and regulations, may require us to devote a significant amount of time and resources to assess and, if required, to adjust our operations to any such changes, which could have a material adverse effect on our business, financial condition, liquidity and results of operations. In addition, any significant delays in assessing the impact and/or, if required, in adapting to changes in laws and regulations and/or governmental interpretations of such laws and regulations may also have a material adverse effect on our business, financial condition, liquidity, results of operations and prospects.

We or our third-party providers may fail to maintain, obtain or renew or may experience material delays in obtaining requisite governmental or other approvals, licenses and permits for the conduct of our business.

We or our third-party providers of goods and services, as applicable, require various approvals, licenses, permits, concessions and certificates in the conduct of our business. We cannot assure you that we, or our third-party providers of goods and services, will not encounter significant problems in obtaining new or renewing existing approvals, licenses, permits, concessions and certificates required in the conduct of our business, or that we, or our third-party providers of good and services, will continue to satisfy the conditions to such approvals, licenses, permits, concessions and certificates that we currently have or may be granted in the future. There may also be delays on the part of regulatory and administrative bodies in reviewing our applications and granting approvals. If previously obtained approvals, licenses, permits and certificates are revoked and/or if we, or our third-party providers of goods and services, fail to obtain and/or maintain the necessary approvals, licenses, permits, concessions and certificates required for the conduct of our business, we may be required to incur substantial costs or temporarily suspend or alter the operation of one or more of our operating units, production facilities, mineral extraction locations or of any relevant component of them, which could affect the general production of these units, facilities or locations, which in turn could have a material adverse effect on our business, financial condition, liquidity, results of operations and prospects.

We may fail to secure certain materials required to run our business.

We increasingly use in most of our business certain by-products of industrial processes produced by third parties, such as pet coke, fly ash, slag and synthetic gypsum, among others. While we are not dependent on our suppliers and we try to secure the supply of the required materials through long-term renewable contracts and framework agreements, which allow us to better manage supplies, short-term contracts are entered into in certain countries where we operate. Should existing suppliers cease operations or reduce or eliminate production of these by-products, or should for any reason any suppliers not be able to deliver to us the contractual quantities, or should laws and/or regulations in any region or country limit the access to these materials, sourcing costs for these materials could increase significantly or require us to find alternative sources for these materials, which could have a material adverse effect on our business, financial condition, liquidity, results of operations and prospects. Additionally, scarcity and quality of natural resources (such as water and aggregates reserves) in some of the countries where we operate could have a material adverse effect on our operations, costs and results of operations.

We may not be able to realize the expected benefits from acquisitions or joint ventures, some of which may have a material impact on our business, financial condition, liquidity and results of operations.

Even though we have not made any major acquisitions in recent years or entered into significant joint ventures, our ability to realize the expected benefits from acquisitions or joint ventures depends, in large part, on our ability to integrate acquired operations with our existing operations in a timely and effective manner. These efforts may not be successful. Although we have disposed of assets in the past and may continue to do so to reduce our overall leverage and rebalance our portfolio, the 2017 Credit Agreement and other debt instruments restrict our ability to acquire assets and enter into joint ventures. We may in the future acquire new operations or

enter into joint ventures and integrate such operations into our existing operations, and some of such acquisitions may have a material impact on our business, financial condition, liquidity and results of operations. We cannot assure you that we will be successful in identifying or acquiring suitable assets in the future, or that the terms under which we may acquire any assets or enter into joint ventures in the future would be favorable to us. If we fail to achieve any anticipated cost savings from any acquisitions or joint ventures, our business, financial condition, liquidity and results of operations could be materially and adversely affected.

High energy and fuel costs may have a material adverse effect on our operating results.

Electric energy and fuel costs represent an important part of our overall cost structure. The price and availability of electric energy and fuel are generally subject to market volatility and, therefore, may have an adverse impact on our costs and operating results. Furthermore, if third-party suppliers fail to provide to us the required amounts of energy or fuel under existing agreements, we may need to acquire energy or fuel at an increased cost from other suppliers, without being reimbursed for the increased costs by the committed supplier, to fulfill certain contractual commitments with third parties or for use in our operations. In addition, governments in several of the countries in which we operate are working to reduce energy subsidies, introduce clean energy obligations or impose new excise taxes, which could further increase energy costs and have a material adverse effect on our business, financial condition, liquidity and results of operations.

Furthermore, if our efforts to increase our use of alternative fuels are unsuccessful, due to their limited availability, price volatility or otherwise, we would be required to use traditional fuels, which may increase our energy and fuel costs and could have a material adverse effect on our business, financial condition, liquidity and results of operations.

The introduction of substitutes for cement, ready-mix concrete or aggregates into the market and the development of new construction techniques and technologies could have a material adverse effect on our business, financial condition, liquidity and results of operations.

Materials such as plastic, aluminum, ceramics, glass, wood and steel can be used in construction as a substitute for cement, ready-mix concrete or aggregates. In addition, other construction techniques, such as the use of dry wall, and the integration of new technologies in the construction industry, such as 3-D printing, mini-mills and mobile plants, and changes in housing preferences could adversely impact the demand and price for cement, ready-mix concrete and/or aggregates. Furthermore, research aimed at developing new construction techniques and modern materials and digitalizing the construction industry may introduce new products and technologies in the future that could reduce the demand for and prices of our products.

We operate in highly competitive markets and if we do not compete effectively, our results of operations may be harmed.

The markets in which we operate are highly competitive and are served by a variety of established companies with recognized brand names, as well as new market entrants and increasing imports. Companies in these markets compete based on a variety of factors, often employing aggressive pricing strategies to gain market share. Our ability to increase our revenues depends, in part, on our ability to compete effectively. We compete with different types of companies based on different factors in each market. For example, in the relatively consolidated cement and ready-mix concrete industries, we generally compete based on quality and value proposition available to our clients. In the more fragmented market for aggregates, we generally compete based on capacity and price for our products. In certain areas of the markets in which we compete, some of our competitors may be more established, benefit from greater brand recognition or have greater manufacturing and distribution channels and other resources than we do. In addition, if our competitors were to combine, they may be able to compete more effectively with us. They may also dispose of assets, which could lead to new market entrants, creating increased competition in our markets. For example, Lafarge, S.A. (“Lafarge”) and Holcim Ltd. (“Holcim”) finalized their merger in 2015, and Ireland’s CRH plc (“CRH”) acquired the vast majority of the

assets disposed by Lafarge and Holcim pursuant to the requirements of regulators. Another example is HeidelbergCement AG's ("Heidelberg") acquisition of Italcementi S.p.A., which was completed in July 2016. In addition, as of the date of this annual report, some of our major competitors have announced they intend to divest assets in different parts of the world (Southeast Asia for example), which may lead to increased competition in the markets in which we operate. It is unclear how competitors that could potentially acquire those assets will compete in the markets in which we operate. Some may use aggressive competitive strategies based on imports and pricing that could be damaging to the industry's profitability and, as a consequence, our results of operations. In addition, asset optimization by buyers of the disposed assets could result in an operational cost advantage.

If we are not able to compete effectively, we may lose substantial market share, our revenues could decline or grow at a slower rate and our business and results of operations would be harmed, which could have a material adverse effect on our business, financial condition, liquidity and results of operations.

A substantial amount of our total assets consists of intangible assets, including goodwill. We have recognized charges for goodwill impairment in the past, and if market or industry conditions deteriorate further, additional impairment charges may be recognized.

Our 2018 audited consolidated financial statements, included elsewhere in this annual report, have been prepared in accordance with IFRS as issued by the IASB, under which goodwill is not amortized and is tested for impairment when impairment indicators exist or at least once a year during the fourth quarter of each year, by determining the recoverable amount of the groups of cash-generating units to which goodwill balances have been allocated, which consists of the higher of such groups of cash-generating units' fair value, less cost to sell, and their corresponding value in use, represented by the discounted amount of estimated future cash flows expected to be generated by such groups of cash-generating units to which goodwill has been allocated. An impairment loss is recognized under IFRS if the recoverable amount is lower than the net book value of the groups of cash-generating units to which goodwill has been allocated within other expenses, net. We determine the discounted amount of estimated future cash flows over periods of five years. In specific circumstances, when, according to our experience, actual results for a given cash-generating unit do not fairly reflect historical performance and most external economic variables provide us with confidence that a reasonably determinable improvement in the mid-term is expected in their operating results, management uses cash flow projections over a period of up to ten years, to the point at which future expected average performance resembles the historical average performance and to the extent we have detailed, explicit and reliable financial forecasts and we are confident and can demonstrate its ability, based on past experience, to forecast cash flows accurately over that longer period. If the value in use of a group of cash-generating units to which goodwill has been allocated is lower than its corresponding carrying amount, we determine its corresponding fair value using methodologies generally accepted in the markets to determine the value of entities, such as multiples of Operating EBITDA and/or by reference to other market transactions, among other methodologies. Impairment tests are significantly sensitive to, among other factors, the estimation of future prices of our products, trends in operating expenses, local and international economic trends in the construction industry, the long-term growth expectations in the different markets, as well as the discount rates and the growth rates in perpetuity applied. We use specific pre-tax discount rates for each group of cash-generating units to which goodwill is allocated, which are applied to pre-tax cash flows. The amounts of estimated undiscounted cash flows are significantly sensitive to the growth rates in perpetuity applied. Likewise, the amounts of discounted future cash flows are significantly sensitive to the weighted average cost of capital (discount rate) applied. The higher the growth rate in perpetuity applied, the higher the amount of undiscounted future cash flows by group of cash-generating units obtained. Conversely, the higher the discount rate applied, the lower the amount of discounted estimated future cash flows by group of cash-generating units obtained. During the last quarters of each of 2016, 2017 and 2018, we performed our annual goodwill impairment test. For the years ended as of December 31, 2016 and December 31, 2018, we did not determine any goodwill impairments. During 2017, in connection with our operating segment in Spain and considering the uncertainty over the improvement indicators affecting the country's construction industry (and consequently the expected consumption of cement, ready-mix concrete and aggregates), partially a result of the country's complex prevailing political environment, which resulted in limited expenditure in infrastructure

projects, as well as the uncertainty in the expected price recovery and the effects of increased competition and imports, our management determined that the net book value of our operating segment in Spain exceeded the amount of the net present value of projected cash flows by Ps1,920 million (U.S.\$98 million). As a result, we recognized a goodwill impairment in the aforementioned amount as part of “Other expenses, net” in the income statement against the related goodwill balance. For the year ended as of December 31, 2018, we did not determine any goodwill impairments. See note 15.2 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Considering the important role that economic factors play in testing goodwill for impairment, we cannot assure that any downturn in the economies where we operate will not necessitate further impairment tests and a possible downward readjustment of our goodwill for impairment under IFRS. Such an impairment test could result in impairment charges which could be material to our financial statements, which could have a material adverse effect on our financial condition.

We are subject to litigation proceedings, including a federal securities class action, government investigations relating to corruption and antitrust proceedings, that could harm our business and our reputation.

From time to time, we are and may become involved in litigation, investigations and other legal or administrative proceedings relating to claims arising from our operations, either in the normal course of business or not, or arising from violations or alleged violations of laws, regulations or acts. As described in, but not limited to, “Item 4—Information on the Company—Regulatory Matters and Legal Proceedings,” we are currently subject to a number of significant legal proceedings, including, but not limited to, a federal securities class action alleging false and misleading statements in connection with alleged misconduct relating to the Maceo Project (as defined below) and the potential regulatory or criminal actions that might arise as a result, an SEC investigation concerning a new cement plant being built by CEMEX Colombia S.A. (“CEMEX Colombia”) in the Antioquia department of the Municipality of Maceo, Colombia, as well as an investigation from the U.S. Department of Justice (the “DOJ”) mainly relating to our operations in Colombia and other jurisdictions, and antitrust investigations in countries in which we operate, including by the DOJ in the territorial United States. In addition, our main operating subsidiary in Egypt, Assiut Cement Company (“ACC”), is involved in certain Egyptian legal proceedings relating to the acquisition of ACC. Investigations and litigation, and in general any legal or administrative proceeding, are subject to inherent uncertainties and unfavorable rulings may occur. We cannot assure you that these or any of our other regulatory matters and legal proceedings, including any that may arise in the future, will not harm our reputation or materially affect our ability to conduct our business in the manner that we expect or otherwise materially adversely affect us should an unfavorable ruling occur, which could have a material adverse effect on our business, financial condition, liquidity and results of operations.

Failure to maintain effective internal control over financial reporting could result in material misstatements in our financial statements which could negatively impact the market price of our stock.

We cannot assure you that our internal control over financial reporting will be effective in the future or that a material weakness will not be discovered with respect to a prior period for which we had previously believed that our internal control over financial reporting was effective. Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act). Internal control over financial reporting refers to a process designed by, or under the supervision of, the CEO and CFO and effected by CEMEX, S.A.B. de C.V.’s board of directors and our management to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. As discussed in Item 15 of this annual report, in 2016 and 2017, our management concluded that our internal control over financial reporting was not operating effectively, and our independent registered public accounting firm issued an adverse opinion on our internal controls of financial reporting. As of December 31, 2018, our management and

our independent registered public accounting firm concluded our internal controls over financial reporting were operating effectively. However, we cannot assure you that additional material weaknesses will not be identified in the future, which could result in material misstatements in our financial statements or a failure to meet our reporting obligations. This, in turn, could negatively impact our business and operating results, access to capital markets, the market price of our shares and our ability to remain listed on the New York Stock Exchange (the “NYSE”).

Our operations are subject to environmental laws and regulations.

Our operations are subject to a broad range of environmental laws and regulations in each of the jurisdictions in which we operate. These laws and regulations impose stringent environmental protection standards regarding, among other things, air emissions, wastewater discharges, the use and handling of hazardous waste or materials, waste disposal practices and the remediation of environmental damage or contamination. These laws and regulations expose us to the risk of substantial environmental costs and liabilities, including fines and other sanctions, the payment of compensation to third parties, remediation costs and damage to reputation. Moreover, the enactment of stricter laws and regulations, stricter interpretation of existing laws or regulations or new enforcement initiatives, may impose new risks or costs on us or result in the need for additional investments in pollution control equipment, which could result in a material decline in our profitability.

In late 2010, the U.S. Environmental Protection Agency (“EPA”) issued the final Portland Cement National Emission Standard (“Portland Cement NESHAP”) for Hazardous Air Pollutants under the federal Clean Air Act (“CAA”). This rule required Portland cement plants to limit mercury emissions, total hydrocarbons, hydrochloric acid and particulate matter by September 2013. The rule was challenged in federal court, and in December 2011, the D.C. Circuit Court of Appeals remanded the Portland Cement NESHAP to EPA and directed the agency to recompute the standards. In February 2013, EPA issued a revised final Portland Cement NESHAP rule that relaxed emissions limits for particulate matter and moved the compliance deadline to September 2015. In April 2013, environmental groups again challenged the revised Portland Cement NESHAP rule in federal court. In April 2014, the D.C. Circuit issued a ruling upholding both the revised particulate matter emission limits and the September 2015 compliance deadline. As of the day of this annual report, Portland Cement NESHAP compliance-related work continues in several of our plants. While we expect to meet all emissions standards imposed by the Portland Cement NESHAP, failure to do so could have a material adverse impact on our business operations, liquidity and financial condition; however, we expect that such impact would be consistent with the impact on the cement industry as a whole.

In February 2013, EPA issued revised final emissions standards under the CAA for commercial and industrial solid waste incinerators (“CISWI”). Under the CISWI rule, if a material being used in a cement kiln as an alternative fuel is classified as a solid waste, the plant must comply with CISWI standards. The CISWI rule covers nine pollutants and imposes potentially more stringent emissions limits on certain pollutants that also are regulated under the Portland Cement NESHAP. EPA received petitions to further reconsider certain provisions of the 2013 CISWI rule. EPA granted reconsideration on four specific issues and finalized the reconsideration of the CISWI rule in June 2016. The 2013 CISWI rule was also challenged by both industrial and environmental groups in federal court. In July 2016, the D.C. Circuit issued a ruling upholding most of the rule and remanding several portions to EPA for further consideration. EPA has not issued a revised final rule after remand but the portions of the rule upheld on appeal are final and in effect. The final CISWI rule established a compliance date of February 2018, which was not impacted by the appeal. If kilns at CEMEX plants in the U.S. are determined to be CISWI kilns due to the use of certain alternative fuels, the emissions standards imposed by the CISWI rule could have a material impact on our business operations.

Under certain environmental laws and regulations, liability associated with investigation or remediation of hazardous substances can arise at a broad range of properties, including properties currently or formerly owned or operated by CEMEX, as well as facilities to which we sent hazardous substances or wastes for treatment, storage or disposal, or any areas affected while we transported any hazardous substances or wastes. Such laws

and regulations may apply without regard to causation or knowledge of contamination. We occasionally evaluate various alternatives with respect to our facilities, including possible dispositions or closures. Investigations undertaken in connection with these activities (or ongoing operational or construction activities) may lead to hazardous substance releases or discoveries of historical contamination that must be remediated, and closures of facilities may trigger compliance requirements that are not applicable to operating facilities. While compliance with these laws and regulations has not materially adversely affected our operations in the past, we cannot assure you that these requirements will not change and that compliance will not adversely affect our operations in the future. Furthermore, we cannot assure you that existing or future circumstances or developments with respect to contamination will not require us to make significant remediation or restoration expenditures, which could have a material adverse effect on our business, financial condition, liquidity and results of operations.

The cement manufacturing process requires the combustion of large amounts of fuel and creates carbon dioxide (“CO₂”) as a by-product of the calcination process. Therefore, efforts to address climate change through federal, state, regional, EU and international laws and regulations requiring reductions in emissions of greenhouse gases (“GHGs”) can create economic risks and uncertainties for our business. Such risks could include the cost of purchasing allowances or credits to meet GHG emission caps, the cost of installing equipment to reduce emissions to comply with GHG limits or required technological standards, decreased profits or losses arising from decreased demand for our goods and higher production costs resulting directly or indirectly from the imposition of legislative or regulatory controls. To the extent that financial markets view climate change and GHG emissions as a financial risk, this could have a material adverse effect on our cost of and access to capital. Given the uncertain nature of the actual or potential statutory and regulatory requirements for GHG emissions at the federal, state, regional, EU and international levels, we cannot predict the impact on our operations or financial condition or make a reasonable estimate of the potential costs to us that may result from such requirements. However, the impact of any such requirements, whether individually or cumulatively, could have a material economic impact on our operations in the United States and in other countries. For more information on certain laws and regulations addressing climate change that we are, or could become, subject to, and the impacts to our operations arising therefrom, see “Item 4—Information on the Company—Regulatory Matters and Legal Proceedings—Environmental Matters.”

As part of our insurance-risk governance approach, from time to time we evaluate the need to address the financial consequences of environmental laws and regulations through the purchase of insurance. As a result, we do arrange certain types of environmental impairment insurance policies for both site-specific, as well as multi-site locations. We also organize non-specific environmental impairment insurance as part of the provision of a broader corporate insurance strategy. These latter insurance policies are designed to offer some assistance to our financial flexibility to the extent that the specifics of an environmental incident could give rise to a financial liability. However, we cannot assure you that a given environmental incident will be covered by the environmental insurance we have in place, or that the amount of such insurance will be sufficient to offset the liability arising from the incident. Any such liability may be deemed to be material to us and could have a material adverse effect on our business, financial condition, liquidity, results of operations and reputation.

We are an international company and are exposed to risks in the countries in which we have operations or interests.

We are dependent, in large part, on the economies of the countries in which we market our products and services. The economies of these countries are in different stages of socioeconomic and political development. Consequently, like many other companies with significant international operations, we are exposed to risks from, among other things, changes in economic growth, foreign currency exchange rates, interest rates, inflation, trade policy, government spending, regulatory framework, social instability and other political, economic or social developments that may materially affect our business, financial condition, liquidity and results of operations.

As of December 31, 2018, our operations were mostly in Mexico, the United States, certain countries in Europe, SCA&C, Asia and the Middle East and Africa (as described in “Item 4—Information on the Company—Business Overview”).

For a geographic breakdown of our revenues for the year ended December 31, 2018, see “Item 4—Information on the Company—Geographic Breakdown of Revenues for the Year Ended December 31, 2018.”

In recent years, concerns over global economic conditions, protectionist trade policies, energy costs, geopolitical issues, political uncertainty, social instability, the availability and cost of credit and the international financial markets have contributed to economic uncertainty and reduced expectations for the global economy.

Our operations in Egypt, the United Arab Emirates (the “UAE”) and Israel have experienced instability as a result of, among other things, civil unrest, terrorism, extremism, deterioration of general diplomatic relations and changes in the geopolitical dynamics in the region. There can be no assurances that political turbulence in Egypt, Iran, Iraq, Syria, Libya, Yemen and other countries in Africa, the Middle East and Asia will abate in the near future or that neighboring countries will not be drawn into conflict or experience instability. In addition, some of our operations are or may be subject to political risks, such as confiscation, expropriation and/or nationalization, as for example was the case of our past operations in Venezuela and is currently the case in Egypt. See “Item 4—Information on the Company—Regulatory Matters and Legal Proceedings—Other Legal Proceedings—Egypt Share Purchase Agreement.”

Since 2011, our operations in Egypt have been exposed to political and social turmoil in the country. In March 2018, Egypt held a new presidential election and President Abdel Fattah el-Sisi was re-elected for a second term (2018–2022). CEMEX’s operations in Egypt have been adversely affected by the turbulence in Egypt and CEMEX continues with its cement production, dispatch and sales activities as of the date of this annual report. We cannot assure you that the re-elected regime will be able to avoid further political and social turbulence. Risks to CEMEX’s operations in Egypt include a potential reduction in overall economic activity, exchange rate volatility, increased cost of energy, cement oversupply and the threat of terrorist attacks, which could have a material adverse effect on our operations in the country.

Our operations are also exposed to the Israeli-Palestinian conflict. Confrontations between the Israeli Defense Force and Palestinians in the Gaza Strip have continued generating sporadic events of violence in the region. Progress on peace is stalled, as neither side has shown intentions for making concessions. If the conflict escalates, it could have a negative impact on the geopolitics and economy in the region, which in turn could adversely affect our operations, financial condition, liquidity and results of operations.

Military activities in Ukraine and on its borders, including Russia effectively taking control of Crimea, followed by Crimea’s independence vote and absorption by Russia, have combined with Ukraine’s weak economic conditions to create uncertainty in Ukraine and the global markets. In response to the annexation of the Crimean region of Ukraine by Russia and Russia’s intervention in the conflicts in Syria, Russia has been subject to sanctions from other countries, including the U.S., which may continue to impose economic sanctions on Russia. While not directly impacting territories in which we had operations as of December 31, 2018, this dispute could negatively affect the economies of the countries in which we operate and their access to Russian energy supplies. In addition, the dispute could negatively impact the global economy as a whole. Furthermore, potential responses by Russia to those sanctions could adversely affect European economic conditions, which could have a material adverse effect on our operations mainly in Europe. If conflicts with Russia escalate to military conflict, it could also have a material adverse effect on our business, financial condition, liquidity and results of operations.

In the Middle East region, during 2017, the Gulf Cooperation Council split in a way not seen since its foundation in 1981, after Saudi Arabia, the UAE and Bahrain launched a boycott of Qatar in June 2017, alleging Qatar’s support to Islamist groups. The end of the conflict does not appear to be imminent, as Qatar refuses to accept demands from Gulf Cooperation Council countries. The Qatar-Gulf crisis may have a negative economic impact on the region. Additionally, as previously mentioned, the civil war in Syria could escalate tensions between the U.S. and Russia, Israel and Iran, and their corresponding allies. Increased tensions among these countries could lead to a risk of a military action that could potentially have a material adverse effect on our business, financial condition, liquidity and results of operations.

In Asia, there is geopolitical tension related to Taiwan's status in relation to China, South Korea's disputes with North Korea and disputes between the United States and North Korea. Similarly, mutually exclusive territorial disputes among several Southeast Asian countries in the South China Sea amplify the potential for an outbreak of hostilities. A major outbreak of hostilities or political upheaval in China, Taiwan, North Korea or South Korea could adversely affect the global economy, which could have a material adverse effect on our business, financial condition, liquidity or results of operations. A potential sharp and unexpected reduction of economic growth in China, or an economic contraction of this country, could affect the global economy to an extent that could have a material adverse effect on our business, financial condition, liquidity and results of operations.

Other regions are also exposed to political turmoil, including the continued political unrest in Venezuela and Nicaragua, which may similarly affect the results of our operations in those regions.

There have been terrorist attacks and ongoing threats of future terrorist attacks in countries in which we maintain operations. We cannot assure you that there will not be other attacks or threats that will cause any damage to our operating units and facilities or locations, or harm any of our employees, including members of CEMEX, S.A.B. de C.V.'s board of directors or senior management, or lead to an economic contraction or erection of material barriers to trade in any of our markets. An economic contraction in any of our major markets could affect domestic demand for our products, which could have a material adverse effect on our business, financial condition, liquidity and results of operations.

As part of our risk governance approach, from time to time we evaluate the need to address the financial consequences of political or social risk through the purchase of insurance. As a result, we purchase certain types of political risk insurance policies for selected countries where we operate and which are exposed to political turmoil, geopolitical issues or political uncertainty. These insurance policies are designed to offer some assistance to our financial flexibility to the extent that the specifics of a political incident could give rise to a financial liability. However, we cannot assure you that a given social or political event and possible changes in government policies will be covered by the political risk insurance policies we have in place, or that the amount of such insurance will be sufficient to offset the liability arising from such applicable events. Any such liability could have a material adverse effect on our business, financial condition, liquidity and results of operations.

Our operations can be affected by adverse weather conditions and natural disasters.

Construction activity, and thus demand for our products, decreases substantially during periods of cold weather, when it snows or when heavy or sustained rainfalls occur, or generally, in any rainy and snowy weather. Consequently, demand for our products is significantly lower during the winter or raining and snowing seasons in the countries in which we operate and do business. Generally, winter weather in our European and North American operations significantly reduces our first quarter sales volumes, and to a lesser extent our fourth quarter sales volumes. Sales volumes in these and similar markets generally increase during the second and third quarters because of normally better weather conditions. However, high levels of rainfall and/or snow can adversely affect our operations during these periods as well, such as was the case in 2018 for our operations in the Philippines, which was enhanced by a natural landslide that affected our operations in the country. Natural disasters, like the earthquake in Mexico and Hurricanes Harvey and Irma in the United States in 2017, could also have a negative impact on our sales volumes, which could also have a material adverse effect on our results of operations. Our operations in the states of Florida and Texas in the United States, in the Caribbean and in the certain parts of the Gulf of Mexico are particularly exposed to hurricanes and similar weather events. This decrease in sales volumes is usually compensated for by the increase in the demand for our products during the reconstruction phase, unless any of our operating units or facilities are impacted by the natural disaster. Such adverse weather conditions and natural disasters can have a material adverse effect on our business, financial condition, liquidity and results of operations if they occur with unusual intensity, during abnormal periods, last longer than usual in our major markets, or if they cause scarcity and increases in the cost of the products we need to run our business, especially during peak construction periods.

We will be adversely affected by any significant or prolonged disruption to our production facilities.

Any prolonged and/or significant disruption to our production facilities, whether due to repair, maintenance or servicing, governmental actions, regulatory issues, industrial accidents, unavailability or excessive high cost of raw materials such as energy to the point of making it inefficient to run our production facilities, mechanical equipment failure, human error, natural disaster or otherwise, will disrupt and adversely affect our operations. Additionally, any major or sustained disruptions in the supply of utilities such as water or electricity or any fire, flood or other natural calamities or communal unrest or acts of terrorism may disrupt our operations or damage our production facilities or inventories and could have a material adverse effect on our business, financial condition, liquidity and results of operations.

We typically shut down our facilities to undertake maintenance and repair work at scheduled intervals. Although we schedule shut downs such that not all our facilities are shut down at the same time, the unexpected shut down or closure of any facility may nevertheless materially affect our business, financial condition, liquidity and results of operations from one period to another.

We are increasingly dependent on information technology and our systems and infrastructure, as well as those provided by third-party service providers, face certain risks, including cyber-security risks.

We increasingly rely on a variety of information technology, on a fully digital customer integration platform, such as CEMEX Go, and on automated operating systems to manage and support our operations, as well as to offer our products to our customers. The proper functioning of this technology and these systems is critical to the efficient operation and management of our business, as well as for the sales generated by our business. Our systems and technologies may require modifications or upgrades as a result of technological changes, growth in our business and to enhance our business security. These changes may be costly and disruptive to our operations, and could impose substantial demands on our systems and increase system outage time. Our systems and technology, as well as those provided by our third-party service providers, such as IBM, one of our main information technology and service providers, may be vulnerable to damage, disruption or intrusion caused by circumstances beyond our control, such as physical or electronic break-ins, catastrophic events, power outages, natural disasters, computer system or network failures, viruses or malware, unauthorized access and cyber-attacks. For example, our digital solutions to improve sales, customer experience, enhance our operations and increase our business efficiencies could be impeded by such damages, disruptions or intrusions. To try to minimize such risks, we safeguard our systems and electronic information through a set of cyber-security controls, processes and a proactive monitoring service to attend to potential breaches. In addition, we also have disaster recovery plans in case of incidents that could cause major disruptions to our business. However, these measures may not be sufficient, and our systems have in the past been subject to certain minor intrusions. In relation to our overall operations, particularly due to our digital transformation initiatives and the implementation of CEMEX Go, CEMEX, S.A.B. de C.V.'s audit committee is informed of the cyber-security threats we face and is involved in approving general steps to try to mitigate any such cyber-security threats. CEMEX Go has more than 30,000 users across the countries in which we do business, and through CEMEX Go we receive approximately 45% of our main products orders. As of December 31, 2018, we have not detected, and our third-party service providers have not informed us of, any relevant event that has materially damaged, disrupted or resulted in an intrusion of our systems. Any significant information leakages or theft of information, or any unlawful processing of personal data, could affect our compliance with data privacy laws and make us subject to regulatory action, including substantial fines and private litigation with potentially large costs, and could damage our relationship with our employees, customers and suppliers, which could have a material adverse impact on our business, financial condition, liquidity and results of operations. As of December 31, 2018, our insurance did not cover any risk associated with cyber-security risks. Nevertheless, our insurance has limited coverage for physical loss or damage to insured property, data or equipment such as: introduction of malware to destroy data, Distributed Denial of Service (DDOS) attack against network and attacks on an industrial control system resulting in damage to equipment and/or property. In addition, any significant disruption to our systems could have a material adverse effect on our business, financial condition, liquidity and results of operations, and could also harm our reputation.

Activities in our business can be hazardous and can cause injury to people or damage to property in certain circumstances.

Most of our production facilities and units, as well as mineral extraction locations, require individuals to work with chemicals, equipment and other materials that have the potential to cause fatalities, harm and injury when used without due care. An accident or injury that occurs at our facilities could result in disruptions to our business and operations and could have legal and regulatory consequences. As a result, we may be required to compensate such individuals or incur other costs and liabilities, any and all of which could have a material adverse impact on our reputation, business, financial condition, liquidity, results of operations and prospects.

Additionally, cement production raises a number of health and safety issues. As is the case with other companies in our industry, some of our aggregate products contain varying amounts of crystalline silica, a common mineral. Also, some of our construction and material processing operations release, as dust, crystalline silica that is in the materials being handled. Excessive, prolonged inhalation of very small-sized particles of crystalline silica has allegedly been associated with respiratory disease (including silicosis). As part of our annual due diligence, we work with our stakeholders to verify that certain health and safety protocols are in place with regards to the management of silica and its health effects, as well as in relation to other substances and products. Nonetheless, any health issues related to cement and aggregates production can result in future claims related to exposure to these products or substances, which could have a material adverse impact on our reputation, business, financial condition, liquidity, results of operations.

Other health and safety issues related to our business include: burns arising from contact with hot cement kiln dust or dust on preheater systems; air borne hazards related to our aggregates mining activities; noise, including from chutes and hoppers, milling plants, exhaust fans and blowers; the potential for dioxin formation if chlorine-containing alternative fuels are introduced into kilns; plant cleaning and maintenance activities involving working at height or in confined or other awkward locations, and the storage and handling of coal, pet coke and certain alternative fuels, which, in their finely ground state, can pose a risk of fire or explosion; and health hazards associated with operating ready-mix concrete trucks. We may also be exposed to liability resulting from injuries or fatalities involving third-party service providers, such as drivers for our suppliers when delivering products or services to us. While we actively seek to minimize the risk posed by these issues, personal injury claims may be made, and substantial damages awarded, against us, which could have a material adverse impact on our reputation, business, financial condition, liquidity, results of operations. Additionally, we may also be required to change our operational practices, involving material capital expenditure.

Labor activism and unrest, or failure to maintain satisfactory labor relations, could adversely affect our results of operations.

Labor activism and unrest may adversely affect our operations and thereby adversely affect our business, financial condition, liquidity, results of operations and prospects. Although most of our significant operations have not been affected by any significant labor disputes in the past, we cannot assure you that we will not experience labor unrest, activism, disputes or actions in the future, some of which may be significant and could adversely affect our business, financial condition, liquidity, results of operations and prospects. The activity of labor unions in Mexico is expected to increase, as a result of law that permits unions to actively seek sponsorship of collective bargaining agreements. For a description of our most relevant collective bargaining agreements, see “Item 6—Directors, Senior Management and Employees—Employees.”

Increases in liabilities related to our pension plans could adversely affect our results of operations.

We have obligations under defined benefit pension and other benefit plans in certain countries in which we operate, mainly in North America and Europe. Our actual funding obligations will depend on benefit plan changes, government regulations and other factors, including changes in longevity and mortality statistics. Due to the large number of variables and assumptions that determine pension liabilities and funding requirements, which are difficult to predict because they change continuously as demographics evolve, despite the fact that we support

our projections with studies by external actuaries, our net projected liability recognized in the statement of financial position of Ps18,937 million (U.S.\$964 million) as of December 31, 2018. The future cash funding requirements for our defined benefit pension plans and other postemployment benefit plans could significantly differ from the amounts estimated as of December 31, 2018. If so, these funding requirements, as well as our possible inability to properly fund such pension plans if we are unable to deliver the cash or equivalent funding requirements, could have a material adverse effect on our business, financial condition, liquidity, results of operations and prospects.

Our insurance coverage may not cover all the risks to which we may be exposed.

Among others, we face the risks of fatalities and injury of our employees and contractors, loss and damage to our products, property and machinery due to, among other things, fire, theft and natural disasters such as floods, and also face risks related to cyber-security related matters. Such events may cause a disruption to, or cessation of, our operations and business. While we believe that we have adequate and sufficient coverage, in line with industry practices, in some instances our insurance coverage may not be sufficient to cover all of our potential unforeseen losses and liabilities. In addition, our insurance coverage may not cover all the risks to which we may be exposed, such as cyber-security risks. If our losses exceed our insurance coverage, or if we are not covered by the insurance policies we have taken up, we may be liable to cover any shortfall or losses. Our insurance premiums may also increase substantially because of such claims. Such circumstances could have a material adverse effect on our business, liquidity, financial condition and results of operations.

Our success depends on the leadership of CEMEX, S.A.B. de C.V.'s board of directors and on key members of our management.

Our success depends largely on the efforts and strategic vision of CEMEX, S.A.B. de C.V.'s board of directors and of our executive management team. The loss of the services of some or all of the members of CEMEX, S.A.B. de C.V.'s board of directors or our senior management could have a material adverse effect on our business, financial condition, liquidity and results of operations, as well as on our reputation.

The execution of our business strategy also depends on our ongoing ability to attract and retain additional qualified employees. For a variety of reasons, particularly with respect to the competitive environment and the availability of skilled labor, we may not be successful in attracting and retaining the personnel we require. If we are unable to hire, train and retain qualified employees at a reasonable cost, we may be unable to successfully operate our business or capitalize on growth opportunities and, as a result, our business, financial condition, liquidity and results of operations could be materially and adversely affected.

We are subject to anti-corruption, anti-bribery, anti-money laundering and antitrust laws and regulations in the countries in which we operate. Any violation of any such laws or regulations could have a material adverse impact on our reputation and results of operations and financial condition.

We are subject to anti-corruption, anti-bribery, anti-money laundering, antitrust and other international laws and regulations and are required to comply with the applicable laws and regulations of the countries in which we operate. In addition, we are subject to regulations on economic sanctions that restrict dealings with certain sanctioned countries, individuals and entities. Given the large number of contracts that we are a party to around the world, the geographic distribution of our operations and the great variety of actors that we interact with in the course of business, we are subject to the risk that our affiliates, employees, directors, officers, partners, agents and service providers may misappropriate our assets, manipulate our assets or information, make improper payments or engage in corruption, bribery, money laundering or other illegal activity, for such person's personal or business advantage.

There can be no assurance that our internal policies and procedures will be sufficient to prevent or detect all inappropriate practices, fraud or violations of law by our affiliates, employees, directors, officers, partners, agents

and service providers or that any such persons will not take actions in violation of our policies and procedures. If we fail to fully comply with applicable laws and sanctions regulations, the relevant government authorities of the countries where we operate have the power and authority to investigate us and, if it is the case, impose fines, penalties and remedies, which could cause us to lose clients, suppliers and access to debt and capital markets. Any violations by us of anti-bribery and anti-corruption laws or regulations could have a material adverse effect on our business, liquidity, reputation, results of operations and financial condition.

For further information regarding our ongoing proceedings with respect to anti-corruption laws, see “Item 3—Key Information—Risk Factors—Risks Relating to Our Business—We are subject to litigation proceedings, including a federal securities class action, government investigations relating to corruption related matters and antitrust proceedings, that could harm our business and our reputation” and “Item 4—Information on the Company—Regulatory Matters and Legal Proceedings.”

Certain tax matters may have a material adverse effect on our cash flow, financial condition and net income, as well as on our reputation.

We are subject to certain tax matters, mainly in Mexico, Colombia and Spain, that, if adversely resolved, may have a material adverse effect on our cash flow, financial condition and net income, as well as on our reputation. See notes 2.13 and 19.4 to our 2018 audited consolidated financial statements included elsewhere in this annual report, “Item 4—Information on the Company—Regulatory Matters and Legal Proceedings—Tax Matters—Mexico,” “Item 4—Information on the Company—Regulatory Matters and Legal Proceedings—Tax Matters—Colombia,” and “Item 4—Information on the Company—Regulatory Matters and Legal Proceedings—Tax Matters—Spain” for a description of the legal proceedings regarding these Mexican, Colombian and Spanish tax matters, all included elsewhere in this annual report.

It may be difficult to enforce civil liabilities against us or the members of CEMEX, S.A.B. de C.V.’s board of directors, our senior management and controlling persons.

CEMEX, S.A.B. de C.V. is a publicly traded variable stock corporation (*sociedad anónima bursátil de capital variable*) organized under the laws of Mexico. Substantially all members of CEMEX, S.A.B. de C.V.’s board of directors and the majority of the members of our senior management reside in Mexico, and all or a significant portion of the assets of those persons may be, and the majority of our assets are, located outside the United States. As a result, it may not be possible for you to effect service of process within the United States upon such persons or to enforce against them or against us in U.S. courts judgments predicated upon the civil liability provisions of the federal securities laws of the United States. We have been advised by our General Counsel, Roger Saldaña Madero, that there is doubt as to the enforceability in Mexico, either in original actions or in actions for enforcement of judgments of U.S. courts, of civil liabilities predicated on the U.S. federal securities laws.

The protections afforded to non-controlling shareholders in Mexico are different from those in the United States and may be more difficult to enforce.

Under Mexican law, the protections afforded to non-controlling shareholders are different from those in the United States and countries in continental Europe. In particular, the legal framework and case law pertaining to directors’ duties and disputes between shareholders and us, the members of CEMEX, S.A.B. de C.V.’s board of directors, our officers or CEMEX, S.A.B. de C.V.’s controlling shareholders, are less developed under Mexican law than under U.S. and continental European law. Mexican law only permits shareholder derivative suits (i.e., suits for our benefit as opposed to the direct benefit of our shareholders) and there are procedural requirements for bringing shareholder derivative lawsuits, such as minimum holdings, which differ from those in effect in other jurisdictions. There is also a substantially less active plaintiffs’ bar dedicated to the enforcement of shareholders’ rights in Mexico than in the United States. As a result, in practice it may be more difficult for our non-controlling shareholders to initiate an action against us or our directors or controlling shareholders or obtain direct remedies than it would be for shareholders of a U.S. company.

ADS holders may only vote the Series B shares represented by the CPOs deposited with the ADS depositary through the ADS depositary and are not entitled to vote the Series A shares represented by the CPOs deposited with the ADS depositary or to attend shareholders' meetings.

Any person acquiring CEMEX, S.A.B. de C.V.'s ADSs should be aware of the terms of the ADSs, the corresponding deposit agreement pursuant to which CEMEX, S.A.B. de C.V.'s ADSs are issued (the "Deposit Agreement"), the CPO Trust (as defined in the Deposit Agreement) and CEMEX, S.A.B. de C.V.'s by-laws. Under such terms, a holder of an ADS has the right to instruct the ADS depositary to exercise voting rights only with respect to Series B shares (as defined below) represented by the CPOs deposited with the depositary, but not with respect to the Series A shares (as defined below) represented by the CPOs deposited with the depositary. ADS holders will not be able to directly exercise their right to vote unless they withdraw the CPOs underlying their ADSs (and, in the case of non-Mexican holders, even if they do so, they may not vote the Series A shares represented by the CPOs) and may not receive voting materials in time to ensure that they are able to instruct the depositary to vote the CPOs underlying their ADSs or receive sufficient notice of a shareholders' meeting to permit them to withdraw their CPOs to allow them to cast their vote with respect to any specific matter. Holders of ADSs will not have the right to instruct the ADS depositary as to the exercise of voting rights in respect of Series A shares underlying CPOs held in the CPO Trust. Under the terms of the CPO Trust, Series A shares underlying CPOs held by non-Mexican nationals, including all Series A shares underlying CPOs represented by ADSs, will be voted by the Trustee (as defined in the Deposit Agreement), according to the majority of all Series A shares held by Mexican nationals and Series B shares voted at the meeting. In addition, the depositary and its agents may not be able to send out voting instructions on time or carry them out in the manner an ADS holder has instructed. As a result, ADS holders may not be able to exercise their right to vote and they may lack recourse if the CPOs underlying their ADSs are not voted as they requested. In addition, ADS holders are not entitled to attend shareholders' meetings. ADS holders will also not be permitted to vote the CPOs underlying the ADSs directly at a shareholders' meeting or to appoint a proxy to do so without withdrawing the CPOs. If the ADS depositary does not receive voting instructions from a holder of ADSs in a timely manner such holder will nevertheless be treated as having instructed the ADS depositary to give a proxy to a person we designate, or at our request, the corresponding CPO trust's technical committee designates, to vote the Series B shares underlying the CPOs represented by the ADSs in his/her discretion. The ADS depositary or the custodian for the CPOs on deposit may represent the CPOs at any meeting of holders of CPOs even if no voting instructions have been received. The CPO trustee may represent the Series A shares and the Series B shares represented by the CPOs at any meeting of holders of Series A shares or Series B shares even if no voting instructions have been received. By so attending, the ADS depositary, the custodian or the CPO trustee, as applicable, may contribute to the establishment of a quorum at a meeting of holders of CPOs, Series A shares or Series B shares, as appropriate.

Non-Mexicans may not hold CEMEX, S.A.B. de C.V.'s Series A shares directly and must have them held in a trust at all times.

Non-Mexican investors in CEMEX, S.A.B. de C.V.'s CPOs or ADSs may not directly hold the underlying Series A shares, but may hold them indirectly through CEMEX, S.A.B. de C.V.'s CPO trust. Upon the early termination or expiration of the term of CEMEX, S.A.B. de C.V.'s CPO trust on September 6, 2029, the Series A shares underlying CEMEX, S.A.B. de C.V.'s CPOs held by non-Mexican investors must be placed into a new trust similar to the current CPO trust for non-Mexican investors to continue to hold an economic interest in such shares. We cannot assure you that a new trust similar to the CPO trust will be created or that the relevant authorization for the creation of the new trust or the transfer of our Series A shares to such new trust will be obtained. In that event, since non-Mexican holders currently cannot hold Series A shares directly, they may be required to sell all of their Series A shares to a Mexican individual or corporation, which could expose shareholders to a loss in the sale of the corresponding Series A shares and which may cause the price of CEMEX, S.A.B. de C.V.'s CPOs and ADSs to decrease.

Preemptive rights may be unavailable to ADS holders.

ADS holders may be unable to exercise preemptive rights granted to CEMEX, S.A.B. de C.V.'s shareholders, in which case ADS holders could be substantially diluted following future equity or equity-linked offerings. Under Mexican law, whenever CEMEX, S.A.B. de C.V. issues new shares for payment in cash or in kind, CEMEX, S.A.B. de C.V. is generally required to grant preemptive rights to CEMEX, S.A.B. de C.V.'s shareholders, except if the shares are issued in respect of a public offering or if the relevant shares underlie convertible securities. However, ADS holders may not be able to exercise these preemptive rights to acquire new shares unless both the rights and the new shares are registered in the United States or an exemption from registration is available. We cannot assure you that we would file a registration statement in the United States at the time of any rights offering.

Selected Consolidated Financial Information

The financial data set forth below as of and for each of the five years ended December 31, 2018 have been derived from our audited consolidated financial statements. The financial data set forth below as of December 31, 2017 and 2018 and for each of the three years ended December 31, 2016, 2017 and 2018 have been derived from, and should be read in conjunction with, and are qualified in their entirety by reference to, our 2018 audited consolidated financial statements included elsewhere in this annual report. Our 2018 audited consolidated financial statements prepared under IFRS for the year ended December 31, 2018 were approved by our shareholders at the annual general ordinary shareholders' meeting held on March 28, 2019. See "Item 5—Operating and Financial Review and Prospects—Recent Developments—Recent Developments Relating to Our Shareholders Meeting."

The operating results of newly acquired businesses are consolidated in our financial statements beginning on the acquisition date. Therefore, all periods presented do not include operating results corresponding to newly acquired businesses before we assumed control. As a result, the financial data for the years ended December 31, 2016, 2017 and 2018 may not be comparable to that of prior periods.

Our 2018 audited consolidated financial statements included elsewhere in this annual report, have been prepared in accordance with IFRS, which differ in significant respects from U.S. GAAP. The regulations of the SEC do not require foreign private issuers that prepare their financial statements on the basis of IFRS (as published by the IASB) to reconcile such financial statements to U.S. GAAP.

Non-Mexican Peso amounts included in the consolidated financial statements are first translated into Dollar amounts, in each case at a commercially available or an official government exchange rate for the relevant period or date, as applicable, and those Dollar amounts are then translated into Mexican Peso amounts at the exchange rate that we use for accounting purposes (the "CEMEX accounting rate"). The CEMEX accounting rate on any given date is determined based on the closing exchange rate reported by certain sources, such as Reuters. For any given date, the CEMEX accounting rate may differ from the noon buying rate for Mexican Pesos in New York City published by the U.S. Federal Reserve Bank of New York.

The Dollar amounts provided below, unless otherwise indicated elsewhere in this annual report, are translations of Mexican Peso amounts at an exchange rate of Ps19.65 to U.S.\$1.00, the CEMEX accounting rate as of December 31, 2018. However, in the case of transactions conducted in Dollars, we have presented the U.S. Dollar amount of the transaction and the corresponding Mexican Peso amount that is presented in our 2018 audited consolidated financial statements included elsewhere in this annual report. These translations have been prepared solely for the convenience of the reader and should not be construed as representations that the Mexican Peso amounts actually represent those Dollar amounts or could be converted into Dollars at the rate indicated.

CEMEX, S.A.B. DE C.V. AND SUBSIDIARIES
Selected Consolidated Financial Information

As of and For the Year Ended December 31

	2014	2015	2016	2017	2018
(in millions of Mexican Pesos, except ratios and share and per share amounts)					
Income Statement Information:					
Revenues	Ps 199,942	Ps 219,299	Ps 249,477	Ps 257,437	Ps 276,855
Cost of sales ⁽¹⁾	(134,742)	(144,513)	(159,946)	(168,858)	(182,965)
Gross profit	65,200	74,786	89,531	88,579	93,890
Operating expenses	(43,347)	(47,910)	(53,913)	(55,967)	(60,694)
Operating earnings before other expenses, net ⁽²⁾	21,853	26,876	35,618	32,612	33,196
Other expenses, net	(5,045)	(3,032)	(1,670)	(3,815)	(5,837)
Operating earnings ⁽²⁾	16,808	23,844	33,948	28,797	27,359
Financial items ⁽³⁾	(18,952)	(21,117)	(17,020)	(15,685)	(12,501)
Share of profit of equity accounted investees	294	737	688	588	653
Earnings (loss) before income tax	(1,850)	3,464	17,616	13,700	15,511
Discontinued operations ⁽⁴⁾⁽⁵⁾	90	1,028	713	3,461	212
Non-controlling interest net income	1,103	923	1,173	1,417	789
Controlling interest net income (loss)	(6,783)	1,201	14,031	15,224	10,467
Basic earnings (loss) per share ⁽⁶⁾⁽⁷⁾	(0.16)	0.03	0.32	0.34	0.22
Diluted earnings (loss) per share ⁽⁶⁾⁽⁷⁾	(0.16)	0.03	0.32	0.34	0.22
Basic earnings (loss) per share from continuing operations ⁽⁶⁾⁽⁷⁾	(0.16)	0.01	0.30	0.26	0.22
Diluted earnings (loss) per share from continuing operations ⁽⁶⁾⁽⁷⁾	(0.16)	0.01	0.30	0.26	0.22
Number of shares outstanding ⁽⁶⁾⁽⁸⁾⁽⁹⁾	49,232	49,124	48,668	48,439	48,015
Statement of Financial Position Information:					
Cash and cash equivalents	12,589	15,322	11,616	13,741	6,068
Assets held for sale ⁽⁴⁾⁽⁵⁾	—	1,945	21,029	1,378	2,100
Property, machinery and equipment, net	202,928	216,694	230,134	232,160	224,440
Total assets	514,961	542,264	599,728	567,691	552,628
Short-term debt	14,507	223	1,222	16,973	883
Long-term debt	191,327	229,125	235,016	177,022	182,074
Liabilities directly related to assets held for sale	—	—	815	—	314
Non-controlling interest and Perpetual Debentures ⁽¹⁰⁾	17,068	20,289	28,951	30,879	30,883
Total controlling interest	131,103	143,479	167,774	179,540	188,650
Other Financial Information:					
Net working capital ⁽¹¹⁾	20,757	16,806	7,920	3,012	650
Book value per share ⁽⁶⁾⁽⁹⁾⁽¹²⁾	2.66	2.92	3.45	3.71	3.93
Operating margin before other expenses, net	10.9%	12.3%	14.3%	12.7%	12.0%
Operating EBITDA from continuing operations ⁽¹³⁾	35,556	41,534	51,605	48,600	49,266
Ratio of Operating EBITDA to interest expense ⁽¹³⁾	1.7	2.1	2.4	2.5	3.9
Capital expenditures	9,486	12,313	13,279	12,419	12,969
Depreciation and amortization	13,703	14,658	15,987	15,988	16,070
Net cash flow provided by operating activities from continuing operations before financial expense, coupons on Perpetual Debentures and income taxes	35,445	43,441	61,342	51,420	43,316
Basic earnings (loss) per CPO of continuing operations ⁽⁶⁾⁽⁷⁾	(0.48)	0.03	0.90	0.78	0.66
Basic earnings (loss) per CPO ⁽⁶⁾⁽⁷⁾	(0.48)	0.09	0.96	1.02	0.66
Total debt plus other financial obligations	244,429	268,203	273,868	226,216	207,724

- (1) Cost of sales includes depreciation, amortization and depletion of assets involved in production, expenses related to storage in production plants, freight expenses of raw materials in plants and delivery expenses of our ready-mix concrete business. Our cost of sales excludes (i) expenses related to personnel and equipment comprising our selling network and those expenses related to warehousing at the points of sale and (ii) freight expenses of finished products from our producing plants to our points of sale and from our points of sale to our customers' locations, which are all included as part of the line item titled "Operating expenses."
- (2) In the income statements, CEMEX includes the line item titled "Operating earnings before other expenses, net" considering that is a relevant measure for CEMEX's management as explained in note 2.1 to our 2018 audited consolidated financial statements included elsewhere in this annual report. Under IFRS, while there are line items that are customarily included in the income statements, such as revenues, operating costs and expenses and financial revenues

- and expenses, among others, the inclusion of certain subtotals such as “Operating earnings before other expenses, net” and the display of such income statements varies significantly by industry and company according to specific needs.
- (3) Financial items include financial expenses and our financial income (expenses) and other items, net, which includes our results in the sale of associates and remeasurement of previously held interest before change in control of associates, financial income, results from financial instruments, net (derivatives, fixed-income investments and other securities), foreign exchange results and effects of amortized cost on assets and liabilities and others, net. See notes 7 and 16 to our 2018 audited consolidated financial statements included elsewhere in this annual report.
- (4) On October 31, 2015, after all agreed upon conditions precedent were satisfied, we completed the sale of our operations in Austria and Hungary to the Rohrdorfer Group (“Rohrdorfer”) for €165 million (U.S.\$179 million or Ps3,090 million) after final adjustments for changes in cash and working capital balances as of the transfer date. Our combined operations in Austria and Hungary at that time consisted of 29 aggregates quarries and 68 ready-mix concrete plants. The operations in Austria and Hungary for the ten-month period ended October 31, 2015 and the year ended December 31, 2014, included in our consolidated income statements, were reclassified to the single line item “Discontinued operations.” As per IFRS, our statement of financial position as of December 31, 2014 was not restated as a result of the sale of our operations in Austria and Hungary. On May 26, 2016, we closed the sale of our operations in Bangladesh and Thailand to Siam City Cement Public Company Ltd. (“SIAM Cement”) for U.S.\$70 million. As per IFRS, our statement of financial position as of December 31, 2015 was not restated as a result of the sale of our operations in Thailand and Bangladesh. The operations in Bangladesh and Thailand for the period from January 1, 2016 to May 26, 2016 and the year 2015, included in our consolidated income statements, were reclassified to the single line item “Discontinued operations.” In addition, as of December 31, 2016, the balance sheet of the Concrete Pipe Business was reclassified to assets held for sale and liabilities directly related to assets held for sale on our consolidated statement of financial position, including U.S.\$260 million (Ps5,369 million) of goodwill associated with the reporting segment in the United States that was proportionally allocated to these net assets based on their relative fair values. On January 31, 2017, one of CEMEX, S.A.B. de C.V.’s subsidiaries in the U.S. closed the sale of our U.S. Reinforced Concrete Pipe Manufacturing Business (the “Concrete Pipe Business”) to Quikrete Holdings, Inc. (“Quikrete”) for U.S.\$500 million plus an additional U.S.\$40 million contingent consideration based on future performance. Considering that we disposed of our entire concrete pipe division, the operations of the Concrete Pipe Business, as included in our consolidated income statements for the years ended December 31, 2015 and 2016 and for the one-month period ended January 31, 2017, were reclassified to the single line item “Discontinued Operations.” On June 30, 2017, one of our subsidiaries in the United States closed the divestment of its Pacific Northwest Materials Business (the “Pacific Northwest Materials Business”), consisting of aggregates, asphalt and ready-mix concrete operations in Oregon and Washington to Cadman Materials, Inc. (“Cadman Materials”), a Lehigh Hanson Inc. company and a subsidiary of Heidelberg Cement Group, for U.S.\$150 million. Considering the disposal of our Pacific Northwest Materials Business, these operations, as included in our consolidated income statements for the years ended December 31, 2015, 2016 and for the six-month period ended June 30, 2017 were reclassified to the single line item “Discontinued Operations.” On September 27, 2018, we concluded the sale of our construction materials operations in Brazil (the “Brazilian Operations”) through the sale to Votorantim Cimentos N/NE S.A. of all shares of our Brazilian subsidiary Cimento Vencemos Do Amazonas Ltda (“Cimento Vencemos”), consisting of a fluvial cement distribution terminal located in Manaus, Amazonas province, as well as the related operating license. The sale price was U.S.\$31 million (Ps580 million). Our Brazilian Operations for the period from January 1 to September 27, 2018 and the years 2017 and 2016 were reclassified to the single line item “Discontinued Operations.” The information related to our consolidated income statement for the year ended December 31, 2015 has not been reclassified to present the financial result of that year of our Brazilian Operations in a single line item as discontinued operations. Also, the information related to our consolidated income statement for the year ended December 31, 2014 has not been reclassified to present the financial result of that year of our Brazilian Operations and the Pacific Northwest Materials Business in a single line item as discontinued operations. See “Item 4—Information on the Company—Business Overview” and note 4.2 to our 2018 audited consolidated financial statements included elsewhere in this annual report.
- (5) On August 12, 2015, we entered into an agreement for the sale of our operations in Croatia, including assets in Bosnia and Herzegovina, Montenegro and Serbia, to Duna-Dráva Cement Kft. for €231 million (U.S.\$243 million or Ps5,032 million). Those operations mainly consist of three cement plants with aggregate annual production capacity of approximately 2.4 million tons of cement, two aggregates quarries and seven ready-mix concrete plants. On April 5, 2017, we announced that the European Commission issued a decision that restricted completion of the sale. Therefore, the sale of our operations in Croatia did not close, and we maintained our operations in Croatia, including assets in Bosnia and Herzegovina, Montenegro and Serbia (our “Croatian Operations”). As of December 31, 2016 and 2017 and for the years ended December 31, 2017, 2016 and 2015, the Croatian Operations are consolidated line-by-line in the financial statements. The information related to our consolidated financial statements for the year ended December 31, 2014 in which we previously reported the Croatian Operations as “Discontinued Operations” and “Assets held for sale,” has not been reclassified to present the Croatian Operations as part of continuing operations in our consolidated income statements or line-by-line in our consolidated statements of financial position. We believe that the effects are not significant.

- (6) CEMEX, S.A.B. de C.V.'s capital stock consists of Series A shares and Series B shares. Each CPO represents two Series A shares and one Series B share. As of December 31, 2018, 99.88% of CEMEX, S.A.B. de C.V.'s outstanding share capital was represented by CPOs. Each ADS represents ten CPOs.
- (7) Earnings (loss) per share is calculated based upon the weighted average number of shares outstanding during the year, as described in note 22 to our 2018 audited consolidated financial statements included elsewhere in this annual report. Basic earnings (loss) per CPO is determined by multiplying the basic earnings (loss) per share for each period by three (the number of shares underlying each CPO). Basic earnings (loss) per CPO is presented solely for the convenience of the reader and does not represent a measure under IFRS. As shown in notes 4.2 and 22 to our 2018 audited consolidated financial statements included elsewhere in this annual report, and in connection with the sale of our operations in Austria, Hungary, Thailand, Bangladesh and the sales of the Concrete Pipe Business and the Pacific Northwest Materials Business, and the sale of our Brazilian Operations, for the year ended December 31, 2016, "Basic earnings per share" includes Ps0.30 from "Continuing operations," for the year ended December 31, 2017, "Basic earnings per share" includes Ps0.26 from "Continuing operations" and for the year ended December 31, 2018, "Basic earnings per share" includes Ps0.22 from "Continuing operations." In addition, for the years ended December 31, 2016 and 2017, "Basic earnings per share" includes Ps0.02 and Ps0.08, respectively, from "Discontinued operations." Likewise, for the year ended December 31, 2016, "Diluted earnings per share" includes Ps0.30 from "Continuing operations," for the year ended December 31, 2017, "Diluted earnings per share" includes Ps0.26 from "Continuing operations" and for the year ended December 31, 2018, "Diluted earnings per share" includes Ps0.22 from "Continuing operations." In addition, for the years ended December 31, 2016, and 2017, "Diluted earnings per share" includes Ps0.02 and Ps0.08, respectively, from "Discontinued operations." See note 22 to our 2018 audited consolidated financial statements included elsewhere in this annual report.
- (8) CEMEX, S.A.B. de C.V. did not declare a dividend for fiscal years 2014, 2015, 2016 and 2017. For the fiscal year 2018, CEMEX, S.A.B. de C.V. declared a cash dividend in the amount of U.S.\$150 million, payable in Mexican Pesos in two equal installments, in June 2019 and December 2019. At each of CEMEX, S.A.B. de C.V.'s 2014, 2015 and 2016 annual general ordinary shareholders' meetings, held on March 26, 2015, March 31, 2016 and March 30, 2017, respectively, CEMEX, S.A.B. de C.V.'s shareholders approved a recapitalization of retained earnings. New CPOs issued pursuant to each such recapitalization were allocated to shareholders on a pro-rata basis. As a result, shares equivalent to approximately 500 million CPOs, approximately 539 million CPOs and approximately 562 million CPOs were allocated to shareholders on a pro-rata basis in connection with the 2014, 2015 and 2016 recapitalizations, respectively. In each case, CPO holders received one new CPO for each 25 CPOs held and ADS holders received one new ADS for each 25 ADSs held. There was no cash distribution and no entitlement to fractional shares. No recapitalization of retained earnings was approved at CEMEX, S.A.B. de C.V.'s 2017 and 2018 annual general ordinary shareholders' meetings held on April 5, 2018 and March 28, 2019, respectively.
- (9) Represents the weighted average number of shares diluted included in note 22 to our 2018 audited consolidated financial statements included elsewhere in this annual report.
- (10) As of December 31, 2014, 2015, 2016, 2017 and 2018, non-controlling interest includes U.S.\$466 million (Ps6,869 million), U.S.\$440 million (Ps7,581 million), U.S.\$438 million (Ps9,075 million), U.S.\$447 million (Ps8,784 million) and U.S.\$444 million (Ps8,729 million), respectively, that represents the nominal amount of Perpetual Debentures, denominated in Dollars and Euros, issued by consolidated entities. In accordance with IFRS, these securities qualify as equity due to their perpetual nature and the option to defer the coupons.
- (11) Net working capital equals trade accounts receivable, less allowance for expected credit losses plus inventories, net, less trade payables.
- (12) Book value per share is calculated by dividing the total controlling interest by the number of shares outstanding.
- (13) Operating EBITDA equals operating earnings before other expenses, net, plus amortization and depreciation expenses. Operating EBITDA is calculated and presented because we believe that it is widely accepted as a financial indicator of our ability to internally fund capital expenditures and service or incur debt, and the consolidated ratio of Operating EBITDA to interest expense is calculated and presented because it is used to measure our performance under certain of our financing agreements. Operating EBITDA and such ratio are non-IFRS measures and should not be considered as indicators of our financial performance as alternatives to cash flow, as measures of liquidity or as being comparable to other similarly titled measures of other companies. Under IFRS, while there are line items that are customarily included in income statements prepared pursuant to IFRS, such as revenues, operating costs and expenses and financial revenues and expenses, among others, the inclusion of certain subtotals, such as operating earnings before other expenses, net, and the display of such income statement varies significantly by industry and company according to specific needs. Our Operating EBITDA may not be comparable to similarly titled measures reported by other companies due to potential differences in the method of calculation. Operating EBITDA is reconciled below to operating earnings before other expenses, net, as reported in the income statements, and to net cash flows provided by operating activities from continuing operations before financial expense, coupons on Perpetual Debentures and income taxes, as reported in the statement of cash flows. Financial expense under IFRS does not include coupon payments of the Perpetual Debentures issued by consolidated entities of Ps420 million in 2014, Ps432 million in 2015, Ps507 million in 2016, Ps482 million in 2017 and approximately Ps553 million in 2018, as described in note 20.4 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

	For the Year Ended December 31,				
	2014	2015	2016	2017	2018
	(in millions of Mexican Pesos)				
Reconciliation of Operating EBITDA to net cash flows provided by operating activities from continuing operations before financial expense, coupons on Perpetual Debentures and income taxes					
Operating EBITDA	Ps 35,556	Ps 41,534	Ps 51,605	Ps 48,600	Ps 49,266
Less:					
Depreciation and amortization expense	13,703	14,658	15,987	15,988	16,070
Operating earnings before other expenses, net	21,853	26,876	35,618	32,612	33,196
Plus/minus:					
Changes in working capital excluding income taxes					
taxes	1,475	3,596	11,017	8,039	(1,062)
Depreciation and amortization expense	13,703	14,658	15,987	15,988	16,070
Other items, net	(1,586)	(1,689)	(1,280)	(5,219)	(4,888)
Net cash flow provided by operations activities from continuing operations before financial expense, coupons on Perpetual Debentures and income taxes	<u>Ps 35,445</u>	<u>Ps 43,441</u>	<u>Ps 61,342</u>	<u>Ps 51,420</u>	<u>Ps 43,316</u>

Item 4—Information on the Company

Unless otherwise indicated, references in this annual report to our sales and assets, including percentages, for a country or region are calculated before eliminations resulting from consolidation, and thus include intercompany balances between countries and regions. These intercompany balances are eliminated when calculated on a consolidated basis.

Business Overview

CEMEX, S.A.B. de C.V. is a publicly traded variable stock corporation (*sociedad anónima bursátil de capital variable*) organized under the laws of Mexico, with its principal executive offices located at Avenida Ricardo Margáin Zozaya #325, Colonia Valle del Campestre, San Pedro Garza García, Nuevo León, 66265, Mexico. CEMEX, S.A.B. de C.V.'s main phone number is +52 81 8888-8888.

Our website is located at www.cemex.com. The information on our website is not, and is not intended to be, part of this annual report and is not incorporated into this annual report by reference.

CEMEX, S.A.B. de C.V. started doing business in 1906 and was registered with the Mercantile Section of the Public Registry of Property and Commerce in Monterrey, Nuevo León, Mexico, on June 11, 1920 for a period of 99 years. At CEMEX, S.A.B. de C.V.'s 2002 ordinary general shareholders' meeting, this period was extended to the year 2100 and in 2015 this period changed to be indefinite. Beginning April 2006, CEMEX's full legal and commercial name is CEMEX, Sociedad Anónima Bursátil de Capital Variable.

CEMEX is one of the largest cement companies in the world, based on annual installed cement production capacity. As of December 31, 2018, we had approximately 92.6 million tons of annual installed cement production capacity and our cement sales volumes in 2018 was 69.4 million tons. After the merger of Holcim with Lafarge during 2015, which resulted in the company LafargeHolcim Ltd. ("LafargeHolcim"), we estimate we are the next largest ready-mix concrete company in the world with annual sales volumes of approximately 53.3 million cubic meters and one of the largest aggregates companies in the world with annual sales volumes of

approximately 149.8 million tons, in each case, based on our annual sales volumes in 2018. We are also one of the world's largest traders of cement and clinker, having traded approximately 10 million tons of cement and clinker in 2018. This information does not include discontinued operations. See note 4.2 to our 2018 audited consolidated financial statements included elsewhere in this annual report. CEMEX, S.A.B. de C.V. is an operating and a holding company engaged, directly or indirectly, through its operating subsidiaries, primarily in the production, distribution, marketing and sale of cement, ready-mix concrete, aggregates, clinker and other construction materials throughout the world. We provide reliable construction-related services to customers and communities and maintain business relationships in more than 50 countries throughout the world.

We operate globally, with operations in Mexico, the United States, Europe, SCA&C, Asia, the Middle East and Africa. We had total assets of Ps552,628 million (U.S.\$28,124 million) as of December 31, 2018, and an equity market capitalization of approximately Ps138,444 million (U.S.\$7,356 million) as of April 17, 2019.

As of December 31, 2018, our cement production facilities were located in Mexico, the United States, the United Kingdom, Germany, Spain, Poland, Latvia, the Czech Republic, Croatia, Colombia, Panama, Costa Rica, the Dominican Republic, Puerto Rico, Nicaragua, Trinidad and Tobago, Jamaica, Barbados, Egypt, and the Philippines. As of December 31, 2018, our assets (after eliminations), cement plants and installed capacity, on an unconsolidated basis by region, were as set forth below. Installed capacity, which refers to theoretical annual production capacity, represents gray portland cement and white cement capacity and includes installed capacity of cement plants that have been temporarily closed.

	As of December 31, 2018		
	Assets After Eliminations (in Billions of Mexican Pesos)	Number of Cement Plants	Installed Cement Production Capacity (Millions of Tons Per Annum)
Mexico ⁽¹⁾	Ps 69	15	29.5
United States ⁽²⁾	269	11	15.4
Europe			
United Kingdom	32	2	2.4
France	17	—	—
Germany	8	1	2.4
Spain	25	7	10.4
Poland	6	2	3.0
Czech Republic	4	1	1.0
Rest of Europe ⁽³⁾	11	4	4.7
South, Central America and the Caribbean (SCA&C)			
Colombia	25	2	4.0
Panama	7	1	2.1
Costa Rica	2	1	0.9
Caribbean TCL ⁽⁴⁾	11	3	2.5
Dominican Republic	4	1	2.6
Rest of South, Central America and the Caribbean ⁽⁵⁾	7	2	1.8
Asia, Middle East and Africa			
Philippines	12	2	4.5
Egypt	5	1	5.4
Israel	10	—	—
Rest of Asia, Middle East and Africa ⁽⁶⁾	4	—	—
Corporate and Other Operations	23	—	—
Continuing Operations	<u>551</u>	<u>—</u>	<u>—</u>
Assets held for sale	2	—	—
Total	<u>Ps 553</u>	<u>56</u>	<u>92.6</u>

“—” Not applicable

The above table includes our proportional interest in the installed capacity of companies in which we hold a non-controlling interest and reflects our organizational structure as of December 31, 2018.

- (1) “Number of cement plants” and “installed cement production capacity” includes two cement plants that were temporarily inactive with an aggregate annual installed capacity of 2.8 million tons of cement. “Installed cement production capacity” includes 0.5 million tons of cement representing our proportional interests through associates in three other cement plants.
- (2) “Number of cement plants” and “installed cement production capacity” includes two cement plants that were temporarily inactive with an aggregate annual installed capacity of 2.1 million tons of cement. “Installed cement production capacity” includes 0.8 million tons of cement representing our proportional interests through associates in seven other cement plants.
- (3) “Rest of Europe” refers mainly to our operations in Croatia, Latvia, Scandinavia and Finland. “Installed cement production capacity” includes 0.7 million tons of cement representing our proportional interest in a Lithuanian cement producer that operated one other cement plant.
- (4) “Caribbean TCL” refers to TCL’s operations mainly in Trinidad and Tobago, Jamaica, Guyana and Barbados.
- (5) “Rest of South, Central America and the Caribbean” refers mainly to our operations in Puerto Rico, Nicaragua, Jamaica, the Caribbean, Guatemala and El Salvador, excluding the acquired operations of Caribbean TCL.
- (6) “Rest of Asia, Middle East and Africa” includes mainly our operations in the UAE.

During the majority of the last 28 years, we embarked on a major geographic expansion program to diversify our cash flows and enter markets whose economic cycles within the cement industry largely operate independently from those of Mexico and which offer long-term growth potential. We have built an extensive network of marine and land-based distribution centers and terminals that give us marketing access around the world. As part of our strategy, we also periodically review and reconfigure our operations in implementing our post-merger integration process, and we also divest assets that we believe are less fundamental to our portfolio. The following are our most significant acquisitions, divestitures and reconfigurations that we have announced or closed since 2015:

- On October 31, 2015, we completed the sale of our operations in Austria and Hungary to Rohrdorfer for €165 million (U.S.\$179 million or Ps3,090 million) after final adjustments for changes in cash and working capital balances as of the transfer date. Our combined operations in Austria and Hungary consisted of 29 aggregates quarries and 68 ready-mix concrete plants. The operations in Austria and Hungary for the ten-month period ended October 31, 2015 and the year ended December 31, 2014, included in our consolidated income statements, were reclassified to the single line item “Discontinued operations,” which includes, in 2015, a gain on sale of U.S.\$45 million (Ps741 million). Such gain on sale includes the reclassification to the income statement of foreign currency translation effects accrued in equity until October 31, 2015 for an amount of U.S.\$10 million (Ps215 million).
- On May 26, 2016, we closed the sale of our operations in Bangladesh and Thailand to SIAM Cement for U.S.\$70 million (Ps1,450 million). Our operations in Bangladesh and Thailand for the period from January 1, 2016 to May 26, 2016 and the year ended December 31, 2015 included in our consolidated income statements were reclassified to the single line item “Discontinued operations,” which includes, in 2016, a gain on sale of U.S.\$24 million (Ps424 million). See note 4.2 to our 2018 audited consolidated financial statements included elsewhere in this annual report.
- On July 18, 2016, CHP closed its initial public offering of 45% of its common shares in the Philippines, and 100% of CHP’s common shares started trading on the Philippine Stock Exchange under the ticker “CHP.” As of December 31, 2018, CEMEX Asian South East Corporation (“CASE”), an indirect subsidiary of CEMEX, S.A.B. de C.V., directly owned 55% of CHP’s outstanding common shares. The net proceeds to CHP from its initial public offering were U.S.\$507 million after deducting

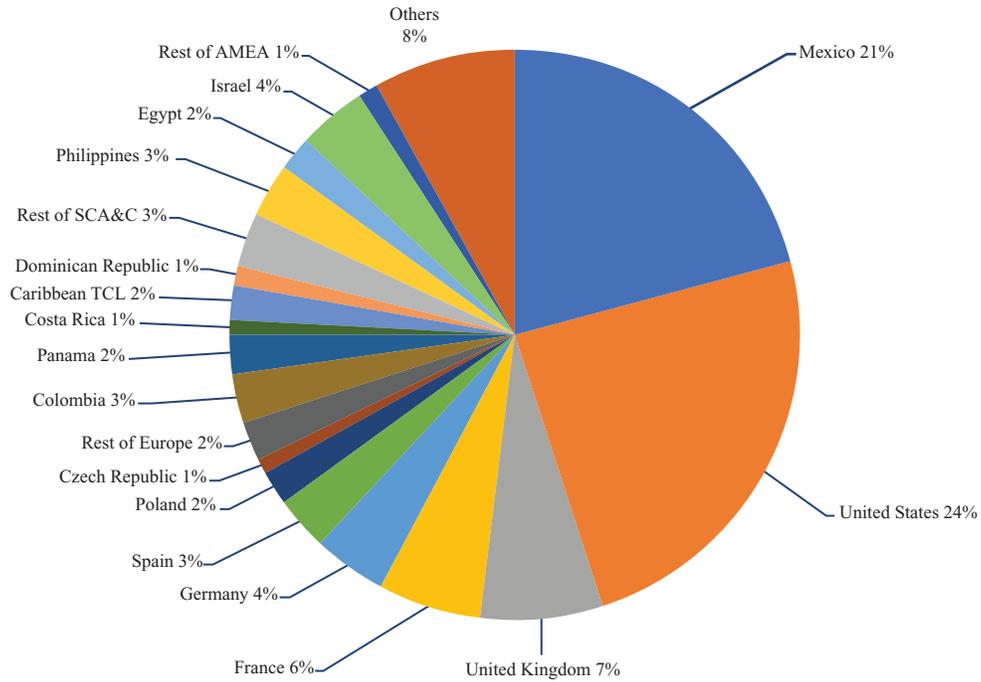
estimated underwriting discounts and commissions, and other estimated offering expenses payable by CHP. CHP used the net proceeds from the initial public offering to repay existing indebtedness owed to BDO Unibank, Inc. (“BDO Unibank”) and to an indirect subsidiary of CEMEX, S.A.B. de C.V.

- On November 18, 2016, after all conditions precedent were satisfied, we announced that we had closed the sale of certain assets in the United States to Grupo Cementos de Chihuahua, S.A.B. de C.V. (“GCC”) for U.S.\$306 million (Ps6,340 million). The assets were sold by an affiliate of ours to an affiliate of GCC in the United States, and mainly consisted of our cement plant in Odessa, Texas, two cement terminals and the building materials business in El Paso, Texas and Las Cruces, New Mexico.
- On December 2, 2016, we agreed to the sale of our assets and operations related to our ready-mix concrete pumping business in Mexico to Cementos Españoles de Bombeo, S. de R.L., a subsidiary in Mexico of Pumping Team S.L.L. (“Pumping Team”), a specialist in the supply of ready-mix concrete pumping services based in Spain, for Ps1,649 million. This agreement included the sale of fixed assets upon closing of the transaction for Ps309 million plus administrative and client and market development services. Under this agreement, we will also lease facilities in Mexico to Pumping Team over a period of ten years with the possibility to extend such term for three additional years, for an aggregate initial amount of Ps1,340 million, plus contingent revenue, subject to results, for up to Ps557 million, linked to annual metrics beginning in the first year and up to the fifth year of the agreement. On April 28, 2017, after receiving the approval by the Mexican authorities, we concluded the sale.
- On December 5, 2016, Sierra Trading (“Sierra”), one of CEMEX, S.A.B. de C.V.’s indirect subsidiaries, presented an offer (as amended, the “Offer”) to all shareholders of TCL, a company then publicly listed in Trinidad and Tobago, Jamaica and Barbados, to acquire up to 132,616,942 ordinary shares in TCL, pursuant to which Sierra offered a certain offer price (the “Offer Price”) payable at the option of shareholders of TCL, except for shareholders of TCL in Barbados, in either Trinidad and Tobago Dollars (“TT\$”) or U.S.\$ in Trinidad, and Jamaican Dollars or U.S.\$ in Jamaica TCL (as defined below). The Offer Price represented a premium of 50% over the December 1, 2016 closing price of TCL’s shares on the Trinidad and Tobago Stock Exchange. The total number of TCL shares tendered and accepted in response to the Offer was 113,629,723 which, together with Sierra’s pre-existing shareholding in TCL (147,994,188 shares), represented 69.83% of the outstanding TCL shares. The total cash payment by Sierra for the tendered shares was U.S.\$86 million. CEMEX started consolidating TCL for financial reporting purposes on February 1, 2017. In March 2017, TCL de-listed from the Jamaica and Barbados stock exchanges. TCL’s subsidiaries include, but are not limited to CCCL and Arawak Cement Company Limited (“Arawak”), which, as of December 31, 2018, owned cement plants in Jamaica and Barbados, respectively.
- On January 31, 2017, one of our subsidiaries in the United States closed the sale of our Concrete Pipe Business to Quikrete for U.S.\$500 million plus an additional U.S.\$40 million contingent consideration based on future performance.
- On February 10, 2017, one of our subsidiaries in the United States sold its Fairborn, Ohio cement plant and cement terminal in Columbus, Ohio to Eagle Materials Inc. (“Eagle Materials”) for U.S.\$400 million (Ps8,288 million). The proceeds obtained from this transaction were used mainly for debt reduction and for general corporate purposes.
- On February 15, 2017, CEMEX, S.A.B. de C.V. sold 45,000,000 shares of common stock of GCC, representing 13.53% of the equity capital of GCC, at a price of Ps95 per share in a public offering to investors in Mexico and in a concurrent private placement to eligible investors outside of Mexico. Prior to the GCC shares offerings, CEMEX, S.A.B. de C.V. owned a 23% direct interest in GCC and a minority interest in CAMCEM, S.A. de C.V. (“CAMCEM”), an entity which owns a majority interest in GCC. After the GCC offerings, CEMEX, S.A.B. de C.V. owned a 9.47% direct interest in GCC and a minority interest in CAMCEM. Proceeds from the sale were U.S.\$210 million (Ps4,094 million). We used the proceeds of the GCC shares offerings for general corporate purposes.

- On June 30, 2017, one of our subsidiaries in the United States closed the divestment of the Pacific Northwest Materials Business, consisting of aggregate, asphalt and ready-mix concrete operations in Oregon and Washington to Cadman Materials for U.S.\$150 million. The proceeds obtained from this sale were used mainly for debt reduction and general corporate purposes.
- On September 28, 2017, CEMEX, S.A.B de C.V. sold its then remaining direct interest in GCC, consisting of 31,483,332 shares of common stock of GCC, representing 9.47% of the equity capital of GCC for U.S.\$168 million (Ps3,012 million), which was used for debt reduction and for general corporate purposes. Following this sale of shares, CEMEX, S.A.B de C.V. no longer held a direct interest in GCC but continued to hold an indirect interest of 20% in GCC through its minority interest in CAMCEM.
- On September 29, 2017, one of our subsidiaries in the United States closed the divestment of the Block USA Materials Business (the “Block USA Materials Business”), consisting of concrete block, architectural block, concrete pavers, retaining walls and building material operations in Alabama, Georgia, Mississippi and Florida, to Oldcastle APG South, Inc. (“Oldcastle”) for U.S.\$38 million. The proceeds obtained from this sale were used mainly for debt reduction and general corporate purposes.
- On February 14, 2018, we increased our interest in Lehigh White Cement Company, a company that manufactures white cement in the United States., from 24.5% to 36.75%, by paying a total consideration of U.S.\$36 million.
- In August 2018, our subsidiary in the United Kingdom acquired shares of the ready-mix concrete producer Procon Readymix Ltd (“Procon”) for an amount in Pounds Sterling equivalent to U.S.\$22 million, based on the Pound Sterling to Dollar exchange rate as of August 31, 2018. As of December 31, 2018, based on the preliminary valuation of the fair values of the assets acquired and liabilities assumed, the net assets of Procon amount to U.S.\$10 million (Ps196 million) and goodwill was determined in the amount of U.S.\$12 million (Ps244 million).
- On September 27, 2018, a subsidiary of CEMEX, S.A.B. de C.V. concluded the sale of our Brazilian Operations through the sale to Votorantim Cimentos N/NE S.A. of all shares of our Brazilian subsidiary Cimento Vencemos, consisting of a fluvial cement distribution terminal located in Manaus, Amazonas province, as well as the related operating license. The sale price was U.S.\$31 million (Ps580 million). See note 4.2 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

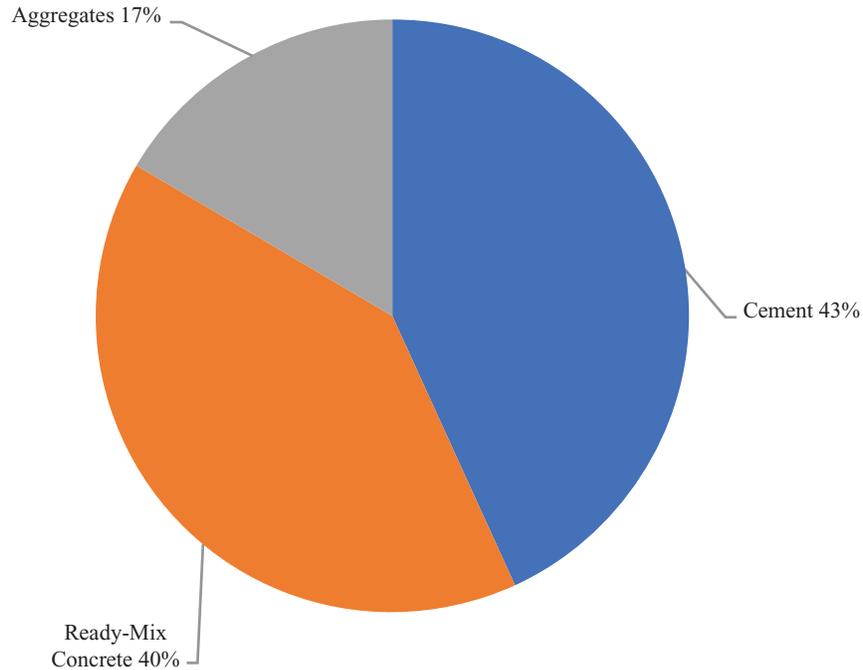
Geographic Breakdown of Revenues for the Year Ended December 31, 2018

The following chart indicates the geographic breakdown of our revenues, before eliminations resulting from consolidation, for the year ended December 31, 2018:



Breakdown of Revenues by Line of Business for the Year Ended December 31, 2018

The following chart indicates the breakdown of our revenues by line of business, after eliminations resulting from consolidation, for the year ended December 31, 2018:



Our Products

We always strive to provide superior building solutions in the markets we serve. To this end, we tailor our products and services to suit customers' specific needs, from home construction, improvement and renovation to agricultural, industrial and marine/hydraulic applications.

Cement

Cement is a binding agent, which, when mixed with sand, stone or other aggregates and water, produces either ready-mix concrete or mortar. Whether in bags or in bulk, we provide our customers with high-quality branded cement products and services. We tap our professional knowledge and experience to develop customized products that fulfill our clients' specific requirements and foster sustainable construction. In many of the countries where we have cement operations, a large proportion of cement sold is a bagged, branded product. We often deliver the product to a large number of distribution outlets such that our bagged, branded cement is available to the end users at a point of sale in close proximity to where the product will be used. We strive to develop brand identity and recognition in our bagged product.

We manufacture cement through a closely controlled chemical process, which begins with the mining and crushing of limestone and clay, and, in some instances, other raw materials. The clay and limestone are then pre-homogenized, a process which consists of combining different types of clay and limestone. The mix is typically dried, then fed into a grinder which grinds the various materials in preparation for the kiln. The raw materials are calcined, or processed, at a very high temperature in a kiln, to produce clinker. Clinker is the intermediate product used in the manufacture of cement. For limestone, clay and gypsum, requirements are based on chemical composition that, depending on the other materials available, matches with the quality demanded by the production process. For cement limestone, clay and gypsum, we run chemical tests to prepare the mining plan of the quarry, to confirm material quality and reduce variations in the mineral content. We consider that limestone and clay quality of our cement raw material quarries are adequate for the cement production process.

There are two primary processes used to manufacture cement: the dry process and the wet process. The dry process is more fuel efficient. As of December 31, 2018, 53 of our 56 operative production plants used the dry process and three used the wet process. Our operative production plants that use the wet process are in the United Kingdom, Nicaragua and Trinidad and Tobago. In the wet process, the raw materials are mixed with water to form slurry, which is fed into a kiln. Fuel costs are greater in the wet process than in the dry process because the water that is added to the raw materials to form slurry must be evaporated during the clinker manufacturing process. In the dry process, the addition of water and the formation of slurry are eliminated, and clinker is formed by calcining the dry raw materials. In the most modern application of this dry process technology, the raw materials are first blended in a homogenizing silo and processed through a pre-heater tower that utilizes exhaust heat generated by the kiln to pre-calcine the raw materials before they are calcined to produce clinker.

Clinker and gypsum are fed in pre-established proportions into a cement grinding mill where they are ground into an extremely fine powder to produce finished cement. We primarily cover our gypsum needs from third parties; however, we also operate gypsum quarries in the United States, Spain, the Dominican Republic and Egypt. Our main types of cement include the following:

Gray Ordinary Portland Cement: Our gray ordinary portland cement is a high-quality, cost-effective building material, mainly composed of clinker, that meets applicable chemical and physical requirements and is widely used in all construction segments: residential, commercial, industrial, and public infrastructure.

White Portland Cement: CEMEX is one of the world's largest producers of white portland cement. We manufacture this type of cement with limestone, low iron content kaolin clay, and gypsum. Customers use our white portland cement in architectural works requiring great brightness and artistic finishes, to create mosaics and artificial granite, and for sculptural casts and other applications where white prevails.

Masonry or Mortar: Masonry or mortar is a portland cement that we mix with finely ground inert matter (limestone). Our customers use this type of cement for multiple purposes, including concrete blocks, templates, road surfaces, finishes, and brick work.

Oil-well Cement: Our oil-well cement is a specially designed variety of hydraulic cement produced with gray portland clinker. It usually cures slowly and is manageable at high temperatures and pressures. Produced in classes from A to H and J, our oil-well cement is applicable for different depth, chemical aggression, or pressure levels.

Blended Cement: Blended hydraulic cements are produced by inter-grinding or blending portland cement and supplementary cementitious materials such as ground granulated blast furnace slag, fly ash, silica fume, calcined clay, hydrated lime, and other pozzolans. The use of blended cements in ready-mix concrete reduces mixing water and bleeding, improves workability and finishing, inhibits sulfate attack and the alkali-aggregate reaction, and reduces the heat of hydration. CEMEX offers an array of blended cements which have a lower CO₂ footprint resulting from their lower clinker content due to the addition of supplementary cementitious materials. The use of blended cements reinforces our strong dedication to sustainable practices and furthers our objective of offering an increasing range of more sustainable products.

Ready-Mix Concrete

Ready-mix concrete is a combination of cement, fine and coarse aggregates, admixtures (which control properties of the concrete including plasticity, pumpability, freeze-thaw resistance, strength and setting time), and water. We tailor our ready-mix concrete to fit our clients' specific needs. By changing the proportion of water, aggregates, and cement in the mix, we modify our concrete's resistance, manageability, and finish. We also use additives to customize our concrete consistent with the transportation time from our plant to the project, weather conditions at the construction site, and the project's specifications. From our water-resistant to our self-compacting concrete, we produce a great variety of specially designed concrete to meet the many challenges of modern construction.

We develop solutions based on the thorough knowledge and application of ready-mix concrete technology. Leveraging years of experience, a global pool of knowledge, and state-of-the-art expertise about the different ready-mix concrete constituents and their interaction, we offer our customers tailor-designed concrete. CEMEX ready-mix concrete technologists are able to modify the properties of concrete through the use of innovative chemical admixtures, combined with the proper proportions of the various concrete constituents. For example, depending on the type of application and jobsite requirements, we can design ready-mix concrete that is more fluid, stronger, develops strength faster, and also retains workability longer. Through the development of chemical admixtures solutions, our researchers design special concretes that fulfill the construction industry's increasingly demanding performance requirements. CEMEX offers a special ready-mix concrete portfolio, comprised of such products as ultra-rapid hardening concrete, crack-resistant/low shrinkage concrete, self-consolidating concrete, architectural concrete, pervious concrete, antibacterial concrete and a number of others.

We continuously work to improve the properties of ready-mix concrete that make it a key component of sustainable construction: durability, resistance to aggressive environments, light reflection, and capacity to store energy, among others. We also constantly work to develop innovative solutions that advance the sustainability of structures made with ready-mix concrete. This way, our customers can design sustainable buildings that can take advantage of the benefits of concrete in a wide range of applications. We offer engineered concrete for harbors and bridges with a special design of high performance concrete that combines durability and low maintenance with resistance to aggressive environments, and for industrial applications which consists of concrete with high acid resistance which is robust and durable for such uses as cooling towers. We also offer concrete for building and housing used for structures such as self-compacting concrete that improves the strength and durability of building structures, while reducing energy use and noise due to concrete vibration, and envelope concrete such as structural lightweight concrete or insulating concrete forms which offer insulation solutions to improve energy

efficiency in buildings, and concrete for building design that takes advantage of concrete's capacity to store energy—its thermal mass—minimizing temperature fluctuations in a building over the course of the day, reducing the need for additional heating and cooling. We also offer ready-mix concrete for water and wastewater management and for roads and pavements.

The types of ready-mix concrete we offer our clients include, but are not limited to:

Standard Ready-Mix Concrete: Standard ready-mix concrete is the most common form of concrete. It is prepared for delivery at a concrete plant instead of mixed on the construction site.

Architectural and Decorative Concrete: This type of ready-mix concrete can provide a structural function, as well as an aesthetic or decorative finish. It can offer smooth or rough surfaces or textures, as well as a variety or range of colors.

Rapid-Setting Concrete: Designed to enhance early strength development, this type of ready-mix concrete allows fast formwork removal, accelerated construction sequencing, and rapid repair for such jobs as roads and airport runways. Typically used in low temperature (5-10°C) concreting during winter, this type of ready-mix concrete can also be used in buildings, railways, and precast applications. In addition to saving time, this type of ready-mix concrete technology offers improved durability and acid resistance.

Fiber-Reinforced Concrete: Ready-mix concrete designed with micro or macro fibers that can be used either for structural applications, where the fibers can potentially substitute for steel rebar reinforcement, or for reducing shrinkage, primarily early age shrinkage. Macro fibers can significantly increase the ductility of concrete, making it highly resistant to crack formation and propagation.

Fluid-Fill Concrete: Fluid mortar or ready-mix concrete simplifies the process of laying pipe and cable by surrounding the pipe or cable with a tightly packed shell that provides protection from the elements, prevents settling, and enables crews to work quickly.

Roller-Compacted Concrete: Compacted in place and cured, roller-compacted concrete is a zero slump ready-mix concrete with the abrasion resistance to withstand high velocity water, making it the material of choice for spillways and other infrastructure subject to high flow conditions. It represents a competitive solution in terms of cost and durability when compared to asphalt.

Self-Consolidating Concrete: Self consolidating concrete has very high flow; therefore, it is self-leveling, eliminating the need for vibration. Due to the superplasticizers used, chemical admixtures that impart very high flow, self-consolidating concrete exhibits very high compaction as a result of its low air content. Consequently, self-consolidating concrete can have very high strengths, exceeding 50 MPa.

Pervious Concrete: Because of its unique design mix, pervious concrete is a highly porous material that allows water, particularly rainwater, to filter through, reduces flooding and heat concentration by up to 4°C, and helps to prevent skidding on wet roads. This ready-mix concrete is ideally used in parking lots, footpaths, and swimming pool border applications.

Antibacterial Concrete: This type of ready-mix concrete helps control bacteria growth and is used to help maintain clean environments in structures such as hospitals, laboratories, and farms.

Aggregates

We are one of the world's largest suppliers of aggregates: primarily the crushed stone, sand and gravel, used in virtually all forms of construction. Our customers use our aggregates for a wide array of applications: as a key component in the construction and maintenance of highways, walkways, parking lots, airport runways, and

railways; for drainage, water filtration, purification, and erosion control; as fill material; for sand traps on golf courses, beaches, playing field surfaces, horse racing tracks, and related applications; and to build bridges, homes, and schools.

Aggregates are obtained from land-based sources such as sand and gravel pits and rock quarries or by dredging marine deposits.

Hard Rock Production. Rock quarries usually operate for at least 30 years and are developed in distinct benches or steps. A controlled explosion is normally used to release the rock from the working face. It is then transported by truck or conveyor to a crusher to go through a series of crushing and screening stages to produce a range of final sizes to suit customers' needs. Dry stone is delivered by road, rail or water from the quarry.

Sand and Gravel Production. Sand and gravel quarries are much shallower than rock quarries and are usually worked and restored in progressive phases. Water can either be pumped out of the quarries allowing them to be worked dry or they can be operated as lakes with extraction below water. A conveyor draws the raw material into the processing plant where it is washed to remove unwanted clay and to separate sand. Sand separated during processing is dewatered and stockpiled. Gravel then passes over a series of screens that sieve the material into different sizes. Processing separates the gravel into stockpiles in a range of sizes for delivery.

Marine Aggregate Production. A significant proportion of the demand for aggregates is satisfied from rivers, lakes, and seabeds. Marine resources are increasingly important to the sustainable growth of the building materials industry. Marine aggregates also play an important role in replenishing beaches and protecting coastlines from erosion. At sea, satellite navigation is used to position a vessel precisely within its licensed dredging area. Vessels trail a pipe along the seabed and use powerful suction pumps to draw sand and gravel into the cargo hold. Dredged material is discharged at wharves, where it is processed, screened and washed for delivery.

Aggregates are an indispensable ingredient in ready-mix concrete, asphalt, and mortar. Accounting for approximately 60% to 75% of ready-mix concrete's volume, aggregates strongly influence concrete's freshly mixed and hardened properties. Aggregates not only increase concrete's strength, but also can make the mix more compact, enabling applications such as weatherproofing and heat retention. They can further contribute to concrete's aesthetic qualities. For example, sand gives surface treatments their brightness.

The types of aggregates we offer our clients include, but are not limited to:

Crushed Stone and Manufactured Sand: These products are obtained by mining rock and breaking it down to a preferred size. In the case of manufactured sand, the product is obtained by crushing rock to the selected shape or texture, ensuring product and project specifications are met. Sources of crushed stone can be igneous, sedimentary, or metamorphic.

Gravel: Gravel deposits are produced through a natural process of weathering and erosion. It can be used for roads, for concrete manufacturing, or for decorative purposes.

Sand: Sand occurs naturally and is composed of fine rock material and mineral particles. Its composition is variable depending on the source. It can be used for roads, concrete manufacturing, or sanitation.

Recycled Concrete: Recycled concrete is created by breaking, removing, and crushing existing concrete to a preferred size. It is commonly used as a base layer for other construction materials because it compacts to form a firm surface.

Related Products

We rely on our close relationship with our customers to offer them complementary products for their construction needs, which mainly include the following:

Asphalt: We offer a wide range of cost effective, high performance asphalt products, from our standard hot mix asphalt, which is made by combining crushed stone with liquid asphalt cement, to highly technical products that can be used on major highway systems, driveways, commercial parking lots, or rural country roads. Designed for consistency and reliability, our asphalt products are designed to withstand different weight loads, traffic volumes, and weather conditions.

Concrete Block: Standard concrete block, sometimes referred to as gray block, concrete masonry unit, or cinder block, is one of the most practical and long-lasting materials used in building. Its strength, durability, and versatility, including its energy efficiency, excellent fire and high wind resistance, and noise insulation, make concrete block a compelling alternative to many other building materials.

Roof Tiles: We offer a comprehensive range of concrete roof tiles and fittings, designed to meet the requirements of most roofing applications. Available in a wide selection of sizes, shapes, and colors, our roof tiles serve residential and commercial needs.

Architectural Products: Our high-end architectural concrete products offer a range of styles for different building or landscaping projects. Specialty rock products, as well as architectural block, in an array of colors, sizes, and textures, take our customers' design to a new level. Block paving solutions and decorative paving provide an ideal range of applications for any hard landscaping project.

Pipe: We design and manufacture standard and special concrete pipe for various applications such as storm and sanitary sewers. Offered in diverse types, sizes, and lengths, our pipe products meet or exceed applicable standards and customer requirements throughout our different operations.

Other Precast Products: Among our other precast products, we offer rail products, concrete floors, box culverts, bridges, drainage basins, barriers, and parking curbs. In selected markets, we further complement our commercial offer with admixtures, gypsum, and cementitious materials such as fly ash and blast furnace slag.

Building Solutions

We help build the homes people live in, the roads that connect them, and the infrastructure that makes their cities vibrant. With over a century of experience delivering tailor-made building solutions, we work with our customers around the world to build sustainable structures that will thrive today and well into the future.

Housing: We integrate our cutting-edge design, building materials, and construction systems into flexible and replicable housing solutions for our clients and communities across the globe.

Paving: As the world's leader in concrete-based pavement solutions, we help connect cities and their surrounding communities through safer, more durable, and energy-efficient highways, mass transit systems, airport runways, rural roadways, and city streets.

Green Building Consultancy: We are focused on delivering sustainable building solutions to the increasingly complex needs of a society with limited natural resources.

Services

We continuously communicate and interact with our customers to identify and implement effective ways to meet their toughest challenges. We recognize that customer loyalty happens by design, not by chance. To better serve our customers, we not only need to have a clear understanding of what they need, but also the means and passion to fulfill those needs.

In each market and locality in which we operate, we do our best to provide our customers with the most compelling integrated building solutions. For example, to solve infrastructure needs in major cities, we not only provide ready-mix concrete, but we also design the project, define the best technical solution, offer different financial schemes and execute the project in collaboration with local builders. Similarly, we work alongside our neighbors in small, less-affluent communities to help them solve their housing needs and pave their streets and sidewalks.

The following are examples of the different services offered to our customers throughout our operations, all of which services are provided in substantially all our operations and may vary from location to location:

24/7 LOAD®: Our delivery service offers customers the ease of receiving products mostly whenever they need them, allowing our customers to optimize their project schedules according to their specific needs.

ATM-like Bulk Cement Dispatch System: This service offers our customers greater flexibility and efficiency. It enables them to get cement at their convenience, shortening their logistics schedules by minimizing loading and unloading times and also cutting back on more traditional transactional practices.

Construrama®: We partner with our cement distribution network to offer customers an extensive range of brand-name products at competitive prices. Our retailers also receive integral training to better manage all aspects of their business, including inventory management, product promotion, salesforce programs, product-delivery and sourcing logistics.

Customer-oriented Educational and Training Services: In several of the countries where we operate, customers can receive training on specific topics related to the use of building materials. By sharing knowledge and best practices, our educational and training services guide and teach our customers. Topics range from teaching customers about the characteristics and uses of white cement, to showing retailers how to improve their inventory management and increase their sales.

Construction Financing Services: Most of our customers can receive financing on certain projects and product purchases through various innovative financing programs that vary from country to country. For example, since 1998, our United Nations award-winning low-income housing program, *Patrimonio Hoy*, has assisted more than 587,000 families with affordable services and building materials through financing mechanisms and technical assistance. Additionally, in certain countries where we operate, such as Mexico, we offer turn-key solutions for developers and partner with governments and local authorities to identify, coordinate, and develop public infrastructure projects.

Mobile Solutions: Through automated messages sent via short message services (SMS), most of our customers can be notified each time an order of cement or ready-mix concrete is ready for delivery. This free-of-charge service keeps our customers well informed of their specific project logistics. Most of our customers can also receive information about their pending invoice payments.

Multiproducts: We offer our customers in most of the countries in which we operate a one-stop shopping experience by providing them with a full array of complementary construction-related supplies through our retail stores from plumbing and electrical supplies to paint, lumber, and lighting fixtures.

Online Services: Most of our customers have all day online access to information, from account balances to new products and services releases through online services such as CEMEX Go, CEMEX Connect, CEMEX One, eSelling, CEMEXNet and Commercial Portal. Our customers can place online cement orders, and in some countries, they are able to review their order status at any time during the day or night. The online service is also an open communication channel to receive feedback from our customers.

Service Centers: We offer a one-stop contact call center where customers can manage their business and find fast, reliable service, place orders, make inquiries, review order status, or request technical assistance, all in one single call.

Smart Silo®: We work together with our customers, so they always have the appropriate quantity of cement in their silos. Through 24-hour monitoring of our customers' silos' cement stock levels, our SmartSilo® technology allows us to anticipate and respond to their product replenishment needs ahead of time.

Technical Support: We look to provide our customers with top-level technical assistance through our state-of-the-art equipment and our highly professional, well-trained technical services staff. We look to take extra efforts and provide value above and beyond fulfilling our customers' need for cement, aggregates, ready-mix concrete, and related products such as mortar.

Description of our Raw Materials Reserves

We are a leading global provider of building materials, including cement, ready-mix concrete and aggregates. Our cement production process begins with the mining and crushing of limestone and clay, and, in some instances, other raw materials. We have access to limestone and clay quarries near most of our cement plant sites worldwide since these minerals are the main raw materials in the cement production process.

In addition, we are one of the world's largest suppliers of aggregates, primarily hard rock, sand and gravel, obtained from quarries, to be used in ready-mix concrete and other concrete-based products such as blocks and pipes.

Customers use our aggregates for a wide array of purposes, from a key component in the construction and maintenance of highways, walkways, and railways to an indispensable ingredient in concrete, asphalt and mortar. Aggregates can be used in their natural state or crushed into smaller size pieces.

The types of mine mostly used to extract raw materials for aggregates and cement production, are open pit or open cut, which relate to deposits of economically useful minerals or rocks that are found near the land surface. Open-pit mines that produce raw material for our industry are commonly referred to as quarries. Open-pit mines are typically enlarged until either the mineral resource is exhausted, or an increasing ratio of overburden to exploitable material makes further mining uneconomic. In some cases, we also extract raw materials by dredging underwater deposits.

Raw materials for our own cement production processes are obtained mainly from our own sources. However, we may cover our aggregates and other raw material needs through supply from third-parties. For the year ended December 31, 2018, approximately 19% of our total raw material needs were supplied by third-parties.

Reserves are considered as proven when all legal and environmental conditions have been met and permits have been granted. Proven reserves are those for which (i) the quantity is computed from dimensions revealed by drill data, together with other direct and measurable observations such as outcrops, trenches and quarry faces and (ii) the grade and/or quality are computed from the results of detailed sampling; and the sampling and measurement data are spaced so closely and the geologic character is so well defined that size, shape, depth and mineral content of reserves are well-established. Probable reserves are those for which quantity and grade and/or quality are computed from information similar to that used from proven reserves, but the sites for inspection, sampling and measurement are farther apart or are otherwise less adequately spaced. The degree of assurance, although lower than that for proven reserves, is high enough to assume continuity between points of observation.

Our reserve estimates are prepared by CEMEX's engineers and geologists and are subject to annual review by our corporate staff jointly with the regional technical managers associated with our business units. In specific circumstances we have used the services of third-party geologists and/or engineers to validate our own estimates. Over the three-year period ended December 31, 2018, we have employed third-parties to review (i) our cement raw materials reserves estimates in Mexico, Colombia, Nicaragua, Costa Rica, the United Kingdom, Germany, Latvia and Spain, and (ii) our aggregates reserves estimates in France, Poland, the Czech Republic, the United Kingdom, Germany and Mexico.

Reserves determination incorporates only materials meeting specific quality requirements. For aggregates used in ready-mix concrete, such requirements are based on hardness, shape and size. For cement raw materials (mainly limestone and clay), such requirements are based on a chemical composition that matches the quality demanded by the production process. In the case of cement raw materials, since chemical composition varies from production sites and even within the same site, we conduct geostatistical chemical tests and determine the best blending proportions to meet production quality criteria and to try to maintain an extraction ratio close to 100% of the reported reserves for such materials.

The main equipment utilized in our production sites is as follows:

- In our cement facilities: drills, crushers, kilns, coolers, mills, packing/loading machines, pay loaders, excavators, off-road trucks and other material handling equipment.
- In our ready-mix concrete facilities: batch plants, silos and mobile equipment and mixer trucks.
- In our aggregates facilities: drills, crushers, screens, belt conveyors, pay loaders, excavators, trucks and other material handling equipment.

We believe that our facilities are generally in good condition, adequate for efficient operations.

During 2018, our total quarry material production was approximately 184.6 million tons, of which approximately 56% was used for our own consumption to produce cement, ready-mix concrete and/or other products which are later sold to the public and the remaining 44% was directly sold to customers.

Our estimates distinguish between owned and leased reserves, the latter being determined over the term of the lease contract, and including only those permitted reserves which are proven and probable. As of December 31, 2018, the total surface of property in our quarries operations (including cement raw materials quarries and aggregates quarries), was approximately 95,133 hectares, of which approximately 76% was owned by us and approximately 24% was managed through lease or similar contracts.

As of December 31, 2018, we operated 181 cement raw materials quarries across our global operations, serving our facilities dedicated to cement production, which are located at or near the cement plant facilities. We estimate that our proven and probable cement raw material reserves, on a consolidated basis, have an average remaining life of approximately 83 years, assuming 2014-2018 average annual cement production (last five years average production).

The table set forth below presents our total permitted proven and probable cement raw materials reserves by geographic segment and material type extracted or produced in our cement raw materials quarries operations.

Location	Mineral	Number of quarries	Property Surface (hectares)		Reserves (Million tons)			Years to depletion	2018 Annualized Production	5 years aver. Annualized Production	Own Use
			Owned	Leased	Proven	Probable	Total				
Mexico ⁽¹⁾	Limestone	18	9,771	48	1,202	1,632	2,834	135	21.8	21.0	86%
	Clay	15	8,912	—	158	148	306	88	3.3	3.5	100%
	Others	15	1,729	150	8	22	30	99	0.3	0.3	100%
United States ⁽²⁾	Limestone	14	18,787	91	509	48	557	43	13.1	12.9	100%
	Clay	3	144	39	20	13	33	75	0.4	0.4	100%
	Others	2	30	—	—	3	3	82	0.1	—	100%
Europe											
United Kingdom	Limestone	3	431	107	55	59	114	47	6.2	2.4	100%
	Clay	2	108	107	7	20	27	21	1.3	1.3	100%
Germany	Limestone	1	298	—	8	88	96	38	2.5	2.5	100%
Spain	Limestone	12	726	117	293	131	424	82	4.6	5.2	100%
	Clay	6	64	30	18	—	18	32	0.4	0.4	96%
	Others	3	102	12	1	14	15	314	0.1	0.1	0%
Poland	Limestone	2	288	—	127	84	211	71	3.1	2.9	96%
Rest of Europe	Limestone	4	745	50	62	183	245	54	4.3	4.6	97%
	Clay	1	70	—	9	2	11	45	0.3	0.3	100%
	Others	1	4	5	—	—	—	60	—	—	100%
SCA&C											
Colombia	Limestone	13	3,026	1,751	47	216	263	67	3.7	4.0	100%
	Clay	3	183	250	—	13	13	293 ⁽⁴⁾	—	—	100%
	Others	1	86	52	—	2	2	11	0.1	0.2	100%
Panama	Limestone	3	110	—	31	49	80	33	2.0	2.4	100%
	Clay	2	179	—	—	15	15	50	0.3	0.3	100%
Costa Rica	Limestone	1	48	—	36	—	36	37	0.9	1.0	99%
	Clay	2	94	60	4	6	10	43	0.2	0.2	100%
	Others	1	27	—	5	—	5	200	—	—	100%
Caribbean TCL	Limestone	3	125	40	1	244	245	115	1.9	2.1	90%
	Clay	2	135	—	1	16	17	96	0.2	0.2	100%
	Others	2	7	—	—	—	—	2	0.1	0.1	100%
Rest of South, Central America and the Caribbean											
	Limestone	15	682	211	316	395	711	242	2.1	2.9	92%
	Clay	2	242	—	21	30	51	971	—	0.1	100%
	Others	5	—	1,566	11	50	61	424	0.1	0.1	90%
Asia, Middle East and Africa											
Philippines ⁽³⁾	Limestone	7	255	—	76	140	216	38	4.5	5.7	100%
	Clay	3	37	—	—	2	2	13	0.2	0.2	0%
	Others	5	76	9	6	3	9	11	0.4	0.7	0%
Egypt	Limestone	2	—	203	281	—	281	56	4.5	5.0	100%
	Clay	3	—	404	76	—	76	60	1.1	1.3	100%
	Others	4	—	26	2	—	2	31	—	0.1	100%
CEMEX											
Consolidated	Limestone	98	35,292	2,618	3,044	3,269	6,313	85	75.2	74.6	95%
	Clay	44	10,168	890	314	265	579	70	7.7	8.2	97%
	Others	39	2,061	1,820	33	94	127	75	1.2	1.6	63%
	Totals	181	47,521	5,328	3,391	3,628	7,019	83	84.1	84.4	

(1) Our cement raw materials operations in Mexico include three limestone quarries that also produce hard rock aggregates.

- (2) Our cement raw materials operations in the U.S. include one limestone quarry that also produces hard rock aggregates.
- (3) Although we consolidate CHP into our consolidated financial statements under IFRS, we do not control the raw materials used in our operations in the Philippines. Such raw materials are primarily supplied by APO Land & Quarry Corporation (“ALQC”) and Island Quarry and Aggregates Corporation (“IQAC”). ALQC is wholly owned by Impact Assets Corporation, which is a corporation in which we own a 40% equity interest. IQAC is wholly owned by Albatross Holdings, which is a corporation in which we own a 40% equity interest.
- (4) Not considering Maceo Plant (as defined below) annualized production.

As of December 31, 2018, we operated approximately 297 aggregates quarries across our global operations, mostly dedicated to serving our ready-mix concrete and aggregates businesses. We estimate that our proven and probable aggregates reserves, on a consolidated basis, have an average remaining life of 45 years, assuming 2014-2018 average production (last five years average aggregates production).

The table set forth below presents our total permitted proven and probable aggregates reserves by geographic segment and material type extracted or produced in our aggregates quarries operations. We note that the locations of our aggregates reserves differ from those of our cement reserves.

Location	Mineral	Number of quarries	Property Surface (hectares)		Reserves (Million tons)			Years to depletion	2018 Annualized Production	5 years aver. Annualized Production	Own Use
			Owned	Leased	Proven	Probable	Total				
Mexico	Hardrock	13	1,395	155	256	272	528	45	12.4	11.8	60%
United States	Hardrock	18	8,813	1,250	680	412	1,092	48	25.1	22.8	15%
	Sand & Gravel	48	4,775	4,408	335	134	469	29	18.9	16.2	25%
	Others	2	163	88	1	—	1	3	0.3	0.3	0%
Europe											
United Kingdom	Hardrock	20	530	979	440	58	498	45	11.4	11.1	29%
	Sand & Gravel	51	2,693	1,357	56	87	143	20	6.2	7.1	20%
France	Hardrock	14	136	496	112	7	119	30	3.7	4.0	11%
	Sand & Gravel	33	1,012	1,486	144	23	167	29	6.1	5.8	8%
Germany	Hardrock	2	26	235	25	18	43	29	1.7	1.5	33%
	Sand & Gravel	21	1,648	466	45	79	124	17	8.3	7.4	35%
Spain	Hardrock	14	466	181	212	180	392	506	1.0	0.8	91%
	Sand & Gravel	2	402	110	46	—	46	426	0.8	0.1	21%
Poland	Hardrock	2	11	42	5	22	27	45	0.4	0.6	2%
	Sand & Gravel	4	324	207	8	12	20	5	2.0	4.1	22%
Rest of Europe	Hardrock	8	481	91	43	59	102	45	2.1	2.3	35%
	Sand & Gravel	18	368	206	23	17	40	11	2.5	3.6	40%
	Others	1	70	—	9	4	13	54	0.3	0.3	100%
SCA&C											
Colombia	Hardrock	3	373	—	16	1	17	331	—	0.1	67%
	Sand & Gravel	6	609	—	14	9	23	31	0.3	0.7	67%
Panama	Hardrock	2	31	20	5	12	17	24	—	0.7	32%
Rest of South, Central America and the Caribbean											
	Hardrock	2	150	5,930	23	1,004	1,027	1,879	0.6	0.5	75%
	Sand & Gravel	5	—	1	—	2	2	12	—	0.2	50%
Asia, Middle East and Africa											
Philippines ⁽¹⁾	Hardrock	2	77	25	151	—	151	256	0.5	0.6	15%
Rest of Asia	Hardrock	5	—	—	70	14	84	7	13.1	11.3	68%
	Sand & Gravel	1	—	—	1	—	1	8	0.1	0.1	81%
CEMEX Consolidated	Hardrock	105	12,489	9,404	2,038	2,059	4,097	60	72.0	68.1	37%
	Sand & Gravel	189	11,831	8,241	672	363	1,035	23	45.2	45.3	25%
	Others	3	233	88	10	4	14	28	0.6	0.6	48%
	Totals	297	24,553	17,733	2,720	2,426	5,146	45	117.8	114.0	

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- (1) Although we consolidate CHP into our consolidated financial statements under IFRS, we do not control the raw materials used in our operations in the Philippines. Such raw materials are primarily supplied by ALQC and IQAC. ALQC is wholly owned by Impact Assets Corporation, which is a corporation in which we own a 40% equity interest. IQAC is wholly owned by Albatross Holdings, which is a corporation in which we own a 40% equity interest.

Our Vision

CEMEX has a general vision and value creation model comprised of the following six elements: (i) purpose, (ii) mission, (iii) values, (iv) strategic pillars, (v) operating model and (vi) stakeholders.

PURPOSE. We expect to build a better future for our employees, our customers, our shareholders, our suppliers and the communities where we live and work.

MISSION. We intend to create sustainable value by providing industry-leading products and solutions to satisfy the construction needs of our customers around the world.

VALUES. We intend to: (i) protect the safety of all our employees by being accountable to each other for our actions and behaviors and trying to be an industry leader by example; (ii) focus on our customers by aligning ourselves closely with their business and their needs and, following through with our commitments, resolving problems quickly and making it easy to do business with us; (iii) pursue excellence in all aspects of our business and interactions with customers by challenging ourselves to constantly improve and build upon our strong reputation around the world for quality and reliability; (iv) work as one CEMEX by leveraging our collective strength and global knowledge to share best practices, replicate good ideas and collaborate across boundaries; and (v) act with integrity by remaining honest and transparent in all our interactions, complying with our code of ethics, and caring for our people, communities and natural resources.

STRATEGIC PILLARS. To achieve our mission, our strategy is to create value by building and managing a global portfolio of integrated cement, ready-mix concrete, aggregates and related businesses. The four pillars that underpin our strategy are (i) valuing our people as our main competitive advantage and primary asset, (ii) helping our customers succeed, (iii) pursuing markets that offer long-term profitability, and (iv) looking to have sustainability fully embedded in our business.

To aid our strategy, in 2018, we embarked on our strategic plan to build “A Stronger CEMEX.” This transformational plan is designed to fortify CEMEX’s position as a leading global heavy building materials company, accelerate our path to investment grade, enhance CEMEX, S.A.B. de C.V.’s total shareholder return and generate long-term value for all of our stakeholders. Specifically, we believe that through this strategic plan, we can rebalance and streamline our existing portfolio in order to better position ourselves to deliver higher growth and greater stakeholder value over the mid-to-long-term by divesting between U.S.\$1.5 billion and U.S.\$2 billion in assets by 2020; achieve recurring operational improvements in our operations of U.S.\$230 million by 2020; accelerate our path to investment grade by further deleveraging CEMEX by reducing our debt by U.S.\$3.5 billion between the launch of the “A Stronger CEMEX” plan and 2020; and, subject to the required approvals from CEMEX, S.A.B. de C.V.’s general ordinary shareholders’ meeting in each corresponding year, to return value to CEMEX, S.A.B. de C.V.’s shareholders through dividends and stock repurchase programs.

We value our people as our main competitive advantage

We aspire to hire top-class employees, and our team’s health, safety and professional growth are top priorities. We plan to develop leaders and encourage them to create new ways of thinking and acting, while at the same time being diligent in assessing risks and opportunities. We look to foster an open dialogue in our interactions to align and achieve greater results.

Placing Health and Safety First.

Health and Safety (“H&S”) remains one of our top values and priorities. We are working towards developing a culture within which everyone in our organization embraces H&S. We believe that the health and safety of our employees, contractors and the people we interact with in our local communities on a day-to-day basis is of the utmost importance.

To help us meet our goals, four core principles guide our decisions and actions: (i) nothing comes before the health and safety of our employees, contractors, and communities; (ii) making health and safety a moral responsibility per employee by looking after ourselves and each other; (iii) looking to create safe workplaces; and (iv) maintaining accountability for health and safety practices.

We are constantly working towards our ultimate target of zero injuries worldwide, evidenced by our Zero4Life objective. In 2018, the total number of Lost Time Injuries (“LTI”) was reduced by 20% and Total Recordable Injuries (“TRI”) were reduced by 26%, when compared to 2017. Our employee LTI frequency rate was held at the low level of 0.5 and we believe we are on track to reach our goal of reducing such rate to 0.3 or less by 2020. In addition, in 2018, we recorded our lowest employee TRI frequency rate, reaching 2.4, compared to 3.4 in 2017. We also reduced our employee sickness absence rate by 6%. We are also encouraged by the fact that 96% of CEMEX’s operations experienced no fatalities or LTIs in 2018.

In 2018, the number of fatal occurrences at our operations was reduced by 35% and there were zero employee fatalities. However, there were five contractor fatalities, three of which occurred off-site and two that occurred at our facilities, as well as eight that occurred during transportation activities involving third parties and contractors.

Most of the fatalities were due to incidents involving moving vehicles. In an effort aimed at eliminating those types of incidents, we continue to invest in technology and training programs that aim to encourage our employees and contractors to use the appropriate driving techniques to take care of themselves and other vulnerable road users. For example, our Global Supply Chain Health & Safety track has helped to further embed our Vulnerable Road Users program as well as support the roll out of a communication campaign focused on contract drivers. We will continue to work hard and drive forward with our initiatives so that all of our employees and contractors understand the importance of and become integral to our H&S culture.

The following table sets forth our performance indicators with respect to safety by geographic location for the year ended December 31, 2018:

	<u>Mexico</u>	<u>United States</u>	<u>Europe</u>	<u>SCA&C</u>	<u>Asia, Middle East and Africa</u>	<u>Total CEMEX</u>
Total fatalities, employees, contractors and other third parties (#)	4	—	4	2	3	13
Fatalities employees (#)	—	—	—	—	—	—
Fatality rate employees ⁽¹⁾	—	—	—	—	—	—
Lost-Time injuries (LTI), employees (#)	9	16	12	8	3	49
Lost-Time injuries (LTI), contractors (#)	12	11	8	9	3	46
Lost-Time injury (LTI) frequency rate, employees per million hours worked	0.4	0.8	0.6	0.5	0.4	0.5

(1) Incidents per 10,000 people in a year.

At CEMEX, health and safety training is a key part of our strategy to reach our Zero4Life goal. We look for all our employees to have the correct knowledge, skills and experience to perform their jobs in a safe manner. As part of our manager-training program, executives and supervisors must complete our Health and Safety Academy, which is designed to enhance the leadership skills of our line managers and supervisors and so that H&S is our top priority

across our organization for our production plants and our corporate offices. The Health and Safety Academy was launched in 2016 with the Foundation module, which prepares our line managers to lead by example and play a fundamental role in ensuring safety throughout our operations. Our Module 2, which was launched in 2017 and rolled out further in 2018, enables our line managers to apply and use the 14 tools of our H&S Management System (HSMS) to support our Zero4Life objective in their operations. Since we launched the Health and Safety Academy and as of December 31, 2018, 7,816 line managers have been through our Foundation module and so far, 4,718 line managers have participated in our Module 2. In 2018, we also launched Module 3, which is aimed at enhancing proficiency in key H&S topics. During 2019, we expect that each region will be able to start deploying this new module. Additionally, we continued to provide a wide range of training to our front-line workers in various topics, including safe driving, machinery isolation, emergency management, and occupational health and wellbeing.

Furthermore, we have continued to support our global networks with respect to H&S. We have a dedicated H&S track that sits within each network to promote working together through a coordinated, consistent and collaborative approach to reach our goal of zero injuries: (i) the H&S Functional Network; (ii) the Global H&S Council; (iii) six global network H&S tracks; and (iv) a Global Health Forum.

Across our operations, we continue to enhance our health practices and reduce our safety risks to strengthen our H&S objective. During 2018, throughout our Global Network H&S tracks, we implemented diverse initiatives that support our Zero4Life commitment. For example, the Global Cement group provided a way to support ongoing improvements with 'Management of Change,' the Aggregates team maintained their focus on fully implementing minimum safety features in mobile equipment in all global operations and the Ready-Mix Concrete team progressed further with a rigorous approach towards safety checklists and driver training.

Supported by our Global Health Forum specialist team, we also remain focused on the occupational health and well-being of our employees. In 2018, we continued to provide health checks, further promoted our CEMEX Health Essentials and better defined a health recognition program for our operations. In some countries where we have operations, we organized a range of health activities and events to help raise awareness and to encourage healthy habits. Some examples of specific initiatives include our operations in the United States, where they rolled-out a program for employees to stop smoking; our operations in Panama, where they held healthy-eating campaigns and fitness workshops; and our operations in Egypt, where they invested in improvements to certain machinery to lower noise exposure levels to help prevent potential harm.

In addition to the local assessment and approval of programs with contractors that we have in substantially all of the countries in which we operate, we are also implementing third-party verification to help us validate the Health and Safety credentials of contractors we may potentially engage, including major contractors. In 2018, we created a target to approve at least 80% of the spending value with such contractors. As of December 31, 2018, we have accomplished verification of 61% of such contractors, which represents 4,733 of the major contractors that access our operation facilities.

Attracting and Retaining Talent. We aim to offer programs, benefits, and a work environment that are designed to attract and retain talented employees. Our approach to talent management is founded on three pillars: (i) employ the right people, in the right place, at the right time to perform the right job to achieve our strategy; (ii) enable a high-performing and rewarding culture to deliver sustainable business value in a safe, ethical workplace; and (iii) build and develop our workforce capabilities to confront challenges and pursue excellence.

As we transform and look to expand, one of our main objectives is to develop people with the potential to fill key leadership positions, increasing their experience and capabilities with the intention of having them succeed in increasingly challenging roles. Through this process, we work to improve our employees' commitment to us by helping them meet their own career development expectations and preparing them for key roles as they face critical challenges in their professional development. Our succession management process enables us to build a talented pool of leaders with the skills and understanding of our business fundamentals to

continue our pursuit of reaching our goals. Through ongoing training and development opportunities, our employees are taught new skills and their expertise is deepened in several critical areas, including H&S, customer-centric capabilities, environmental conservation and awareness, leadership development and stakeholder engagement.

We look to foster a dynamic, high-performance environment where open dialogue is encouraged and rewarded. Apart from competitive compensation, more than 80% of our global workforce receives health and life insurance benefits beyond those required by local law in their respective countries. Approximately half of our global workforce receives retirement provision benefits above local requirements and more than 60% of our operations receive additional funds for disability and invalidity coverage beyond what is required by local laws in their respective countries.

In 2017, we began to integrate our current institutional academies, which include our Commercial, Health & Safety, Supply Chain, and Culture & Values academies, under the concept of CEMEX University. CEMEX University aims to develop a digital continuous learning ecosystem for our employees and respond to our multi-region, multi-business learning needs. CEMEX University leverages traditional in-person training with new digital learning platforms to embed a growth mindset throughout our organization and fulfill our employees' potential.

In April 2018, CEMEX, S.A.B. de C.V.'s Chief Executive Officer approved our Human Rights Policy, applicable to all CEMEX employees, directors and officers, which states that, among other things, CEMEX looks to provide a workplace that is free from harassment and discrimination on the basis of race, gender, national origin, sexual orientation, disability, membership to any political, religious or union organization and offering them equal opportunities for training, personal development, individual recognition and promotion on the basis of merit. Employees who believe that there may have been a violation of the principles laid down in our Human Rights Policy can report it through various channels, including local Human Resources departments, Ethics Committees and our secured ETHOS line internet website. Community members, contractors and suppliers are also encouraged to submit a report through the ETHOS line if they believe there may have been a violation of our Human Rights Policy or any other guideline as stated in our recently updated Code of Ethics and Business Conduct.

Helping our customers succeed

We aim to place our customers at the center of everything we do. Our customers deal with important challenges daily and we aim to invest time in our relationships and listen closely to understand their needs. We achieve this by delivering quality products, innovative solutions and a superior customer experience driven by digital transformation.

Delivering A Superior Customer Experience.

Our Customer Centricity Global Network has implemented various initiatives to place our customer at the center of everything we do. Additionally, through the creation of CEMEX Ventures, we are developing new sources of possible revenue by developing ideas that we expect will revolutionize our industry through the use of technology. Among these efforts, CEMEX Go is at the center of our transformation.

We want our customers to view us as reliable, easy to work with, innovative, expert and professional. We have organized our company and redesigned a considerable amount of our processes in an effort to create a positive experience for our customers.

Through our Commercial Academy and related initiatives, we are reinforcing our focus on customers as a core organizational value and priority that meets both our customers' and our need for growth and profitability. To date, we have delivered approximately 5,700 training sessions to our professionals, reaching approximately

2,000 employees worldwide. Additionally, we enjoy a wide reach in most of the markets where we operate, with what we believe to be the facilities and logistical capabilities to serve our customers accurately, consistently and rapidly.

Moreover, we are strategically expanding our manufacturing and distribution capabilities to serve our customers' and communities' demand for high-quality public infrastructure, commercial buildings and housing projects more efficiently, effectively, and reliably. For example, in 2017, we successfully acquired and consolidated a majority stake in TCL. As one of the leading producers and distributors of cement and ready-mix concrete products in the Caribbean, TCL and its subsidiaries bolster our regional operations and trading network, enabling us to deliver a strong experience for our new and existing customers in the area.

Digital Transformation. Beyond changing the way we operate internally, we are leveraging digital technologies to transform our customers' experience with CEMEX. We are embracing digital technologies to both streamline and simplify the way our customers engage with us and enhance how we operate. To this end, we launched a digital transformation strategy during 2016.

Over the past few years, we developed and implemented several digital solutions that are being used by our customers. Specifically, in November 2016, we announced a partnership with International Business Machines Corporation ("IBM") and Neoris, Inc., one of our subsidiaries, to develop digital solutions to help us transform how we interact with customers. Following the initial deployment, we are continuously updating and adding capabilities to continually improve functionality and to stay ahead of our customers' expectations.

We intend to transform the global building materials industry with CEMEX Go, an innovative, fully digital customer integration platform. CEMEX Go is a multi-device offering that provides a seamless experience for order placement, live tracking of shipments, and managing invoices and payments for our main products.

During 2017, we started the rollout of CEMEX Go in the United States and Mexico. During 2018, CEMEX Go was deployed in Colombia, France, Costa Rica, Panama, Nicaragua, El Salvador, Spain, the Dominican Republic, Puerto Rico, Guatemala, Peru, Poland, Philippines, the Czech Republic, Egypt and UAE. As of February 28, 2019, its deployment was completed in Germany, the United Kingdom and Israel, and its deployment throughout most other countries in which we do business is pending.

As of February 28, 2019, CEMEX Go had approximately 30,000 users across the countries in which we do business, and through it we received approximately 45% of our main products orders.

Led by our Global R&D in Switzerland, our team of experts works in close collaboration with our customers to offer them unique, integrated and cost-effective solutions that aim to fulfill their specific performance requirements, including a growing portfolio of value-added brands. In order to provide the same offering in all of our operations, our salesforce is continually informed and trained on value-added brands, with material shared by our Global R&D through our internal Global Networks. Another initiative is to begin integrating Building Information Modeling (BIM) technology into our interaction with customers, providing them with an overview of their projects and how our products can be incorporated.

Technologies developed by our Global R&D are protected by more than 50 international patent families, covering new cements, cementitious materials, concrete mix designs, admixtures formulations and construction systems.

Together with members of our Aggregates Global Network, our Global R&D supported the design, creation and launch of our new value-added aggregates brand: *Neogem*. These products are specialized high-quality aggregates, whose intrinsic properties meet the essential needs of five market sectors—Agricultural, Environmental, Industrial, Landscaping and Sports. Neogem covers an extensive range of premium minerals that can add value to our customers' projects through particular functional or aesthetic features. Neogem products are innovative, carefully selected and tailor-made solutions that go beyond commonly known building materials.

Providing Superior and Sustainable Products, Solutions and Services. We aim to move from being a product-selling company to a comprehensive solutions provider.

As the only global building materials company with its own concrete admixtures business, we are able to design and develop novel, tailor-made concrete technologies with our proprietary chemicals. Moreover, our experts in fields such as geology, chemistry, materials science and various other engineering disciplines work alongside behavioral scientists, cultural anthropologists and commercial strategists to anticipate and understand society's trends to create innovative, sustainable construction solutions that seek to satisfy our customers' current and future needs, while truly challenging the current state of the art. Among other benefits, our concrete solutions help improve land use, increase water and energy efficiency, mitigate noise pollution and lower buildings' carbon footprint.

Pursue markets that offer long-term profitability

We look to operate in markets where we can add value for our employees, our customers and CEMEX, S.A.B. de C.V.'s shareholders. We intend to focus on those markets that offer long-term profitability. We may venture beyond these core businesses when it is essential to better market our products. We believe that a geographically diverse portfolio of assets provides us with the opportunity for significant value creation through profitable organic growth over the medium-to-long-term. Consequently, we intend to be selective and strategic about where we operate. We believe our business portfolio should be particularly focused on geographies that combine strong fundamentals, ranging from economic growth potential to per-capita cement consumption, population growth, degree of urban development and political stability.

As of the date of this annual report, as part of our "A Stronger CEMEX" plan, we are undertaking actions that are designed to streamline and reposition our portfolio in order to enhance our diversification and achieve higher profitable growth. As such, we expect to optimize our portfolio by focusing on the markets we believe offer long-term growth potential and retaining those assets that we believe are best suited to grow, offering us long-term profitability. While these actions are being undertaken, we could continue to complement our "A Stronger CEMEX" plan with organic investments using a metropolis-centric approach leveraging our related businesses and digital strategy.

Furthermore, leveraging our global presence and extensive operations worldwide, we intend to continue focusing on our core cement, aggregates, ready-mix concrete and related businesses. By managing our core operations as one vertically integrated business, we not only capture a significant portion of the cement value chain, but we believe we also create value for our customers by offering comprehensive building solutions. Historically, this strategic focus has enabled us to grow our existing businesses, particularly in high-growth markets and with specialized, high-margin products.

Complementary Businesses. We participate selectively in complementary businesses, including, but not limited to, the development of alternative and renewable sources of energy, concrete pavement solutions, housing, prefabricated concrete products, asphalt and admixtures, among other. We believe such projects allows us to provide valuable services to our customers, grow our core markets, develop our competitive advantage and improve our overall performance.

New Businesses Enabled by Digital Technologies. During 2017, we launched our open innovation and corporate venture capital unit, CEMEX Ventures, which focuses on engaging startups, entrepreneurs, universities, and other stakeholders expected to shape the construction ecosystem of tomorrow by tackling our industry's toughest challenges.

Leveraging our knowledge of the industry with new, leading edge technologies and platforms, CEMEX Ventures is developing opportunities in key focus areas outside of our core business, including urban development, connectivity improvements across the construction value chain, and new construction trends and technologies, while developing new project finance resources.

CEMEX Ventures' main role is to look for investment opportunities that go beyond our core business. It also aims to identify and assess emerging technologies to bring CEMEX new ideas and perceptions of the construction ecosystem. To this end, CEMEX Ventures allocates resources to search, incubate, and deploy innovative construction related opportunities and solutions.

During 2017, CEMEX Ventures analyzed more than 2,000 potential businesses, invested in three startups, and developed and engaged in six deep dives with CEMEX employees. CEMEX Ventures also held its Open Challenge, its first competition for startups, entrepreneurs, innovators, businesses and employees that are exploring new opportunities in any of its focus areas. Following its success, in 2018, CEMEX Ventures launched its Construction Startup Competition which aimed to find startups looking to lead the transformation of the construction industry and held its second startup competition for entrepreneurs, innovators, businesses and employees where more than 250 startups proposed solutions and business opportunities in key focus areas.

During 2018, CEMEX Ventures analyzed more than 1,500 potential businesses, invested in three additional startups, began incubating four new business proposals and published six new industry technology insight reports. CEMEX Ventures is preparing its Construction Startup Competition for 2019.

Look to have sustainability fully embedded in our business

Our sustainability efforts begin with CEMEX, S.A.B. de C.V.'s board of directors and are then facilitated across our entire organization. CEMEX, S.A.B. de C.V.'s Sustainability Committee is comprised of four members of CEMEX, S.A.B. de C.V.'s board of directors. The Sustainability Committee reports directly to CEMEX, S.A.B. de C.V.'s board of directors. The Sustainability Committee is supported by our Corporate Sustainability function, which reports to the Executive Vice President of Sustainability and Operations Development, who is also a member of our senior management. To help embed sustainability into our entire business strategy, we have coordinators representing each geographical region where we operate. In parallel, our Global Sustainability Functional Network works to implement our core sustainability initiatives across all of our operating regions and business lines.

Improving Quality of Life and Well-being. As a company that looks to make a progressive impact through its innovative services and solutions, our ability to operate as a responsible business is fundamental to our business model. This enables us to understand stakeholders' material issues, map social impacts, and identify risks and opportunities in order to create shared value for us and society.

Our high impact social strategy directly contributes to our vision of building a better future and aims to understand our stakeholders' expectations by managing our impacts and creating value and well-being through three strategic priorities: (i) co-designing and implementing socially impactful inclusive business models with customers and entrepreneurs; (ii) implementing sustainable community engagement plans intended to improve quality of life; and (iii) designing and co-creating responsible cross-functional practices within our operations and our value chain.

To achieve these three priorities, our aim is to continue improving the quality of life and well-being of our employees and our communities by considering economic, social, and environmental criteria and focusing on: (i) education and development capabilities; (ii) sustainable and resilient infrastructure and mobility; (iii) social and environmental entrepreneurship; and (iv) a culture of environmental protection and health.

Although our social projects focus on our core business expertise to create value and well-being, we believe that we are also causing positive impacts on other global challenges. Thus, consistent with our commitment to the United Nations Sustainable Development Goals, we measure our progress and contributions to some of these goals.

Pursuing Excellence in Environmental Management. We believe the pursuit of excellent environmental practices benefits sustainable growth. In addition to CEMEX, S.A.B. de C.V. board of directors' Sustainability

Committee, our Global Environmental Council, which is composed of our primary environmental executives responsible for each of our operating regions, shares new trends, proposals and best practices to identify, inform, and tackle key environmental management concerns.

We are committed to contribute to climate change mitigation and its consequences. For decades, as part of our carbon emissions reduction strategy, we have focused on using low-emission alternatives to traditional fossil fuels, decreasing our clinker factor, promoting clean energy and increasing energy efficiency across our operations. To this end, we have continuously sought to increase our use of low carbon alternative fuels, which represented 27.1% of our total fuel mix in 2018, and generated more than U.S.\$180 million in savings including CO₂ emissions avoided in carbon regulated markets.

As a result of our efforts, we reduced our net CO₂ emissions per ton of cementitious products by more than 21% compared to our 1990 baseline—equivalent to the emissions generated by 1.4 million homes' electric consumption in a year. We actively seek to develop new technologies to reduce our carbon footprint. Most notably, we are currently involved in six European research projects that aim to directly and indirectly reduce our carbon emissions. Furthermore, we explore alternatives to traditional clinker and cement chemistry that enable the production of less CO₂-intensive cements.

To complement these technical measures, we participate in several forums and bilateral dialogues with key stakeholders. These activities are designed to disseminate knowledge about potential reduction measures in our sector and to promote a legislative framework that enables us to implement these measures. For example, these activities include our leading role in the Cement Sustainability Initiative, a cement sector project under the World Business Council for Sustainable Development, and the World Bank-led Carbon Pricing Leadership Coalition.

We have the expertise to responsibly source, process, store and recover energy from alternative fuels and we strongly believe that increasing co-processing residues from other sectors in our cement plants will further contribute to overcoming challenges such as climate change, waste management and fossil fuel depletion, while utilizing the principles of a circular economy.

Our key contribution to a circular economy is our transformation of waste streams from other sectors into valuable materials. To reduce most of the waste generated from our processes, we maximize our reuse of clinker kiln dust in our production loop, largely avoiding landfill disposal. To realize the financial and environmental benefits of waste, we monitor, minimize, reuse and recycle our waste, whenever possible.

In 2018, more than 90% of the waste generated by our production processes was recovered, reused or recycled. The remaining material was sent to disposal sites. Additionally, last year alone, we used more than 13 million tons of waste as fuel and alternative raw materials across our business lines. This is equivalent to the waste produced by almost 50 million people in one year.

CEMEX Environmental Management System (“EMS”). We use EMS to evaluate and facilitate consistent and complete implementation of risk-based environmental management tools across our operations. The EMS consists of key mechanisms for environmental impact assessment, stakeholder engagement and accident response based on input from a range of environmental and biodiversity specialists.

As of December 31, 2018, 90% of our operations had implemented either the EMS or equivalent programs. As we approach full implementation of our global EMS in 2020, our goal is for all CEMEX facilities to be 100% compliant with our internal environmental criteria.

The release of nitrogen oxides (NO_x), sulfur compounds (SO_x) and dust occurs during cement manufacturing. Other emissions, including dioxins, furans, volatile organic compounds and heavy metals, are released in very small or negligible quantities. To control our stack emissions and remain compliant with local and national regulations, we have steadily expanded emissions monitoring at our manufacturing operations even exceeding regulation requirements in many geographies.

Through our internal EMS and more specifically through our Atmospheric Emissions Global Procedure, we monitor major emissions which assists us in looking to be in compliance with local regulation limits. To further improve upon these efforts, we have updated the minimum performance levels to fulfill annually for major emissions. In addition, we are working on establishing more stringent environmental standards for air emissions that will be based on EU Best Available Techniques.

In 2018, we invested U.S.\$83 million in sustainability related projects at our global operations, including projects to monitor and control our air emissions, increase our operations efficiency and mitigate our carbon footprint through alternative fuels and clinker substitution efforts.

Our Environmental Incidents Management. We consistently work to minimize our environmental impact, and we believe we are prepared to respond to any emergency that may pose a potential threat to our operations and local communities: (i) we work with our neighbors, law enforcement officials, public agencies, and other stakeholders to develop contingency plans at each of our sites; (ii) we created emergency response teams that are specifically trained to address environmental incidents and hold annual emergency drills; and (iii) we consistently record and report incidents at every level of our business to identify recurring root causes and to share corrective actions.

We have updated our Global Environmental Incident Reporting Tool to include social incidents, consolidating our holistic approach to the integral management of incidents. We believe that transparent and timely reporting is the first step to reducing the occurrence and severity of such events. Our efforts to strengthen a detailed documentation and analysis of environmental and social incidents led to the registration of two Category 1 events during 2018. Moreover, given our new reporting scope, our Category 2 incidents went from 37 in 2017 to 57 in 2018. Enhancing the CEMEX Environmental and Social Incidents Reporting Procedure has also allowed the circumstances of specific incidents to be registered in the context of their corrective action to allow a better follow-up and corresponding remediation.

Preserving Land, Water and Biodiversity. The preservation of land, biodiversity and water plays a key role in our long-term resource management strategy.

To protect water and enable our business to succeed, we are increasing our water efficiency and minimizing our water waste through the implementation of our Corporate Water Policy. This policy includes standardization of our water measurement based on the Water Protocol developed in coordination with the International Union for Conservation of Nature.

OPERATING MODEL. We aim to operate effectively and achieve the greatest possible value by leveraging our knowledge and scale to establish best practices and common practices worldwide. Our operating model consists of: (i) working with global networks to market our products and solutions; (ii) providing modern support functions and technology to clients and customers; (iii) ensuring clear and effective transactional functions at all levels of our business; and (iv) maintaining efficient governance controls.

STAKEHOLDERS. We value our: (i) employees by providing a great workplace that helps them build skills, expertise and a strong sense of purpose; (ii) clients by tailoring our offerings to solve their construction needs while making it easy for them to work with us and by providing enhanced performance and reliability; (iii) shareholders by focusing on maximizing revenue, reducing costs, optimizing assets and reducing risk; and (iv) community and suppliers by serving as an engine of economic growth, building more capable, inclusive and resilient communities and striving to reduce local air, water and waste impacts in an effort to conserve biodiversity.

Environment and Biodiversity Partners. We work closely with several partners to protect the environment and biodiversity of the countries in which we operate by engaging in fruitful partnerships with global, national and local organizations. At a global level, we cooperate closely with UNESCO, Wild Foundation, Birdlife

International, Wildlife Conservation Society, World Business Council for Sustainable Development, Wildlife Habitat Council, Conservation International and the International Union for Conservation of Nature. These projects have led to a series of conservation and nature books that have proved widely successful.

Knowledge and Innovation Partners. We often leverage the knowledge and expertise of thought partners from varied perspectives such as consulting, research institutions, universities and technology partners.

Some of the most relevant partners we collaborate or have collaborated with include Deloitte Consulting, McKinsey & Company, IBM, ExperiencePoint, MIT Center for Information Systems, MIT Sloan School of Management, Cambridge University-Cambridge Service Alliance, Harvard Business Publishing, Degreed, NovoEd, London School of Economics, Ecole Polytechnique Fédéral de Lausanne and Tec de Monterrey. These collaborations enable the design, development, curation and delivery of relevant learning experiences aligned with our strategic capabilities and emerging practices.

Shared Value Partners. Through collaboration in responsible business processes, we can achieve better results through the co-creation of value for society. Our more than 500 partnerships and strategic alliances worldwide have proven to be a key factor in successfully multiplying our positive impact on society and in the creation of sustainable communities.

These collaborative alliances have made possible joint projects, best practices documentation and pilots of socially innovative solutions throughout different lines of action: resiliency, environment, education, social integration, health, women's economic empowerment in the communities, development of employability capabilities for youth and people in vulnerable situations in the communities, inclusive businesses, affordable housing, volunteering and CEMEX Foundation activities.

Regain our Investment Grade.

We remain committed to regaining our investment grade and it is one of our top priorities. We believe our "A Stronger CEMEX" plan should allow us to make progress in reaching this goal, as we expect that we should be able to increase our free cash flow, which would enable us to further reduce our debt, invest in our business and potentially return value to our shareholders.

Based on our "A Stronger CEMEX" plan, we expect to reduce our debt by U.S.\$3.5 billion by the end of 2020 with the intent to regain our investment grade. If this is achieved, it would mean that we have reduced debt by more than U.S.\$10 billion since the end of 2013. We reduced our total debt by close to U.S.\$1 billion during 2018.

Our financial strategy is designed to strengthen our capital structure by: (i) reducing refinancing risks, mainly by reducing short-term maturities and extending average life of debt; (ii) lowering our financial costs, either using available free cash flow and divestments to reduce our liabilities and/or optimizing our funding sources by looking for opportunities to issue new securities while redeeming other securities with higher costs, as well as managing our interest rate mix between fixed and floating rates; and (iii) maintaining ample liquidity through the revolving credit facility under the 2017 Credit Agreement and access to short-term credit lines. We believe that our debt portfolio currency mix, mainly in Dollars and Euros, allow us to balance exposures to currency fluctuations in our most important markets while allowing for optimization of our funding costs. In addition, since 2017, we began to hedge CEMEX's net investment in Mexican Pesos through derivative instruments.

Also, we have been focusing, and expect to continue to focus, on optimizing our operations by looking to grow our market positions and our core business and implementing our pricing policies for our products, on strengthening our capital structure and regaining financial flexibility through reducing our debt and cost of debt, on improving cash flow generation and on extending maturities. Our efforts in lowering our interest expense and our effective management of working capital have allowed us to support our free cash flow. We plan to continue with these efforts.

We have also introduced a comprehensive pricing strategy for our products that is expected to more fully reflect and capture the high value-creating capability of our products and services. Our strategy focuses on value enhancement, optimizing gains in customer relationships and on generating sufficient returns that would allow us to reinvest in our business. Under this strategy, we are establishing internal procedures and guidelines that are expected to support our approach to pricing our different products and services.

In addition, we plan to maintain and grow our market positions in cement, ready-mix concrete and aggregates by being one of the most customer-centric companies in the industry. Among other actions, we also expect to implement pricing initiatives for our products and receive compensation through fees for the services we provide that should allow us to improve our overall profits, as well as to operate in the most capital and cost-efficient manner possible.

We continue to look to reduce our overall production related costs for all of our products and regional and corporate overhead through disciplined cost management policies and through improving efficiencies by removing redundancies. We have implemented several worldwide standard platforms as part of this process and have also started different initiatives, such as a system designed to improve our operating processes worldwide and other digital based solutions to achieve this. In addition, we implemented, and have been using, a centralized management information systems throughout our operations, including administrative, accounting, purchasing, customer management, budget preparation and control systems, which have helped us achieve cost efficiencies. We also have a strategic agreement with IBM expected to improve some of our business processes. We have also transferred key processes, such as procurement and trading, from a centralized model to a regional model and are simplifying and delayering our business to accelerate decision-making and maximize efficiency. In a number of our core markets, such as Mexico, we launched initiatives aimed at reducing the use of fossil fuels, consequently looking to reduce our overall energy costs.

Furthermore, significant economies of scale in key markets at times allow us to obtain competitive freight contracts for key components of our cost structure, such as fuel and coal, among others.

Through a worldwide import and export strategy, we will continue to seek to optimize capacity utilization and maximize profitability by redirecting our products from countries experiencing economic downturns to target export markets where demand may be greater. Our global trading system enables us to coordinate our export activities globally to try and take advantage of demand opportunities. Should demand for our products in the United States improve, subject to any measures the current United States government could implement, we believe we are well-positioned to service this market through our established presence in the southern and southwestern regions of the country and our current ability to import to the United States.

Our industry relies heavily on natural resources and energy, and we use cutting-edge technology to increase energy efficiency, reduce carbon dioxide emissions and optimize our use of raw materials and water. We are committed to measuring, monitoring and improving our environmental performance. In the last few years, we have implemented various procedures to improve the environmental impact of our activities as well as our overall product quality, such as a reduction of carbon dioxide emissions, an increased use of alternative fuels to reduce our reliance on primary fuels, an increased number of sites with local environmental impact plans in place and the use of alternative raw materials in our cement.

Operational Improvements

In response to decreased demand in most of our markets as a result of the global economic recession, since 2008 we identified and began implementing global cost-reduction initiatives intended to reduce our annual cost structure to a level consistent with the decline in demand for our products. Such global cost-reduction initiatives have encompassed different undertakings, including headcount reductions, capacity closures across the cement value chain and a general reduction in global operating expenses. During the past years, CEMEX has launched company-wide programs aimed at enhancing competitiveness, providing a more agile and flexible organizational

structure and supporting an increased focus on the company's markets and customers. For the year ended December 31, 2018, and as part of our "A Stronger CEMEX" plan, we implemented initiatives that should allow us to achieve recurring operational improvements of U.S.\$230 million by 2020. These initiatives include improving our operational performance and expense rationalization, increasing our use of alternative fuels in several of the countries in which we operate, serving our customers better and at lower costs, optimizing our production and logistics supply chain models and optimizing our procurement strategy.

In connection with the implementation of our cost-reduction initiatives, since 2017 we have implemented a low-cost sourcing initiative which is designed to maintain the continuity of our operations, while looking to provide attractive costs, without affecting the quality of the products and services we acquire by using a strategic sourcing process empowered by our people's knowledge and quality management. This initiative is intended to reduce our cost of operations, while maintaining quality and timely delivery, by acquiring goods and equipment from Mexico, India, Turkey and certain countries in Asia and Eastern Europe, among others.

Also as part of these initiatives, at times we temporarily shut down (some for a period of at least two months) some of our cement production lines in order to rationalize the use of our assets and reduce the accumulation of our inventories. In the past we have announced the permanent closure of some of our cement plants. Similar actions were taken in our ready-mix concrete and aggregates businesses. Such rationalizations have included, among others, our operations in Mexico, the United States, Spain and the United Kingdom. As of December 31, 2018, we have four cement plants temporarily shut down: two in Mexico (Hidalgo, Nuevo Leon and CPN, Sonora) and two in the U.S. (Brooksville, Florida and Wampun, Pennsylvania).

Furthermore, we intend to achieve energy cost-savings by actively managing our energy contracting and sourcing, and by increasing our use of alternative fuels. We believe that these cost-saving measures could better position us to quickly adapt to potential increases in demand and thereby benefit from the operating leverage we have built into our cost structure.

We have also introduced a comprehensive pricing strategy for our products that is expected to more fully reflect and capture the high value-creating capability of our products and services. Our strategy focuses on value enhancement, optimizing gains in customer relationships and in generating sufficient returns that would allow us to reinvest in our business. Under this strategy, we are establishing internal procedures and guidelines that are expected to support our approach to pricing our different products and services.

We also look to serve our customers better and at lower cost and to optimize our production and logistics supply chain models.

During different parts of the past years, we had reduced capital expenditures related to maintenance and expansion of our operations in response to weak demand for our products in some of the markets in which we do business. Such reductions were implemented with the intention of maximizing our free cash flow generation available for debt service and debt reduction, consistent with our ongoing efforts to strengthen our capital structure, improve our conversion of Operating EBITDA to free cash flow and regain our financial flexibility. During 2017 and 2018, our capital expenditures related to maintenance and expansion of our operations have been U.S.\$653 million and U.S.\$668 million, respectively, lower than the U.S.\$685 million expended in 2016. Pursuant to the 2017 Credit Agreement, we are limited in our ability to make aggregate annual capital expenditures in excess of U.S.\$1.5 billion in any financial year (excluding certain capital expenditures, joint venture investments and acquisitions to be made by each of CLH and/or CHP and their respective subsidiaries and those funded by Relevant Proceeds (as defined in the 2017 Credit Agreement)), which capital expenditures, joint venture investments and acquisitions at any time then incurred are subject to a separate aggregate limit of (i) U.S.\$500 million (or its equivalent) for CLH and its subsidiaries and (ii) U.S. \$500 million (or its equivalent) for CHP and its subsidiaries. In addition, the amounts which we and our subsidiaries are allowed to put towards permitted acquisitions and investments in joint ventures cannot exceed certain thresholds as set forth in the 2017 Credit Agreement. We believe that these restrictions on capital expenditures may still allow us to

opportunistically increase capital expenditures in some of the markets in which we operate, if necessary, and to take advantage of improved market conditions, if any.

User Base

Cement is the primary building material in the industrial and residential construction sectors of the majority of markets in which we operate. The lack of available cement substitutes further enhances the marketability of our product. The primary end-users of cement in each region in which we operate vary but usually include, among others, wholesalers, ready-mix concrete producers, industrial customers and contractors in bulk. Additionally, sales of bagged cement to individuals for self-construction and other basic needs are a significant component of the retail sector. The end-users of ready-mix concrete generally include homebuilders, commercial and industrial building contractors and road builders. Major end-users of aggregates include ready-mix concrete producers, mortar producers, general building contractors and those engaged in road building activity, asphalt producers and concrete product producers. In summary, because of their many favorable qualities, builders worldwide use our cement, ready-mix concrete and aggregates for almost every kind of construction project, from hospitals and highways to factories and family homes.

As of December 31, 2018, we did not depend on any of our existing customers to conduct our business and the loss of any of our existing customers individually would not have had a material adverse effect on our financial condition or results of operations. For the period ended December 31, 2018, none of our customers represented more than 10% of our consolidated revenues.

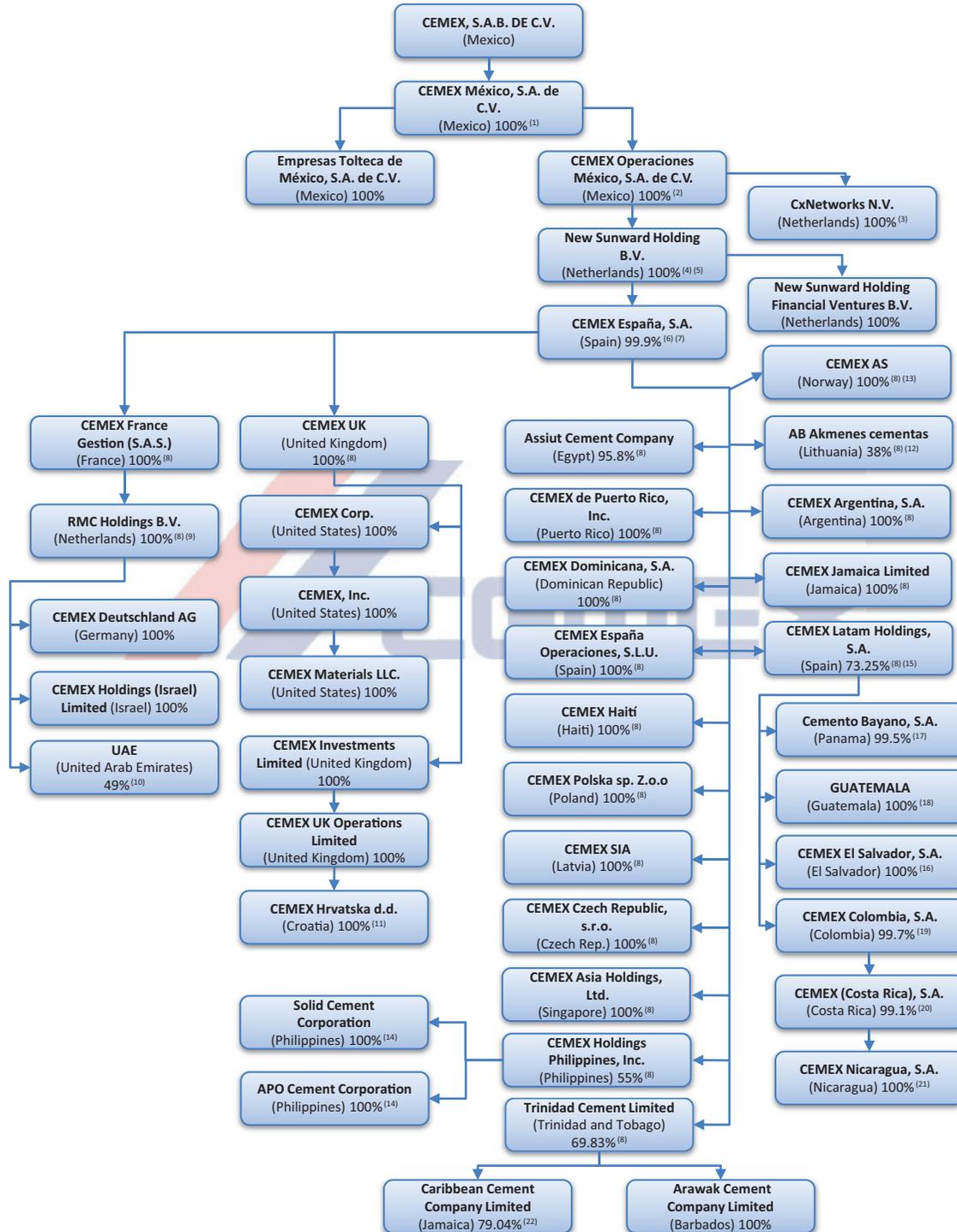
Our Corporate Structure

CEMEX, S.A.B. de C.V. is an operating and a holding company, and in general CEMEX operates its business through subsidiaries that, in turn, hold interests in CEMEX's cement and ready-mix concrete operating companies, as well as other businesses. The following chart summarizes CEMEX's corporate structure as of December 31, 2018. The chart also shows for each company, unless otherwise indicated, CEMEX's approximate direct or indirect, or consolidated, percentage equity ownership or economic interest, or percentage of shares in certain subsidiaries that are part of the Collateral. The chart has been simplified to show only some of CEMEX's major holding companies and/or operating companies in the main countries in which CEMEX operates, and/or

relevant companies in which CEMEX holds a significant direct or indirect interest, and does not include all of CEMEX's operating subsidiaries and its intermediate holding companies.

CEMEX'S Corporate Structure

as of December 31, 2018



- (1) Includes a 99.99% interest pledged or transferred to a security trust as collateral for the benefit of certain secured creditors of CEMEX, S.A.B. de C.V. and certain of its subsidiaries.
- (2) Includes a 99.99% interest pledged or transferred to a security trust as collateral for the benefit of certain secured creditors of CEMEX, S.A.B. de C.V. and certain of its subsidiaries.
- (3) CxNetworks N.V. is the holding company of the global business and IT consulting entities, including Neoris N.V.
- (4) Includes a 100% interest pledged or transferred to a security trust as collateral for the benefit of certain secured creditors of CEMEX, S.A.B. de C.V. and certain of its subsidiaries.
- (5) Includes Cemex Operaciones México's 59.64% interest and CTH's 40.36% interest. CEMEX, S.A.B. de C.V. indirectly holds 100% of Cemex Operaciones México and CTH.
- (6) Includes New Sunward's and CEMEX, S.A.B. de C.V.'s interest, and shares held in CEMEX España's treasury.
- (7) Includes a 99.63% interest pledged or transferred to a security trust as collateral for the benefit of certain secured creditors of CEMEX, S.A.B. de C.V. and certain of its subsidiaries.
- (8) Includes CEMEX España's direct or indirect, or consolidated, interest.
- (9) Includes CEMEX France Gestion (S.A.S.)'s ("CEMEX France") 94.75% interest and CEMEX UK's 5.25% interest.
- (10) Represents CEMEX España's indirect economic interest in three companies incorporated in the UAE, CEMEX Topmix LLC, CEMEX Supermix LLC and CEMEX Falcon LLC. CEMEX España indirectly owns a 49% equity interest in each of these companies, and CEMEX España indirectly holds the remaining 51% of the economic benefits through agreements with other shareholders.
- (11) Divestment of CEMEX Hrvatska d.d. was expected to be completed during the first half of 2017, but the divestment was not made and CEMEX Hrvatska d.d. remains one of our subsidiaries.
- (12) Represents CEMEX España's indirect 37.84% and 11.76% interest in ordinary and preferred shares, respectively.
- (13) CEMEX AS is an operating company and also the holding company for CEMEX's operations in Finland, Norway and Sweden.
- (14) Represents CHP's direct and indirect equity interest.
- (15) Represents outstanding shares of CLH's capital stock and excludes treasury stock.
- (16) Represents CLH's indirect interest.
- (17) Represents CLH's 99.483% indirect interest in ordinary shares, and excludes: (i) a 0.516% interest held in Cemento Bayano, S.A.'s treasury, and (ii) a 0.001% interest held by third parties.
- (18) Represents CLH's direct and indirect interest in four companies incorporated in Guatemala, CEMEX Guatemala, S.A., Global Concrete, S.A., Gestión Integral de Proyectos, S.A. and Cementos de Centroamérica, S.A.
- (19) Represents CLH's 99.75% consolidated (direct and indirect) interest in ordinary shares and 98.94% direct interest in preferred shares.
- (20) Represents CEMEX Colombia's indirect interest.
- (21) Includes CEMEX (Costa Rica), S.A.'s 98% interest and CEMEX Colombia's 2% indirect interest.
- (22) Includes TCL's direct and indirect 74.08% interest and CEMEX's indirect 4.96% interest.

Mexico

Overview. For the year ended December 31, 2018, our operations in Mexico represented 21% of our revenues in Mexican Peso terms before eliminations resulting from consolidation. As of December 31, 2018, our operations in Mexico represented approximately 32% of our total installed cement capacity and 12% of our total assets.

As of December 31, 2018, CEMEX, S.A.B. de C.V. was both a holding company for some of our operating companies in Mexico and was involved in the manufacturing and distribution of cement, aggregates and other construction materials in Mexico. CEMEX, S.A.B. de C.V., indirectly, is also the holding company for

substantially all our international operations. CEMEX, S.A.B. de C.V. accounts for a substantial part of the revenues and operating income of our operations in Mexico.

Our Tepeaca cement plant in Puebla, Mexico currently has a production capacity of approximately 3.4 million tons of cement per year. In December 2014, we announced the restart of the Tepeaca cement plant expansion, consisting of the construction of a new kiln. Its total production capacity is expected to reach approximately 4.9 million tons of cement per year by 2020 and 7.8 million tons of cement per year by 2022. Additionally, we invested in the same region to increase our cement production capacity by approximately 0.5 million tons of cement through a debottlenecking project for our operations in Huichapan. This project was completed during the first quarter of 2019.

In 2001, we launched the Construrama program, a registered brand name for construction material stores. Through this program, we offer to an exclusive group of our Mexican distributors the opportunity to sell a variety of products under the Construrama brand name, a concept that includes the standardization of stores, image, marketing, products and services. As of December 31, 2018, approximately 919 independent concessionaries with 2,296 stores were integrated into the Construrama program, with nationwide coverage.

Industry. For 2018, the National Institute of Statistics and Geography (*Instituto Nacional de Estadística y Geografía*) indicated that total construction activity in Mexico expanded by 0.6% up to December (seasonally adjusted figures). Such expansion has been attributed to a positive performance in the building sector of 1.7% and special works of 6.1%, partially offset by a decline in infrastructure activity of 5%.

Cement in Mexico is sold principally through distributors, with the remaining balance sold through ready-mix concrete producers, manufacturers of pre-cast concrete products and construction contractors. Cement sold through distributors is mixed with aggregates and water by the end user at the construction site to form concrete. Ready-mix concrete producers mix the ingredients in plants and deliver it to local construction sites in mixer trucks, which pour the concrete. Unlike more developed economies, where purchases of cement are concentrated in the commercial and industrial sectors, retail sales of cement through distributors in 2018 accounted for approximately 59% of Mexico's demand (bagged presentation). Individuals who purchase bags of cement for self-construction and other basic construction needs are a significant component of the retail sector. We believe that this large retail sales base is a factor that significantly contributes to the overall performance of the Mexican cement market.

The retail nature of the Mexican cement market also enables us to foster brand loyalty, which distinguishes us from other worldwide producers selling primarily in bulk. We own the registered trademarks for our brands in Mexico, such as "Tolteca," "Monterrey," "Maya," "Anahuac," "Campana," "Gallo," "Centenario," as well as certain sub-brands, such as "Extra," "Impercem" and "Optimo" for grey cements and mortar and, additionally, recently launched "Multiplast" for coatings. We believe that these brand names are important in Mexico since cement is principally sold in bags to retail customers who may develop brand loyalty based on differences in quality and service. In addition, we own the registered trademark for the "Construrama" brand name for construction material stores.

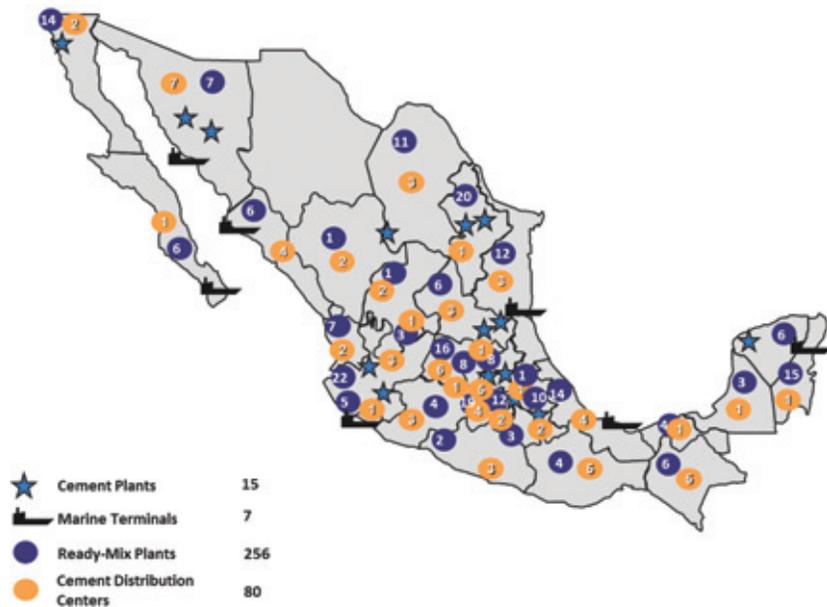
Competition. In the early 1970s, the cement industry in Mexico was regionally fragmented. However, since that time, cement producers in Mexico have increased their production capacity and the Mexican cement industry has consolidated into a national market, thus becoming increasingly competitive. The major cement producers in Mexico are CEMEX; LafargeHolcim; Sociedad Cooperativa Cruz Azul, a Mexican operator; Cementos Moctezuma, an associate of Cements Molins and Buzzi-Unicem; and GCC, a Mexican operator in whose majority holder, CAMCEM, we hold a minority interest. During 2013, a then-new cement producer, Elementia (Cementos Fortaleza), entered the market and in 2014 acquired two plants from Lafarge (prior to the Lafarge-Holcim merger). The major ready-mix concrete producers in Mexico are CEMEX, LafargeHolcim, Sociedad Cooperativa Cruz Azul and Cementos Moctezuma. In addition, the use of non-integrated ready-mixers has been increasing.

We believe potential entrants into the Mexican cement market face various barriers to entry, including, among other things: the time-consuming and expensive process of establishing a retail distribution network and developing the brand identification necessary to succeed in the retail market; the lack of port infrastructure and the high inland transportation costs resulting from the low value-to-weight ratio of cement; the distance from ports to major consumption centers and the presence of significant natural barriers, such as mountain ranges, which border Mexico's east and west coasts; the strong brand recognition and the wide variety of special products with enhanced properties; the extensive capital expenditure requirements; and the length of time required for construction of new plants, which is approximately two years.

Our Operating Network in Mexico

During 2018, we operated 13 out of our total of 15 cement plants (two were temporarily inactive) and 87 cement distribution centers (including seven marine terminals) located throughout Mexico.

We operate cement plants on the Gulf of Mexico and Pacific coasts, allowing us to take advantage of attractive transportation costs to export to the United States and SCA&C.





Products and Distribution Channels

Cement. For the year ended December 31, 2018, our cement operations represented 57% of revenues for our operations in Mexico before eliminations resulting from consolidation in Mexican Peso terms and our domestic cement sales volume represented 94% of our total cement sales volume in Mexico. As a result of the retail nature of the Mexican market, our operations in Mexico are not dependent on a limited number of large customers. The total volume of the five most important distributors accounted for approximately 12% of our total cement sales by volume in Mexico in 2018 (excluding our in-house channels).

Ready-Mix Concrete. For the year ended December 31, 2018, our ready-mix concrete operations represented 22% of revenues for our operations in Mexico before eliminations resulting from consolidation in Mexican Peso terms. Our ready-mix concrete operations in Mexico purchase all their cement requirements from our cement operations in Mexico. Ready-mix concrete is sold through our own internal sales force and facilities network.

Aggregates. For the year ended December 31, 2018, our aggregates operations represented 5% of revenues for our operations in Mexico before eliminations resulting from consolidation in Mexican Peso terms.

Exports. Our operations in Mexico export a portion of their cement production, mainly in the form of cement and to a lesser extent in the form of clinker. Exports of cement by our operations in Mexico represented approximately 6% of our total cement sales volume in Mexico for 2018. In 2018, approximately 63% of our cement exports from Mexico were to the United States, 1% to Costa Rica and 36% to our Rest of South, Central America and the Caribbean region.

The cement and clinker exports by our operations in Mexico to the United States are mostly marketed through our trading network subsidiaries. Our cement and clinker transactions between CEMEX and its subsidiaries, are conducted on an arm’s-length basis.

Production Costs. Our cement plants in Mexico primarily utilize pet coke and alternative fuels. We have entered into four 20-year agreements with Petróleos Mexicanos (“PEMEX”), two under which PEMEX has agreed to supply us with pet coke for our cement plants through 2022/2023. However, during the past years, the volumes delivered by PEMEX to our operations in Mexico have been affected as a result of operational issues at PEMEX’s refineries. In general, we believe our operations in Mexico would be able to purchase pet coke in the open market, if needed, to make up for any quantities not supplied by PEMEX. The PEMEX pet coke contracts

have somewhat helped in reducing the volatility of our fuel costs for our operations in Mexico. In addition, in 1992, our operations in Mexico began using alternative fuels to further reduce the consumption of residual fuel oil and natural gas. These alternative fuels represented approximately 25% of the total fuel consumption for our operations in Mexico in 2018. For additional information, see “Item 5—Operating and Financial Review and Prospects—Summary of Material Contractual Obligations and Commercial Commitments—Contractual Obligations.”

In 1999, we entered into an agreement with an international partnership, which financed, built and operated Termoeléctrica del Golfo (“TEG”), a 230 megawatt (“MW”) energy plant in Tamuín, San Luis Potosí, Mexico. We entered into this agreement in order to reduce the volatility of our energy costs. The power plant commenced commercial operations in April 2004. In 2007, the original operator was replaced and the agreement was extended to 2027. For additional information, see “Item 5—Operating and Financial Review and Prospects—Summary of Material Contractual Obligations and Commercial Commitments—Contractual Obligations.”

In 2006, in order to take advantage of the high wind potential in the “Tehuantepec Isthmus,” CEMEX and the Spanish company ACCIONA, S.A. (“ACCIONA”), formed an alliance to develop a wind farm project for the generation of 250 MW in the Mexican state of Oaxaca. The installation of 167 wind turbines in the farm was finished on November 15, 2009. For additional information, see “Item 5—Operating and Financial Review and Prospects—Summary of Material Contractual Obligations and Commercial Commitments—Contractual Obligations.”

In connection with the beginning of full commercial operations of Ventika S.A.P.I. de C.V. and Ventika II S.A.P.I. de C.V. wind farms (jointly “Ventikas”) located in the Mexican state of Nuevo Leon, with a combined generation capacity of 252 MW, we agreed to acquire a portion of the energy generated by Ventikas for our Mexican plants for a period of 20 years, which began in April 2016. During 2018, Ventikas supplied approximately 10% of CEMEX’s overall electricity needs in Mexico. This agreement is for CEMEX’s own use and CEMEX does not intend to engage in energy trading. In 2017, we signed a contract with Energía Azteca X, a natural gas combine cycle plant located in Mexicali, Baja California. This plant started supplying energy to the CEMEX Ensenada plant in November 2018. We expect to consume from Energía Azteca X around 70% of the CEMEX Ensenada electric energy operation needs, which are approximately 5 GW per month.

We have, from time to time, purchased hedges from third parties to reduce the effect of volatility in energy prices in Mexico. See “Item 5—Operating and Financial Review and Prospects—Summary of Material Contractual Obligations and Commercial Commitments—Contractual Obligations.” Additionally, in 2015, we created CEMEX Energía, S.A.P.I. de C.V., an energy division seeking to develop a portfolio of power projects in Mexico, which has become a participant in the wholesale electricity market through a subsidiary. This subsidiary participated as a buyer in the third long-term power auction organized in 2017 by the National Center for Energy Control (*Centro Nacional de Control de Energía*) (“CENACE”) (the independent system operator) and has been allocated a 20-year contract, starting in 2019. The contract is for 16,129 clean energy certificates per year for compliance with legal requirements and 14.9 GWh/a of electric power to be supplied to CEMEX’s own operations in Mexico.

Description of Properties, Plants and Equipment. As of December 31, 2018, we had 15 wholly-owned cement plants and proportional interests through associates in three other cement plants located throughout Mexico, with a total potential capacity of 29.5 million tons per year, of which two were temporarily inactive. We have exclusive access to limestone quarries and clay reserves near each of our plant sites in Mexico. We estimate that, as of December 31, 2018, the limestone and clay permitted proven and probable reserves of our operations in Mexico had an average remaining life of approximately 135 and 88 years, respectively, assuming 2014-2018 average annual cement production levels. As of December 31, 2018, all our production plants in Mexico utilized the dry process.

As of December 31, 2018, we had a network of 80 land distribution centers in Mexico, which are supplied through a fleet of our own trucks and rail cars, as well as leased trucks and rail facilities, and operated seven

marine terminals. In addition, we had 256 ready-mix concrete plants (38 were temporarily inactive) ready-mix concrete plants throughout 77 cities in Mexico, more than 2,500 ready-mix concrete delivery trucks and 12 aggregates quarries.

Capital Expenditures. We made capital expenditures of U.S.\$84 million in 2016, U.S.\$113 million in 2017 and U.S.\$117 million in 2018 in our operations in Mexico. We currently expect to make capital expenditures of over U.S.\$157 million in our operations in Mexico during 2019.

United States

Overview. For the year ended December 31, 2018, our operations in the United States represented 24% of our revenues in Mexican Peso terms before eliminations resulting from consolidation. As of December 31, 2018, our operations in the United States represented 17% of our total installed cement capacity and 49% of our total assets. As of December 31, 2018, CEMEX, Inc. was the main holding company of our operating subsidiaries in the United States.

As of December 31, 2018, we had a cement manufacturing capacity of approximately 15.4 million tons per year in our operations in the United States, including 0.8 million tons in proportional interests through non-controlling holdings. As of December 31, 2018, we operated a geographically diverse base of 11 cement plants (two were temporarily inactive) located in Alabama, California, Colorado, Florida, Georgia, Kentucky, Pennsylvania, Tennessee and Texas. As of that date, we also operated 47 rail, truck or water-served active cement distribution terminals in the United States. As of December 31, 2018, we had 327 ready-mix concrete plants located in Alabama, Arizona, California, Florida, Georgia, Nevada, Tennessee, Texas and Virginia and 50 active aggregates facilities in Arizona, California, Florida, Georgia, Nevada, South Carolina and Texas.

On September 23, 2013, we and Concrete Supply Company, a leading producer of ready-mix concrete throughout North and South Carolina, entered into a joint venture agreement and formed a joint venture company named Concrete Supply Co. LLC, in which Concrete Supply Holdings Co holds a majority ownership stake in and acts as the managing member. This joint venture is a leading concrete supplier in North and South Carolina with strong local management.

In February 2015, we completed an asset swap with Vulcan Materials Company, under which CEMEX exchanged its asphalt plants in Arizona and Sacramento for 12 ready-mix concrete plants in California. Under the agreement, CEMEX continues supplying aggregates to the exchanged asphalt plants. Also, CEMEX is able to capture incremental cement sales to the acquired ready-mix concrete plants. Given the operations and strategic focus in these markets, we expect each party should earn a higher return on the exchanged assets and continue serving its customers efficiently. This swap was a cash-free transaction.

Industry. Demand for cement is derived from the demand for ready-mix concrete and concrete products which, in turn, is dependent on the demand for construction. The construction industry is composed of three major sectors: the residential, the industrial-and-commercial and the public sectors. The public sector is the most cement intensive sector, particularly for infrastructure projects such as streets, highways and bridges.

The construction industry continues to recover from the financial crisis experienced during 2008 and 2009, which was the worst downturn in over 70 years. The construction industry was hit particularly hard during this financial crisis due to the collapse of the housing sector. Housing starts fell 73% from a peak of 2.1 million units in 2005 to only 554,000 units in 2009. The decline in housing and other construction activity resulted in a 45% decline in cement demand from 2005 to 2010. The economic recovery has proceeded at a relatively moderate pace, with real gross domestic product average annual growth of 2.2% since 2011 through 2018 year end. With the economy growing again, the construction sector stabilized in 2010 and joined the economy-wide recovery in 2011. The excess vacant inventory in the housing sector has been absorbed and existing home inventories for sale have declined to below normal levels across the nation, which together have supported an increase in housing

prices for 2016, 2017 and 2018 of about 12%. Housing starts increased by 227% from 554 thousand units in 2009 to 1.26 million units in 2018. Housing starts in 2018 increased by 5% from 2017 to 1.26 million units, which remains well below the historical steady state level. The industrial-and-commercial sector has also been growing with nominal spending, up 77% from 2013 to 2018. Industrial-and-commercial nominal spending increased by 5% in 2018. The public sector, which has lagged compared to the other construction sectors in this recovery, recorded a spending increase of 6% in 2018. Cement demand has been increasing annually since 2013 with an estimated growth of 1.9% in 2018 after an increase of 23% from 2012 to 2017. The Portland Cement Association is forecasting a 2.6% increase in cement demand in the United States for 2019.

Competition. The cement industry in the United States is highly competitive, including national and regional cement producers in the United States. Our principal competitors in the United States are LafargeHolcim, Buzzi-Unicem, Heidelberg and Ash Grove Cement.

The independent United States ready-mix concrete industry is highly fragmented. According to the National Ready Mixed Concrete Association (“NRMCA”), it is estimated that there are about 5,500 ready-mix concrete plants that produce ready-mix concrete in the United States and about 55,000 ready-mix concrete mixer trucks that deliver the concrete to the point of placement. The NRMCA estimates that the value of ready-mix concrete produced by the industry is approximately U.S.\$35 billion per year. Given that the concrete industry has historically consumed approximately 75% of all cement produced annually in the United States, many cement companies choose to develop concrete plant capabilities.

Aggregates are widely used throughout the United States for all types of construction because they are the most basic materials for building activity. The United States Geological Survey (“USGS”) estimates over 2.4 billion tons of aggregates were produced in 2018, an increase of about 5% over 2017. Crushed stone accounted for 58% of aggregates consumed, sand & gravel 41%, and slag 1%. These products are produced in all 50 states and have a value of U.S.\$26 billion. The United States aggregates industry is highly fragmented and geographically dispersed. The top ten producing states represent approximately 55% of all production. According to the USGS, during 2018, an estimated 3,800 companies operated approximately 9,350 sand and gravel sites and 1,465 companies operated 3,710 crushed stone quarries and 90 underground mines in the 50 states.

Our Operating Network in the United States

The maps below reflect the location of our operating assets, including our cement plants and cement terminals in the United States as of December 31, 2018.





Products and Distribution Channels

Cement. For the year ended December 31, 2018, our cement operations represented 32% of revenues for our operations in the United States, before eliminations resulting from consolidation in Mexican Peso terms. In the United States, we deliver a substantial portion of cement by rail, which occasionally goes directly to customers. Otherwise, shipments go to distribution terminals where customers pick up the product by truck or we deliver the product by truck. The majority of our cement sales in the United States are made directly to users of gray portland and masonry cements, generally within a radius of approximately 200 miles of each plant.

Ready-Mix Concrete. For the year ended December 31, 2018, our ready-mix concrete operations represented 42% of revenues for our operations in the United States, before eliminations resulting from consolidation in Mexican Peso terms. Our ready-mix concrete operations in the United States purchase most of their cement aggregates requirements from our cement operations in the United States. Our ready-mix concrete products are mainly sold to residential, commercial and public contractors and to building companies.

Aggregates. For the year ended December 31, 2018, our aggregates operations represented 17% of revenues for our operations in the United States, before eliminations resulting from consolidation in Mexican Peso terms. We estimate that, as of December 31, 2018, the crushed stone quarries and sand/gravel pits permitted proven and probable reserves of our operations in the United States had an average remaining life of approximately 48 and 29 years, respectively, assuming 2014-2018 average annual aggregates production levels. Our aggregates are consumed mainly by our internal operations and by our trade customers in the ready-mix, concrete products and asphalt industries.

Production Costs. The largest cost components of our plants are usually electricity and fuel, which accounted for approximately 26% of our total production costs of our cement operations in the United States in 2018. We are currently implementing a program expected to gradually replace coal with more economic fuels, such as pet coke, tires and other alternative fuels, which has resulted in reduced energy costs. By retrofitting our cement plants to handle alternative energy fuels, we have gained more flexibility in supplying our energy needs and have become less vulnerable to potential price spikes. In 2018, the increased use of alternative fuels helped to offset the effect on our fuel costs of increasing coal prices. Power costs in 2018 represented approximately 11% of our cash manufacturing cost of our cement operations in the United States, which represents production cost before depreciation. We aim to improve the efficiency of our electricity usage of our cement operations in the United States, concentrating our manufacturing activities in off-peak hours and negotiating lower rates with electricity suppliers.

Description of Properties, Plants and Equipment. As of December 31, 2018, we operated 11 cement manufacturing plants in the United States (two were temporarily inactive), and had a total installed capacity of 15.4 million tons per year including 0.8 million tons representing our proportional interests through associates in seven other cement plants. We estimate that, as of December 31, 2018, the limestone permitted proven and probable reserves of our operations in the United States had an average remaining life of approximately 43 years, assuming 2014-2018 average annual cement production levels. As of that date, we operated a distribution network of 39 cement terminals. All of our 11 cement production facilities in 2018 were wholly-owned by CEMEX, Inc., except for the Louisville, Kentucky plant, which is owned by Kosmos Cement Company, a joint venture in which we own a 75% interest and a subsidiary of Dyckerhoff AG (a subsidiary of Buzzi-Unicem) owns a 25% interest. As of December 31, 2018, CEMEX Inc. had 327 wholly-owned ready-mix concrete plants (47 were temporarily inactive) and operated 50 aggregates quarries. As of December 31, 2018, we distributed fly ash through six terminals and two third-party-owned utility plants, which operate both as sources of fly ash and distribution terminals. As of that date, we also owned 12 concrete block facilities.

In the United States, we have continued to take a number of actions to streamline our operations and improve productivity, including temporary capacity adjustments and rationalizations in some of our cement plants, and shutdowns of ready-mix concrete and block plants and aggregates quarries. We are currently utilizing approximately 86% of our ready-mix concrete plants, 55% of our block manufacturing plants and 82% of our aggregates quarries in the United States.

Capital Expenditures. We made capital expenditures of U.S.\$197 million in 2016, U.S.\$185 million in 2017 and U.S.\$239 million in 2018 in our operations in the United States. We currently expect to make capital expenditures of approximately U.S.\$236 million in our operations in the United States during 2019.

Europe

For the year ended December 31, 2018, our business in Europe, which includes our operations in Europe and the Rest of Europe, as described below, represented 25% of our revenues before eliminations resulting from consolidation. As of December 31, 2018, our operations in Europe represented 26% of our total installed capacity and 20% of our total assets.

As part of our “A Stronger CEMEX” plan, we are transforming the way our Europe region is organized. We are transitioning from country-based organization to functional, product-focused organization across the whole region. These changes are expected to result in higher efficiencies and faster implementation of actions to serve our customers better and increase our profitability.

Our Operations in the United Kingdom

Overview. For the year ended December 31, 2018, our operations in the United Kingdom represented 7% of our revenues in Mexican Peso terms, before eliminations resulting from consolidation in Mexican Peso terms. As of December 31, 2018, our operations in the United Kingdom represented 6% of our total assets.

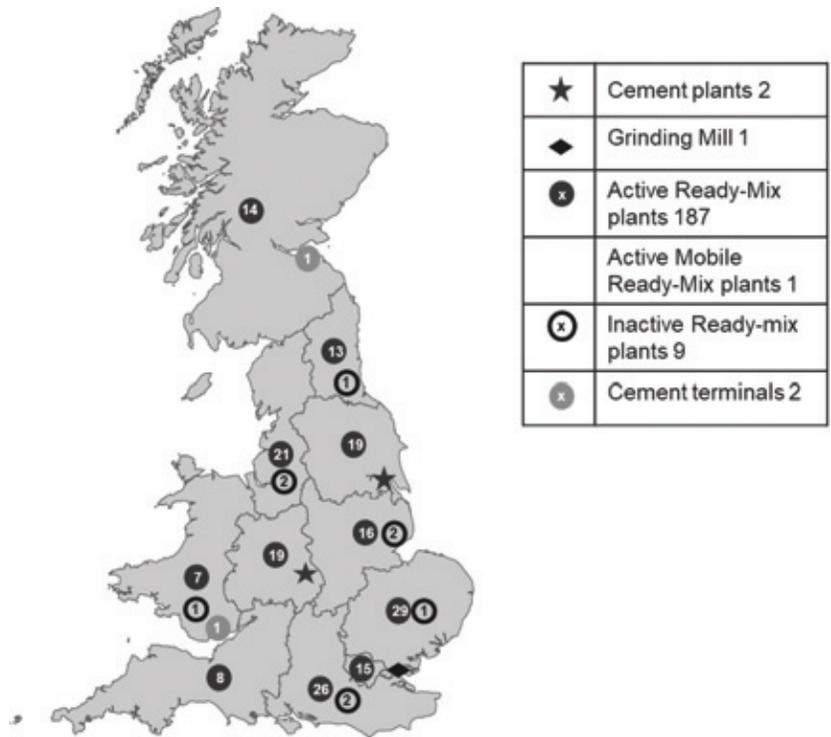
As of December 31, 2018, CEMEX Investments Limited was the main holding company of our operating subsidiaries in the United Kingdom. We are a leading provider of building materials in the United Kingdom with vertically integrated cement, ready-mix concrete, aggregates and asphalt operations. We are also an important provider of concrete and precast materials solutions such as concrete blocks, concrete block paving, flooring systems and sleepers for rail infrastructure.

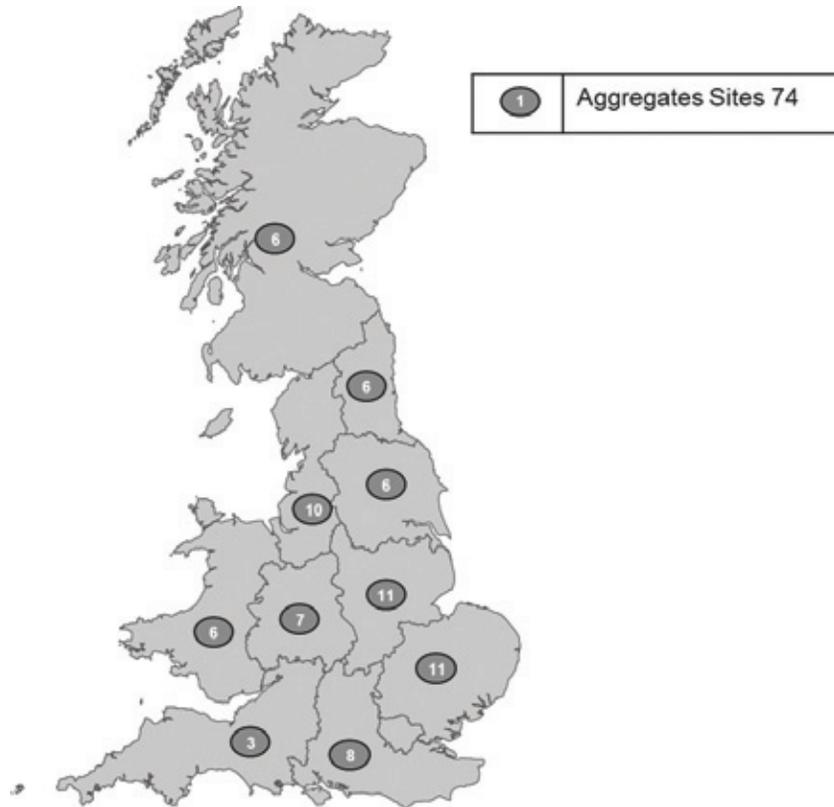
Industry. According to the United Kingdom’s Construction Products Association, in 2018, the gross domestic product of the United Kingdom was estimated to have grown by 1% compared to 2% growth in 2017. Total construction output is estimated to have decreased by 0.2% in 2018, as compared to a 7% increase in 2017.

Whilst public housing fell by 2%, the private housing sector is estimated to have grown by 5% in 2018, with the private housing market continuing to be stimulated by the government’s Help to Buy scheme. In 2018, the public non-housing sector is estimated to have decreased by 14% and the industrial sector grew by 9% due to increased demand for large, high value warehousing projects. In 2018, the commercial sector decreased by 5%, due to declines in office and retail construction and two former Carillion PFI hospital projects moving to public funding. The infrastructure sector grew by 1% driven by persistent delays and overruns. As of December 31, 2018, the official data corresponding to 2018 has not been released by the Mineral Products Association, but we estimate that domestic cement demand contracted in 2018 compared to 2017.

Competition. Our primary competitors in the United Kingdom are: Tarmac (now owned by CRH after divestments by Lafarge and Holcim during their merger), Hanson (a subsidiary of Heidelberg), Aggregate Industries (a subsidiary of LafargeHolcim) and Breedon Group, formerly Breedon Aggregates, which acquired Hope Construction Materials (owned by Mittal Investments and formed three years ago from enforced divestments by Lafarge and Tarmac when they created Lafarge Tarmac). The Lafarge Tarmac business was divested to CRH (except for two cement plants to be retained by LafargeHolcim). In addition, an estimated 2.8 million tons of cement were imported to the United Kingdom by various players including CRH, LafargeHolcim, Heidelberg and other independents, with material increasingly arriving from over-capacity markets including Ireland, Spain and Greece.

Our Operating Network in the United Kingdom





Products and Distribution Channels

Cement. For the year ended December 31, 2018, our cement operations represented 17% of revenues for our operations in the United Kingdom before eliminations resulting from consolidation in Mexican Peso terms. About 84% of our United Kingdom cement sales were of bulk cement, with the remaining 16% in bags. Our bulk cement is mainly sold to ready-mix concrete, concrete block and pre-cast product customers and contractors. Our bagged cement is primarily sold to national builders’ merchants.

Ready-Mix Concrete. For the year ended December 31, 2018, our ready-mix concrete operations represented 26% of revenues for our operations in the United Kingdom before eliminations resulting from consolidation in Mexican Peso terms. Special products, including self-compacting concrete, fiber-reinforced concrete, high strength concrete, flooring concrete and filling concrete, represented 25% of our 2018 United Kingdom sales volume. In 2018, our ready-mix concrete operations in the United Kingdom purchased 99% of its cement requirements from our cement operations in the United Kingdom and approximately 89% of its aggregates requirements from our aggregates operations in the United Kingdom. Our ready-mix concrete products are mainly sold to public, commercial and residential contractors.

Aggregates. For the year ended December 2018, our aggregates operations represented 29% of revenues for our operations in the United Kingdom before eliminations resulting from consolidation in Mexican Peso terms. In 2018, our United Kingdom aggregates sales were divided as follows: 48% were sand and gravel, 45% limestone and 7% hard stone. In 2018, 13% of our aggregates volumes were obtained from marine sources along the United Kingdom’s coast. In 2018, approximately 37% of our United Kingdom aggregates production was consumed by our own ready-mix concrete operations as well as our asphalt, concrete block and precast operations. We also sell aggregates to major contractors to build roads and other infrastructure projects.

Production Costs

Cement. In 2018, fixed production costs decreased by 1% driven by there being fewer days of major kiln overhaul in 2018 compared to 2017. Variable costs increased by 1% in absolute terms, primarily as a result of lower volumes. We continued to implement our cost reduction programs through our use of alternative fuels. In March 2015, our partner Suez opened its Malpass factory, adjacent to our Rugby plant, to supply us with refuse derived fuels.

Ready-Mix Concrete. In 2018, fixed production costs increased by 9%, as compared to fixed production costs in 2017, due to annual salary increases, higher repairs and maintenance and higher than anticipated leasing charges.

Aggregates. In 2018, fixed production costs increased by 6% as compared to 2017 fixed production costs.

Description of Properties, Plants and Equipment. As of December 31, 2018, we operated two cement plants and one clinker grinding facility in the United Kingdom. Assets in operation at year-end 2018 represent an installed cement capacity of 2.4 million tons per year. We estimate that, as of December 31, 2018, the limestone and clay permitted proven and probable reserves of our operations in the United Kingdom had an average remaining life of approximately 47 and 21 years, respectively, assuming 2014-2018 average annual cement production levels. As of December 31, 2018, we also owned two cement import terminals and operated 197 ready-mix concrete plants (194 fixed and 3 mobile, from which seven and two, respectively, were temporarily inactive) and 62 aggregates quarries in the United Kingdom. In addition, we had operating units dedicated to the asphalt, concrete blocks, concrete block paving, sleepers and flooring businesses in the United Kingdom.

In order to have access to blended cements, which are more sustainable based on their reduced clinker factor and use of by-products from other industries, our grinding and blending facility at the Port of Tilbury, located on the Thames River east of London has an annual grinding capacity of approximately 1.2 million tons, which allows us to have access to blended cements. Blended cements are more sustainable based on their reduced clinker factor and use of by-products from other industries.

Capital Expenditures. We made capital expenditures of U.S.\$30 million in 2016, U.S.\$53 million in 2017 and U.S.\$47 million in 2018 in our operations in the United Kingdom. We currently expect to make capital expenditures of approximately U.S.\$44 million in our operations in the United Kingdom during 2019.

Our Operations in France

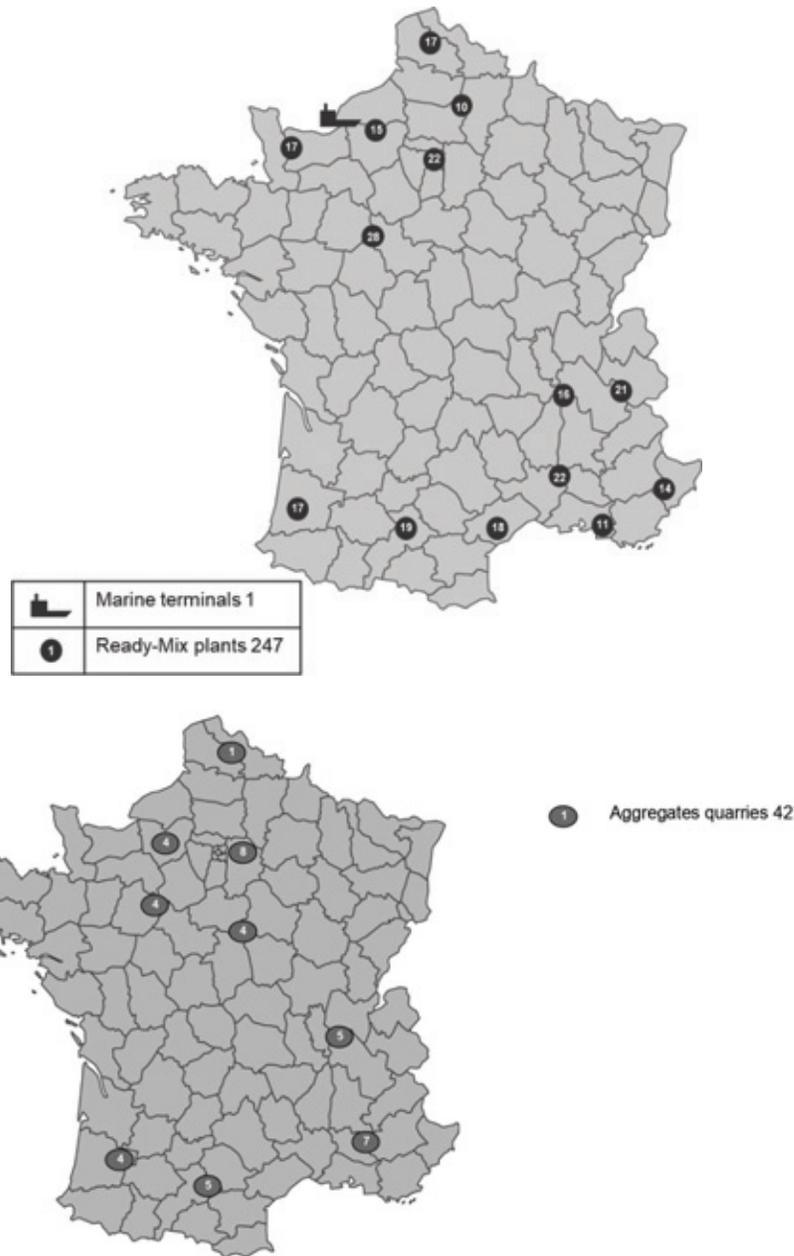
Overview. As of December 31, 2018, CEMEX France was our main subsidiary in France. We are a leading ready-mix concrete producer and a leading aggregates producer in France. We distribute most of our materials by road and a significant quantity by waterways, seeking to maximize the use of this efficient and sustainable alternative. For the year ended December 31, 2018, our operations in France represented 6% of our revenues in Mexican Peso terms, before eliminations resulting from consolidation. As of December 31, 2018, our operations in France represented 3% of our total assets.

Industry. According to the French Building Association, housing starts in the residential sector decreased by 1% in 2018 compared to 2017. Non-residential buildings starts increased by 2% in 2018 compared to 2017 and demand from the public works sector increased by approximately 11% over the same period.

According to the Building Materials Association forecasts, total ready-mix concrete consumption in France in 2018 reached approximately 39.8 million of cubic meters, a 3% increase compared to 2017, and total aggregates production amounted to approximately 307 million tons, a 2% increase compared to 2017.

Competition. Our main competitors in the ready-mix concrete market in France include LafargeHolcim, Heidelberg, CRH and Vicat. Our main competitors in the aggregates market in France include LafargeHolcim, Heidelberg, Colas (Bouygues) and Eurovia (Vinci). In France, we rely on sourcing cement from third parties, while many of our major competitors in ready-mix concrete are subsidiaries of French cement producers.

Our Operating Network in France



Description of Properties, Plants and Equipment. As of December 31, 2018, we operated 247 ready-mix concrete plants in France, 1 marine cement terminal located in Le Havre, on the northern coast of France, 21 land distribution centers, 42 quarries and 10 river ports.

Capital Expenditures. We made capital expenditures of U.S.\$19 million in 2016, U.S.\$20 million in 2017 and U.S.\$23 million in 2018 in our operations in France. We currently expect to make capital expenditures of approximately U.S.\$39 million in our operations in France during 2019.

Our Operations in Germany

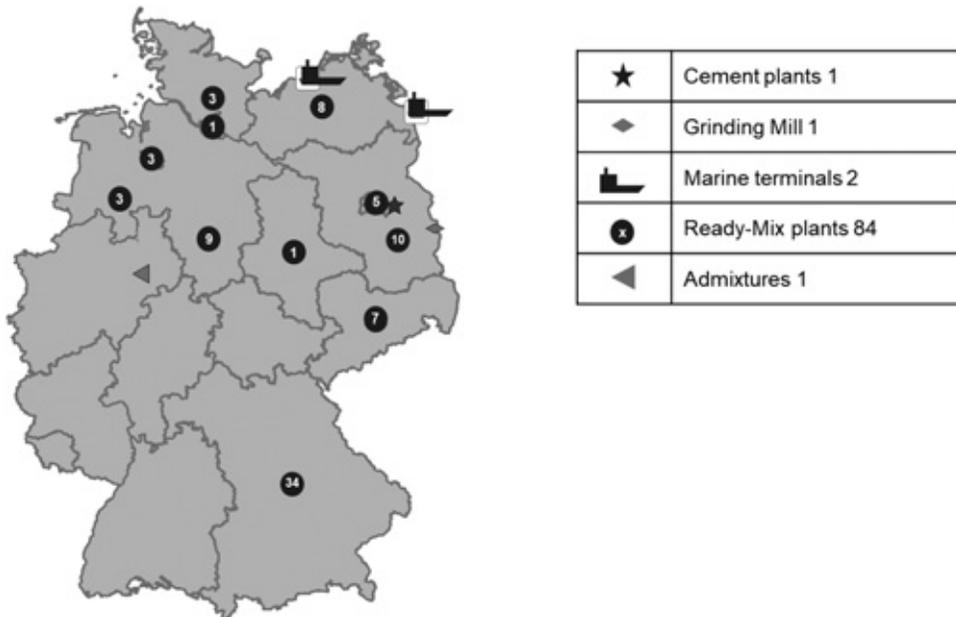
Overview. For the year ended December 31, 2018, our operations in Germany represented 4% of our revenues in Mexican Peso terms, before eliminations resulting from consolidation. As of December 31, 2018, our operations in Germany represented 2% of our total assets. As of December 31, 2018, CEMEX Deutschland AG was our main subsidiary in Germany. We are a leading provider of building materials in Germany, with vertically integrated cement, ready-mix concrete and aggregates businesses.

On January 5, 2015, we closed a series of transactions with Holcim, pursuant to which we sold to Holcim assets in the western region of Germany consisting of one cement plant, two cement grinding mills, one slag granulator, 22 aggregates quarries and 79 ready-mix concrete plants, while we maintained our operations in the north, east and south of Germany.

Industry. According to EUROCONSTRUCT Institute, the total construction output in Germany increased by 2% in 2018, compared to 2017. The main driver of this increase was the residential sector. According to the German Cement Association, in 2018, the national cement consumption in Germany increased by 2% to 29.4 million tons, while the ready-mix concrete market and the aggregates market each increased by approximately 2% and 1%, respectively, when compared to 2017.

Competition. Our primary competitors in the cement market in Germany are Heidelberg, Dyckerhoff (a subsidiary of Buzzi-Unicem), LafargeHolcim, CRH and SCHWENK, a local German competitor. These competitors, along with CEMEX in Germany, represent a market share of about 80%, as estimated by us for 2018. The ready-mix concrete and aggregates markets in Germany are fragmented and regionally heterogeneous, with many local competitors. The consolidation process in the ready-mix concrete and aggregates markets is moderate.

Our Operating Network in Germany





Aggregates plants 25

Description of Properties, Plants and Equipment. As of December 31, 2018, we operated one cement plant in Germany and our installed cement capacity was 2.4 million tons per year. We estimate that, as of December 31, 2018, the limestone permitted proven and probable reserves of our operations in Germany had an average remaining life up to 38 years, assuming 2014-2018 average annual cement production levels. As of that date, our operations in Germany included one cement grinding mill, 84 ready-mix concrete plants (four were temporarily inactive), 25 aggregates quarries (three were temporarily inactive), two land distribution centers for cement and two marine terminals.

Capital Expenditures. We made capital expenditures of U.S.\$26 million in 2016, U.S.\$23 million in 2017 and U.S.\$16 million in 2018 in our operations in Germany. We currently expect to make capital expenditures of approximately U.S.\$18 million in our operations in Germany during 2019.

Our Operations in Spain

Overview. As of December 31, 2018, we held 99.9% of CEMEX España (including shares held in treasury), a holding company for most of our international operations, including our operations in Spain. For the year ended December 31, 2018, our operations in Spain represented 3% of our revenues in Mexican Peso terms, before eliminations resulting from consolidation. As of December 31, 2018, our operating business in Spain represented 5% of our total assets.

On October 1, 2012, CEMEX España agreed to spin-off its Spanish industrial operations in favor of CEMEX España Operaciones, S.L.U. (“CEMEX España Operaciones”), a subsidiary in which CEMEX España holds 100% of the share capital.

In December 2012, the merger of CEMEX España Operaciones and Aricemex, S.A. and Hormicemex, S.A. was completed and, as a result, our manufacturing and sales of cement, aggregates, concrete and mortar were consolidated in CEMEX España Operaciones, which became our Spanish operating subsidiary.

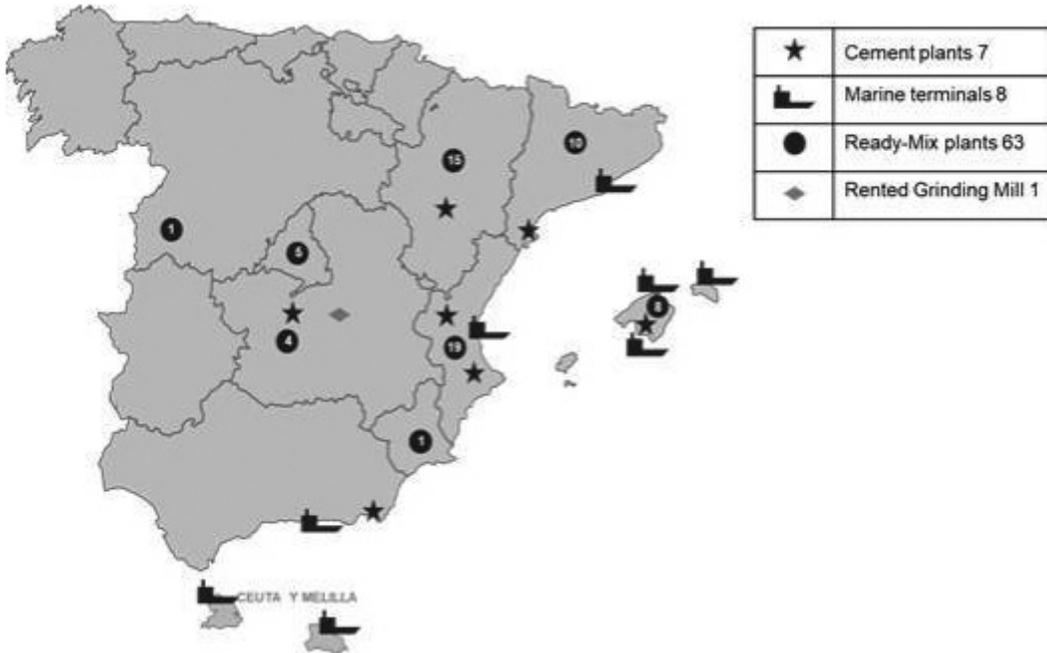
Industry. In 2018, the investment in the construction sector in Spain is estimated to have increased by 6% compared to 2017, primarily driven by the residential sector, which is estimated to have increased by 7% in 2018. According to our latest estimates, cement consumption in Spain increased by 8% in 2018 compared to 2017.

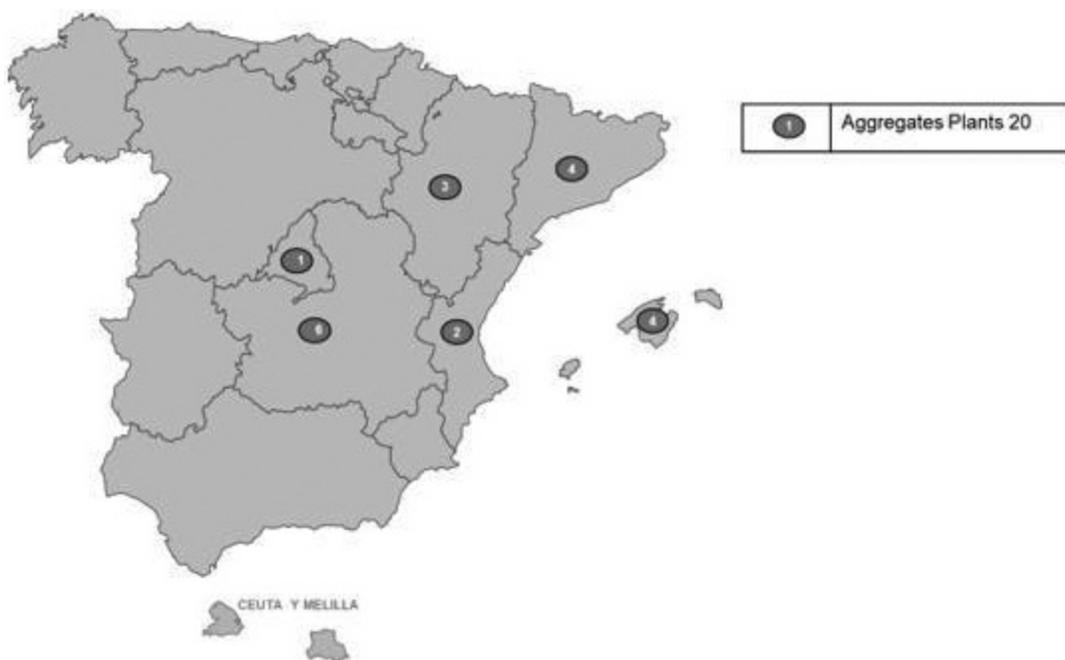
According to Spanish Cement Producers Association (*Agrupación de Fabricantes de Cemento de España*) (“OFICEMEN”), cement imports increased 15% in 2015, decreased 11% in 2016 and increased by 0.3% in 2017. Clinker imports according to OFICEMEN declined 26% in 2013, 2% in 2014, 50% in 2015, 86% in 2016, increased 4% in 2017 and, according to our estimates, decreased by 99% in 2018 compared to 2017.

In the early 1980s, Spain was one of the leading exporters of cement in the world, exporting up to 13 million tons per year. However, as of December 31, 2018, cement exports amounted to approximately 3.6 million tons per year. In recent years, Spanish cement and clinker export volumes have fluctuated, reflecting the rapid changes in demand in the Mediterranean basin as well as the strength of the Euro and changes in the domestic market. According to OFICEMEN, these total export volumes increased 18% in 2013, 33% in 2014, decreased 4% in 2015, increased 6% in 2016, decreased 8% in 2017 and, according to our estimates, decreased by 8% in 2018 compared to 2017.

Competition. According to our estimates, as of December 31, 2018, we were one of the largest multinational producers of clinker and cement in Spain. Competition in the ready-mix concrete industry is intense in large urban areas. The overall high degree of competition in the Spanish ready-mix concrete industry is reflected in the multitude of offerings from a large number of concrete suppliers. We have focused on developing value added products and attempting to differentiate ourselves in the marketplace. The distribution of ready-mix concrete remains a key component of our business strategy in Spain.

Our Operating Network in Spain





Products and Distribution Channels

Cement. For the year ended December 31, 2018, our cement operations represented 72% of revenues for our operations in Spain before eliminations resulting from consolidation in Mexican Peso terms. We offer various types of cement in Spain, targeting specific products to specific markets and users. In 2018, approximately 17% of the domestic sales volume of CEMEX España Operaciones consisted of bagged cement, and the remainder of CEMEX España Operaciones’s domestic sales volume consisted of bulk cement, primarily to ready-mix concrete operators, including sales to our other operations in Spain, as well as industrial customers that use cement in their production processes and construction companies.

Ready-Mix Concrete. For the year ended December 31, 2018, our ready-mix concrete operations represented 16% of revenues for our operations in Spain before eliminations resulting from consolidation in Mexican Peso terms. Our ready-mix concrete operations in Spain in 2018 purchased almost 89% of their cement requirements from our cement operations in Spain and approximately 56% of their aggregates requirements from our aggregates operations in Spain.

Aggregates. For the year ended December 31, 2018, our aggregates operations represented 5% of revenues for our operations in Spain before eliminations resulting from consolidation in Mexican Peso terms.

Exports. Exports of cement and clinker by our operations in Spain, which represented approximately 18% of revenues for our operations in Spain before eliminations resulting from consolidation, decreased approximately 23% in 2018 compared to 2017, primarily as a result of a decrease in volume sold to the United States, Malta and Morocco, offset by higher sales to the United Kingdom and Guatemala. Export prices are lower than domestic market prices, and costs are usually higher for export sales. Of our total exports from Spain in 2018, 39% consisted of white cement, 28% of gray portland cement and 33% of clinker. Of our total cement export volumes from our operations in Spain during 2018, 24% were to the United States, 25% were to the United Kingdom, 9% were to the SCA&C region, 3% were to Poland, 10% were to the Rest of Europe region, 2% were to Israel and 27% were to the Rest of Asia, Middle East and Africa region.

Production Costs. We have improved the efficiency of our operations in Spain by introducing technological improvements that have significantly reduced our energy costs, including the use of alternative fuels, in

accordance with our cost reduction efforts. In 2018, we used organic waste, tires and plastics as fuel, achieving a 34% substitution rate for pet coke in our gray and white clinker kilns for the year.

Description of Properties, Plants and Equipment. As of December 31, 2018, our operations in Spain included seven cement plants located in Spain with an annual installed cement capacity of 10.4 million tons. As of that date, we also had 24 operative distribution centers, including 16 land and 8 marine terminals, 63 ready-mix concrete plants (38 were temporarily inactive), 20 aggregates quarries (13 were temporarily inactive) and 7 mortar plants. As of December 31, 2018, we owned 9 limestone quarries located in close proximity to our cement plants and 4 clay quarries in our cement operations in Spain. We estimate that, as of December 31, 2018, the limestone and clay permitted proven and probable reserves of our operations in Spain had an average remaining life of approximately 82 and 32 years, respectively, assuming 2014-2018 average annual cement production levels.

Capital Expenditures. We made capital expenditures of U.S.\$25 million in 2016, U.S.\$29 million in 2017 and U.S.\$26 million in 2018 in our operations in Spain. We currently expect to make capital expenditures of approximately U.S.\$14 million in our operations in Spain during 2019.

Our Operations in Poland

Overview. As of December 31, 2018, CEMEX Polska Sp. Z.O.O. (“CEMEX Polska”) was our main subsidiary in Poland. We are a leading provider of building materials in Poland, serving the cement, ready-mix concrete and aggregates markets. As of December 31, 2018, we operated two cement plants with an installed cement capacity of 3.0 million tons per year and one grinding mill in Poland. As of December 31, 2018, we also operated 41 ready-mix concrete plants (one was temporarily inactive), seven aggregates quarries (one was temporarily inactive) and two marine terminals in Poland. For the year ended December 31, 2018, our operations in Poland represented 2% of our revenues in Mexican Peso terms, before eliminations resulting from consolidation. As of December 31, 2018, our operating business in Poland represented 1% of our total assets.

Industry. According to our estimates, total cement consumption in Poland reached approximately 19.3 million tons in 2018, increasing compared to 2017.

Competition. Our primary competitors in the cement, ready-mix concrete and aggregates markets in Poland are Heidelberg, LafargeHolcim, CRH, Dyckerhoff and Miebach.

Capital Expenditures. We made capital expenditures of U.S.\$10 million in 2016, U.S.\$12 million in 2017 and U.S.\$29 million in 2018 in our operations in Poland. We currently expect to make capital expenditures of approximately U.S.\$25 million in our operations in Poland during 2019.

Our Operations in the Czech Republic

Overview. As of December 31, 2018, CEMEX Czech Republic, s.r.o. was our main subsidiary in the Czech Republic. We are a leading producer of ready-mix concrete and aggregates in the Czech Republic. We also distribute cement in the Czech Republic. As of December 31, 2018, we operated 74 ready-mix concrete plants (three of them were inactive) and 15 aggregates quarries in the Czech Republic. During February 2018, we divested three aggregates quarries in Slovakia. As of that date, we also operated one cement plant with annual cement installed capacity of 1.0 million tons, one cement grinding mill, one cement terminal and one admixtures plant in the Czech Republic. For the year ended December 31, 2018, our operations in the Czech Republic represented 1% of our revenues in Mexican Peso terms, before eliminations resulting from consolidation. As of December 31, 2018, our operating business in the Czech Republic represented 1% of our total assets.

Industry. According to the Czech Statistical Office, total construction output in the Czech Republic increased by approximately 9% in 2018. The increase was driven by an acceleration in the building development

segment and civil engineering. The main drivers behind the increase were private investments in industrial and housing development and the growth was stable throughout 2018. For 2018, the increase in building construction is estimated at 9%, while an increase in civil engineering construction is estimated at 9%. The increase in civil engineering construction was mainly due to public investment activity and reconstruction of highways. According to the Czech Cement Association, total cement consumption in the Czech Republic reached year-over-year growth of 9% in the first half of 2018. Full year growth is estimated around 6%. Specific full-year data for 2018 will be provided by the Czech Cement Association in July 2019 due to limitations imposed by EU competition laws. According to our estimates, in 2018, growth of total ready-mix concrete production is estimated at 6% and growth of the aggregates market in the Czech Republic is estimated at 4.0%.

Competition. Our main competitors in the cement, ready-mix concrete and aggregates markets in the Czech Republic are Heidelberg, Buzzi-Unicem, LafargeHolcim, Strabag and Skanska.

Capital Expenditures. We made capital expenditures of U.S.\$7 million in 2016, U.S.\$8 million in 2017 and U.S.\$9 million in 2018, in our operations in the Czech Republic. We currently expect to make capital expenditures of approximately U.S.\$8 million in our operations in the Czech Republic during 2019.

Rest of Europe

As of December 31, 2018, our operations in the Rest of Europe segment consisted primarily of our operations in Croatia and Latvia, Scandinavia and Finland. These operations represented 2% of our revenues in Mexican Peso terms, before eliminations resulting from consolidation in Mexican Peso terms, for the year ended December 31, 2018, and 2% of our total assets as of December 31, 2018. We currently expect to make capital expenditures of U.S.\$13 million in the Rest of Europe region during 2019.

Our Operations in Croatia

Overview. As of December 31, 2018, we held 100% of CEMEX Hrvatska d.d., our operating subsidiary in Croatia. We were the largest cement producer in Croatia based on installed capacity as of December 31, 2018, according to our estimates. We have three cement plants in Croatia with an annual installed capacity of 2.4 million tons. As of December 31, 2018, one plant in Croatia was temporarily inactive. As of December 31, 2018, we operated 12 land distribution centers, three marine cement terminals in Croatia, Bosnia and Herzegovina and Montenegro, six ready-mix concrete facilities in Croatia and Bosnia and Herzegovina and two aggregates quarries in Croatia.

On April 5, 2017, CEMEX announced that the European Commission issued a decision that ultimately does not allow Duna-Dráva Cement Kft to purchase our aforementioned operations in Croatia. Consequently, the transaction did not close and CEMEX decided to maintain its operations in Croatia and continue to operate them for an indefinite time. As of December 31, 2017 and 2018 and for the years ended December 31, 2016, 2017 and 2018, our operations in Croatia are consolidated line-by-line in the financial statements.

Industry. According to our estimates, total cement consumption in Croatia, Bosnia and Herzegovina and Montenegro reached almost 3.5 million tons in 2018, an increase of 5% compared to 2017.

Competition. Our primary competitors in the cement market in Croatia are Nexe and LafargeHolcim.

Capital Expenditures. There were no capital expenditures made in Croatia in 2016. We made capital expenditures of U.S.\$5 million in 2017 and U.S.\$5 million in 2018 in our operations in Croatia. We currently expect to make capital expenditures of approximately U.S.\$2 million in our operations in Croatia during 2019.

Our Operations in Latvia

Overview. As of December 31, 2018, CEMEX SIA was our operating subsidiary in Latvia. We are the only cement producer and a leading ready-mix concrete producer and supplier in Latvia. From our cement plant in

Latvia we also supply markets mainly in Estonia, Lithuania, Finland and Sweden, among others. As of December 31, 2018, we operated one cement plant in Latvia with an installed cement capacity of 1.6 million tons per year. We also operated six ready-mix concrete plants (one was temporarily inactive) and four aggregates quarries in Latvia. In 2018, we continued to develop in the road construction business by supplying roller-compacted concrete.

Capital Expenditures. In total, we made capital expenditures of U.S.\$7 million in 2016, U.S.\$4 million in 2017 and U.S.\$7 million in 2018 in our operations in Latvia. We currently expect to make capital expenditures of approximately U.S.\$0.1 million in our operations in Latvia during 2019.

Our Equity Investment in Lithuania

Overview. As of December 31, 2018, we owned an interest of 37.8% in Akmenės Cementas AB, a cement producer in Lithuania, which operates one cement plant in Lithuania with an annual installed cement capacity of 1.8 million tons.

Our Operations in Other European Countries

Overview. As of December 31, 2018, we operated 8 marine cement terminals in Norway and Sweden through CEMEX AS, a leading bulk-cement importer in the Nordic region. As of December 31, 2018, we also operated three marine cement terminals in Finland. See “Item 5—Operating and Financial Review and Prospects—Recent Developments—Recent Developments Relating to Our Assets Divestiture Plans” for information on the divestment of these operations.

Capital Expenditures. We made no significant capital expenditures in our operations in other European countries in 2016, 2017 and 2018. We currently do not expect to make any significant capital expenditures in our operations in other European countries during 2019.

South, Central America and the Caribbean

For the year ended December 31, 2018, our business in SCA&C, which includes our operations in Colombia, Panama, Costa Rica, Caribbean TCL, the Dominican Republic and Rest of South, Central America and the Caribbean segments, as described below, represented 12% of our revenues before eliminations resulting from consolidation in Mexican Peso terms. As of December 31, 2018, our operations in SCA&C represented 15% of our total installed capacity and 9% of our total assets.

CLH is the main holding company for CEMEX’s operations in Colombia, Panama, Costa Rica, Guatemala, Nicaragua and El Salvador.

Our Operations in Colombia

Overview. As of December 31, 2018, CLH directly and indirectly owned 99.7% of CEMEX Colombia, our main subsidiary in Colombia. As of December 31, 2018, CEMEX Colombia was the second-largest cement producer in Colombia, based on installed capacity of 4.0 million tons per year as of December 31, 2018. For the year ended December 31, 2018, our operations in Colombia represented 3% of our revenues before eliminations resulting from consolidation in Mexican Peso terms. As of December 31, 2018, our operations in Colombia represented 4% of our total assets.

CEMEX Colombia has a significant market share in the cement and ready-mix concrete market in the “Urban Triangle” of Colombia comprising the cities of Bogotá, Medellín and Cali. During 2018, these three metropolitan areas accounted for approximately 40% of Colombia’s cement consumption. CEMEX Colombia’s Ibagué plant, which uses the dry process and is strategically located in the Urban Triangle, is CEMEX

Colombia's largest plant and had an annual installed capacity of 2.5 million tons as of December 31, 2018. CEMEX Colombia, through its Cúcuta plant and Clemencia grinding facility, is also an active participant in Colombia's northeastern and coastal markets.

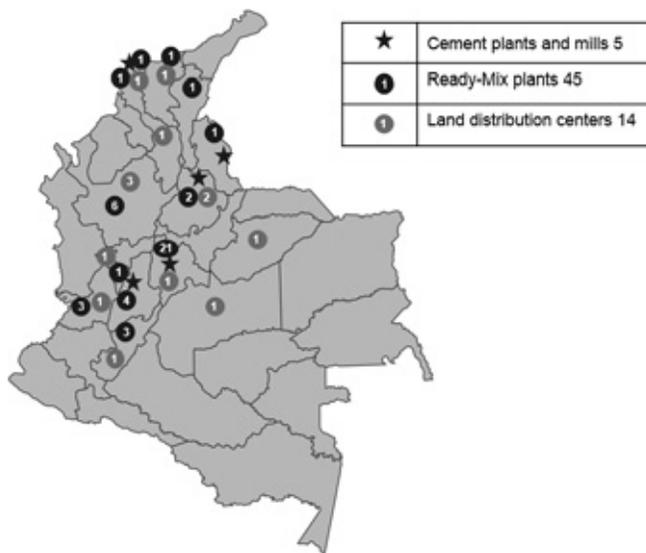
Industry. According to our estimates, the installed capacity for cement in Colombia was 19 million tons in 2018. According to DANE (*Departamento Administrativo Nacional de Estadística*), total cement consumption in Colombia reached 12 million tons during 2018, a decrease of 1% from 2017, while cement exports from Colombia reached 0.4 million tons. We estimate that close to 62% of cement in Colombia is consumed by the housing and self-construction sector, while the infrastructure sector accounts for approximately 27% of total cement consumption and has been growing in recent years. The other construction segments in Colombia, including the formal housing and commercial sectors, account for the balance of cement consumption in Colombia.

Competition. Our two largest competitors in Colombia are Cementos Argos, which has established a leading position in the Colombian Caribbean coast, Antioquia and Southwest region markets, and LafargeHolcim Colombia. There are eight other local and regional competitors.

The ready-mix concrete industry in Colombia is fairly consolidated with the top three producers accounting for approximately 72% of the market as of December 31, 2018. CEMEX Colombia was the second-largest ready-mix concrete producer as of December 31, 2018. The first and third-largest producers were Cementos Argos and LafargeHolcim Colombia, respectively.

The aggregates market in Colombia is highly fragmented and is dominated by the informal market. Approximately 80% of the aggregates market in Colombia was comprised of small independent producers as of December 31, 2018.

Our Operating Network in Colombia





Products and Distribution Channels

Cement. For the year ended December 31, 2018, our cement operations represented 51% of revenues for our operations in Colombia before eliminations resulting from consolidation in Mexican Peso terms.

Ready-Mix Concrete. For the year ended December 31, 2018, our ready-mix concrete operations represented 27% of revenues for our operations in Colombia before eliminations resulting from consolidation in Mexican Peso terms.

Aggregates. For the year ended December 31, 2018, our aggregates operations represented 8% of revenues for our operations in Colombia before eliminations resulting from consolidation in Mexican Peso terms.

Description of Properties, Plants and Equipment. As of December 31, 2018, CEMEX Colombia owned two operating cement plants and three mills, having a total annual installed capacity of 4.0 million tons. In addition, through its grinding mills, CEMEX Colombia could produce 0.5 million tons of cement sourced by third parties. In 2018, we replaced 18% of our total fuel consumed in CEMEX Colombia with alternative fuels, and we had an internal electricity generating capacity of approximately 37 MW as of December 31, 2018. We estimate that, as of December 31, 2018, the limestone and clay permitted proven and probable reserves of our operations in Colombia had an average remaining life of approximately 67 and 100 years, respectively, assuming 2014-2018 average annual cement production levels. The operating licenses for quarries in Colombia are renewed every 30 years; assuming renewal of such licenses, we estimate having sufficient limestone reserves for our operations in Colombia for over 200 years assuming 2014-2018 average annual cement production levels. As of December 31, 2018, CEMEX Colombia operated 14 land distribution centers, two mortar plants, 52 ready-mix concrete plants (seven were temporarily inactive) and ten aggregates operations (nine were temporarily inactive). As of that date, CEMEX Colombia also owned 18 limestone quarries.

CEMEX Colombia is also building a new cement plant in the Antioquia department of the Municipality of Maceo, Colombia. See “Item 4—Information on the Company—Regulatory Matters and Legal Proceedings” and “Item 5—Operating and Financial Review and Prospects—Recent Developments—Recent Developments Relating to our Regulatory Matters and Legal Proceedings” for the status of that project.

Capital Expenditures. We made capital expenditures of U.S.\$180 million in 2016, U.S.\$62 million in 2017 and U.S.\$22 million in 2018 in our operations in Colombia. We currently expect to make capital expenditures of approximately U.S.\$22 million in our operations in Colombia during 2019.

Our Operations in Panama

Overview. As of December 31, 2018, CLH indirectly held a 99.48% interest in Cemento Bayano, S.A. (“Cemento Bayano”), our main subsidiary in Panama and a leading cement producer in the country. For the year ended December 31, 2018, our operations in Panama represented 2% of our revenues before eliminations resulting from consolidation in Mexican Peso terms.

Industry. We estimate that approximately 1.8 million cubic meters of ready-mix concrete were sold in Panama during 2018. Cement consumption in Panama decreased 13% in 2018 compared to 2017, mainly due to a slowdown in the execution of infrastructure projects, high level inventories in residential and commercial units and a one-month labor strike in the construction sector during the months of April and May.

Competition. The cement industry in Panama includes three cement producers: Cemento Bayano, Argos Panamá, an affiliate of Cementos Argos, and Cemento Interoceánico, a company in which we are a minority shareholder.

Description of Properties, Plants and Equipment. As of December 31, 2018, Cemento Bayano operated one cement plant in Panama, with an annual installed capacity of 2.1 million tons of cement. As of that date, Cemento Bayano also owned and operated 10 ready-mix concrete plants (one was temporarily inactive), three aggregates quarries (all of which are currently inactive) and four land distribution centers.

Capital Expenditures. We made capital expenditures of U.S.\$7 million in 2016, U.S.\$8 million in 2017 and U.S.\$12 million in 2018 in our operations in Panama. We currently expect to make capital expenditures of approximately U.S.\$9 million in our operations in Panama during 2019.

Our Operations in Costa Rica

Overview. As of December 31, 2018, CEMEX Colombia, a CLH subsidiary, indirectly held a 99.1% interest in CEMEX (Costa Rica), S.A. (“CEMEX Costa Rica”), our main operating subsidiary in Costa Rica and a leading cement producer in the country. For the year ended December 31, 2018, our operations in Costa Rica represented 1% of our revenues before eliminations resulting from consolidation in Mexican Peso terms.

During 2015, a total of U.S.\$5 million were invested as part of a program to increase the overall capacity in the Colorado de Abangares plant, allowing a 10% throughput increase that catered to the needs of our operations in Nicaragua during 2016. Since the expansion, Colorado Plant’s kiln has been operating at the expected capacity with an operational efficiency above 97%. The majority of our operational requirements in Nicaragua have been consistently provided from our operations in Costa Rica.

Industry. We estimate that approximately 1.3 million tons of cement were sold in Costa Rica during 2018. In 2018, the market had an estimated ratio of 50/50 in the bulk/bagged mix due to traditional building techniques in the housing segment, which require bagged cement and industrial-and-commercial demand ready mix which requires bulk.

Competition. The Costa Rican cement industry currently includes three producers, CEMEX Costa Rica and LafargeHolcim Costa Rica, both of which have integrated lines, and Fortaleza, which started a cement mill during June 2018 which imports clinker from different sources. Further, in 2018, an estimated 1,300 tons of cement was imported by Holcim due to operational problems and 800 tons of special cement was imported by Costa Rican Institute of Electricity.

Description of Properties, Plants and Equipment. As of December 31, 2018, CEMEX Costa Rica operated one cement plant and one grinding mill in Costa Rica, with a total annual installed capacity of 0.9 million tons. As of that date, CEMEX Costa Rica had seven operational ready-mix concrete plants, one aggregates quarry and one land distribution center.

Exports. During 2018, clinker exports by our operations in Costa Rica represented approximately 24% of our total production and were made to our operations in Nicaragua.

Capital Expenditures. We made capital expenditures of U.S.\$4 million in 2016, U.S.\$2 million in 2017 and U.S.\$3 million in 2018 in our operations in Costa Rica. We currently expect to make capital expenditures of approximately U.S.\$3 million in our operations in Costa Rica during 2019.

Our Operations in Caribbean TCL

During 2017, Sierra, pursuant to the Offer, acquired 113,629,723 ordinary shares of TCL, which, together with Sierra's existing ownership of TCL of 39.5%, resulted in Sierra holding 69.83% of the outstanding TCL shares as of December 31, 2017. The total consideration paid by Sierra for the TCL shares was U.S.\$86 million (Ps1,791 million). We started consolidating TCL and its subsidiaries for financial reporting purposes on February 1, 2017. In March 2017, TCL de-listed from the Jamaica and Barbados stock exchanges.

As of December 31, 2018, Caribbean TCL was the leading producer and marketer of cement and ready-mix concrete products in the Caribbean's construction sector, with operations strategically located in Jamaica, Trinidad and Tobago, Guyana and Barbados.

Our focus with respect to Caribbean TCL will continue on attempting to maximize synergies from TCL's integration with us. We intend on improving the productivity and capacity of our Caribbean TCL's cement plants, on continuing the vertical integration of TCL's business, on investing in developing its employees and by offering strong value products.

Our Operations in Trinidad & Tobago

Description of Properties, Plants and Equipment. As of December 31, 2018, TCL operated one cement plant in Trinidad & Tobago, with a total annual installed capacity of 0.9 million tons. As of that date, TCL had five operational ready-mix concrete plants (one was temporarily inactive), two aggregates quarries and four land distribution centers.

Capital Expenditures. We made capital expenditures of U.S.\$9 million in 2017 and U.S.\$6 million in 2018 in Trinidad & Tobago. We currently expect to make capital expenditures of U.S.\$5 million during 2019.

Our TCL Operations in Jamaica

Overview. As of December 31, 2018, we held an indirect controlling position mainly through TCL in CCCL in Jamaica ("Jamaica TCL").

Description of Properties, Plants and Equipment. As of December 31, 2018, CCCL operated one cement plant in Jamaica, with a total annual installed capacity of 1.2 million tons. As of that date, CCCL had one aggregate quarry and three land distribution centers.

Capital Expenditures. We made capital expenditures of U.S.\$17 million in 2017 and U.S.\$14 million in 2018 in CCCL. We currently expect to make capital expenditures of approximately U.S.\$9 million in our operations in CCCL during 2019.

Our Operations in Barbados

Overview. As of December 31, 2018, we held an indirect controlling position in Arawak in Barbados.

Description of Properties, Plants and Equipment. As of December 31, 2018, Arawak operated one cement plant in Barbados, with a total annual installed capacity of 0.4 million tons. As of that date, Arawak had one ready-mix concrete plant (temporarily inactive) and one land distribution center.

Capital Expenditures. We made capital expenditures of U.S.\$5 million in 2017 and U.S.\$7 million in 2018 in Barbados. We currently expect to make capital expenditures of approximately U.S.\$2 million in our operations in Barbados during 2019.

Our Operations in the Dominican Republic

Overview. As of December 31, 2018, CEMEX Dominicana, S.A. (“CEMEX Dominicana”) was our main subsidiary in the Dominican Republic and a leading cement producer in the country. CEMEX Dominicana’s sales network covers the country’s main consumption areas, which are Santo Domingo, Santiago de los Caballeros, La Vega, San Pedro de Macorís, Samaná and La Altagracia. On May 8, 2000, CEMEX Dominicana entered into a lease agreement with the government of the Dominican Republic related to the exploitation of a gypsum mine located at Las Salinas, Barahona, which has enabled CEMEX Dominicana to supply all local and regional gypsum requirements. The lease agreement expires on May 8, 2025 and may be extended by the parties. For the year ended December 31, 2018, our operations in the Dominican Republic represented 1% of our revenues before eliminations resulting from consolidation in Mexican Peso terms. As of December 31, 2018, our operations in the Dominican Republic represented 1% of our total assets.

Industry. In 2018, cement consumption in the Dominican Republic reached 4.4 million tons according to *Asociación Dominicana de Productores de Cemento Portland (ADOCEM)*.

Competition. Our principal competitors in the Dominican Republic are: Cementos Cibao, a local competitor; Domicem, a mixed Italian/local cement producer; Cementos Argos, a grinding operation of a Colombian cement producer; Cementos Santo Domingo, a cement grinding partnership between a local investor and Cementos La Union from Spain; Cementos Panam, a local cement producer; and Cementos Andino, a grinding operation; and a partially-constructed cement kiln of a Colombian cement producer.

Description of Properties, Plants and Equipment. As of December 31, 2018, CEMEX Dominicana operated one cement plant in the Dominican Republic, with an installed capacity of 2.6 million tons per year. As of that date, CEMEX Dominicana also owned eight ready-mix concrete plants, one aggregates quarry, two land distribution centers and two marine terminals.

Capital Expenditures. We made capital expenditures of U.S.\$9 million in 2016, U.S.\$9 million in 2017 and U.S.\$8 million in 2018 in our operations in the Dominican Republic. We currently expect to make capital expenditures of approximately U.S.\$8 million in our operations in the Dominican Republic during 2019.

Rest of South, Central America and the Caribbean

As of December 31, 2018, our operations in the Rest of South, Central America and the Caribbean segment consisted primarily of our operations in Puerto Rico, Guatemala, Nicaragua and other countries in the Caribbean, excluding our Caribbean TCL segment. These operations represented 3% of our revenues, in Mexican Peso terms, before eliminations resulting from consolidation. As of December 31, 2018, our business in the Rest of South, Central America and the Caribbean segment represented 1% of our total assets. We currently expect to make capital expenditures of U.S.\$18 million in our operations in the Rest of South, Central America and the Caribbean region during 2019.

Our Operations in Puerto Rico

Overview. As of December 31, 2018, CEMEX de Puerto Rico, Inc. (“CEMEX Puerto Rico”) was our main subsidiary in Puerto Rico.

Industry. In 2018, cement consumption in Puerto Rico reached 0.6 million tons according to the Puerto Rico Economic Development Bank.

Competition. The cement industry in Puerto Rico in 2018 was comprised of two cement producers: CEMEX Puerto Rico and Cementos Argos (formerly Antilles Cement Co (Marine Terminal) and, our new acquisition, San Juan Cement Co (Cement Plant)).

Description of Properties, Plants and Equipment. As of December 31, 2018, CEMEX Puerto Rico operated one cement plant with an installed cement capacity of approximately 1.2 million tons per year (currently operating as a grinding mill only). As of that date, CEMEX Puerto Rico also owned 14 ready-mix concrete plants (10 were temporarily inactive and two were leased to third parties) and two land distribution centers (one was temporarily inactive). As of that date, CEMEX Puerto Rico also owned an aggregates quarry, which is currently closed, and one marine terminal used for fly ash.

Capital Expenditures. We made capital expenditures of U.S.\$2 million in 2016, U.S.\$1 million in 2017 and U.S.\$1 million in 2018 in our operations in Puerto Rico. We currently expect to make capital expenditures of approximately U.S.\$3 million in our operations in Puerto Rico during 2019.

Our Operations in Nicaragua

Overview. As of December 31, 2018, CEMEX Colombia and CEMEX Costa Rica, both CLH subsidiaries, indirectly and directly owned 100% of CEMEX Nicaragua, S.A. (“CEMEX Nicaragua”), our operating subsidiary in Nicaragua.

Industry. We estimate that approximately 0.9 million tons of cement, approximately 0.2 million cubic meters of ready-mix concrete and approximately 4.5 million tons of aggregates were sold in Nicaragua during 2018.

Competition. Two market participants compete in the Nicaraguan cement industry, CEMEX and LafargeHolcim.

Description of Properties, Plants and Equipment. As of December 31, 2018, we leased and operated one fixed cement plant and one grinding mill with a total installed capacity of 0.6 million tons, six ready-mix concrete plants (three were temporarily inactive) and two distribution centers in Nicaragua. Since March 2003, CEMEX Nicaragua has also leased a 100,000 ton milling plant in Managua, which has been used exclusively for pet coke milling.

Capital Expenditures. We made capital expenditures of U.S.\$3 million in 2016, U.S.\$6 million in 2017 and U.S.\$6 million in 2018 in our operations in Nicaragua. We currently expect to make capital expenditures of approximately U.S.\$4 million in our operations in Nicaragua during 2019.

Our Operations in Guatemala

Overview. As of December 31, 2018, CLH indirectly owned 100% of CEMEX Guatemala, our main operating subsidiary in Guatemala. As of December 31, 2018, we owned and operated one cement grinding mill in Guatemala with an installed capacity of 0.5 million tons per year. As of that date, we also owned and operated five land distribution centers, one clinker dome close to the marine terminal in the southern part of the country and three ready-mix concrete plants.

Capital Expenditures. We made capital expenditures of U.S.\$6 million in 2016, U.S.\$2 million in 2017 and U.S.\$2 million in 2018 in Guatemala. We currently expect to make capital expenditures of approximately U.S.\$2 million in our operations in Guatemala during 2019.

Our Operations in Other Rest of South, Central American and Caribbean Countries

Overview. As of December 31, 2018, CEMEX España indirectly held 100% of CEMEX Argentina, S.A., which owned one ready-mix concrete plant in Argentina, however, this plant ceased operations in May 2018. The

remaining assets were sold in July 2018 and the company is currently under a liquidation process. We also held a non-controlling position in National Cement Ltd. in the Cayman Islands, Maxcem Bermuda Ltd. in Bermuda and Societe des Ciments Antillais, a company with cement operations in Guadalupe and Martinique. As of December 31, 2018, CEMEX España additionally indirectly held a 100% interest in CEMEX Jamaica Limited, which operates one calcined lime plant in Jamaica with a capacity of approximately 120,000 tons per year and one hydrate line with a capacity of approximately 4,800 tons per year.

We believe that the Caribbean region holds considerable strategic importance because of its geographic location. As of December 31, 2018, we operated a network of nine marine terminals in the Caribbean region, which facilitated exports from our operations in several countries, including Mexico, the Dominican Republic, Puerto Rico and the United States. Three of our marine terminals are located in the main cities of Haiti, three are in the Bahamas, and until September 2018, we also operated a terminal in Manaus, Brazil, which was divested generating proceeds of U.S.\$31 million, which were used to reduce debt. As of December 31, 2018, we also had a non-controlling interest in two other terminals, one in Bermuda and the other in the Cayman Islands.

Capital Expenditures. In our operations in SCA&C, we made capital expenditures of U.S.\$1 million in 2016, U.S.\$1 million in 2017 and U.S.\$1 million in 2018. We currently expect to make capital expenditures of U.S.\$1 million in our operations in other SCA&C countries during 2019.

Asia, Middle East and Africa

For the year ended December 31, 2018, our business in Asia, Middle East and Africa, which includes our operations in the Philippines, Egypt, Israel and the Rest of Asia, Middle East and Africa segment, as described below, represented 10% of our revenues before eliminations resulting from consolidation in Mexican Peso terms. As of December 31, 2018, our operations in Asia represented 11% of our total installed capacity and 6% of our total assets.

Our Operations in the Philippines

Overview. As of December 31, 2018, on a consolidated basis through various subsidiaries, CEMEX, S.A.B. de C.V. held indirectly 100% of CASE, which in turn owned 55% of the outstanding share capital of CHP. As of December 31, 2018, CHP directly and indirectly owned 100% of our two operating subsidiaries in the Philippines, Solid Cement Corporation (“Solid Cement”) and APO Cement Corporation (“APO”). For the year ended December 31, 2018, our operations in the Philippines represented 3% of our revenues before eliminations resulting from consolidation in Mexican Peso terms. As of December 31, 2018, our operations in the Philippines represented 2% of our total assets.

CHP is investing in a new 1.5 million ton integrated cement production line at CEMEX’s Solid Cement plant in Luzon with an estimated investment of approximately U.S.\$234 million. Upon completion, this new line should double the capacity of the Solid Cement plant and will represent a 27% increase in our cement capacity in the Philippines. In December 2017, the Department of Environment and Natural Resources issued an environmental compliance certificate to CHP that covers the new line. The new line is estimated to start operations by the last quarter of 2020.

Competition. As of December 31, 2018, our major competitors in the Philippine cement market were LafargeHolcim, Republic, Eagle, Northern, Goodfound, Taiheiyo and Mabuhay.

Description of Properties, Plants and Equipment. As of December 31, 2018, our operations in the Philippines included two cement plants with an annual installed capacity of 4.5 million tons, exclusive access to two quarries to supply raw materials to our cement plants, 23 land distribution centers and five marine distribution terminals. We estimate that, as of December 31, 2018, the limestone and clay permitted proven and probable reserves accessed by our operations in the Philippines had an average remaining life of approximately 38 and 13 years, respectively, assuming 2014-2018 average annual cement production levels.

Cement. For the year ended December 31, 2018, our cement operations represented 99% of revenues for our operations in the Philippines before eliminations resulting from consolidation in Mexican Peso terms.

Capital Expenditures. We made capital expenditures of U.S.\$22 million in 2016, U.S.\$28 million in 2017 and U.S.\$28 million in 2018 in our operations in the Philippines. We currently expect to make capital expenditures of approximately U.S.\$152 million in our operations in the Philippines during 2019.

Our Operations in Egypt

Overview. As of December 31, 2018, ACC was our main subsidiary in Egypt. As of December 31, 2018, we operated one cement plant in Egypt with an annual installed capacity of approximately 5.4 million tons. This plant is located approximately 280 miles south of Cairo and serves the upper Nile region of Egypt, as well as Cairo and the delta region, Egypt's main cement market. We estimate that, as of December 31, 2018, the limestone and clay permitted proven and probable reserves of our operations in Egypt had an average remaining life of approximately 56 and 60 years, respectively, assuming 2014-2018 average annual cement production levels. In addition, as of December 31, 2018, we operated seven ready-mix concrete plants (one was temporarily inactive), of which four are owned and three are under management contracts, and eight land distribution centers in Egypt. For the year ended December 31, 2018, our operations in Egypt represented 2% of our revenues before eliminations resulting from consolidation in Mexican Peso terms and 1% of our total assets. See "Item 4—Information on the Company—Regulatory Matters and Legal Proceedings—Other Legal Proceedings—Egypt Share Purchase Agreement" for a description of certain legal proceedings relating to the share purchase agreement, signed in November 1999 between CEMEX, S.A.B. de C.V. and state-owned Metallurgical Industries Company, pursuant to which CEMEX, S.A.B. de C.V. acquired a controlling interest in ACC.

Industry. According to the Ministry of Investment official figures and CEMEX's estimates, based on government data (local and imported cement), the Egyptian market consumed approximately 51.2 million tons of cement during 2018. Cement consumption decreased by approximately 5% in 2018 compared to 2017, which was mainly attributed to an overall decline in consumers' disposable income driven by lower purchasing power, ongoing removal of subsidies and high interest rates, all of which impact the construction and cement sectors. As of December 31, 2018, the cement industry in Egypt had a total of 18 cement producers, with an aggregate annual installed cement production capacity of approximately 89 million tons.

Competition. According to the Ministry of Investment official figures, during 2018, LafargeHolcim (Egyptian Cement Company), CEMEX (ACC) and Heidelberg (Suez Cement, Torah Cement and Helwan Portland Cement) were three of the largest cement producers in the world and represented approximately 35% of the total cement production in Egypt. Other significant competitors in Egypt are Arabian (La Union), Titan (Alexandria Portland Cement and BeniSuef Cement), Amreyah (InterCement), National, Sinai (Vicat), Sinai White cement (Cementir), South Valley, Nile Valley, El Sewedy, Army Cement (Arish Cement), Aswan Medcom, Misr BeniSuef, Al Nahda and Misr Quena Cement Companies, Building Materials Industries Co. ASEC Cement, Egyptian Cement (El Masreyeen), Shoura Cement and Egyptian Kuwait Holding Company.

Cement and Ready-Mix Concrete. For the year ended December 31, 2018, cement represented 84% and ready-mix concrete represented 11% of revenues for our operations in Egypt before eliminations resulting from consolidation in Mexican Peso terms.

Capital Expenditures. We made capital expenditures of U.S.\$20 million in 2016, U.S.\$22 million in 2017 and U.S.\$9 million in 2018 in our operations in Egypt. We currently expect to make capital expenditures of approximately U.S.\$10 million in our operations in Egypt during 2019.

Our Operations in Israel

Overview. As of December 31, 2018, CEMEX Holdings (Israel) Ltd. was our subsidiary in Israel. We are a leading producer and supplier of raw materials for the construction industry in Israel. In addition to ready-mix

concrete and aggregates, we produce a diverse range of building materials and infrastructure products in Israel. As of December 31, 2018, we operated 64 ready-mix concrete plants, six aggregates quarries, one sand pit, one concrete products plant, one admixtures plant and one lime factory in Israel. For the year ended December 31, 2018, our operations in Israel represented 4% of our revenues before eliminations resulting from consolidation in Mexican Peso terms and 2% of our total assets.

Capital Expenditures. We made capital expenditures of U.S.\$16 million in 2016, U.S.\$21 million in 2017 and U.S.\$21 million in 2018 in our operations in Israel. We currently expect to make capital expenditures of U.S.\$19 million in our operations in Israel during 2019.

Rest of Asia, Middle East and Africa

As of December 31, 2018, our operations in the Rest of Asia, Middle East and Africa consisted primarily of our operations in the UAE. These operations represented 1% of our revenues in Mexican Peso terms, before eliminations resulting from consolidation in Mexican Peso terms, for the year ended December 31, 2018, and 1% of our total assets as of December 31, 2018. We currently expect to make capital expenditures of U.S.\$9 million in our operations of the Rest of Asia, Middle East and Africa during 2019.

Our Operations in the UAE

Overview. As of December 31, 2018, we held a 49% equity interest (and 100% economic interest) in three of our main UAE companies: CEMEX Topmix LLC and CEMEX Supermix LLC, two ready-mix concrete manufacturing companies, and CEMEX Falcon LLC, which specializes in the production of cement and slag, as well as in other companies in the country. We are not allowed to have a controlling interest in these companies (UAE Commercial Companies Law requires 51% ownership by UAE nationals). However, through agreements with other shareholders in these companies, we have control over the remaining 51% of the economic benefits in each of the companies. As a result, we own a 100% economic interest in all three companies. We also held a 100% equity stake in CEMEX Arabia FZC, a company dedicated to trading activities (100% ownership is possible as it is in a free zone). As of December 31, 2018, we owned eight ready-mix concrete plants (one was temporarily inactive) and one cement and slag grinding facility in the UAE, serving the markets of Dubai and Abu Dhabi as well as neighboring countries such as Oman.

Capital Expenditures. We made capital expenditures of U.S.\$4 million in 2016, U.S.\$3 million in 2017 and U.S.\$5 million in 2018 in our operations in the UAE. We currently expect to make capital expenditures of U.S.\$6 million in our operations in the UAE during 2019.

Sale of our Operations in Rest of Asia, Middle East and Africa

On May 26, 2016, we closed the sale of our operations in Bangladesh and Thailand to SIAM Cement for U.S.\$70 million (Ps1,450 million). In June 2017, we divested our concrete operations in Malaysia through a management buy-out for U.S.\$4.6 million. The proceeds from each of these transactions were used mainly for debt reduction and for general corporate purposes.

Our Trading Operations

In 2018, we traded 12.4 million tons of cementitious and non-cementitious materials in 102 countries, including 10.2 million tons of cement and clinker. Slightly more than 5.7 million tons of the traded cement and clinker consisted of exports from our operations in Spain, Croatia, Mexico, Germany, Latvia, the Dominican Republic, Costa Rica, Trinidad, Barbados, Puerto Rico, Jamaica, Poland, Nicaragua, the Czech Republic, Philippines, Guatemala and the UAE. Slightly above 4.4 million tons remaining were purchased from third parties in countries such as Spain, Taiwan, Turkey, Canada, Thailand, Portugal and Vietnam. In 2018, we traded 1.3 million tons of granulated blast furnace slag, a non-clinker cementitious material, and 0.9 million tons of other products.

Our trading network enables us to maximize the capacity utilization of our facilities worldwide while reducing our exposure to the inherent cyclicality of the cement industry. We are able to distribute excess capacity to regions around the world where there is demand. In addition, our worldwide network of strategically located marine terminals allows us to coordinate maritime logistics on a global basis and minimize transportation expenses. Our trading operations also enable us to explore new markets without significant initial capital expenditure.

Freight rates, which account for a large share of the total import supply cost, have been subject to significant volatility in recent years. Our trading operations, however, have obtained significant savings by contracting maritime transportation in due time and by using our own and chartered fleets, which transported approximately 62% of our cement and clinker traded volume during 2018.

In addition, based on our spare fleet capacity, we provide freight service to third parties, thus providing us with valuable shipping market information and generating additional revenues.

Our Cement Plants

The following table provides a summary of our cement plants, including location, used capacity, grinding mill production and years of operation as of and for the year ended December 31, 2018:

<u>Location</u>	<u>Used Capacity</u>	<u>Years of Operation⁽¹⁾</u>
Atotonilco, Hidalgo, México	534	60
Barrientos, Estado de México, México	886	74
Ensenada, Baja California, México	470	43
Guadalajara, Jalisco, México	902	45
CPN, Sonora, México	0	38
Hidalgo, Nuevo León, México	60	113
Huichapan, Hidalgo, México	3,425	34
Mérida, Yucatán, México	876	65
Monterrey, Nuevo León, México	1,692	99
Tamuín, San Luis Potosí, México	1,591	54
Tepeaca, Puebla, México	2,840	24
Torreón, Coahuila, México	1,113	52
Valles, San Luis Potosí, México	344	53
Yaqui, Sonora, México	2,323	29
Zapotiltic, Jalisco, México	1,449	51
Balcones, TX, United States	1,974	38
Brooksville, FL (North), United States	0	43
Brooksville, FL (South), United States	1,431	31
Clinchfield, GA, United States	637	44
Demopolis, AL, United States	620	41
Knoxville, TN, United States	579	39
Kosmosdale/Louisville, KY, United States	1,317	18
Miami, FL, United States	1,058	60
Lyons, CO, United States	322	38
Victorville, CA, United States	2,814	53
Wampum, PA, United States	0	53
Rugby, United Kingdom	1,183	19
Ferriby, United Kingdom	351	52
Rudersdorf, Germany	1,977	53
Alcanar, Spain	534	50
Buñol, Spain	448	51
Castillejo, Spain	469	107
Lloseta, Spain	299	51
Morata, Spain	419	86
San Vicente, Spain	437	43
Gador, Spain	302	42
Chelm, Poland	1,509	58
Rudniki, Poland	694	53
Broceni, Latvia	1,083	9
Prachovice, Czech Republic	788	64
Kolovoz, Croatia	12	110
Juraj, Croatia	1,074	106
Kajo, Croatia	173	114
Cúcuta, Colombia	225	35
Ibagué, Colombia	2,427	26
Calzada Larga, Panama	694	41
Colorado de Abangares, Costa Rica	570	39
Claxton Bay, Trinidad y Tobago	665	65
Rockport, Jamaica	788	67
St. Lucy, Barbados	238	35
San Pedro de Macoris, Dominican Republic	1,876	28
San Rafael del Sur, Nicaragua ⁽²⁾	350	76
Ponce, Puerto Rico	293	28
APO, Philippines	3,483	20
Solid Cement, Philippines	1,752	25
Assiut, Egypt	4,485	32

(1) Approximate.

(2) Leased.

For the aggregate installed cement production capacity of our cement plants by region, see “Item 4—Information on the Company—Business Overview.”

We have insurance coverage for our cement plants, which we believe is adequate and sufficient, in line with industry practices. However, in some instances our insurance coverage may not be sufficient to cover all of our potential unforeseen losses and liabilities. In addition, our insurance coverage may not cover all the risks to which our cement plants may be exposed. See “Item 3—Key Information—Risk Factors—Risks Relating to Our Business—Our insurance coverage may not cover all the risks to which we may be exposed.”

Regulatory Matters and Legal Proceedings

A description of material regulatory matters and legal proceedings affecting CEMEX, S.A.B. de C.V. and its consolidated subsidiaries (“us” or “our”) is provided below. Materiality is tested at a CEMEX, S.A.B. de C.V. consolidated level.

Antitrust Proceedings

Polish Antitrust Investigation

On January 2, 2007, CEMEX Polska received a notification from the Polish Competition and Consumer Protection Office (the “Protection Office”) informing it of the formal initiation of an antitrust proceeding against all cement producers in Poland, including CEMEX Polska and another of our indirect subsidiaries in Poland. The notification alleged that there was an agreement between all cement producers in Poland regarding prices and other sales conditions for cement, an agreed division of the market with respect to the sale and production of cement, and the exchange of confidential information, all of which limited competition in the Polish market with respect to the production and sale of cement. On December 9, 2009, the Protection Office delivered to CEMEX Polska its decision against Polish cement producers related to an investigation which covered a period from 1998 to 2006. The decision imposed fines on a number of Polish cement producers, including CEMEX Polska. The fine imposed on CEMEX Polska was Polish Zloty 115.56 million (U.S.\$30.79 million as of December 31, 2018, based on an exchange rate of Polish Zloty 3.7526 to U.S.\$1.00), which is 10% of CEMEX Polska’s total revenue in 2008. CEMEX Polska disagreed with the decision, denied that it committed the practices alleged by the Protection Office and, therefore, on December 23, 2009, CEMEX Polska filed an appeal before the Polish Court of Competition and Consumer Protection in Warsaw (the “First Instance Court”). After a series of hearings, on December 13, 2013, the First Instance Court issued its judgment in regards to the appeals filed by CEMEX Polska and other cement producers, which were previously combined into a joint appeal. The First Instance Court reduced the penalty imposed on CEMEX Polska to Polish Zloty 93.89 million (U.S.\$25.02 million as of December 31, 2018 based on an exchange rate of Polish Zloty 3.7526 to U.S.\$1.00), which was equal to 8.125% of CEMEX Polska’s revenue in 2008. On May 8, 2014, CEMEX Polska filed an appeal against the First Instance Court judgment before the Appeals Court in Warsaw. On March 27, 2018, after several hearings in the Appeals Court, the Appeals Court issued its final judgment reducing the fine imposed upon CEMEX Polska to Polish Zloty 69.4 million (U.S.\$18.49 million as of December 31, 2018 based on an exchange rate of Polish Zloty 3.7526 to U.S.\$1.00). This fine, which was equal to 6% of CEMEX Polska’s revenue in 2008, was paid. On November 19, 2018, CEMEX Polska filed before the Polish Supreme Court an extraordinary, narrow-based cassation appeal against the Appeal Court’s judgment specifically seeking the reduction of the imposed fine. As of December 31, 2018, CEMEX Polska expects that, during the first half of 2019, the Polish Supreme Court will issue a decision regarding acceptance of the cassation appeal for its review. As of December 31, 2018, we do not expect that a final adverse resolution to this matter would have a material adverse impact on our results of operations, liquidity and financial condition.

Antitrust Investigation in Spain by the CNMC

On September 16 and 17, 2014, the Competition Directorate (*Dirección de Competencia*) of the Spanish National Commission of Markets and Competition (*Comisión Nacional de los Mercados y la Competencia*)

(“CNMC”), in the context of an investigation of the Spanish cement, ready-mix concrete and related products industry regarding alleged anticompetitive practices, inspected one of our facilities in Spain. On January 12, 2015, CEMEX España Operaciones was notified of the initiation by the CNMC of a disciplinary proceeding for alleged prohibited conducts pursuant to Article 1 of the Spanish Competition Law (*Ley 15/2007, de 3 de Julio, de Defensa de la Competencia*). On November 19, 2015, CEMEX España Operaciones was notified that the alleged anticompetitive practices covered the year 2013 for the cement market and the years 2008, 2009, 2012, 2013 and 2014 for the ready-mix concrete market. On March 8, 2016, the Competition Directorate (*Dirección de Competencia*) notified CEMEX España Operaciones of a resolution proposal (*propuesta de resolución*) which considers that the alleged anti-competitive practices were carried out in the markets and years previously indicated. Thereafter, CEMEX España Operaciones submitted allegations rejecting the resolution proposal. On September 8, 2016, CEMEX España Operaciones was notified of a decision issued by the CNMC pursuant to which CEMEX España Operaciones has been required to pay a fine of €5,865,480 (U.S.\$6.72 million as of December 31, 2018, based on an exchange rate of €0.8727 to U.S.\$1.00). On November 7, 2016, CEMEX España Operaciones filed an appeal before the National Court (*Audiencia Nacional*) against the CNMC’s decision. The National Court has been requested to suspend the sanction, and, by a resolution issued on December 22, 2016, the National Court granted the requested suspension, subject to the issuance of a bank guarantee for the principal amount of the sanction. The CNMC has been notified of both the interposition of the appeal and the request for suspension. As of December 31, 2018, we do not expect that a final adverse resolution to this matter would have a material adverse impact on our results of operations, liquidity and financial condition.

Antitrust Case in Georgia and South Carolina

On July 24, 2017, two ready-mix concrete producers filed a lawsuit in a United States Federal Court in the state of Georgia against certain subsidiaries of CEMEX in the United States and other companies alleging customer allocation and price fixing in both the ready-mix concrete and cement markets in the coastal Georgia and southeastern coastal South Carolina areas. As CEMEX does not participate in the ready-mix concrete market in these areas, the lawsuit does not allege any improper actions by CEMEX with respect to ready-mix concrete. On October 2, 2017, we filed a motion to dismiss the lawsuit. This motion to dismiss was denied on August 21, 2018, and, as a result, CEMEX will continue to defend the allegations in the ongoing proceedings with its answer filed at the end of October 2018. As of December 31, 2018, we are not able to assess with certainty the likelihood of an adverse result in this lawsuit, but we believe a final adverse resolution to this lawsuit is not probable; however, if adversely resolved, we do not expect such adverse resolution to have a material adverse impact on our results of operations, liquidity and financial condition.

United States and its Territories Department of Justice Grand Jury Subpoena

Certain of our United States subsidiaries were notified of a grand jury subpoena dated March 29, 2018 issued by the DOJ in connection with an investigation into possible antitrust law violations in connection with our sales (and related sales practices) of gray portland cement and slag in the United States and its territories. This subpoena does not mean that the DOJ has concluded that we or any of our affiliates or employees have violated the law. The grand jury subpoena is intended to gather facts necessary to make an informed decision about whether violations of United States law have occurred. As of December 31, 2018, we are cooperating with the DOJ and intend to comply with the subpoena. As of December 31, 2018, given the early stages of the investigation, we are not able to assess if this investigation will lead to any fines, penalties or remedies against us, or if such fines, penalties or remedies, if any, would have a material adverse effect on our results of operations, liquidity or financial condition.

Antitrust Investigation in Panama

On June 12, 2018, the Authority for Consumer Protection and Competition Defense of Panama (the “Panama Authority”) carried out a discovery procedure within the context of an administrative investigation *ex officio* against CEMEX and other competitors for the alleged commission of absolute and relative monopolistic

practices in relation to the gray concrete and the ready-mix concrete markets. Pursuant to the administrative investigation, the Panama Authority determined that there were sufficient elements to serve as a basis for considering the possible existence of monopolistic or anticompetitive practices. These practices consist of (i) price fixing and/or production restriction in the gray cement market sold to ready-mix concrete manufacturing companies in Panama and (ii) unilateral and/or joint predatory acts and/or cross subsidies in the ready-mix concrete market. On October 16, 2018, the Panama Authority issued us a new information request in order to continue their investigation. This administrative investigation does not mean that the Panama Authority has concluded that we, or any of our affiliates or employees in Panama have violated the law, rather, the Panama Authority is gathering facts necessary to make an assessment on whether violations of Panamanian law have occurred. As of December 31, 2018, we are cooperating with the Panama Authority with regard to this investigation. As of December 31, 2018, given the status of the investigation, we are not able to assess whether this investigation will lead to any fines, penalties or remedies against us, or if such fines, penalties or remedies, if any, would have a material adverse effect on our results of operations, liquidity or financial condition.

Antitrust Investigation in Colombia

On September 5, 2013, CEMEX Colombia was notified of Resolution No. 49141 dated August 21, 2013, issued by the Colombian Superintendency of Industry and Commerce (*Superintendencia de Industria y Comercio*) (“SIC”) pursuant to which the SIC opened an investigation and issued a statement of objections (*pliego de cargos*) against five cement companies and 14 directors of those companies, including CEMEX Colombia, for alleged anti-competitive practices. The investigated parties were accused of breaching: (i) Article 1 of Law 155 of 1959, which prohibits any kind of practice, procedure or system designed to limit free competition and determining or maintaining unfair prices; (ii) numeral 1 of Article 47 of Decree 2153 of 1992, which prohibits any agreements designed to directly or indirectly fix prices; and (iii) numeral 3 of Article 47 of Decree 2153 of 1992, which prohibits any market sharing agreements between producers or between distributors. Additionally, 14 executives, including two former executives of CEMEX Colombia, were also being investigated for breaching paragraph 16 of Article 4 of Decree 2153 of 1992, as amended by Article 26 of Law 1340 of 2009, which provides that the SIC may investigate and sanction any individual who collaborates, facilitates, authorizes, executes or tolerates behavior that violates free competition rules. Although the SIC announced three charges, only two of them were under investigation, namely, price fixing agreements and market sharing agreements.

On December 11, 2017, the SIC’s Chief Superintendent decided to impose a sanction against CEMEX Colombia, two other cement companies and six natural persons, for entering into an agreement to fix gray cement prices in Colombia. The fines imposed upon CEMEX Colombia, which were paid on January 5, 2018, amounted to \$73,771,700,000 Colombian Pesos (U.S.\$22.70 million as of December 31, 2018, based on an exchange rate of 3,249.75 Colombian Pesos to U.S.\$1.00). By means of the same resolution dated December 11, 2017, the Chief Superintendent determined there was not sufficient material evidence and ordered to close the investigation related to the other alleged conduct against CEMEX Colombia pursuant to Resolution No. 49141 dated August 21, 2013.

CEMEX Colombia decided not to file a reconsideration request and, instead, filed an annulment and reestablishment of right claim (*acción de nulidad y restablecimiento de derecho*) before the Administrative Court (*Tribunal Contencioso Administrativo*) on June 7, 2018 requesting that the charges brought forth by the SIC are annulled and restitution of the fine is paid, with any adjustments provided for by Colombian law. This claim could take up to six years to be resolved. As of December 31, 2018, we are not able to assess the likely result of this matter, but if such matter is resolved adversely to us, we do not expect such adverse resolution to have a material adverse impact on our results of operations, liquidity and financial condition.

Environmental Matters

In the ordinary course of business, we are subject to a broad range of environmental laws and regulations in each of the jurisdictions in which we operate. These laws and regulations impose increasingly stringent

environmental protection standards regarding, among other things, air emissions, wastewater discharges, the use and handling of hazardous waste or materials, waste disposal practices and the remediation of environmental damage or contamination. These laws and regulations expose us to the risk of substantial environmental costs and liabilities, including liabilities associated with divested assets and past activities and, in some cases, the acts and omissions of the previous owners or operators of a property or facility that we own or operate. Furthermore, in some jurisdictions, certain environmental laws and regulations impose liability without regard to fault or the legality of the original activity at the time of the actions giving rise to liability. To prevent, control and remediate environmental problems and maintain compliance with regulatory requirements, in line with our global initiatives on environmental management, we maintain an environmental policy designed to monitor and control environmental matters. Our environmental policies require that each of our subsidiaries respect and comply with local laws and meet our own internal standards to minimize the use of non-renewable resources and the generation of hazardous and other wastes. We use processes that are designed to reduce the impact of our operations on the environment throughout all the production stages in all our operations worldwide. In addition, during 2012 we started the implementation of a global EMS at our operating sites that provides a framework to facilitate the consistent and systematic implementation of practical, risk-based environmental management at all sites. As of December 31, 2018, we expect to finish the implementation of the EMS at all of our operating sites by December 31, 2020. It will be used to support sites and businesses across CEMEX globally to document, maintain and continuously improve our environmental performance. We believe that, as of December 31, 2018, a substantial part of our operations already comply with all material environmental laws applicable to us, as the majority of our cement plants already have some kind of EMS (most of which are ISO 14000 certified by the International Organization for Standardization (“ISO”)), with the remaining implementation efforts directed mainly towards our aggregates and ready-mix concrete plants.

We regularly incur capital expenditures that have an environmental component or that are impacted by environmental regulations. However, we do not keep separate accounts for such mixed capital and environmental expenditures. Environmental expenditures that extend the life, increase the capacity, improve the safety or efficiency of assets or are incurred to mitigate or prevent future environmental contamination may be capitalized. Other environmental costs are expensed when incurred. For the years ended December 31, 2016, 2017 and 2018, our sustainability capital expenditures (including our environmental expenditures and investments in alternative fuels and cementitious materials) were U.S.\$79.9 million, U.S.\$83.14 million and U.S.\$83 million, respectively. As of December 31, 2018, we do not expect a material increase in our environmental expenditures compared to the years ended December 31, 2016 and 2017.

The following is a discussion of environmental regulations and related matters in our major markets.

Mexico

We were one of the first industrial groups in Mexico to sign an agreement with the Mexican Ministry of Environment and Natural Resources (*Secretaría del Medio Ambiente y Recursos Naturales*) (“SEMARNAT”) to carry out voluntary environmental audits in our 15 Mexican cement plants under a government-run program. In 2001, the Mexican Environmental Protection Agency (*Procuraduría Federal de Protección al Ambiente*), which is part of SEMARNAT, completed the audit of our cement plants and awarded each of them a Clean Industry Certificate (*Certificado de Industria Limpia*) (“CIC”) certifying that our cement plants are in full compliance with applicable environmental laws. The CICs are subject to renewal every two years. As of December 31, 2018, our operating cement plants in Mexico had CICs or were in the process of renewing them. As of December 31, 2018, we expect that we should be able to renew all currently expired CICs.

For over a decade, the technology for co-processing used tires into an energy source has been employed in our plants located in Ensenada and Huichapan. By the end of 2016, almost all our cement plants in Mexico were using tires as an alternative fuel (except for installations in Torreon and Valles). As of December 31, 2018, municipal collection centers in the cities of Tijuana, Mexicali, Ensenada, Mexico City, Reynosa, Nuevo Laredo and Guadalajara enable us to obtain, as alternative fuel, an estimated 24,000 tons of tires per year. Overall,

approximately 25.39% of the total fuel used in our operating cement plants in Mexico during 2018 was comprised of alternative fuels.

Between 1999 and December 31, 2018, our operations in Mexico have invested U.S.\$137.41 million in the acquisition of environmental protection equipment and the implementation of the ISO 14001:2004 environmental management standards of ISO. The audit to obtain the renewal of the ISO 14001:2004 certification took place during 2018 and our operating cement plants in Mexico obtained the renewal of the ISO 14001:2004 certification for environmental management systems, which is valid until February of 2021.

On June 6, 2012 the General Law on Climate Change (*Ley General de Cambio Climático*) (the “Climate Change Law”) was published in the Mexican Official Gazette (*Diario Oficial de la Federación*) and became effective on August 4, 2012. The Climate Change Law establishes a legal framework to regulate policies for climate change mitigation and adaptation. Important provisions of the Climate Change Law require the development of secondary legislation, and depend on the publication of subsequent implementing regulations. For instance, the Climate Change Law provides, among other things, for (i) the elaboration of a registry of the emissions that are generated by fixed sources, (ii) companies to report their emissions, if required and (iii) the application of fines to those companies that fail to report or that report false information. In this regard, on October 28, 2014, the Regulations to the General Law on Climate Change Regarding the National Registry of Emissions (*Reglamento de la Ley General de Cambio Climático en Materia del Registro Nacional de Emisiones*) (the “Regulations”) were published in the Mexican Official Gazette (*Diario Oficial de la Federación*), becoming effective on October 28, 2014. The purpose of the Regulations is to govern the Climate Change Law regarding the National Registry of Emissions, identifying the sectors and subsectors, which include among others, the cement industry, that must file the corresponding reports before the National Registry of Emissions. We had previously reported our direct and indirect carbon dioxide emissions to SEMARNAT under a voluntary scheme. The Climate Change Law also allows for the establishment of specific greenhouse gas reduction targets in accordance with the respective contribution of each economic sector to the national greenhouse gas emissions. As of December 31, 2018, we are not able to determine the impact that any measures related to the Regulations and Climate Change Law may have on our operations in Mexico. Although the Climate Change Law does not establish a program for emissions trading, it does vest on the Mexican federal government the power to create, authorize and regulate such a scheme, which may be voluntary or binding. We are closely observing the development of implementing regulations and, as of December 31, 2018, we cannot estimate the impact, if any, that any measures related to this may have upon our operations in Mexico. A Special Tax on Production and Services (*Impuesto Especial Sobre Producción y Servicios*) on the sale and import of fossil fuels was included in the tax reform that became effective on January 1, 2014. During the year ended December 31, 2018, pet coke, a primary fuel widely used in our kilns in Mexico was taxed at a rate of Ps18.29 (U.S.\$0.93 as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00) per ton.

On August 12, 2014, a package of energy reform legislation became law in Mexico. The then newly enacted energy reform legislation, which included nine new laws, as well as amendments to existing laws, implemented the December 2013 constitutional energy reform and established a new legal framework for Mexico’s energy industry. One of the new laws that was enacted is the Electric Industry Law (*Ley de la Industria Eléctrica*) (the “Electric Industry Law”), which establishes a legal framework for electricity-related activities in Mexico, which has the effect of structurally changing the national electric industry. The Electric Industry Law encourages the use of electricity generated through clean energy sources, while introducing negotiable clean energy certificates as well as other measures aimed at achieving greenhouse gas reductions. On October 31, 2014, certain rules and regulations related to the energy reform legislation, including the regulations of the Electric Industry Law, were published. As part of the Electric Industry Law, a system for tradable clean energy certificates was created and certain clean energy procurement obligations were imposed on consumers. The clean energy procurement obligations for 2019 to 2022 have been announced at 5.8%, 7.4%, 10.9% and 13.9%, respectively, and this requirement is expected to increase in subsequent years. CEMEX’s operations in Mexico have ongoing commitments to procure power from renewable projects operating under the “self-supply” framework of the former Electric Energy Public Service Law, and the energy supplied under these contracts is exempted from the

clean energy obligation. Nonetheless, since 2018, we are required to acquire clean energy certificates to comply with the clean energy obligations for the fraction of energy supply that does not come from clean generators. Over time, according to the penalty levels set by the Mexican Energy Regulatory Commission (*Comisión Reguladora de Energía*), non-compliance with the clean energy procurement obligations could have a material adverse impact on our business or operations in Mexico, but as of December 31, 2018, we are not able to assess if such impact would in turn have a material adverse impact on our results of operations, liquidity and financial condition.

On September 8, 2015, the Electricity Market Rules (*Bases del Mercado Eléctrico*) (the “Rules”) were published in the Mexican Official Gazette (*Diario Oficial de la Federación*) and became effective on September 9, 2015. The Rules, which are an important step forward in the implementation of the reforms enacted regarding Mexico’s energy industry, contain the design and operation principles of the different components of the wholesale electricity market (the “Electricity Market”). As of December 31, 2018, we are authorized to become participants in the Electricity Market. Additionally, CEMEX participated as a buyer in the third long-term power auction organized in 2017 by CENACE, the independent national electric system operator, and has been allocated a 20-year contract for 16,129 clean energy certificates per year for compliance starting in 2020 and 14.9 GWh/a of electric power.

During 2016, a new electrical standards code was issued in Mexico (*Código de Red*) (the “Code”). The Code establishes new standards for electrical operation that will be enforced beginning in 2019 against consumers connected to the national grid. As of December 31, 2018, we estimate that the implementation of the Code will require investments across our operating assets in Mexico, which we expect to amount to U.S.\$6 million.

United States

Our operating subsidiaries in the United States are subject to a wide range of United States federal, state and local laws, regulations and ordinances dealing with the protection of human health and the environment that are strictly enforced and can lead to significant monetary penalties for noncompliance. These laws and regulations expose us to the risk of substantial environmental costs and liabilities, including liabilities associated with divested assets and past activities and, in some cases, the acts and omissions of the previous owners or operators of a property or facility. These laws regulate, among other things, water discharges, noise and air emissions, including dust, as well as the handling, use and disposal of hazardous and non-hazardous waste materials. Certain laws also create a shared liability scheme under which parties are held responsible for the cost of cleaning up releases to the environment of designated hazardous substances. We therefore may have to conduct environmental remediation associated with the disposal or release of hazardous substances at our various operating facilities, or at sites in the United States to which we sent hazardous waste for disposal. As of December 31, 2018, we believe that our current procedures and practices for handling and managing materials are generally consistent with industry standards and legal and regulatory requirements, and also believe that we take appropriate precautions designed to protect employees and others from harmful exposure to hazardous materials.

As of December 31, 2018, CEMEX, Inc. and its subsidiaries had accrued liabilities specifically relating to environmental matters in the aggregate amount of U.S.\$32.54 million. The environmental matters relate to (i) the disposal of various materials, in accordance with past industry practice, that might be categorized as hazardous substances or wastes and (ii) the cleanup of hazardous substances or waste at sites used or operated by CEMEX, Inc. and its subsidiaries including discontinued operations, either individually or jointly with other parties. Most of the proceedings are in the preliminary stages and a final resolution might take several years. For purposes of recording the provision, CEMEX, Inc. and its subsidiaries consider that it is probable that a liability has been incurred and the amount of the liability is reasonably estimable, whether or not claims have been asserted, and without giving effect to any possible future recoveries. Based on information developed as of December 31, 2018, CEMEX, Inc. does not believe it will be required to spend significant sums on these matters, in excess of

the amounts previously recorded. The ultimate cost that might be incurred to resolve these environmental issues cannot be assured until all environmental studies, investigations, remediation work, and negotiations with, or litigation against, potential sources of recovery have been completed.

In 2007, EPA launched a CAA enforcement initiative against the United States cement industry. The primary goal of the initiative was to assess the industry's historic compliance with the CAA's New Source Review program and to reduce emissions from the industry through the installation of add-on controls. We have actively engaged with EPA in its investigations, which involved multiple of our facilities in the United States, and have entered into four settlements involving a total of U.S.\$6.1 million in civil penalties and a commitment to incur certain capital expenditures for pollution control equipment at its Victorville, California; Fairborn, Ohio (divested on February 10, 2017); Lyons, Colorado; Knoxville, Tennessee; Louisville, Kentucky; Demopolis, Alabama; Odessa, Texas (divested on November 18, 2016); and New Braunfels, Texas plants. Based on our past experience with such matters and currently available information, as of December 31, 2018, we do not expect that any further proceedings will have a material adverse impact on our results of operations, liquidity and financial condition.

In 2002, CEMEX Construction Materials Florida, LLC (formerly Rinker Materials of Florida, Inc.) ("CEMEX Florida"), a subsidiary of CEMEX, Inc., was granted a federal quarry permit and was the beneficiary of another federal quarry permit for the Lake Belt area in South Florida. The permit held by CEMEX Florida covered CEMEX Florida's Seaboard Coast Line ("SCL") and Florida East Coast ("FEC") quarries. CEMEX Florida's Kendall Krome quarry is operated under the permit of which it was a beneficiary. The FEC quarry is the largest of CEMEX Florida's quarries measured by volume of aggregates mined and sold. CEMEX Florida's Miami cement mill is located at the SCL quarry and is supplied by that quarry, while the FEC and Kendall Krome quarries have supplied aggregates to CEMEX and third-party users. In response to litigation brought by environmental groups concerning the manner in which the federal quarry permits were granted, in January 2009, the United States District Court for the Southern District of Florida ordered the withdrawal of the federal quarry permits for CEMEX Florida's SCL, FEC and Kendall Krome quarries. The judge ruled that there were deficiencies in the procedures and analysis undertaken by the Army Corps of Engineers ("Corps") in connection with the issuance of the permits. Upon appeal, on January 21, 2010, the Eleventh Circuit Court of Appeals affirmed the district court's ruling withdrawing the federal quarry permits for the three CEMEX Florida quarries as well as other third-party federal quarry permits subject to the litigation. On January 29, 2010, the Corps completed a multi-year review commenced as a result of this litigation and issued a Record of Decision ("ROD") supporting the issuance of new federal quarry permits for the FEC and SCL quarries. Excavation of new aggregates was stopped at the FEC and SCL quarries from January 20, 2009 until new permits were issued. The FEC permit was issued on February 3, 2010, and the SCL permit on February 18, 2010. The ROD also indicated that a number of potential environmental impacts must be addressed at the wetlands located at the Kendall Krome site before a new federal quarry permit may be issued for mining at that quarry. As of December 31, 2018, it is unclear how long it will take to fully address the Corps' concerns regarding mining in the Kendall Krome wetlands. While no new aggregates will be quarried from wetland areas at Kendall Krome pending the resolution of the potential environmental issues, the FEC and SCL quarries will continue to operate. If CEMEX Florida is unable to maintain the new Lake Belt permits, CEMEX Florida would need to source aggregates, to the extent available, from other locations in Florida or import aggregates. This would likely affect operating income from our Florida operations. As of December 31, 2018, any adverse impacts on the Florida economy arising from the cessation or significant restriction of quarrying operations in the Lake Belt area could also have a material adverse impact on our results of operations, liquidity and financial condition.

In June 2010, EPA proposed regulating Coal Combustion Residuals ("CCRs") generated by electric utilities and independent power producers as a hazardous or special waste under the United States Resource Conservation and Recovery Act. In the United States, we use CCRs as a raw material in our cement manufacturing process, as well as a supplemental cementitious material in some of our ready-mix concrete products. On December 19, 2014, EPA issued a final rule on the regulation of CCRs (the "Final Rule"). As of December 31, 2018, we believe

that the effects of the Final Rule would not have a material adverse impact on our results of operations, liquidity and financial condition.

Our operations in the United States are subject to a number of federal and state laws and regulations addressing climate change. On the federal side, EPA has promulgated a series of regulations pertaining to emissions of GHGs from industrial sources. EPA issued the Mandatory Reporting of GHGs Rule, effective December 29, 2009, which requires certain covered sectors, including cement manufacturing, with GHG emissions above an established threshold to inventory and report their GHG emissions annually on a facility-by-facility basis. In 2010, EPA issued a final rule that establishes GHG thresholds for the New Source Review Prevention of Significant Deterioration (“PSD”) and Title V Operating Permit programs. The rule “tailors” the requirements of these CAA permitting programs to limit which facilities will be required to obtain PSD and Title V permits for GHG emissions. Cement production facilities are included within the categories of facilities required to obtain permits, provided that their GHG emissions exceed the thresholds in the tailoring rule. The PSD program requires new major sources of regulated pollutants and major modifications at existing major sources to secure pre-construction permits that establish, among other things, limits on pollutants based on Best Available Control Technology (“BACT”).

According to EPA’s rules, stationary sources, such as cement manufacturing, which are already regulated under the PSD program for non-GHG pollutants, need to apply for a PSD permit for any GHG emissions increases above 75,000 tons/year of carbon dioxide equivalent (“CO₂E”). Therefore, new cement plants and existing plants undergoing modification which are major sources for non-GHG pollutants regulated under the CAA need to acquire a PSD permit for construction or modification activities that increase CO₂E by 75,000 or more tons/year, and would have to determine and install BACT controls for those emissions. Furthermore, any new source that emits 100,000 tons/year of CO₂E or any existing source that emits 100,000 tons/year of CO₂E and undergoes modifications that would increase CO₂E emissions by at least 75,000 tons/year, must comply with PSD obligations. Complying with these PSD permitting requirements can involve significant costs and delay. As of December 31, 2018, the costs of future GHG-related regulation of our facilities through these efforts or others could have a material economic impact on our United States operations and the United States cement manufacturing industry, which in turn could have a material adverse impact on our results of operations, liquidity and financial condition.

With respect to state efforts to address climate change, in 2006, the State of California adopted the Global Warming Solutions Act (Assembly Bill 32 or “AB32”) setting into law a goal to reduce the State’s carbon dioxide emissions to 1990 levels by 2020. As part of the measures derived from AB32, the California Air Resources Board (“CARB”) developed a cap-and-trade program, enforced from 2013, that covers most industrial sources of greenhouse gas emissions in the State, including cement production facilities. The program involves allocating a number of allowances free of charge to covered installations, which must subsequently surrender back to the regulator a number of allowances or qualified offset credits matching their verified emissions during the compliance period. Based on the free allowances received, our Victorville cement plant met all of its compliance obligations for the second compliance period (2015 to 2017) without a material impact on its operating costs; and, as of December 31, 2018, it is expected to meet all of its compliance obligations for the third compliance period (2018 to 2020) without a material impact on its operating costs. Furthermore, as of December 31, 2018, for our operations in California, we are actively pursuing initiatives to substitute fossil fuels for lower carbon fuels, improve our energy efficiency and utilize renewable power in an effort to economically reduce our direct and indirect GHG emission intensities. However, even with these ongoing efforts and the expected distribution of free allowances, as of December 31, 2018, the measures corresponding to future compliance periods of AB32, which may eventually require us to purchase emission allowances at increased prices due to their reduced availability, and the resulting overall costs of complying with a cap-and-trade program, may have a negative impact on our operations in California, which in turn could have an adverse impact on our results of operations, liquidity and financial condition.

In 2007, CARB approved a regulation that requires California equipment owners/operators to reduce diesel particulate and nitrogen oxide emissions from in-use off-road diesel equipment and to meet progressively more

restrictive emission targets. In 2008, CARB approved a similar regulation for in-use on-road diesel equipment. The emission targets requires us to retrofit our California-based equipment with diesel emission control devices or replace equipment with new engine technology in accordance with certain deadlines. As of December 31, 2018, compliance with the CARB regulations has resulted in equipment related expenses or capital investments, including overhauling engines and purchases of new equipment directly related to the CARB regulations, in excess of U.S.\$32.45 million. As of December 31, 2018, we believe that we may continue to incur substantial expenditures to comply with these requirements.

Europe

General overview of EU industrial regulation

As of December 31, 2018, the EU legal system operates differently compared to federal systems. The EU legal regime, referred to as supra-national law, sits above the legal systems of the different EU member states (“Member States”), which retain their independence subject to tight oversight from EU institutions, especially the Court of Justice, the European Commission, and the European Parliament. As such, EU law operates (in its many fields of application, including industrial regulation) in order to control and authoritatively interpret the legislation and implementation of law (EU and domestic) in those Member States. One of the key manifestations of this supra-national control are the inter-related doctrines of the supremacy of EU law and of conforming interpretation. Essentially, where an area of legal control in a Member State has its origin in an EU Directive, the Member States must transpose the Directive fully and effectively into their domestic law and every organ of the Member State, including its regulators and its courts, must interpret (and if necessary change) domestic law in order to conform with the objectives and the letter of the relevant EU Directive. This is of relevance to the cement sector since almost every aspect of its environmental regulation has its origins in EU legislation.

In the EU, the cement sector is subject to a range of environmental laws at EU and Member State levels. These laws can be broadly categorized as: (1) primary and direct controls placed upon their main operational activities and (2) more general legal regimes which protect different aspects of the environment across many sectors.

The primary examples of the first kind of control are the various laws governing the specific operational activities of the sector, through stringent permitting and emissions controls, which are further explained below. Examples of the second, more general, legal controls are the EU Water Framework Directive (2000/60/EC) and the EU Waste Framework Directive (2008/98/EC) which impose various obligations in relation to the protection of surface and underground water environments and the recovery, disposal and overall management of waste respectively. In practice, even these more general laws indirectly impact our industry through permitting emissions control systems.

EU Industrial Emissions Permits and Emissions Controls

In the EU, the primary legal environmental controls applied to cement plants have been those EU Directives which control operational activities and emissions from those activities. These controls were primarily derived from two EU Directives: (1) the so-called “IPPC Directives” (as described below) and (2) the Waste Incineration Directive (as defined below). On January 6, 2011, the Industrial Emissions Directive (2010/75/EU) (“IED”) came into force. The IED recasts seven pieces of existing legislation into a single coherent legislative instrument, including the IPPC Directives and the Waste Incineration Directive, both of which it repeals. With some exceptions, the IED retains the essential substance of the earlier Directives.

The primary EU legislative control over the sector (until the transition between 2010-2014 of the IED) was the Directive on Integrated Pollution Prevention and Control (2008/1/EC) (“IPPC Directive”), which was repealed by the IED. The 2008 version of this Directive was in fact an update and consolidation of an earlier Directive first promulgated in 1996. Since 1996, these IPPC Directives have adopted an integrated approach to

regulation of various sectors of industrial plant, including cement, by taking into account and controlling/regulating the whole environmental performance of the plant. They required cement works to have a permit which, except until recently in England and Wales (where it is now known as an “environmental permit”), and still in some other states, continues to be referred to as an “IPPC Permit.” These permits contain emission limit values and other conditions based on the application of a legal and technical concept called “best available techniques” (“BAT”).

The concept of BAT is central to the system, and effectively imposes a legal obligation on plant operators to use and apply the best available techniques (as they develop from time to time) in order to prevent or, where this is not practicable, minimize emissions of pollutants likely to be emitted in significant quantities from the plant to air, water or land. Emission limit values, parameters or equivalent technical measures must be based on the best available techniques, without prescribing the use of one specific technique or technology and taking into consideration the technical characteristics of the installation concerned, its geographical location and local environmental conditions. In all cases the permit conditions must ensure a high level of protection for the environment as a whole.

Permit conditions also have to address energy efficiency, waste minimization, prevention of accidental emissions and site restoration. To assist the permitting authorities and companies in determining the BAT, the European Commission has organized an exchange of information between experts from the Member States, industry and environmental organizations. This resulted in the adoption and publication by the European IPPC Bureau (part of the European Commission) of BAT Reference Documents (“BREFs”) for the industry sectors covered by the IPPC Directive. A key element of the BREFs are the conclusions on BAT (“BAT conclusions”) which are used as a reference for setting permit conditions. All of these IPPC Directive requirements have been followed through (and in some respects tightened) by the IED.

The second earlier Directive, which was applied in direct control of cement operations, was the EU Waste Incineration Directive (2000/76/EC) (“Waste Incineration Directive”) which regulated those parts of the cement operation that used recovered waste materials as substitute fuels in cement kilns. Its aim was to prevent or limit, as far as practicable, negative effects on the environment, in particular pollution by emissions in air, soil, surface water and groundwater and the resulting risks to human health, from incineration and co-incineration plants.

Cement and lime kilns as a primary or secondary source of fuel fall within the definition of “co-incineration plants.” The Waste Incineration Directive sought to achieve its aim by setting and maintaining stringent operational conditions and technical requirements, as well as emission limit values for a range of pollutants including dust, nitrogen oxides, sulfur dioxide, hydrogen chloride, heavy metals and dioxins. Again, the essential substance of the Waste Incineration Directive has been followed through into the IED, which repealed it together with the IPPC Directive.

The IED has applied to new industrial installations since January 7, 2013 and to existing industrial installations (other than large combustion plants with a rated thermal input equal to or greater than 50 MW) since January 7, 2014. Under the IED, operators of industrial installations, including cement plants, are required to obtain an integrated permit from the relevant permitting authority in the Member States. As with the IPPC Directive, permit conditions, including emission limit values, must be based on BAT and, as of December 31, 2018, a total of 21 BREFs of the existing 32 are being rewritten or revised for the IED. However, there is an important difference between the IPPC Directive and the IED. Under the IPPC Directive, the BREFs were considered as guidance only. This is not the case under the IED. Where BAT conclusions specify emission levels, permitting authorities are required to set emission limit values that do not exceed these levels. They may derogate from this requirement only where the costs associated with the achievement of the emission levels associated with the BAT disproportionately outweigh the environmental benefits due to the geographical location, the local environmental conditions or the technical characteristics of the installation concerned. The permitting authorities must document the reasons for the derogation from the emission limit values in the permit, including the result of the cost-benefit assessment. In April 2013, pursuant to European Commission Decision

No. 2013/163/EU, the European Commission published new BAT conclusions under the IED for Production of Cement, Lime and Magnesium Oxide, together with specific emission levels. This document sets out an extensive list of technical requirements for most aspects of the cement manufacturing process in the EU, with a view to prevention and minimization of all polluting emissions. It is a new requirement under the IED that permitting authorities must review and, if necessary, update permit conditions within four years of the European Commission publishing decisions on BAT conclusions for a particular activity. The European Commission describes review of the BREFs as a continuing process due to ongoing technological advances so updates may be expected. As of December 31, 2018, this has the potential to require our operations in Europe to be adapted to conform to the latest BAT, which in turn could impact our operations.

As of December 31, 2018, we believe that our operations in Member States will be impacted given the change in regulatory approach heralded by the legislation, its ongoing revision and the fact that it will be key to permitting of the cement industry in the EU. As of December 31, 2018, we are not able to assess the degree of impact the requirements that come into effect under the IED will have on our operations in Member States.

Croatia

As a result of a lawsuit filed by the city of Kastela against the Ministry of Environment of the Republic of Croatia, the IPPC Permit issued on behalf of CEMEX Croatia by the Ministry of Environment was revoked on July 6, 2015 by a final and non-appealable judgment of a first instance court in Split, Croatia. The judgment required the Ministry of Environment to repeat the procedure for the issuance of a new IPPC Permit. On November 23, 2015, the Ministry of Environment issued a new IPPC Permit, which has been challenged by the city of Kastela. On January 7, 2016, CEMEX Croatia received the claim and replied to it in due time. The Ministry of Environment also replied to the claim. At a court hearing held on September 14, 2016, the litigation proceedings concluded. On November 18, 2016, the administrative court in Split, Croatia notified CEMEX Croatia that the decision regarding the IPPC Permit was annulled and the matter was remanded to the Ministry of Environment in order to repeat the procedure. On December 2, 2016, CEMEX Croatia and the Ministry of Environment filed an appeal against such judgment. As of December 31, 2018, CEMEX Croatia was awaiting the decision on the appeal. If the IPPC Permit is conclusively annulled, we do not believe that such judgment would have a material adverse impact on our results of operations, liquidity and financial condition.

In addition, in accordance with Article 21(3) of the IED, within four years of BAT conclusion publications, the competent authority (the regulator issuing the permit for an industrial installation) is to reconsider and, if necessary, update all permit conditions and ensure that the installation complies with such permit conditions. Accordingly, on January 3, 2017, the Ministry of Environment invited CEMEX Croatia to submit relevant expert opinions in order to update the existing permit conditions and ensure compliance with permit conditions. On March 20, 2017, CEMEX Croatia submitted expert opinions to the Ministry of Environment. As of December 31, 2018, the hearing to determine whether the installation is in compliance with all permit conditions was opened to the public by the Ministry of Environment on June 29, 2018 and was completed 30 days later. If the installation is determined to be in compliance, a permit would be issued within approximately six months of completion of the hearing. In the meantime, CEMEX Croatia applied for a new permit in accordance with the IED. Should the IPPC Permit be finally annulled, as of December 31, 2018, we do not believe that the judgment would have a material adverse impact on our results of operations, liquidity and financial condition.

EU Emissions Trading

In 1997, as part of the United Nations Framework Convention on Climate Change, the Kyoto Protocol was adopted to limit and reduce GHG emissions. The Kyoto Protocol set legally binding emission reduction targets for 37 industrialized countries and the EU. Under the Kyoto Protocol, industrialized countries agreed to reduce their collective GHG emissions by 5% against 1990 levels over the five-year period 2008-2012; future mandatory targets were expected to be established for commitment periods after 2012. To compensate for the sting of binding targets, the Kyoto Protocol allows three “flexibility” mechanisms to be used by parties in meeting their

emission limitation commitments: the Clean Development Mechanism (“CDM”), Joint Implementation (“JI”) and International Emissions Trading.

In 2012, at the United Nations Climate Change Conference in Doha, Qatar, the Doha Amendment to the Kyoto Protocol was adopted. Certain parties, including the United Kingdom and the EU, committed to reduce GHG emissions by at least 18% below 1990 levels in the eight-year period from 2013 to 2020.

Our operations in the United Kingdom, Spain, Germany, Latvia, Poland, Croatia (since 2013) and the Czech Republic, are subject to binding caps on CO₂ emissions imposed pursuant to the EU’s emissions trading system (“ETS”), a “cap and trade” system that was established in 2003 by Directive 2003/87/EC to implement the Kyoto Protocol. Under the ETS, a cap or limit is set on the total amount of CO₂ emissions that can be emitted by the power plants, energy-intensive installations (including cement plants) and commercial airlines that are covered by the system. The cap is reduced over time so that the total amount of emissions will decrease. Within the cap, installation operators receive or buy emission allowances. These allowances are tradable so as to enable operators that manage to reduce their emissions to sell their excess allowances to operators that are not reaching their emissions objectives. After the end of each year, an operator must surrender enough carbon allowances to cover all its emissions. In general, failure to meet the emissions caps is subject to significant monetary penalties of €100 for each ton of carbon dioxide equivalent emitted by the installation for which the operator has not surrendered allowances.

In addition to carbon allowances, the ETS also allows the use of Kyoto Protocol units: the Emission Reduction Unit, representing a metric ton of carbon saved by a project under the JI mechanism, and the Certified Emission Reduction (“CER”) under the CDM. The ETS recognizes these units as equivalent to its carbon allowances and allows them to be used by operators for compliance up to a certain limit to offset their carbon emissions in the EU. As of December 31, 2018, we have registered 19 CDM projects with a total potential to, according to our estimates, reduce approximately 2.44 million tons of CO₂E emissions per year. The corresponding CERs from these projects could be used for internal purposes or sold to third parties. Croatia, as a late entrant due to when it joined the EU, has a right to use only 4.5% of its verified carbon emissions in relation to other EU ETS members which have a right to use up to 11% of their free allocation of EU allowances.

The ETS consists of four trading phases: Phase I which lasted from January 1, 2005 to December 31, 2007, Phase II, which lasted from January 1, 2007 to December 31, 2012, and was intended to meet commitments under the Kyoto First Commitment Period, Phase III which commenced on January 1, 2013 and will end on December 31, 2020 and Phase IV which will commence on January 1, 2021 and end on December 31, 2030. For Phases III and IV of the ETS there is also a cap on nitrous oxide and perfluorocarbons emissions. Prior to the commencement of each of ETS Phases I and II, each Member State was responsible for publishing its National Allocation Plan (“NAP”), a document which sets out a national cap on the total amount of carbon emissions by all installations during each relevant trading phase and the methodology by which the cap would be allocated to the different sectors in the ETS and their respective installations. Each Member State’s cap contributed to an overall EU cap on emissions, where one carbon allowance must be surrendered to account for one metric ton of carbon emitted. The carbon allowances were mostly distributed for free by each Member State to its ETS installations, although some Member States also used a fraction of their material cap for auctioning, mainly to power generators. Under ETS Phase III, however, the system of NAPs was replaced by a single EU-wide, top-down, cap on CO₂ emissions, with allocation for all installations made according to harmonized EU rules and set out in each Member State’s National Implementation Measures (“NIM”). Additional restrictions have been introduced on the extent to which Kyoto Protocol units, such as CERs, can be used to offset EU carbon emissions, and auctioning, not free allocation, has become the default method for distributing allowances. For those allowances that are still given away free, as discussed below, harmonized rules apply based on EU-wide benchmarks of emissions performance.

EU policymakers see the free allocation of allowances as a principal way to reduce the risk of carbon leakage—that is, the risk that energy-intensive industries, facing higher costs because of the ETS, will move their

facilities beyond the EU's borders to countries that do not have climate change controls, thus resulting in a leakage of CO₂ emissions without any environmental benefits. In 2009, a list of ETS sectors deemed to be at significant risk of carbon leakage was formally adopted by the European Commission, following agreement by Member States and the European Parliament. The list, which was valid from 2010 to 2014, included the cement production sector, on the basis that the additional costs imposed by the ETS would lead to a 30% or more increase in production costs as a proportion of the "gross value added." A decision on the list of sectors deemed to be at significant risk of carbon leakage for the period 2015-2019 was adopted by the European Commission on October 29, 2014 and the cement production sector was selected again. Sectors classified as deemed to be at significant risk of carbon leakage will continue to receive 100% of their benchmark allocation of allowances free of charge during Phase III, adjusted by a cross-sectoral correction factor that is being applied uniformly upon all participating facilities in Europe in order to reduce the amount of free allocation that each installation receives so that the total sum does not exceed the authorized EU-wide cap for free allocation. By contrast, sectors that are not considered at risk of carbon leakage received 80% of their benchmark allowances for free in 2013, declining to 30% by 2020. Sectors classified as deemed to be at significant risk of carbon leakage are also expected to continue to receive 100% of their benchmark allocation of allowances free of charge during Phase IV.

On April 27, 2011, the European Commission adopted Decision 2011/278/EU that states the rules, including the benchmarks of greenhouse gas emissions performance, to be used by the Member States in calculating the number of allowances to be annually allocated for free to industrial sectors (such as cement) that are deemed to be exposed to the risk of "carbon leakage." The number of allowances to be allocated to installations for free will be based on a combination of historic activity levels at that installation and an EU benchmark of carbon efficiency for the production of a particular product—for example, clinker. An installation's historic activity level is calculated by taking the median of its annual production levels during the baseline period, either 2005 to 2008 or, where historic activity levels are higher, 2009/10. The product benchmark is based on the average carbon emissions of the top 10% most "carbon efficient" EU installations for a particular product during 2007/8, where carbon efficiency is measured by carbon intensity or carbon emission per metric ton of product. Preliminary allocation calculations based on the rules were carried out by each Member State and included in a NIM table which was sent for scrutiny to the European Commission. On September 5, 2013, the European Commission adopted Decision 2013/448/EU which approved the NIMs submitted by most Member States and which sets the annual cross-sectoral correction factors for the period 2013-2020. The cross-sectoral correction figure will be used to adjust the levels of product benchmarks used to calculate the free allocation of allowances to each installation. This is to ensure that the total amount handed out for free does not exceed the maximum set in Directive 2003/87/EC. Each Member State is required to adjust its national allocation table of free allowances each year and submit this for approval to the European Commission prior to issuing allowances. The application of this cross-sectoral correction factor has resulted in an important decrease in the quantity of allowances that our ETS-participant operations have received for free in the 2013-2020 period and expect to receive for free in the 2021-2030 period.

On February 26, 2014, the European Commission adopted a decision on national allocation allowances for the last group of Member States including Croatia, which was granted 5.56 million of free allowances. Since this time, a regularly updated allocation table showing the number of allowances that have been allocated per Member State is published on the European Commission's website. Based on the European Commission approved NIMs that were published in the first quarter of 2014 for Phase III, as of December 31, 2018, we expect that the aggregate amount of allowances that will be annually allocated for free to CEMEX in the remainder of Phase III of the ETS will be sufficient to operate. An important factor in providing such assurance is the European Commission Decision 2014/746/EU (which took effect on January 1, 2015) which, as mentioned, included the manufacture of cement as an industry at significant risk of carbon leakage meaning that the industry will continue to receive 100% of its benchmark allocation of allowances free of charge during Phase III. Although the European Council has indicated that the free allocation of allowances to sectors at significant risk of carbon leakage will continue beyond Phase III into Phase IV, a future decision that the cement industry should no longer be regarded as being at significant risk of carbon leakage could have a material impact on our operations and our results of operations, liquidity and financial condition.

An installation can only receive its full allocation of free allowances in Phase III and Phase IV if it is deemed to have not partially ceased under the “partial cessation rule” of the ETS. Partial cessation applies where a sub-installation which contributes at least 30% of the installation’s final annual amount of emissions allocated, contributes to more than 50,000 allowances or reduces its activity level by at least 50% of its historic activity levels. If activity levels are reduced to between 50% and 75% of the historic activity level, the amount of free carbon allowances the sub-installation will receive will be reduced by half in the following year; if activity levels are reduced by 75% to 90% compared to historic activity levels, the amount of free carbon allowances the sub-installation will receive will reduce by 75% in the following year; and if activity levels are reduced by 90% or more compared to historic activity levels, no allowances shall be allocated free of charge the following year with respect to the sub-installation concerned. This represents a change from ETS Phase II, in which the rules for partial cessation were defined by each Member State’s NAP and often did not result in any reduction in the level of free allocation, but an installation was no longer entitled to a free allocation from the following year if it had permanently ceased operating. The new rules are therefore more stringent, and to the extent that they result in our plants foregoing free carbon allowances, as of December 31, 2018, they could represent a significant loss of revenue to us, since carbon allowances are also tradable, which in turn could have a material adverse impact on our results of operations, liquidity and financial condition.

Despite having sold a substantial amount of allowances during Phase II of the ETS, as mentioned, as of December 31, 2018, we believe that the aggregate amount of allowances that will be annually allocated for free to CEMEX in the remainder of Phase III of the ETS (2013-2020) will be sufficient to operate. This assessment stems from various factors, notably our efforts to reduce emissions per unit of clinker produced, the stream of offset credits coming from our internal portfolio of CDM projects and our long position in the initial years of Phase III of the ETS. We are taking measures intended to minimize our exposure to this market, while continuing to supply our products to our customers. As of December 31, 2018, it is not possible to predict with certainty at this stage how CEMEX will be affected by changes to the EU ETS in Phase IV. Directive 2003/87/EC has been amended by Directive 2018/410/EU, which reduces the EU-wide overall cap on emission allowances by 2.2% every year from 2021, requires that benchmarks are updated based on recent data and replaces the “historic activity level” with a more dynamic allocation based on recent production. These modifications suggest that there may be fewer allowances available with respect to our operations in the future. As of December 31, 2018, we expect that the aggregate amount of allowances that will be annually allocated for free to CEMEX in Phase IV would not be sufficient for our operations. Therefore, CEMEX would require to purchase emission allowances at some point in time during Phase IV.

Great Britain Landfills

In Great Britain, future expenditure on closed and current landfill sites has been assessed and quantified over the period in which the sites are considered to have the potential to cause environmental harm, generally consistent with the regulatory view of up to 60 years from the date of closure. The assessed expenditure relates to the costs of monitoring the sites and the installation, repair and renewal of environmental infrastructure. The costs have been quantified on a net present value basis in the amount of £131,258,041 (U.S.\$167.37 million as of December 31, 2018, based on an exchange rate of £0.7843 to U.S.\$1.00) as of December 31, 2018, and we made an accounting provision for this amount.

Colombian Water Use Litigation

On June 5, 2010, the District of Bogotá’s Environmental Secretary (*Secretaría Distrital de Ambiente de Bogotá*) (the “District Secretary”) issued a temporary injunction suspending all mining activities at CEMEX Colombia’s El Tunjuelo quarry, located in Bogotá, Colombia. As part of the temporary injunction, Holcim Colombia and Fundación San Antonio (local aggregates producers that also have mining activities located in the same area as the El Tunjuelo quarry) were ordered to suspend mining activities in that area. The District Secretary alleged that during the past 60 years, CEMEX Colombia and the other companies illegally changed the course of the Tunjuelo River, used the percolating waters without permission and improperly used the edge of the

river for mining activities. In connection with the temporary injunction, in June 2010, the District Secretary initiated proceedings to impose fines against CEMEX Colombia.

CEMEX Colombia requested that the temporary injunction be revoked, arguing that its mining activities are supported by all authorizations required pursuant to the applicable environmental laws and that all the environmental impact statements submitted by CEMEX Colombia have been reviewed and authorized by the Ministry of Environment and Sustainable Development (*Ministerio de Ambiente y Desarrollo Sostenible*). On June 11, 2010, the local authorities in Bogotá, in compliance with the District Secretary's decision, sealed off the mine to machinery and prohibited the extraction of CEMEX Colombia's aggregates inventory. By means of Resolution No. 02167 dated July 11, 2018 (amended by means of Resolution No. 2193 dated July 12, 2018) issued by the District Secretary, a fine in the amount of \$1,234,000,000 Colombian Pesos (U.S.\$379,721.52 as of December 31, 2018, based on an exchange rate of 3,249.75 Colombian Pesos to U.S.\$1.00) was imposed on CEMEX Colombia for using subterranean waters of the Tunjuelo River without having the corresponding concession or permit. No damage to the Tunjuelo River was caused. CEMEX Colombia was expressly exonerated of carrying out harmful activities against the Tunjuelo River because no negligent or willful misconduct was proven against the company. CEMEX Colombia paid the aforementioned fine on August 1, 2018 and, as such, this proceeding has ended.

Philippines Environmental Class Action

On September 20, 2018, a landslide occurred in Sitio Sindulan, Barangay Tina-an, Naga City, Cebu, Philippines (the "Landslide"), a site located within an area covered by mining rights of ALQC.

CEMEX, S.A.B. de C.V. is an indirect minority shareholder in ALQC, the principal raw material supplier of one of our subsidiaries in the Philippines, APO.

On November 19, 2018, CHP and APO were served summonses concerning an environmental class action lawsuit filed by 40 individuals and one legal entity (on behalf of 8,000 individuals allegedly affected by the Landslide) at the Regional Trial Court of Talisay, Cebu, against CHP, ALQC, APO, the Mines and Geosciences Bureau of the Department of Environment and Natural Resources, the City Government of Naga, and the Province of Cebu, for "Restitution of Damage of the Natural and Human Environment, Application for the Issuance of Environmental Protection Order against Quarry Operations in Cebu Island with Prayer for Temporary Protection Order, Writ of Continuing Mandamus for Determination of the Carrying Capacity of Cebu Island and Rehabilitation and Restoration of the Damaged Ecosystems."

In the complaint, among other allegations, plaintiffs claim that the Landslide occurred as a result of the defendants' gross negligence, and seek, among other relief, (i) monetary damages in the amount of 4.3 billion Philippine Pesos (U.S.\$81.78 million as of December 31, 2018, based on an exchange rate of 52.58 Philippine Pesos to U.S.\$1.00), (ii) the establishment of a 500 million Philippine Pesos (U.S.\$9.51 million as of December 31, 2018, based on an exchange rate of 52.58 Philippine Pesos to U.S.\$1.00) rehabilitation fund, and (iii) the issuance of a temporary environment protection order against ALQC aiming to prevent ALQC from performing further quarrying activities while the case is still pending.

In the event a final adverse resolution is issued in this matter, plaintiffs will have the option to proceed against any one of ALQC, APO or CHP for satisfaction of the entirety of the potential judgement award, without the need to proceed against any other private defendant beforehand. Thus, ALQC's, APO's or CHP's assets alone could be exposed to execution proceedings. As of December 31, 2018, because of the status and preliminary stage of the lawsuit, considering all possible defenses available, we cannot assess with certainty the likelihood of an adverse result in this lawsuit, and, in turn, we cannot assess if a final adverse resolution, if any, would have a material adverse impact on our results of operations, liquidity and financial condition.

Tariffs

The following is a discussion of tariffs on imported cement in some of the countries and regions in which we operate.

Mexico

Mexican tariffs on imported goods vary by product and have historically been as high as 100%. Over the years, import tariffs have been substantially reduced and currently range from none at all for raw materials to over 20% for finished products. As a result of NAFTA, starting January 1, 1998, the tariff on cement imported into Mexico from the United States or Canada was eliminated. As of December 31, 2018, Mexico, the United States and Canada have reached an agreement with respect to NAFTA's renegotiation which would not have any impact on tariffs on cement imported from the United States or Canada into Mexico. The new agreement signed on November 30, 2018, which is to be called the United States-Mexico-Canada Agreement (USMCA), can come into effect following Congressional ratification. Meanwhile, NAFTA will remain in effect.

While the lack of existence or reduction in tariffs could lead to increased competition from imports in the markets in Mexico in which we operate, it is possible that other factors, such as the cost of transportation incurred from most producers outside Mexico to central Mexico, traditionally the region of highest demand in Mexico, could be seen as a barrier to enter certain of the regions in Mexico in which we operate.

United States

Cement imported into the United States from Cuba and North Korea is subject to custom duties depending on the specific type of cement. Imports into the United States from Cuba and North Korea are generally prohibited due to the United States import/export controls and economic sanctions. In order to import cement and other products into the United States from Cuba or North Korea, an importer would be required to obtain a license from the United States government or otherwise establish the existence of a license exception.

On September 18, 2018, the United States Trade Representative released a list of approximately U.S.\$200 billion worth of Chinese imports that were to be subject to additional tariffs. This list included cement, clinker, slag cement and granulated slag from the manufacture of iron or steel. These additional tariffs were effective starting September 24, 2018 and initially were in the amount of 10%. The United States was expected to increase the additional tariffs to 25% starting January 1, 2019, but this increase was postponed for 90 days starting on December 1, 2018, to allow time for the United States and China to negotiate their trade disputes. As of the date of this annual report, the decision to increase the tariffs has been delayed by the United States Government and no increase has been announced. If there is a tariff increase, the United States is expected to establish a product exclusion process.

Cement imports from countries other than Cuba, China and North Korea into the United States are currently duty free, however, certain individuals and entities on United States government lists of specially designated nationals and prohibited parties, may be subject to United States import/export controls and other sanctions that prohibit transactions (including import transactions) with such persons without a license.

Europe

Member countries of the EU are subject to the uniform EU commercial policy. There is no tariff on cement imported into a country that is a member of the EU from another member country or on cement exported from an EU country to another member country. As of December 31, 2018, for cement imported into a member country from a non-member country, the tariff was 1.7% of the customs value. Any country with preferential treatment with the EU is subject to the same tariffs as members of the EU. Most Eastern European producers exporting cement into EU countries currently pay no tariff.

Tax Matters

Mexico

In November 2009, the Mexican National Congress (*Congreso de la Unión*) approved a general tax reform, effective as of January 1, 2010 (the “2010 Tax Reform”). Specifically, the 2010 Tax Reform included changes to the tax consolidation regime that required CEMEX, among others, to determine and retroactively pay taxes at a current rate on items in past years that were eliminated in consolidation or that reduced consolidated taxable income (“Additional Consolidated Taxes”). The 2010 Tax Reform required CEMEX to pay taxes on certain previously exempted intercompany dividends, certain other special tax items and operating losses generated by members of the consolidated tax group not recovered by the individual company generating such losses within the succeeding ten-year period. The 2010 Tax Reform also increased the statutory income tax rate from 28% to 30% for the years 2010 to 2012, then lowered it to 29% for 2013 and 28% for 2014 and future years. However, in December of 2012, the Federal Revenue Law for the fiscal year of 2013 (*Ley de Ingresos de la Federación para el Ejercicio Fiscal de 2019*), had established that the statutory income tax rate would remain at 30% in 2013, and thereafter lowered to 29% for 2014 and 28% for 2015 and future years. As per the tax reforms enacted in 2014 and effective as of January 1 2014, the statutory income tax will remain at 30%.

For the 2010 fiscal year, CEMEX was required to pay 25% of the Additional Consolidated Taxes (at the 30% tax rate) for the period between 1999 and 2004, with the remaining 75% payable as follows: 25% in 2011, 20% in 2012, 15% in 2013 and 15% in 2014. Additional Consolidated Taxes arising after the 2004 tax year are taken into account in the sixth fiscal year after such year and are payable over the succeeding five years in the same proportions (25%, 25%, 20%, 15% and 15%). Applicable taxes payable as a result of this tax reform are increased by inflation adjustments as required by the Mexican Income Tax Law (*Ley del Impuesto Sobre la Renta*). In connection with these changes in the tax consolidation regime in Mexico, as of December 31, 2009, we recognized a liability of Ps10.5 billion (U.S.\$534.35 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00), of which Ps8.2 billion (U.S.\$417.30 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00) was recognized under “Other non-current assets” in connection with the net liability recognized under the new tax law and that we expect to realize in connection with the payment of this tax liability, and Ps2.2 billion (U.S.\$111.96 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00) was recognized against “Retained earnings” upon adoption of IFRS according to the new law, related to: (i) the difference between the sum of the equity of the controlled entities for tax purposes and the equity for tax purposes of the consolidated entity, (ii) dividends from the controlled entities for tax purposes to CEMEX, S.A.B. de C.V. and (iii) other transactions among the companies included in the tax consolidation group that represented the transfer of resources within such group.

On June 30, 2010, CEMEX paid Ps325 million (U.S.\$16.54 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00) of Additional Consolidated Taxes. This first payment represented 25% of the Additional Consolidated Taxes for the period from 1999 to 2004. On March 31, 2011, CEMEX made a second payment of Ps506 million (U.S.\$25.75 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00). This second payment, together with the prior payment, represented 50% of the Additional Consolidated Taxes for the period from 1999 to 2004, and also included the first payment of 25% of the Additional Consolidated Taxes for the period that corresponds to 2005. On March 30, 2012, CEMEX paid Ps698 million (U.S.\$35.52 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00). This third payment, together with the two prior payments, represented 70% of the Additional Consolidated Taxes for the period from 1999 to 2004, 50% of the Additional Consolidated Taxes for the period that corresponds to 2005 and it also included the first payment of 25% of the Additional Consolidated Taxes for the period that corresponds to 2006. On March 27, 2013, CEMEX paid Ps2 billion (U.S.\$101.78 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00). This fourth payment, together with the three prior payments, represented 85% of the Additional Consolidated Taxes for the period from 1999 to 2004, 70% of the Additional Consolidated Taxes for the period that corresponds to 2005, 50% of the Additional Consolidated Taxes for the period that corresponds to 2006 and 25% of the Additional Consolidated Taxes for the period that corresponds to 2007. On March 31, 2014, CEMEX paid Ps2 billion (U.S.\$101.78 million as of December 31,

2018, based on an exchange rate of Ps19.65 to U.S.\$1.00). This fifth payment, together with the four prior payments, represented 100% of the Additional Consolidated Taxes for the period from 1999 to 2004, 85% of the Additional Consolidated Taxes for the period that corresponds to 2005, 70% of the Additional Consolidated Taxes for the period that corresponds to 2006 and 50% of the Additional Consolidated Taxes for the period that corresponds to 2007. On March 31, 2015, CEMEX paid Ps1.5 billion (U.S.\$76.34 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00). This sixth payment, together with the five prior payments, represented 100% of the Additional Consolidated Taxes for the period from 1999 to 2004, 100% of the Additional Consolidated Taxes for the period that corresponds to 2005, 85% of the Additional Consolidated Taxes for the period that corresponds to 2006 and 70% of the Additional Consolidated Taxes for the period that corresponds to 2007. On March 31, 2016, CEMEX paid Ps119 million (U.S.\$6.06 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00). This seventh payment, together with the six prior payments, represented 100% of the Additional Consolidated Taxes for the period that includes from 1999 to 2004, 100% of the Additional Consolidated Taxes for the period that corresponds to 2005, 100% of the Additional Consolidated Taxes for the period that corresponds to 2006 and 85% of the Additional Consolidated Taxes for the period that corresponds to 2007. On March 31, 2017, CEMEX paid Ps38 million (U.S.\$1.93 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00). This eighth payment, together with the seven prior payments, represented 100% of the Additional Consolidated Taxes for the period from 1999 to 2004, 100% of the Additional Consolidated Taxes for the period that corresponds to 2005, 100% of the Additional Consolidated Taxes for the period that corresponds to 2006 and 100% of the Additional Consolidated Taxes for the period that corresponds to 2007. As of December 31, 2018, we have paid an aggregate amount of Ps7.3 billion (U.S.\$371.50 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00) of Additional Consolidated Taxes.

In December 2010, pursuant to certain additional rules, the tax authorities granted the option to defer the calculation and payment of certain items included in the law in connection with the taxable amount for the difference between the sum of the equity of controlled entities for tax purposes and the equity of the consolidated entity for tax purposes. As a result, CEMEX reduced its estimated tax payable by Ps2.9 billion (U.S.\$147.58 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00) against a credit to the income statement when the new tax enactment took place. In addition, after accounting for the following that took place in 2010: (i) cash payments, (ii) income tax from subsidiaries paid to CEMEX, S.A.B. de C.V. and (iii) other adjustments, the estimated tax payable for tax consolidation in Mexico amounted to Ps10.1 billion (U.S.\$513.99 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00) as of December 31, 2010. Furthermore, after accounting for the following that took place in 2011: (i) cash payments, (ii) income tax from subsidiaries paid to CEMEX, S.A.B. de C.V. and (iii) other adjustments, the estimated tax payable for tax consolidation in Mexico increased to Ps12.4 billion (U.S.\$631.04 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00) as of December 31, 2011. Additionally, after accounting for the following that took place in 2012: (i) cash payments, (ii) income tax from the subsidiaries paid to CEMEX, S.A.B. de C.V., and (iii) other adjustments, as of December 31, 2012, the estimated tax payable for tax consolidation in Mexico increased to Ps14.5 billion (U.S.\$737.91 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00). Furthermore, after accounting for the following that took place in 2013: (i) cash payments, (ii) income tax from subsidiaries paid to CEMEX, S.A.B. de C.V., (iii) other adjustments and (iv) effects of tax deconsolidation, as of December 31, 2013, the estimated tax payable for tax consolidation in Mexico increased to Ps24.8 billion (U.S.\$1.26 billion as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00). Additionally, after accounting for the following that took place in 2014: (i) payments, the majority of which were in cash and (ii) other adjustments, as of December 31, 2014, the estimated tax payable for tax consolidation in Mexico decreased to Ps21.4 billion (U.S.\$1.09 billion as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00). Additionally, after accounting for the following that took place in 2015 and after giving effect to the 2016 Tax Reform (as defined below), as a result of: (i) payments made during the period, the tax payable for tax consolidation in Mexico was decreased to Ps16.2 billion (U.S.\$824.43 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00), which after the application of (ii) different tax credits and (iii) assets for tax loss carryforwards worth, before discount, Ps11.9 billion (U.S.\$605.60 million as of December 31, 2018, based on an exchange rate

of Ps19.65 to U.S.\$1.00), as of December 31, 2015, the estimated tax payable for tax consolidation in Mexico further decreased to Ps3.9 billion (U.S.\$198.47 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00). Additionally, after accounting for the following that took place in 2016: (i) cash payments and (ii) other adjustments, as of December 31, 2016, the estimated tax payable for tax consolidation in Mexico decreased to Ps3.2 billion (U.S.\$162.85 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00). Additionally, after accounting for the following that took place in 2017: (i) cash payments and (ii) other adjustments, as of December 31, 2017, the estimated tax payable for tax consolidation in Mexico decreased to Ps2.5 billion (U.S.\$127.23 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00). Additionally, after accounting for cash payments and other adjustments that took place in 2018, as of December 31, 2018, the estimated tax payable for tax consolidation in Mexico decreased to Ps1.6 billion (U.S.\$81.42 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00).

In addition, as a result of the enactment of the new Income Tax Law (*Ley del Impuesto Sobre la Renta*) in Mexico approved in December 2013 and effective as of January 1, 2014 (the “2014 Tax Reform”), the statutory income tax rate for 2014 and beyond will remain at 30%, and the tax consolidation regime that was in effect up until December 31, 2013, was replaced prospectively by a new integration regime, which will not apply to CEMEX. Consequently, as of 2014, each company in Mexico will determine its income taxes based solely on its individual results, and a period of up to ten years has been established for the settlement of the liability for income taxes related to the tax consolidation regime accrued until December 31, 2013 (“Deconsolidation Taxes”). Additionally, the 2014 Tax Reform abolished the flat rate business tax law and the cash deposit tax.

On April 30, 2014, CEMEX paid Ps2.3 billion (U.S.\$117.05 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00). From this amount, Ps987 million (U.S.\$50.23 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00) were paid in cash and Ps1.3 billion (U.S.\$66.16 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00) were paid through the application of a tax credit, which represented 25% of the Deconsolidation Taxes for the period that corresponded to the 2008 tax year. On April 30, 2015, CEMEX paid Ps3.7 billion (U.S.\$188.30 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00). From this amount, Ps2.3 billion (U.S.\$117.05 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00) were paid in cash and Ps1.4 billion (U.S.\$71.25 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00) were paid through the application of a tax credit. This second payment, together with the first payment, represented 50% of the Deconsolidation Taxes for the period that corresponds to the 2008 tax year and 25% of the Deconsolidation Taxes for the period that corresponds to the 2009 tax year. On April 29, 2016, CEMEX paid Ps728 million (U.S.\$37.05 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00). This third payment, together with the two prior payments, represented 70% of the Deconsolidation Taxes for the period that corresponds to the 2008 tax year, 50% of the Deconsolidation Taxes for the period that corresponds to the 2009 tax year and 25% of the Deconsolidation Taxes for the period that corresponds to the 2010 tax year. On April 28, 2017, CEMEX paid Ps924 million (U.S.\$47.02 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00). This fourth payment, together with the three prior payments represented 85% of the Deconsolidation Taxes for the period that corresponds to the 2008 tax year, 70% of the Deconsolidation Taxes for the period that corresponds to the 2009 tax year, 50% of the Deconsolidation Taxes for the period that corresponds to the 2010 tax year and 25% of the Deconsolidation Taxes for the period that corresponds to the 2011 tax year. On April 30, 2018, CEMEX paid Ps970 million (U.S.\$49.36 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00). This fifth payment, together with the four prior payments represented 100% of the Deconsolidation Taxes for the period that corresponds to the 2008 tax year, 85% of the Deconsolidation Taxes for the period that corresponds to the 2009 tax year, 70% of the Deconsolidation Taxes for the period that corresponds to the 2010 tax year, 50% of the Deconsolidation Taxes for the period that corresponds to the 2011 tax year and 25% of the Deconsolidation Taxes for the period that corresponds to the 2012 tax year.

In October 2015, the Mexican National Congress (*Congreso de la Unión*) approved a tax reform, effective as of January 1, 2016 (the “2016 Tax Reform”). Specifically, the 2016 Tax Reform granted Mexican companies

two tax credits to offset part of the Deconsolidation Taxes payable as a result of the elimination of the group taxation regime: (i) 50% of the taxes due as a result of unamortized losses used to compute the consolidated tax could be settled with individual accumulated losses adjusted for inflation using a factor of .15 multiplied by such losses and (ii) tax credit against Deconsolidation Taxes related to intercompany dividends that were paid without having sufficient tax profits. CEMEX applied both tax credits against its remaining Deconsolidation Taxes through the filing of amended tax returns regarding the year ending on December 31, 2015 and upon the withdrawal of the constitutional challenge (*juicio de amparo*) against the 2014 Tax Reform filed by us on February 12, 2015. Additionally, the 2016 Tax Reform granted Mexican companies the option not to pay the remaining asset tax payments included in the Deconsolidation Tax liability. CEMEX also applied this option.

As of December 31, 2018, taking into account the effects of the 2016 Tax Reform, our estimated payment schedule of Deconsolidation Taxes (which includes the Additional Consolidated Taxes) is as follows: Ps590 million (U.S.\$30.03 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00) in 2019; Ps406 million (U.S.\$20.66 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00) in 2020; and Ps575 million (U.S.\$29.26 million as of December 31, 2018, based on an exchange rate of Ps19.65 to U.S.\$1.00) in 2021 and thereafter.

Property Tax Matter in the State of Hidalgo, Mexico

During the last quarter of 2017, the municipality of Atotonilco de Tula, Hidalgo, Mexico issued new valuations regarding our operating facility in that municipality to assess the corresponding property tax payable by CEMEX México starting in 2017. As of December 31, 2018, CEMEX México is contesting the legality of such valuations before the Administrative Court of the State of Hidalgo (*Tribunal de Justicia Administrativa del Estado de Hidalgo*), which has not yet issued a decision. CEMEX México contends that the valuation by the municipality is contrary to the Cadastral Law of the State of Hidalgo (*Ley de Catastro del Estado de Hidalgo*) and has twice tried to effect payment of the property tax corresponding to the years 2017 and 2018 in accordance with its calculations made pursuant to the Revenue Law of the Municipality of Atotonilco de Tula, Hidalgo (*Ley de Ingresos del Municipio de Atotonilco de Tula, Hidalgo*) and the Cadastral Law of the State of Hidalgo (*Ley de Catastro del Estado de Hidalgo*) in effect as of December 31, 2018. The municipality has refused to accept such payment based on an alleged difference in the property tax to be paid, which has not been formally determined by the municipality. The municipality's refusal to accept payment could result in CEMEX México failing to obtain a municipal license required for the operation of CEMEX México's Atotonilco operating facility pursuant to municipal regulations published in the Official Gazette of the State of Hidalgo (*Periódico Oficial del Estado de Hidalgo*) on February 12, 2018, since payment of the corresponding property tax is a requirement for obtaining the municipal license. If the legal actions initiated by CEMEX México in this matter during the first half of 2018 are resolved favorably, CEMEX México would be allowed to pay the corresponding property tax in accordance with its own calculations and the municipal license would be obtained. An adverse result in this matter would result in temporary failure to obtain the aforementioned municipal license, which could affect the operations of our Atotonilco facility while this license is obtained. As of December 31, 2018, we are not able to assess the likelihood of an adverse result to this matter; however, if such matter is finally resolved adversely to us and it affects the operations of our Atotonilco facility, such effect could have an adverse impact on our results of operations, liquidity and financial condition.

United States

As of December 31, 2018, the United States Internal Revenue Service ("IRS") concluded its audits for the years 2014, 2015 and 2016. The final findings did not alter the originally filed CEMEX returns in the United States, which had no reserves set aside for any potential tax issues. On August 9, 2017 and March 29, 2018, the IRS commenced its audits of the 2017 and 2018 tax years, respectively, under the compliance assurance process. As of December 31, 2018, we have not identified any material audit issues and, as such, no reserves are recorded for the 2017 and 2018 tax year audits in our financial statements.

Colombia

On April 1, 2011, the Colombian Tax Authority notified CEMEX Colombia of a proceeding notice in which the Colombian Tax Authority rejected certain deductions taken by CEMEX Colombia in its 2009 year-end tax return. The Colombian Tax Authority assessed an increase in taxes to be paid by CEMEX Colombia in the amount of 90 billion Colombian Pesos (U.S.\$27.69 million as of December 31, 2018, based on an exchange rate of 3,249.75 Colombian Pesos to U.S.\$1.00) and imposed a penalty in the amount of 144 billion Colombian Pesos (U.S.\$44.31 million as of December 31, 2018, based on an exchange rate of 3,249.75 Colombian Pesos to U.S.\$1.00). The aforementioned penalty was equivalent to 160% of the additional taxes paid by CEMEX Colombia. However, in 2017, Law 1819 of 2016 became effective. The inaccuracy penalty under such law is 100%. Therefore, CEMEX Colombia requested the State Council in April 2017, if the arguments of the Tax Authority would be sustained, to apply the penalty at 100% pursuant to the principle of favorability. This would translate to an amount of 89 billion Colombian Pesos (approximately U.S.\$27.38 million as of December 31, 2018, based on an exchange rate of 3,249.75 Colombian Pesos to U.S.\$1.00). The Colombian Tax Authority argues that certain expenses are not deductible for fiscal purposes because they are not linked to direct revenues recorded in the same fiscal year, without taking into consideration that future revenue will be taxed with income tax in Colombia. CEMEX Colombia responded to the proceeding notice on June 25, 2011. On December 15, 2011, the Colombian Tax Authority issued its final determination, which confirmed the information in the special proceeding. CEMEX Colombia appealed the final determination on February 15, 2012. On January 17, 2013, the Colombian Tax Authority notified CEMEX Colombia of the resolution confirming the official liquidation. CEMEX Colombia appealed the final determination on May 10, 2013 which was admitted on June 21, 2013. On July 3, 2013, the appeal was notified to the Colombian Tax Authority, and hearings took place on February 18, 2014 and March 11, 2014. An adverse resolution to the appeal was notified to CEMEX Colombia on July 14, 2014 and on July 22, 2014, CEMEX Colombia filed an appeal before the Colombian Consejo de Estado against such adverse resolution. As of December 31, 2018, if the appeal before the Colombian Consejo de Estado is adversely resolved against CEMEX Colombia, in addition to any amounts to be paid in confirmation of the official liquidation, CEMEX Colombia would, as of the payment date, be required to pay interest on the amounts that would be declared due as of the dates they would have had to be paid. As of December 31, 2018, at this stage of the proceeding and considering all possible defenses available, while we cannot assess with certainty the likelihood of an adverse result in this special proceeding, we believe a final adverse resolution to this special proceeding is not probable. However, if adversely resolved, we believe such adverse resolution would not have a material adverse impact on our results of operations, liquidity and financial condition.

On April 6, 2018, the Colombian Tax Authority notified CEMEX Colombia of a proceeding notice in which the Colombian Tax Authority rejected certain deductions taken by CEMEX Colombia in its 2012 year-end income tax return. The Colombian Tax Authority assessed an increase in taxes to be paid by CEMEX Colombia in the amount of 124.79 billion Colombian Pesos (U.S.\$38.40 million as of December 31, 2018, based on an exchange rate of 3,249.75 Colombian Pesos to U.S.\$1.00) and imposed a penalty in the amount of 124.79 billion Colombian Pesos (U.S.\$38.40 million as of December 31, 2018, based on an exchange rate of 3,249.75 Colombian Pesos to U.S.\$1.00). On June 22, 2018, CEMEX Colombia responded to the proceeding notice and on December 28, 2018, CEMEX Colombia was notified of the issuance of an official liquidation confirming the information in the proceeding notice. CEMEX Colombia intends to appeal the Colombian Tax Authority's decision within the next two months and exhaust all legal recourses available, which could take between six and eight years to resolve. As of December 31, 2018, if a final resolution adverse to CEMEX Colombia is reached in this matter, in addition to any amounts to be paid in confirmation of the official liquidation, CEMEX Colombia would, as of the payment date, be required to pay interest on the amounts that would be declared due as of the dates they would have had to be paid. As of December 31, 2018, at this stage of the proceeding and considering all possible defenses available, while we cannot assess with certainty the likelihood of an adverse result in this special proceeding, we believe a final adverse resolution to this special proceeding is not probable. However, if adversely resolved, we do not expect such adverse resolutions to have a material adverse impact on our results of operations, liquidity and financial condition.

On September 5, 2018, the Colombian Tax Authority notified CEMEX Colombia of a proceeding notice in which the Colombian Tax Authority rejected certain deductions taken by CEMEX Colombia in its 2011 year-end income tax return. The Colombian Tax Authority assessed an increase in taxes to be paid by CEMEX Colombia in the amount of 85.17 billion Colombian Pesos (U.S.\$26.21 million as of December 31, 2018, based on an exchange rate of 3,249.75 Colombian Pesos to U.S.\$1.00) and imposed a penalty in the amount of 85.17 billion Colombian Pesos (U.S.\$26.21 million as of December 31, 2018, based on an exchange rate of 3,249.75 Colombian Pesos to U.S.\$1.00). On November 30, 2018, CEMEX Colombia responded to the proceeding notice and, if an official liquidation is issued, CEMEX Colombia intends to appeal the Colombian Tax Authority's decision and exhaust all legal recourses available, which could take between six and eight years to resolve. As of December 31, 2018, if a final resolution adverse to CEMEX Colombia is reached in this matter, in addition to any amounts to be paid in confirmation of the official liquidation, CEMEX Colombia would, as of the payment date, be required to pay interest on the amounts that would be declared due as of the dates they would have had to be paid. As of December 31, 2018, at this stage of the proceeding and considering all possible defenses available, while we cannot assess with certainty the likelihood of an adverse result in this special proceeding, we believe a final adverse resolution to this special proceeding is not probable. However, if adversely resolved, we do not expect such adverse resolution to have a material adverse impact on our results of operations, liquidity and financial condition.

Spain

On July 7, 2011, the tax authorities in Spain notified CEMEX España of a tax audit process in Spain covering the tax years from and including 2006 to 2009. The tax authorities in Spain have challenged part of the tax losses reported by CEMEX España for such years. CEMEX España has been formally notified of fines in the aggregate amount of €456 million (U.S.\$522.53 million as of December 31, 2018, based on an exchange rate of €0.8727 to U.S.\$1.00) resulting from the July 7, 2011 tax audit process in Spain. The laws of Spain provide a number of appeals that can be filed against such fines without CEMEX España having to make any payment until such appeals are finally resolved. On April 22, 2014, CEMEX España filed appeals against such fines before the Tribunal Económico Administrativo Central ("TEAC") of the Spanish Tax Authorities. On September 20, 2017, CEMEX España was notified by the TEAC about an adverse resolution to such appeals. CEMEX España filed a recourse against such resolution on November 6, 2017 before the National Court (*Audiencia Nacional*) and applied for the suspension of the payment of the fines. The National Court admitted the recourse; and, on January 31, 2018, it notified CEMEX España of the granting of the suspension of the payment, subject to the provision of guarantees on or before April 2, 2018. In this regard, CEMEX España provided the respective guarantees in the form of a combination of a liability insurance policy and a mortgage of several assets in Spain owned by its Spanish subsidiary CEMEX España Operaciones, S.L.U. On November 6, 2018, the National Court (*Audiencia Nacional*) confirmed the acceptance of the guarantees by the Spanish Tax Office, which ensures the suspension of the payment until the recourses are definitively resolved. As of December 31, 2018, at this stage of the matter and considering all possible defenses available, while we cannot assess with certainty the likelihood of an adverse result in this matter, we believe a final adverse resolution to this matter is not probable. However, if adversely resolved, we believe such adverse resolution could have a material adverse impact on our results of operations, liquidity and financial condition.

Egypt

On February 9, 2014, ACC was notified of the decision of the Egyptian Ministry of Finance's Appeals Committee (the "Appeals Committee") pursuant to which ACC has been required to pay a development levy on clay (the "Levy on Clay") applied to the Egyptian cement industry in the amount of: (i) 322 million Egyptian Pounds (U.S.\$17.93 million as of December 31, 2018, based on an exchange rate of Egyptian Pounds 17.9559 to U.S.\$1.00) for the period from May 5, 2008 to August 31, 2011 and (ii) 50,235 Egyptian Pounds (U.S.\$2,797.69 as of December 31, 2018, based on an exchange rate of Egyptian Pounds 17.9559 to U.S.\$1.00) for the period from September 1, 2011 to November 30, 2011. On March 10, 2014, ACC filed a claim before the North Cairo Court requesting the nullification of the Appeals Committee's decision and requesting that the North Cairo Court

rule that the Egyptian tax authority is not entitled to require payment of the aforementioned amounts. In parallel, ACC has filed a request before the Ministerial Committee for Resolution of Investment Disputes (the “Ministerial Committee”) claiming non-entitlement of the Egyptian tax authority to the Levy on Clay used in the production of cement from the date of enforceability of Law No. 114/2008 up until issuance of Law No. 73/2010, and from cement produced using imported clinker. On September 28, 2015, ACC was notified by the Egyptian Cabinet that on September 2, 2015, it ratified an August 10, 2015 decision by the Ministerial Committee (the “Ministerial Committee’s Decision”) pursuant to which the Egyptian tax authority is instructed to cease claiming payment of the Levy on Clay from ACC. The Ministerial Committee’s Decision applies to the years from 2008 up to the issuance date of Law No. 73/2010. It was further decided that the Levy on Clay should not be imposed on imported clinker. At this stage, as of December 31, 2018, the Ministerial Committee’s Decision strongly supports ACC’s position in this dispute, given the fact that the Ministerial Committee’s Decision is legally binding on the Egyptian tax authority. The Ministerial Committee’s Decision was submitted to the Egyptian tax authority and, accordingly, the Egyptian tax authority issued a settlement memorandum (the “Settlement Memorandum”), whereby it confirmed and recognized the Ministerial Committee’s Decision. Furthermore, in application of the Settlement Memorandum and the Ministerial Committee’s Decision, the Egyptian tax authority issued a new claim to ACC for an adjusted amount of 55,586 Egyptian Pounds (U.S.\$3,095.70 as of December 31, 2018, based on an exchange rate of Egyptian Pounds 17.9559 to U.S.\$1.00). On a March 7, 2016 session of the North Cairo Court, ACC submitted the Settlement Memorandum and the Ministerial Committee’s Decision. At a May 28, 2016 session before the North Cairo Court, the expert’s office appointed to review the case file submitted its report that confirmed and recognized the Ministerial Committee’s Decision and at this session this case was reviewed jointly with the Egyptian tax authority case, which was filed to challenge ACC’s right to cancel the Levy on Clay. On December 27, 2016, the North Cairo Court ruled for referring the two jointly reviewed cases to the Cairo Administrative Judiciary Court for the former’s lack of jurisdiction to review the same. These cases have been adjourned by the Commissioners of the Cairo Administrative Judiciary Court to February 4, 2019 for submission of documents by the attorney for the State pertaining to the settlement of the dispute with ACC. We do not expect that such referral will prejudice what we believe is ACC’s favorable legal position in this dispute. As of December 31, 2018, we do not expect our operations, liquidity and financial condition to suffer a material adverse impact because of this matter.

Other Legal Proceedings

Colombian Construction Claims

On August 5, 2005, the Urban Development Institute (*Instituto de Desarrollo Urbano*) (“UDI”), and an individual filed a lawsuit in the Fourth Anti-Corruption Court of Bogotá (*Fiscalía Cuarta Anticorrupción de Bogotá*) against a subsidiary of CEMEX Colombia claiming that it was liable, along with the other members of the Asociación Colombiana de Productores de Concreto (“ASOCRETO”), an association formed by the ready-mix concrete producers in Colombia, for the premature distress of the concrete slabs of the Autopista Norte trunk line of the TransMilenio bus rapid transit system of Bogotá in which ready-mix concrete and flowable fill supplied by CEMEX Colombia and other ASOCRETO members was used. The plaintiffs alleged that the base material supplied for the road construction failed to meet the quality standards offered by CEMEX Colombia and the other ASOCRETO members and/or that they provided insufficient or inaccurate information in connection with the product. The plaintiffs were seeking the repair of the concrete slabs in a manner which guarantees their service during the 20-year period for which they were originally designed, and estimate that the cost of such repair could have been 100 billion Colombian Pesos (U.S.\$30.77 million as of December 31, 2018, based on an exchange rate of 3,249.75 Colombian Pesos to U.S.\$1.00). The lawsuit was filed within the context of a criminal investigation against a former director and two officers of the UDI, the contractor, the inspector and two ASOCRETO officers. On January 21, 2008, a court issued an order, sequestering the El Tunjuelo quarry, as security for payment of a possible future money judgment against CEMEX Colombia. The court determined that in order to lift this attachment and prevent further attachments, CEMEX Colombia was required to deposit 337.8 billion Colombian Pesos (U.S.\$103.95 million as of December 31, 2018, based on an exchange rate of 3,249.75 Colombian Pesos to U.S.\$1.00) in cash instead of posting an insurance policy to secure such recovery.

CEMEX Colombia appealed this decision and the Superior Court of Bogotá (*Tribunal Superior de Bogotá*) allowed CEMEX to present an insurance policy in the amount of 20 billion Colombian Pesos (U.S.\$6.15 million as of December 31, 2018, based on an exchange rate of 3,249.75 Colombian Pesos to U.S.\$1.00). CEMEX gave the aforementioned security and, on July 27, 2009, the court lifted the attachment on the quarry.

On October 10, 2012, the court issued a first instance judgment pursuant to which the accusation made against the ASOCRETO officers was nullified. The judgment also convicted a former UDI director, the contractor's legal representatives and the inspector to a prison term of 85 months and a fine of 32 million Colombian Pesos (U.S.\$9,846.91 as of December 31, 2018, based on an exchange rate of 3,249.75 Colombian Pesos to U.S.\$1.00). As a consequence of the nullification, the judge ordered a restart of the proceeding against the ASOCRETO officers. The UDI and other parties to the legal proceeding appealed the first instance judgment and on August 30, 2013 the Superior Court of Bogotá resolved to reduce the prison term imposed to the former UDI director and the UDI officers to 60 months and imposed a fine equivalent to 8.8 million Colombian Pesos (U.S.\$2,707.90 as of December 31, 2018, based on an exchange rate of 3,249.75 Colombian Pesos to U.S.\$1.00). Additionally, the UDI officers were sentenced to severally pay the amount of 108 billion Colombian Pesos (U.S.\$33.23 million as of December 31, 2018, based on an exchange rate of 3,249.75 Colombian Pesos to U.S.\$1.00) for the purported damages in the concrete slabs of the TransMilenio bus rapid transit system. Additionally, the Superior Court of Bogotá overturned the penalty imposed to the contractor's legal representatives and inspector because the criminal action against them was barred due to the passage of time. Furthermore, the Superior Court of Bogotá revoked the annulment in favor of the ASOCRETO officers and ordered the first instance judge to render a judgment regarding the ASOCRETO officers' liability or lack thereof. On June 25, 2014, the Supreme Court of Colombia's Penal Cassation Chamber (*Sala de Casación Penal de la Corte Suprema de Justicia de Colombia*) dismissed the cassation claim filed by the former UDI director and the UDI officers against the Superior Court of Bogotá's judgment. Dismissal of the cassation claim has no effect on CEMEX Colombia's or the ASOCRETO officers' interests in these proceedings. On January 21, 2015, the Penal Circuit Court of Bogotá issued a resolution agreeing with the arguments presented by CEMEX Colombia regarding the application of the statute of limitations to the criminal investigation against the ASOCRETO officers and acknowledging that the ASOCRETO officers were not public officers, and as a consequence, finalizing the process against the ASOCRETO officers and the civil responsibility claim against CEMEX Colombia. On July 28, 2015, the Superior Court of Bogotá (*Tribunal Superior de Bogotá*) upheld this resolution and, as such, the action brought against CEMEX Colombia for the premature distress of the concrete slabs of the Autopista Norte trunk line has ended. In addition, six legal actions related to the premature distress of the concrete slabs of the Autopista Norte trunk line of the TransMilenio bus rapid transit system were brought against CEMEX Colombia. The Cundinamarca Administrative Court (*Tribunal Administrativo de Cundinamarca*) nullified five of these actions and, as of December 31, 2018, only one remains outstanding. In addition, the UDI filed another action alleging that CEMEX Colombia made misleading advertisements on the characteristics of the flowable fill used in the construction of the concrete slabs. CEMEX Colombia participated in this project solely and exclusively as supplier of the ready-mix concrete and flowable fill, which were delivered and received to the satisfaction of the contractor, complying with all the required technical specifications. CEMEX Colombia neither participated in nor had any responsibility for the design, sourcing of materials or their corresponding technical specifications or construction. On May 24, 2016, the Civil Court of Bogota settled the action filed by the UDI against CEMEX Colombia. The court accepted the arguments in defense of CEMEX Colombia, ruling that the flowable fill is not what caused the damage to the slabs and that the damages were caused by design changes when executing the road without consulting the original designer and the lack of drains. The UDI filed an appeal against the court's ruling. On December 7, 2016, the Superior Court of Bogota (*Tribunal Superior de Bogotá*) upheld the Civil Court of Bogota's decision. As of December 31, 2018, at this stage of the proceedings, with respect to the remaining pending action filed before the Cundinamarca Administrative Court, if adversely resolved, we do not expect that such adverse resolution will have a material adverse impact on our results of operations, liquidity and financial condition.

Croatian Concession Litigation

After an extended consultation period, in April 2006, the cities of Kastela and Solin in Croatia published their respective Master (physical) Plans defining the development zones within their respective municipalities, adversely impacting the mining concession granted to CEMEX Croatia by the Government of Croatia in September 2005. During the consultation period, CEMEX Croatia submitted comments and suggestions to the Master Plans intended to protect and preserve the rights of CEMEX Croatia's mining concession, but these were not taken into account or incorporated into the Master Plans by Kastela and Solin. Immediately after publication of the Master Plans, CEMEX Croatia filed a series of lawsuits and legal actions before the local and federal courts to protect its acquired rights under the mining concessions, including: (i) on May 17, 2006, a constitutional appeal before the constitutional court in Zagreb, seeking a declaration by the court concerning CEMEX Croatia's constitutional claim for decrease and obstruction of rights earned by investment and seeking prohibition of implementation of the Master Plans; and (ii) on May 17, 2006, an administrative proceeding before an administrative court seeking a declaration from the Government of Croatia confirming that CEMEX Croatia acquired rights under the mining concessions. The administrative court subsequently ruled in favor of CEMEX Croatia, validating the legality of the mining concession granted to CEMEX Croatia by the Government of Croatia, in September 2005. On June 15, 2012, we were notified that the case had been transferred from the constitutional court to the administrative court as a result of a new law that places the administrative courts in charge of disputes relating to environmental planning. In February 2014, the administrative court requested CEMEX Croatia to declare if it was still interested in proceeding with the concession litigation and if so, to provide additional clarification and documentation to support such claims. On March 3, 2014, CEMEX Croatia submitted the clarification and required documentation and on April 4, 2014, CEMEX Croatia was notified that the administrative court rejected its claims and found that its acquired rights or interests under the mining concessions had not been violated as a result of any act or decision made by the cities of Solin or Kastela or any other governmental body.

On April 29, 2014, CEMEX Croatia filed two claims before the Constitutional Court of the Republic of Croatia alleging that CEMEX Croatia's constitutional rights to a fair trial and judicial protection had been violated. On August 1, 2014, CEMEX Croatia also filed an application before the European Court of Human Rights alleging that CEMEX Croatia's constitutional rights to a fair trial, property rights, concession rights and investment had been violated due to irregularities in a general act, which has been denied. The European Court of Human Rights found the application to be inadmissible pursuant to articles 34 and 35 of the Convention for the Protection of Human Rights and Fundamental Freedoms, meaning that CEMEX Croatia did not exhaust all its domestic legal remedies, thus stipulating the Constitutional Court of the Republic of Croatia's jurisdiction in this matter. On February 6, 2015, the decision of the European Court of Human Rights was sent to the Constitutional Court of the Republic of Croatia. The Constitutional Court of the Republic of Croatia granted the claim, annulled the decision of the administrative court and remanded the case to the administrative court for a new trial. On June 9, 2017, the administrative court issued a decision rejecting CEMEX Croatia's request. CEMEX will not file an appeal, thus the administrative court's decision is final. During May 2015, CEMEX Croatia obtained a new location permit from the Croatian Ministry of Construction and Physical Planning for CEMEX Croatia's Sveti Juraj-Sveti Kajo quarry. On August 2, 2016, CEMEX Croatia obtained a decision pursuant to which a right of way was granted on land owned by the Republic of Croatia and located in Sveti Juraj-Sveti Kajo quarry. The period of such right of way will be compatible with the location permit previously granted. On December 5, 2018, CEMEX Croatia was notified of a decision issued by the Ministry of Economy granting CEMEX Croatia a mining concession that will expire on May 31, 2053 and, as a result, this proceeding has ended. As of December 31, 2018, we do not expect our operations, liquidity and financial condition to suffer a material adverse impact because of this matter.

Israeli Class Action Litigation

On June 21, 2012, one of our subsidiaries in Israel was notified about an application for the approval of a class action suit against it. The application was filed by a homeowner who built his house with concrete supplied

by our Israeli subsidiary in October 2010 (an identical application was filed against three other companies by the same legal representative). According to the application, the plaintiff claims that the concrete supplied to him did not meet with the “Israel Standard for Concrete Strength No. 118” and that, as a result, our Israeli subsidiary acted unlawfully toward all of its customers who requested a specific type of concrete but that received concrete that did not comply with Israeli standard requirements. As per the application, the plaintiff claims that the supply of the alleged non-conforming concrete has caused financial and non-financial damages to those customers, including the plaintiff. We presume that the class action would represent the claim of all the clients who purchased the alleged non-conforming concrete from our Israeli subsidiary during the past seven years, the limitation period according to applicable laws in Israel. The damages that could be sought amount to 276 million Israeli Shekels (U.S.\$73.64 million as of December 31, 2018, based on an exchange rate of 3.748 Israeli Shekels to U.S.\$1.00).

Our Israeli subsidiary submitted a formal response to the corresponding court. Both parties presented their preliminary arguments. In a hearing held on December 20, 2015, the preliminary proceeding was completed and the court set dates for hearing evidence on May 8, 10 and 16, 2016. In addition, the court decided to join together all claims against all four companies, including our subsidiary in Israel, in order to simplify and shorten court proceedings, however, it should be mentioned that the court had not formally decided to join together all claims. On the hearing dates, the applicants in all four claims presented evidence, including expert testimony. An abandonment of action has been submitted to the court regarding two of the four defendant companies, but our Israeli subsidiary and another company remain as defendants. Our Israeli subsidiary and the applicant already submitted their summations with regards to the application for the approval of the class action. We are waiting for a judgment regarding this application and with respect to the abandonment of action that has been submitted with regards to the two other defendants. As of December 31, 2018, at this stage of the proceeding, we believe that the likelihood of an adverse result in this special proceeding is not probable as our Israeli subsidiary is not able to assess the likelihood of the class action application being approved or, if approved, of an adverse result, such as an award for damages in the full amount that could be sought, but if adversely resolved, we do not believe the final resolutions would have a material adverse impact on our results of operations, liquidity and financial condition.

Egypt Share Purchase Agreement

On April 7, 2011 and March 6, 2012, lawsuits seeking, among other things, the annulment of the share purchase agreement entered into by and between CEMEX and state-owned Metallurgical Industries Company (the “Holding Company”) in November 1999 pursuant to which CEMEX acquired a controlling interest in ACC (the “Share Purchase Agreement”), were filed by different plaintiffs, including 25 former employees of ACC, before the 7th and 8th Circuits of Cairo’s State Council Administrative Judiciary Court, respectively. Hearings in both cases were adjourned in order for the State Commissioner Authority (“SCA”) to prepare the corresponding reports to be submitted for the consideration of the 7th and 8th Circuits of Cairo’s State Council Administrative Judiciary Court. During March 2015, the SCA submitted the relevant reports recommending, in both cases, that the 7th and 8th Circuits of Cairo’s State Council Administrative Judiciary Court stays the proceedings until the High Constitutional Court pronounces itself with regards to the challenges against the constitutionality of the Presidential Decree on Law No. 32 of 2014 (“Law 32/2014”). A hearing was held on October 13, 2015 before the 8th Circuit of Cairo’s State Council Administrative Judiciary Court in which the SCA’s report was reviewed and the case was adjourned to January 26, 2016 for passing judgment. At the session held on January 26, 2016, the 8th Circuit of Cairo’s State Council Administrative Judiciary Court issued a judgment ruling for the dismissal of this case considering the plaintiff’s lack of standing. The legal prescription period for the plaintiff to challenge the judgment before the High Administrative Court of 60 calendar days from the date of issuance of the judgment expired without the plaintiff filing a challenge to the judgment. Accordingly, the January 26, 2016 judgment issued by the 8th Circuit of Cairo’s State Council Administrative Judiciary Court is final and definitive. At a session held on September 3, 2015, the 7th Circuit of Cairo’s State Council Administrative Judiciary Court accepted the SCA’s report recommendation and ruled for staying the proceedings until the High Constitutional Court pronounces itself with regards to the challenges against the constitutionality of Law 32/2014. As of

December 31, 2018, at this stage of the proceedings, we believe that the likelihood of an adverse result in this matter is not probable as we are not able to assess the likelihood of an adverse resolution regarding this lawsuit filed before the 7th Circuit of Cairo's State Council Administrative Judiciary Court, but if adversely resolved, we do not believe the resolution in the first instance would have an immediate material adverse impact on our results of operations, liquidity and financial condition as there are different legal recourses that we could take. However, if we exhaust all legal recourses available to us, a final adverse resolution of this matter could have a material adverse impact on our operations, liquidity and financial condition.

Regarding a different lawsuit submitted to a First Instance Court in Assiut, Egypt and notified to ACC on May 23, 2011, on September 13, 2012, the first instance court of Assiut, Egypt issued a judgment (the "First Instance Judgment") to (i) annul the Share Purchase Agreement and (ii) reinstate former employees to their former jobs at ACC. The First Instance Judgment was notified to ACC on September 19, 2012. On October 18, 2012, ACC filed an appeal against the First Instance Judgment, which was followed by the Holding Company's appeal filed on October 20, 2012 before the Appeal Court in Assiut, Egypt (the "Appeal Court"). At a November 17, 2013 hearing, the Appeal Court decided to join the appeals filed by ACC and the Holding Company and adjourned the session to January 20, 2014 to render judgment. On January 20, 2014, the Appeal Court issued a judgment (the "Appeal Judgment") accepting both appeals, revoking the First Instance Judgment, ruling for non-qualitative jurisdiction of the first instance court to review the case and referred the matter to the administrative court in Assiut, Egypt (the "Assiut Administrative Court") for a hearing to be held on March 16, 2014. This hearing was subsequently rescheduled to May 17, 2014 and ultimately was not held because the case file had not been completed on time in order for it to be referred to the Assiut Administrative Court. The SCA submitted a report recommending that the Assiut Administrative Court to declare itself incompetent to review this case and to refer it to the Assiut Administrative Judiciary Court (the "Assiut Administrative Judiciary Court"). The Assiut Administrative Court scheduled a new hearing for October 11, 2014 to review the case. On October 15, 2014, the Assiut Administrative Court ruled for its non-jurisdiction to review the case and referred the case to the Assiut Administrative Judiciary Court. On December 11, 2014, ACC filed an appeal against the Assiut Administrative Court ruling (the "Appeal"), requesting that its enforcement be suspended until a judgment is issued on the appeal filed before the Cassation Court on March 12, 2014. Additionally, another appeal substantially on the same terms as the Appeal, was filed on March 10, 2014 by the Holding Company against the same ruling (the "Parallel Appeal"). On February 10, 2015 and March 17, 2015, hearings were held before the Assiut Administrative Judiciary Court's SCA in which the SCA decided to adjourn in order to prepare the corresponding report to be submitted for the consideration of the Assiut Administrative Judiciary Court. On October 2015, the SCA issued a report recommending mainly that due to the absence of geographical jurisdiction to review the case, it should be referred to the 7th Circuit of "Economic and Investment Disputes" of Cairo's State Council Administrative Judiciary Court. The Assiut Administrative Judiciary Court held a hearing for the case on February 24, 2016, in which it decided to refer the case to the First Circuit (formerly 7th Circuit) of "Economic and Investment Disputes" of Cairo's State Council Administrative Judiciary Court. Cairo's State Council Administrative Judiciary Court held a hearing on March 28, 2017 to notify the parties of the procedures, whereupon the court adjourned the hearing until June 13, 2017 in order for the parties to submit their memoranda. On June 13, 2017 the court decided to refer the case back to SCA to prepare and submit a complementary report on the merits. The SCA shall notify ACC with a new hearing date before the SCA if it deems necessary or, after the SCA finishes the preparation of the complementary report, a new hearing will be scheduled before Cairo's State Council Administrative Judiciary Court. In a session held on February 11, 2016 in order to review the Appeal, the Assiut Administrative Judiciary Court decided to refer the case to the First Circuit of Cairo's State Council Administrative Judiciary Court, which in turn decided to refer the Appeal to the Assiut Administrative Judiciary Court. On November 9, 2016, the Assiut Administrative Judiciary Court held a session in order to review the referred Appeal, and adjourned the Appeal to February 8, 2017. On February 8, 2017, the court adjourned the hearing until June 14, 2017 in order for the parties to submit their final memoranda. On June 14, 2017 the court postponed the hearing until November 23, 2017 in order for the parties to review the submitted documents. At the hearing held on November 23, 2017, the Assiut Administrative Judiciary Court referred the Appeal to the Commissioner's Division for the Commissioner to render the corresponding opinion. On August 27, 2018, the Assiut Administrative Judiciary Court decided to refer the Parallel Appeal to the Cairo

Administrative Judiciary Court. We expect a similar ruling on the Appeal filed by ACC. As of December 31, 2018, at this stage of the proceedings, we believe that the likelihood of an adverse result in this matter is not probable as we are not able to assess the likelihood of an adverse resolution regarding this lawsuit filed before the First Circuit of Cairo's State Council Administrative Judiciary Court, but if adversely resolved, we do not believe the resolution in the first instance would have an immediate material adverse impact on our results of operations, liquidity and financial condition as there are different legal recourses that we could take. However, if we exhaust all legal recourses available to us, a final adverse resolution of this matter could have a material adverse impact on our operations, liquidity and financial condition.

On March 12, 2014, ACC filed a challenge before the Cassation Court against the part of the Appeal Judgment that refers to the referral of the case to the Assiut Administrative Court and payment of the appeal expenses and attorney fees, and requested a suspension of the Appeal Judgment execution with respect to these matters until the Cassation Court renders its judgment (the "Challenge"). A hearing was held on April 12, 2016 in order to review the Challenge's summary request only, which requested the Cassation Court to stay the execution of part of the Appeal Judgment regarding the referral of the case to the Assiut Administrative Court and payment of the appeal expenses and attorney fees. At this hearing the Cassation Court rejected the summary request. As of December 31, 2018, ACC has not been notified of a session before the Cassation Court in order to review the subject matter of the Challenge. As of December 31, 2018, at this stage of the proceedings, we believe that the likelihood of an adverse result in this matter is not probable as we are not able to assess the likelihood of an adverse resolution regarding the Challenge, but if adversely resolved, we do not believe the resolution would have an immediate material adverse impact on our results of operations, liquidity and financial condition as there are different recourses that we could take. However, if we exhaust all legal recourses available to us, a final adverse resolution of this matter could have a material adverse impact on our operations, liquidity and financial condition.

Also, on February 23, 2014, three plaintiffs filed a lawsuit before the Assiut Administrative Judiciary Court requesting the cancellation of the resolutions taken by the Holding Company's shareholders during the extraordinary general shareholders' meeting pursuant to which it was agreed to sell ACC's shares and enter into the Share Purchase Agreement in 1999. A hearing held on May 17, 2014 was adjourned in order for the SCA to prepare a report to be submitted for the consideration of the Assiut Administrative Judiciary Court. On September 4, 2014, ACC received the report issued by the SCA which is non-binding to the Assiut Administrative Judiciary Court. On December 11, 2014, the Assiut Administrative Judiciary Court resolved to refer the case to the 7th Circuit of Cairo's State Council Administrative Judiciary Court. The 7th Circuit of Cairo's State Council Administrative Judiciary Court decided to adjourn to July 25, 2015 in order to review the parties' pleadings. On this hearing held on July 25, 2015, the 7th Circuit of Cairo's State Council Administrative Judiciary Court adjourned the case to September 3, 2015 for passing judgment. At the session held on September 3, 2015, the 7th Circuit of Cairo's State Council Administrative Judiciary Court ruled for staying the proceedings until the High Constitutional Court pronounces itself with regards to the challenges against the constitutionality of Law No.32/2014. As of December 31, 2018, we still do not have sufficient information to assess the likelihood of the 7th Circuit of Cairo's State Council Administrative Judiciary Court cancelling the resolutions adopted by the Holding Company's shareholders, or, if such shareholders' resolutions are cancelled, how would such cancellation would affect us. However, if adversely resolved, we do not believe the resolution in this first instance would have an immediate material adverse impact on our results of operations, liquidity and financial condition as there are different legal recourses that we could take. However, if we exhaust all legal recourses available to us, a final adverse resolution of this matter could have a material adverse impact on our operations, liquidity and financial condition.

On April 22, 2014, Law 32/2014, which regulates legal actions to challenge agreements entered into by the Egyptian State (including its ministries, departments, special budget entities, local administrative units, authorities and state-participated companies) and third parties, was published in the Official Gazette, becoming effective as of April 23, 2014, subject to its presentation, discussion and approval by the House of Representatives 15 days after it holds its first session. As per the provisions of Law 32/2014, and considering

certain exceptions, only the parties to these agreements have standing to challenge the validity of an agreement. During October and November 2015, parliamentary elections to the House of Representatives took place and the elected House of Representatives started to hold its sessions on January 10, 2016, as expected, and Law 32/2014 was discussed and ratified on January 20, 2016, as legally required. As of December 31, 2018, a constitutional challenge has been filed by a third party against Law 32/2014 before the High Constitutional Court. The High Constitutional Court scheduled a hearing for May 6, 2017, to proceed with the constitutional challenge that was filed against Law 32/2014 after the SCA had submitted its report with respect to the case. On May 6, 2017 the court decided to refer the case back to SCA to prepare and submit a complementary report on the merits. The SCA, if it deems it necessary, may schedule a hearing for reviewing the case before the SCA. After the SCA finishes the preparation of the complementary report, a new hearing will be scheduled before the High Constitutional Court. As of December 31, 2018, we are still not able to assess if the High Constitutional Court will dismiss Law 32/2014, but if the High Constitutional Court dismisses Law 32/2014, this could adversely impact the ongoing matters regarding the Share Purchase Agreement, which could have a material adverse impact on our operations, liquidity and financial condition.

Maceo, Colombia—Legal Proceedings in Colombia

On August 28, 2012, CEMEX Colombia entered into a memorandum of understanding (the “MOU”) with CI Calizas y Minerales S.A. (“CI Calizas”) to acquire land, a mining concession, an environmental license, free trade zone benefits and related assets necessary to carry out the Maceo Project. In connection with the MOU, CI Calizas was represented by a non-governmental individual (the “Representative”).

After the execution of the MOU, one of CI Calizas’ former shareholders was linked to an expiration of the property proceeding by the Colombian Attorney General’s Office (the “Attorney General’s Office”) that, among other measures, suspended CI Calizas’ ability to transfer certain assets to CEMEX Colombia as required by the MOU (the “Affected Assets”). In order to protect its interests in the Affected Assets, CEMEX Colombia joined the expiration of the property proceeding, attended each procedural stage and cooperated with the Attorney General’s Office. CEMEX Colombia also requested the dismissal of the expiration of the property proceeding against the Affected Assets. On May 2, 2016, in order to collect further evidence, the Attorney General’s Office denied CEMEX Colombia’s request for the dismissal of the expiration of the property proceeding. The expiration of the property proceeding is in its investigative phase, pending the appointment of the ad litem curators by the Attorney General’s Office. Upon appointment of the ad litem curators, the evidentiary phase will commence and the relevant evidence will be presented and studied. We expect that the Attorney General’s Office’s final decision as to whether it will proceed with the expiration of the property proceeding with respect to the Affected Assets could take five to ten years.

In July 2013, CEMEX Colombia entered into a five-year lease agreement (the “Lease Agreement”) with a depository that had been designated by the Colombian National Narcotics Directorate (*Dirección Nacional de Estupefacientes*) (the “CNND”) with respect to the Affected Assets. The Lease Agreement, along with an accompanying governmental mandate, authorized CEMEX Colombia to continue the work necessary for the construction and operation of the Maceo Project during the expiration of the property proceeding. The Lease Agreement expired on July 15, 2018. Notwithstanding the expiration of the Lease Agreement, CEMEX Colombia is entitled to continue using the Affected Assets pursuant to the terms of the accompanying mandate until the conclusion of the expiration of the property proceeding. As of December 31, 2018, the Colombian Administrator of Special Assets (*Sociedad de Activos Especiales S.A.S*) (the “SAE”), which assumed the functions of the CNND after the CNND’s liquidation, disputes the validity of the accompanying mandate and requested judicial mediation in order to advance the finalization of a new long-term lease agreement of the Affected Assets that would allow CEMEX Colombia to continue the work necessary for the construction and operation of the Maceo Project during the expiration of the property proceeding.

Assuming that CEMEX Colombia conducted itself in good faith, and taking into account that its investments in the Maceo Project were incurred with the consent of the SAE and CI Calizas under the Lease

Agreement and the accompanying mandate, we believe the value of such investments is protected by Colombian law. Colombian law provides that, if a person builds on another person's property with the knowledge of such other person, the person that built on the property shall be compensated with the value of what was built or otherwise be transferred the property in the event the owner of the property decides to recover possession. We also believe that, during the term of the Lease Agreement and the accompanying mandate, CEMEX Colombia may use the Affected Assets in order to operate the Maceo Project. In the event that CEMEX Colombia's right to the Affected Assets is extinguished in favor of the government of Colombia, which we believe is unlikely, the SAE may decide not to sell the Affected Assets to CEMEX Colombia. In either case, under Colombian law, CEMEX Colombia would be entitled to compensation for the value of the investments made in the Maceo Project. As of December 31, 2018, at this stage of the proceedings, we believe that the likelihood of an adverse result in this matter is not probable as we are not able to assess the likelihood of CEMEX Colombia receiving an adverse decision relating to the expiration of the property proceedings or if the ownership of the assets subject to the MOU will be extinguished in favor of the Republic of Colombia. However, as of December 31, 2018, we believe that an adverse resolution in which CEMEX Colombia is not compensated for the value of its investments in the Maceo Project could have a material adverse effect on our results of operations, liquidity or financial condition.

On December 30, 2013, CEMEX Colombia and the Representative entered into a different memorandum of understanding (the "Land MOU"), pursuant to which the Representative would represent CEMEX Colombia in the acquisition of lands adjacent to the Maceo Project. In connection with the Maceo Project, CEMEX Colombia conveyed to the Representative over U.S.\$13.28 million, including cash payments and interest (based on an exchange rate of 3,249.75 Colombian Pesos to U.S.\$1.00 as of December 31, 2018). Due to the expiration of the property proceeding against the Affected Assets described above, the acquisition of the Affected Assets was not finalized.

During 2016, CEMEX, S.A.B. de C.V. received reports through its anonymous reporting hotline regarding potential misconduct by certain employees, including with regard to the Maceo Project. CEMEX, S.A.B. de C.V. initiated an investigation and internal audit pursuant to its corporate governance policies and its code of ethics.

On September 23, 2016, CLH disclosed that it had identified irregularities in the process for the purchase of the land related to the Maceo Project in an accusation with the Attorney General's Office so that the Attorney General's Office may take the actions it deems appropriate. Further, on December 20, 2016, CLH enhanced such filing with additional information and findings obtained as of such date. On June 1, 2017 the Attorney General's Office petitioned a hearing for imputation of charges (*audiencia de imputación de cargos*) against two former employees of CEMEX and a representative of CI Calizas. The hearing took place from June 7, 2018 to June 29, 2018 and finished with the imposition of precautionary measures against the former executives and representative of CI Calizas.

On September 23, 2016, CLH and CEMEX Colombia terminated the employment of the Vice President of Planning of CLH, who was also CEMEX Colombia's Director of Planning, and the Legal Counsel of CLH, who was also the General Counsel of CEMEX Colombia. In addition, effective as of September 23, 2016, the Chief Executive Officer of CLH, who was also the President of CEMEX Colombia, resigned from both positions. On October 4, 2016, in order to strengthen levels of leadership, management and corporate governance practices, the Board of Directors of CLH resolved to split the roles of Chairman of the Board of Directors of CLH, Chief Executive Officer of CLH and Director of CEMEX Colombia, and appointed a new Chairman of the Board of Directors of CLH, a new Chief Executive Officer of CLH, a new Director of CEMEX Colombia and a new Vice President of Planning of CLH and CEMEX Colombia. A new legal counsel for CLH and CEMEX Colombia was also appointed during the fourth quarter of 2016.

Additionally, pursuant to the requirements of CEMEX, S.A.B. de C.V.'s and CLH's audit committees, CEMEX Colombia retained external counsel to assist CLH and CEMEX Colombia to collaborate as necessary with the Attorney General's Office, as well as to assist on other related matters. A forensic investigator in Colombia was engaged, as well.

The Attorney General's Office is investigating the irregularities in connection with the transactions conducted pursuant to the MOU and the Land MOU. Such investigation is running its due course but has not concluded, and, as such, we cannot predict what actions, if any, the Attorney General's Office may implement. Any actions by the Attorney General's Office and any actions taken by us in response to the aforementioned irregularities regarding the Maceo Project, including, but not limited to, the departure of the aforementioned executives, could have a material adverse effect on our results of operations, liquidity or financial condition.

Investigations related to ongoing matters in Colombia and certain other countries

In December 2016, CEMEX, S.A.B. de C.V. received subpoenas from the SEC seeking information to determine whether there have been any violations of the United States Foreign Corrupt Practices Act stemming from the Maceo Project. These subpoenas do not mean that the SEC has concluded that CEMEX, S.A.B. de C.V. or any of its affiliates violated the law. As discussed in “— Maceo, Colombia—Legal Proceedings in Colombia,” internal audits and investigations by CEMEX, S.A.B. de C.V. and CLH had raised questions about payments relating to the Maceo Project. The payments made to the Representative in connection with the Maceo Project did not adhere to CEMEX, S.A.B. de C.V.'s and CLH's internal controls. As announced on September 23, 2016, the CLH and CEMEX Colombia officers responsible for the implementation and execution of the above referenced payments were terminated and the then-Chief Executive Officer of CLH resigned. CEMEX, S.A.B. de C.V. has been cooperating with the SEC and the Attorney General's Office and intends to continue cooperating fully with the SEC and the Attorney General's Office. We previously disclosed that it was possible that the DOJ and other investigatory entities in other jurisdictions could also open investigations into this matter. In this regard, on March 12, 2018, the DOJ issued a grand jury subpoena to CEMEX, S.A.B. de C.V. relating to its operations in Colombia and other jurisdictions. CEMEX, S.A.B. de C.V. intends to cooperate fully with the SEC, the DOJ and any other investigatory entity. As of December 31, 2018, CEMEX, S.A.B. de C.V. is unable to predict the duration, scope, or outcome of either the SEC investigation or the DOJ investigation, or any other investigation that may arise because of the current status of the SEC investigation and the preliminary nature of the DOJ investigation, the potential sanctions which could be borne by CEMEX, S.A.B. de C.V., or if such sanctions, if any, would have a material adverse impact on CEMEX, S.A.B. de C.V.'s consolidated results of operations, liquidity or financial position.

Maceo, Colombia—Operational Matters

On October 27, 2016, CLH decided to postpone the commencement of operations of the cement plant in Maceo, Colombia. This decision was mainly due to the following circumstances:

CEMEX Colombia had not received permits required to finalize road access to such cement plant. The only existing access to such cement plant cannot guarantee safety or operations and could limit the capacity to transport products from the cement plant. As of December 31, 2018, the process to obtain the permits required to finalize the road access to such cement plant in Maceo, Colombia, is ongoing. CEMEX Colombia has provided all information that the authorities have requested in order to grant such permits, but CEMEX Colombia is not able to assess if and when such permits will be received;

CEMEX Colombia had not received a final response to the request to expand the free trade zone that covers the Maceo Project in order to commission a new clinker line at such cement plant. Failure to obtain such expansion would jeopardize CEMEX Colombia's capability to consolidate the benefits that would otherwise be available for CEMEX Colombia in the area. CEMEX Colombia had requested the Colombian Ministry of Trade, Industry and Tourism (*Ministerio de Comercio, Industria y Turismo*) for an expansion of the free trade zone, for which CEMEX Colombia did not receive a final decision. CEMEX Colombia believes the delay in such decision could have been related to the expiration of the property proceeding against the Affected Assets. During the third quarter of 2017, at the request of CEMEX Colombia, the DIAN granted the suspension of the expansion process of the free trade zone that CEMEX Colombia had previously requested. Thus, the expansion process of the free trade zone will be stayed until June 30, 2019. As of December 31, 2018, CEMEX Colombia believes that by

June 30, 2019, the partial adjustment to the District of Integrated Management should be finalized, which should allow CEMEX Colombia to proceed with the expansion process of the free trade zone;

The environmental license and the mining concession related to the Maceo Project were held by different legal entities, which is contrary to typical procedure in Colombia. The environmental license related to the Maceo Project is held by Central de Mezclas S.A. (“Central de Mezclas”), a subsidiary of CEMEX Colombia. However, the mining permit related to the Maceo Project was remanded back to CI Calizas as a result of the revocation of such mining concession by the Mining Secretariat (*Secretaría de Minas*) of Antioquia in December 2013. In connection with the environmental license that had been issued for the Maceo Project, during the second half of 2016, Corantioquia, the regional environmental agency with jurisdiction over the Maceo Project environmental license, requested authorization and consent from Central de Mezclas to reverse the assignment of the environmental license for the Maceo Project back to CI Calizas, which also holds the corresponding mining title. On February 22, 2018, Central de Mezclas granted such authorization. CEMEX Colombia had requested a modification to the environmental license, and on December 13, 2016, Corantioquia notified Central de Mezclas that it had decided to deny the request for modification of the environmental license related to the Maceo Project to 950,000 tons per annum on the basis of the overlap of the project area with the District of Integrated Management. On December 14, 2016, Central de Mezclas appealed the decision. On March 28, 2017, Central de Mezclas was notified of Corantioquia’s decision, which affirmed the decision that had previously denied the modification of the environmental license for a 950,000 per annum project. As a result, as of December 31, 2018, CEMEX Colombia was actively working on the zoning and compatibility of the District of Integrated Management, as well as analyzing alternatives for a partial adjustment to the District of Integrated Management, to avoid future discussions regarding feasibility of expanding the proposed production in the Maceo Project beyond 950,000 tons per annum. Once these alternatives are implemented, CEMEX Colombia will reconsider submitting a new request pursuing the modification of the environmental license to expand its production of 950,000 tons per annum as initially planned;

CEMEX Colombia determined that the area covered by the environmental license related to the Maceo Project partially overlapped with a District of Integrated Management (*Distrito de Manejo Integrado*), which could limit the granting of the environmental license modification. On October 9, 2017, CEMEX Colombia filed a petition with Corantioquia to decrease the zoning area covered by the environmental license related to the construction by CEMEX Colombia of the Maceo Project, in order to avoid any overlap with the District of Integrated Management. On January 12, 2018, CEMEX Colombia was notified of Corantioquia’s decision to admit such petition and initiate the proceedings; and

CEMEX Colombia had not received authorizations for the modification of land use in order to carry out industrial and mining activities at the site of the cement plant in Maceo, Colombia. As of December 31, 2018, the process to obtain the authorizations required to modify the land use of the site of the cement plant in Maceo, Colombia, is ongoing.

CEMEX Colombia and Central de Mezclas plan to continue to work on solving the issues causing the postponement of the commissioning of the Maceo Project cement plant in order to capture, as soon as reasonably possible, the full operating benefits of this facility in Colombia. CEMEX Colombia believes some of these issues could be related to the expiration of the property proceeding against the Affected Assets. As of December 31, 2018, we do not expect to suffer a material adverse impact to our results of operations, liquidity or financial condition as a result of the Maceo Project cement plant not being commissioned to operate pending resolution of these issues.

Quarry matter in France

One of our subsidiaries in France, CEMEX Granulats Rhône Méditerranée (“CEMEX Granulats”), is a party to a contract executed in 1990 (the “Quarry Contract”) with SCI La Quinoniere (“SCI”), pursuant to which CEMEX Granulats has drilling rights to extract reserves and conduct quarry remediation at a quarry in the Rhone

region of France. In 2012, SCI filed a claim against CEMEX Granulats for breach of the Quarry Contract, requesting the rescission of the Quarry Contract and damages plus interest, totaling an aggregate amount of €55 million (U.S.\$63.02 million as of December 31, 2018, based on an exchange rate of €0.8727 to U.S.\$1.00), resulting from CEMEX Granulats having partially filled the quarry allegedly in breach of the terms of the Quarry Contract. On May 18, 2016, CEMEX Granulats was notified about an adverse judgment in this matter by the corresponding court in Lyon, France, primarily ordering the rescission of the Quarry Contract and damages plus interest, totaling an aggregate amount of €55 million (U.S.\$63.02 million as of December 31, 2018, based on an exchange rate of €0.8727 to U.S.\$1.00). This judgment is not enforceable. CEMEX Granulats filed the notice of appeal with the appeal court in Lyon, France. SCI updated its claim for damages to an approximate aggregate amount of €67 million (approximately U.S.\$76.78 million as of December 31, 2018, based on an exchange rate of €0.8727 to U.S.\$1.00). The judgment of the appeal court was notified to CEMEX Granulats on March 13, 2018. It overrules the first instance judgment but orders the rescission of the Quarry Contract. It also appoints a judicial expert to (i) determine the volume of both excavated materials and backfilling materials and (ii) give their opinion on the potential damages suffered by SCI. This judgment is enforceable. CEMEX Granulats has filed the notice of appeal with the Court of Cassation, which will advance in parallel to the judicial expert's process (two meetings were held on June 6, 2018 and November 27, 2018, respectively). Proceedings on any additional hearings with respect to this appeal or any other actions CEMEX Granulats has initiated in this matter are expected to be finalized during the second or third quarter of 2019. As of December 31, 2018 there can be no assurance as to whether or not CEMEX Granulats will receive an adverse result to any appeals or any other recourse it may pursue. At this stage of the proceedings, as of December 31, 2018, we cannot assess with certainty the likelihood of a final adverse resolution but we believe a final adverse resolution is not probable after the exhaustion of all defensive remedies. However, if adversely resolved, we do not expect it would have a material adverse impact on our results of operations, liquidity and financial condition.

Federal Securities Class Action

On March 16, 2018, a securities class action complaint was filed against us, one of our members of the board of directors and certain of our executive officers in the United States District Court for the Southern District of New York, on behalf of investors who purchased or otherwise acquired our securities between August 14, 2014 to March 13, 2018, inclusive. The complaint alleges violations of Sections 10(b) and 20(a) of the Securities Exchange Act of 1934, as amended based on purportedly issuing press releases and SEC filings that included materially false and misleading statements in connection with alleged misconduct relating to the Maceo Project and the potential regulatory or criminal actions that might arise as a result. On September 14, 2018, we filed a motion to dismiss this lawsuit. During the fourth quarter of 2018, plaintiffs filed an opposition brief to this motion to dismiss and we filed a response to such opposition brief. We deny liability and intend to vigorously defend the case. As of December 31, 2018, at this stage of the proceedings, we are not able to assess the likelihood of an adverse result to this lawsuit because of its current status and its preliminary nature, and for the same reasons we are also not able to assess if a final adverse result in this lawsuit would have a material adverse impact on our results of operations, liquidity and financial condition.

General

As of December 31, 2018, we are involved in various legal proceedings involving, but not limited to, product warranty claims, environmental claims, claims regarding the procurement and supply of products and services, patent and copyright infringement claims, claims and disputes regarding the transportation of goods and services, indemnification claims relating to divestments and acquisitions and similar types of claims brought against us that have arisen in the ordinary course of business. We also receive various information requests from governmental and administrative authorities when such authorities are conducting periodic or general reviews of the markets in which we operate. We believe we have made adequate provisions to cover both current and contemplated general and specific litigation risks, and we believe these matters will be resolved without any significant effect on our operations, financial position and results of operations. We are sometimes able to make and disclose reasonable estimates of the expected loss or range of possible loss, as well as disclose any provision

accrued for such loss. However, for a limited number of ongoing legal proceedings, we may not be able to make a reasonable estimate of the expected loss or range of possible loss or may be able to do so but believe that disclosure of such information on a case-by-case basis would seriously prejudice our position in the ongoing legal proceedings or in any related settlement discussions. Accordingly, in these cases, we have disclosed qualitative information with respect to the nature and characteristics of the contingency, but have not disclosed the estimate of the range of potential loss.

Item 4A—Unresolved Staff Comments

Not applicable.

Item 5—Operating and Financial Review and Prospects

Cautionary Statement Regarding Forward-Looking Statements

This annual report contains forward-looking statements within the meaning of the United States federal securities laws. We intend these forward-looking statements to be covered by the safe harbor provisions for forward-looking statements in the United States federal securities laws. In some cases, these statements can be identified by the use of forward-looking words such as “may,” “assume,” “might,” “should,” “could,” “continue,” “would,” “can,” “consider,” “anticipate,” “estimate,” “expect,” “plan,” “believe,” “foresee,” “predict,” “potential,” “target,” “strategy,” “intend” or other similar words. These forward-looking statements reflect our current expectations and projections about future events based on our knowledge of present facts and circumstances and assumptions about future events. These statements necessarily involve risks and uncertainties that could cause actual results to differ materially from our expectations. Some of the risks, uncertainties and other important factors that could cause results to differ, or that otherwise could have an impact on us or our subsidiaries, include:

- the cyclical activity of the construction sector;
- our exposure to other sectors that impact our business, such as but not limited to the energy sector;
- competition;
- availability of raw materials and related fluctuating prices;
- general political, social, economic and business conditions in the markets in which we operate or that affect our operations and any significant economic, political or social developments in those markets, as well as any inherent risks to international operations;
- the regulatory environment, including environmental, tax, antitrust, and acquisition-related rules and regulations;
- our ability to satisfy our obligations under our material debt agreements, the indentures that govern our outstanding Senior Secured Notes and our other debt instruments;
- the availability of short-term credit lines, which can assist us in connection with market cycles;
- the impact of our below investment grade debt rating on our cost of capital;
- loss of reputation of our brands;
- our ability to consummate asset sales, fully integrate newly acquired businesses, achieve cost-savings from our cost-reduction initiatives and implement our global pricing initiatives for our products;
- the increasing reliance on information technology infrastructure for our sales invoicing, procurement, financial statements and other processes that can adversely affect our sales and operations in the event that the infrastructure does not work as intended, experiences technical difficulties or is subjected to cyber-attacks;

- changes in the economy that affect demand for consumer goods, consequently affecting demand for our products;
- weather conditions, including disasters such as earthquakes and floods;
- trade barriers, including tariffs or import taxes and changes in existing trade policies or changes to, or withdrawals from, free trade agreements, including the USMCA, if it comes into effect, and NAFTA, both of which Mexico is a party to;
- terrorist and organized criminal activities as well as geopolitical events;
- declarations of insolvency or bankruptcy, or becoming subject to similar proceedings;
- natural disasters and other unforeseen events; and
- other risks and uncertainties described under “Item 3—Key Information—Risk Factors” and elsewhere in this annual report.

Readers are urged to read this annual report and carefully consider the risks, uncertainties and other factors that affect our business. The information contained in this annual report is subject to change without notice, and we are not obligated to publicly update or revise forward-looking statements. Readers should review future reports filed by us with the SEC.

This annual report also includes statistical data regarding the production, distribution, marketing and sale of cement, ready-mix concrete, clinker and aggregates. We generated some of this data internally, and some was obtained from independent industry publications and reports that we believe to be reliable sources. We have not independently verified this data nor sought the consent of any organizations to refer to their reports in this annual report.

Overview

The following discussion should be read in conjunction with our 2018 audited consolidated financial statements included elsewhere in this annual report. Our financial statements have been prepared in accordance with IFRS.

The regulations of the SEC do not require foreign private issuers that prepare their financial statements based on IFRS (as published by IASB) to reconcile such financial statements to U.S. GAAP.

The percentage changes in cement sales volumes described in this annual report for our operations in a particular country or region include the number of tons of cement and/or the number of cubic meters of ready-mix concrete sold to our operations in other countries and regions. Likewise, unless otherwise indicated, the revenues financial information presented in this annual report for our operations in each country or region includes the Mexican Peso amount of sales derived from sales of cement and ready-mix concrete to our operations in other countries and regions, which have been eliminated in the preparation of our 2018 audited consolidated financial statements included elsewhere in this annual report.

The following table sets forth selected consolidated financial information as of December 31, 2017 and 2018 and for each of the three years ended December 31, 2018 by principal geographic segment expressed as an approximate percentage of our total consolidated group. We operate in countries and regions with economies in different stages of development and structural reform and with different levels of fluctuation in exchange rates, inflation and interest rates. These economic factors may affect our results of business, financial conditions, liquidity and results of operations, depending upon the depreciation or appreciation of the exchange rate of each country and region in which we operate compared to the Mexican Peso and the rate of inflation of each of these countries and regions.

	Revenues For the Year Ended December 31,			Operating Earnings Before Other Expenses, Net For the Year Ended December 31,			Total Assets at December 31,	
	2016 ⁽¹⁾	2017 ⁽¹⁾	2018 ⁽¹⁾	2016 ⁽²⁾	2017 ⁽²⁾	2018 ⁽²⁾	2017	2018 ⁽²⁾
Mexico	20%	21%	21%	47%	58%	60%	13%	12%
United States	25%	24%	24%	13%	14%	19%	47%	49%
Europe								
United Kingdom	8%	7%	7%	7%	5%	3%	6%	6%
France	6%	6%	6%	1%	1%	2%	3%	3%
Germany	4%	4%	4%	—	1%	1%	2%	2%
Spain	2%	3%	3%	—	(1)%	(1)%	5%	5%
Poland	2%	2%	2%	1%	1%	1%	1%	1%
Czech Republic	1%	1%	1%	1%	1%	2%	1%	1%
Rest of Europe	2%	2%	2%	1%	1%	1%	2%	2%
SCA&C								
Colombia	5%	4%	3%	10%	5%	4%	4%	4%
Panama	2%	2%	2%	5%	5%	3%	1%	1%
Costa Rica	1%	1%	1%	3%	3%	2%	—	—
Caribbean TCL	—	2%	2%	—	1%	2%	2%	2%
Dominican Republic	2%	1%	1%	3%	3%	3%	1%	1%
Rest of South, Central America and the Caribbean . . .	3%	3%	3%	4%	4%	4%	1%	1%
Asia, Middle East and Africa								
Philippines	4%	3%	3%	6%	3%	2%	2%	2%
Egypt	3%	1%	2%	5%	1%	1%	1%	1%
Israel	4%	4%	4%	3%	4%	4%	2%	2%
Rest of Asia, Middle East and Africa	1%	1%	1%	1%	1%	1%	1%	1%
Corporate and Other Operations	5%	8%	8%	(11)%	(11)%	(14)%	5%	4%
Continuing operations	263,051	274,380	296,640	35,618	32,612	33,196	566,313	550,528
Discontinued operations	—	—	—	—	—	—	1,378	2,100
Eliminations	(13,574)	(16,943)	(19,785)	—	—	—	—	—
Consolidated information	<u>249,477</u>	<u>257,437</u>	<u>276,855</u>	<u>35,618</u>	<u>32,612</u>	<u>33,196</u>	<u>567,691</u>	<u>552,628</u>

(1) Percentages by reporting segment are determined from continuing operations before eliminations resulting from consolidation.

(2) Percentages by reporting segment are determined from continuing operations after eliminations resulting from consolidation.

Critical Accounting Policies

The preparation of financial statements in accordance with IFRS requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported amounts of revenues and expenses during the period. These assumptions are reviewed on an ongoing basis using available information. Actual results could differ from these estimates.

The main items subject to estimates and assumptions by management include impairment tests of long-lived assets, recognition of deferred income tax assets, as well as the measurement of financial instruments at fair value and assets, liabilities related to employee benefits and revenue recognition. Significant judgment by management is required to appropriately assess the amounts of these assets and liabilities.

As of December 31, 2017 and 2018 and for the years ended December 31, 2016, 2017 and 2018, identified below are the accounting policies we have applied under IFRS that are critical to understanding our overall financial reporting.

Income Taxes

Our operations are subject to taxation in many different jurisdictions throughout the world. The effects reflected in the income statement for income taxes include the amounts incurred during the period and the amounts of deferred income taxes, determined according to the income tax law applicable to each subsidiary. Consolidated deferred income taxes represent the addition of the amounts determined in each subsidiary by applying the enacted statutory income tax rate to the total temporary differences resulting from comparing the book and taxable values of assets and liabilities, considering tax loss carryforwards and other recoverable tax credits, to the extent that it is probable that future taxable profits will be available against which they can be utilized. The measurement of deferred income taxes at the reporting period reflects the tax consequences that follow the manner in which CEMEX expects to recover or settle the carrying amount of its assets and liabilities. Deferred income taxes for the period represent the difference between balances of deferred income taxes at the beginning and the end of the period. Deferred income tax assets and liabilities relating to different tax jurisdictions are not offset. According to IFRS, all items charged or credited directly in stockholders' equity or as part of other comprehensive income or loss for the period are recognized net of their current and deferred income tax effects. The effect of a change in enacted statutory tax rates is recognized in the period in which the change is officially enacted. Our worldwide tax position is highly complex and subject to numerous laws that require interpretation and application and that are not consistent among the countries in which we operate. Significant judgment is required to appropriately assess the amounts of tax assets and liabilities.

Deferred tax assets, mainly related to tax loss carryforwards, are reviewed at each reporting date and are reduced when it is not deemed probable that the related tax benefit will be realized, considering the aggregate amount of self-determined tax loss carryforwards that we believe will not be rejected by the tax authorities based on available evidence and the likelihood of recovering them prior to their expiration through an analysis of estimated future taxable income. If it is probable that the tax authorities would reject a self-determined deferred tax asset, we would decrease such asset. When it is considered that a deferred tax asset will not be recovered before its expiration, we would not recognize such deferred tax asset. Both situations would result in additional income tax expense for the period in which such determination is made. In order to determine whether it is probable that deferred tax assets will ultimately be recovered, we take into consideration all available positive and negative evidence, including factors such as market conditions, industry analysis, expansion plans, projected taxable income, carryforward periods, current tax structure, potential changes or adjustments in tax structure, tax planning strategies and future reversals of existing temporary differences. Likewise, we analyze our actual results versus our estimates, and adjust, as necessary, our tax asset valuations. If actual results vary from our estimates, the deferred tax asset and/or valuations may be affected and necessary adjustments will be made based on relevant information in our income statement for such period.

The income tax effects from an uncertain tax position are recognized when it is probable that the position will be sustained based on its technical merits and assuming that the tax authorities will examine each position and have full knowledge of all relevant information, and they are measured using a cumulative probability model. Each position has been considered on its own, regardless of its relation to any other broader tax settlement. The probability threshold represents a positive assertion by management that we are entitled to the economic benefits of a tax position. If it is improbable for a tax position to be sustained, no benefits of the position are recognized. Our policy is to recognize interest and penalties related to unrecognized tax benefits as part of the income tax in the consolidated income statements.

Our overall tax strategy is to structure our worldwide operations to reduce or defer the payment of income taxes on a consolidated basis. Many of the activities we undertake in pursuing this tax reduction strategy are highly complex and involve interpretations of tax laws and regulations in multiple jurisdictions and are subject to review by the relevant taxing authorities. It is possible that the taxing authorities could challenge our application of these regulations to our operations and transactions. The taxing authorities in the past have challenged interpretations that we have made and have assessed additional taxes. Although we have, from time to time, paid some of these additional assessments, in general, we believe that these assessments have not been material and that we have been successful in sustaining our positions. No assurance can be given, however, that we will continue to be as successful as we have been in the past or that pending appeals of current tax assessments will be judged in our favor.

Our effective income tax rate is determined by dividing the line item “Income tax” in our consolidated income statements into the line item “Earnings before income tax.” This effective tax rate is further reconciled to our statutory tax rate applicable in Mexico and is presented in note 19.3 to our 2018 audited consolidated financial statements included elsewhere in this annual report. A significant effect on our effective tax rate, and consequently on the reconciliation of our effective tax rate, relates to the difference between the statutory income tax rate in Mexico of 30% against the applicable income tax rates of each country where we operate. For the years ended December 31, 2016, 2017 and 2018, the statutory tax rates in our main operations were as follows:

<u>Country</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
Mexico	30.0%	30.0%	30.0%
United States	35.0%	35.0%	21.0%
United Kingdom	20.0%	19.3%	19.3%
France	34.4%	34.4%	34.4%
Germany	28.2%	28.2%	28.2%
Spain	25.0%	25.0%	25.0%
Philippines	30.0%	30.0%	30.0%
Colombia	40.0%	40.0%	37.0%
Egypt	22.5%	22.5%	22.5%
Others	7.8% - 39.0%	7.8% - 39.0%	7.8% - 39.0%

Our current and deferred income tax amounts included in our consolidated income statements are highly variable and are subject, among other factors, to the amounts of taxable income determined in each jurisdiction in which we operate. Such amounts of taxable income depend on factors such as sale volumes and prices, costs and expenses, exchange rates fluctuations and interest on debt, among others, as well as on the estimated tax assets at the end of the period due to the expected future generation of taxable gains in each jurisdiction. See our discussion of operations included elsewhere in this “Item 5—Operating and Financial Review and Prospects.”

Derivative financial instruments

In compliance with the guidelines established by our Risk Management Committee and the restrictions in our debt agreements and our hedging strategy, we use derivative financial instruments with the objectives of: (i) changing the risk profile or setting a fixed the price of fuels and electric energy; (ii) foreign exchange hedging; (iii) hedging forecasted transactions; and (iv) accomplishing other corporate objectives.

Derivative financial instruments are recognized as assets or liabilities in the balance sheet at their estimated fair values, and changes in such fair values are recognized in the income statements within “Financial income and other items, net” for the period in which they occur, except for changes in the fair value of derivative instruments associated with cash flow hedges, in which case, such changes in fair value are recognized in stockholders’ equity, and are reclassified to earnings as the interest expense of the related debt is accrued, in the case of interest rate swaps, or when the underlying products are consumed in the case of contracts on the price of raw materials, fuel and commodities. Likewise, in hedges of the net investment in foreign subsidiaries, changes in fair value are recognized in stockholders’ equity as part of the foreign currency translation result, which reversal to earnings would take place upon disposal of the foreign investment. During the reported periods, we have not designated any derivative instruments in fair value hedges. Derivative instruments are negotiated with institutions with significant financial capacity; therefore, we believe the risk of non-performance of the obligations agreed to by such counterparties to be minimal. See note 16.4 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

The estimated fair value under IFRS represents the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date, considering the counterparty’s credit risk in the valuation, that is, an exit price or a market-based measurement.

The concept of exit value is premised on the existence of a market and market participants for the specific asset or liability. When there is no market and/or market participants willing to make a market, IFRS establishes a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to measurements involving significant unobservable inputs (Level 3 measurements). The three levels of the fair value hierarchy are as follows:

- Level 1—It represents quoted prices (unadjusted) in active markets for identical assets or liabilities that we have the ability to access at the measurement date. A quoted price in an active market provides the most reliable evidence of fair value and is used without adjustment to measure fair value whenever available.
- Level 2—These are inputs other than quoted prices in active markets that are observable for the asset or liability, either directly or indirectly, and are used mainly to determine the fair value of securities, investments or loans that are not actively traded. Level 2 inputs included equity prices, certain interest rates and yield curves, implied volatility, credit spreads and other market corroborated inputs, including inputs extrapolated from other observable inputs. In the absence of Level 1 inputs, we determined fair values by iteration of the applicable Level 2 inputs, the number of securities and/or the other relevant terms of the contract, as applicable.
- Level 3—These are unobservable inputs for the asset or liability. We use unobservable inputs to determine fair values, to the extent there are no Level 1 or Level 2 inputs, in valuation models such as Black-Scholes, binomial, discounted cash flows or multiples of Operating EBITDA, including risk assumptions consistent with what market participants would use to arrive at fair value.

Significant judgment and estimates by management are required to appropriately identify the corresponding level of fair value applicable to each derivative financing transaction, as well as to assess the amounts of the resulting assets and liabilities, mainly in respect of Level 2 and Level 3 fair values, in order to account for the effects of derivative financial instruments in the financial statements. See note 16.4 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Impairment of financial assets

Impairment losses of financial assets, including trade accounts receivable, are recognized using the expected credit loss model for the entire lifetime of such financial assets on initial recognition, and at each subsequent

reporting period, even in the absence of a credit event or if a loss has not yet been incurred, considering for their measurement past events and current conditions, as well as reasonable and supportable forecasts affecting collectability.

Allowances for credit losses were established until December 31, 2017 based on incurred loss analyses over delinquent accounts considering aging of balances, the credit history and risk profile of each customer and legal processes to recover accounts receivable. Beginning in 2018, such allowances are determined and recognized upon origination of the trade accounts receivable based on a model that calculates the expected credit loss (“ECL”) of the trade accounts receivable. See note 2.1 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Under this ECL model, we segment our accounts receivable in a matrix by country, type of client or homogeneous credit risk and days past due and determine for each segment an average rate of ECL, considering actual credit loss experience over the last 24 months and analyses of future delinquency, that is applied to the balance of accounts receivable. The average ECL rate increases in each segment of days past due until the rate is 100% for the segment of 365 days or more past due. See note 9 to our 2018 audited consolidated financial statements included elsewhere in this annual report. Significant judgment and estimates by management are required to appropriately assess expected credit losses under IFRS 9.

Impairment of long-lived assets

Our statement of financial position reflects significant amounts of long-lived assets (including property, machinery and equipment, goodwill, intangible assets of definite life and other investments) associated with our operations throughout the world. Many of these amounts have resulted from past acquisitions, which have required us to reflect these assets at their fair market values at the dates of acquisition. According to their characteristics and the specific accounting rules related to them, we assess the recoverability of our long-lived assets at least once a year, normally during the fourth quarter, as is the case for goodwill, or whenever events or circumstances arise that we believe trigger a requirement to review such carrying values, as is the case with property, machinery and equipment and intangible assets of definite life.

Property, machinery and equipment, intangible assets of definite life and other investments are tested for impairment upon the occurrence of factors such as the occurrence of a significant adverse event, changes in our operating environment, changes in projected use or in technology, as well as expectations of lower operating results for each cash generating unit, in order to determine whether their carrying amounts may not be recovered. In such cases, an impairment loss is recorded in the income statements for the period when such determination is made within “Other expenses, net.” The impairment loss of an asset results from the excess of the asset’s carrying amount over its recoverable amount, corresponding to the higher of the fair value of the asset, less costs to sell such asset, and the asset’s value in use, the latter represented by the net present value of estimated cash flows related to the use and eventual disposal of the asset.

We do not have intangible assets of indefinite life other than goodwill. As mentioned above, goodwill is tested for impairment when required due to significant adverse changes or at least once a year, during the last quarter of such year, by determining the recoverable amount of the group of cash-generating units (“CGUs”) to which goodwill balances have been allocated, which consists of the higher of such group of CGUs fair value, less cost to sell and its value in use, represented by the discounted amount of estimated future cash flows to be generated by such CGUs to which goodwill has been allocated. Other intangible assets of indefinite life may be tested at the CGU or group of CGUs level, depending on their allocation. We determine discounted cash flows generally over periods of five years. In specific circumstances, when, according to our experience, actual results for a given cash-generating unit do not fairly reflect historical performance and most external economic variables provide us with confidence that a reasonably determinable improvement in the mid-term is expected in their operating results, management uses cash flow projections over a period of up to ten years, to the point in which future expected average performance resembles the historical average performance and to the extent we have

detailed, explicit and reliable financial forecasts and is confident and can demonstrate its ability, based on past experience, to forecast cash flows accurately over that longer period. If the value in use of a group of CGUs to which goodwill has been allocated is lower than its corresponding carrying amount, we determine the fair value of our reporting units using methodologies generally accepted in the market to determine the value of entities, such as multiples of Operating EBITDA and by reference to other market transactions, among others. An impairment loss under IFRS is recognized within other expenses, net, if the recoverable amount is lower than the net book value of the group of CGUs to which goodwill has been allocated. Impairment charges recognized on goodwill are not reversed in subsequent periods.

For the years ended December 31, 2016, 2017 and 2018, the reportable segments we presented in note 4.4 to our 2018 audited consolidated financial statements included elsewhere in this annual report represent our groups of CGUs to which goodwill has been allocated for purposes of testing goodwill for impairment. In arriving at this conclusion, we considered: (i) that after the acquisition, goodwill was allocated at the level of the reportable operating segment; (ii) that the operating components that comprise the reported segment have similar economic characteristics; (iii) that the reported segments are used by us to organize and evaluate its activities in its internal information system; (iv) the homogenous nature of the items produced and traded in each operative component, which are all used by the construction industry; (v) the vertical integration in the value chain of the products comprising each component; (vi) the type of clients, which are substantially similar in all components; (vii) the operative integration among components; and (viii) whether the compensation system of the specific country is based on the consolidated results of the reportable segment and not on the particular results of the components. In addition, the country level represents the lowest level within us at which goodwill is monitored for internal management purposes.

Significant judgment by management is required to appropriately assess the fair values and values in use of these assets. Impairment tests are significantly sensitive to, among other factors, the estimation of future prices of our products, the development of operating expenses, local and international economic trends in the construction industry, the long-term growth expectations in the different markets as well as the discount rates and the growth rates in perpetuity applied. For purposes of estimating future prices, we use, to the extent available, historical data plus the expected increase or decrease according to information issued by trusted external sources, such as national construction or cement producer chambers and/or in governmental economic expectations. Operating expenses are normally measured as a constant proportion of revenues, following past experience. However, such operating expenses are also reviewed considering external information sources in respect to inputs that behave according to international prices, such as gas and oil. We use specific pre-tax discount rates for each group of CGUs to which goodwill is allocated, which are applied to pre-tax cash flows. The amounts of estimated undiscounted cash flows are significantly sensitive to the growth rate in perpetuity applied. Likewise, the amounts of discounted estimated future cash flows are significantly sensitive to the weighted average cost of capital (discount rate) applied. The higher the growth rate in perpetuity applied, the higher the amount obtained of undiscounted future cash flows by group of CGUs obtained. Conversely, the higher the discount rate applied, the lower the amount obtained of discounted estimated future cash flows by group of CGUs obtained. Additionally, we monitor the useful lives assigned to these long-lived assets for purposes of depreciation and amortization, when applicable. This determination is subjective and is integral to the determination of whether impairment has occurred.

During the last quarter of each of 2016, 2017 and 2018, we performed our annual goodwill impairment test. Based on these analyses, during 2017, in connection with the operating segment in Spain, considering the uncertainty over the improvement indicators affecting the country's construction industry, and consequently in the expected consumption of cement, ready-mix concrete and aggregates, partially a result of the country's complex prevailing political environment, which has limited expenditure in infrastructure projects, as well as the uncertainty in the expected price recovery and the effects of increased competition and imports, our management determined that the net book value of such operating segment in Spain exceeded the amount of the net present value of projected cash flows by Ps1,920 million (U.S.\$98 million). As a result, we recognized an impairment loss of goodwill in 2017 for the aforementioned amount as part of "Other expenses, net" in the income statement

against the related goodwill balance. During 2016 and 2018, we did not determine impairment losses of goodwill. See note 15.2 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Pretax discount rates and long-term growth rates used to determine the discounted cash flows in the group of CGUs with the main goodwill balances in 2016, 2017 and 2018 are as follows:

Operating segments	Discount rates			Growth rates		
	2016	2017	2018	2016	2017	2018
United States	8.6%	8.8%	8.5%	2.5%	2.5%	2.5%
Spain	9.5%	9.5%	8.8%	1.6%	1.7%	1.7%
Mexico	9.8%	10.2%	9.4%	2.9%	2.7%	3.0%
Colombia	10.0%	10.5%	9.5%	4.0%	3.7%	3.6%
France	9.1%	9.0%	8.4%	1.8%	1.8%	1.6%
UAE	10.2%	10.4%	11.0%	3.4%	3.1%	2.9%
United Kingdom	8.8%	9.0%	8.4%	1.9%	1.7%	1.6%
Egypt	11.4%	11.8%	10.8%	6.0%	6.0%	6.0%
Range of discount rates in other countries	9.1% - 12.8%	9.1% - 11.7%	8.5% - 13.3%	2.2% - 7.0%	2.3% - 6.8%	2.5% - 6.9%

As of December 31, 2018, the discount rates we used in our cash flows projections in the countries with the most significant goodwill balances decreased slightly, in most cases within the range of 0.3% up to 1 percentage point, except for the UAE and the Caribbean, as compared to the values determined in 2017. This reduction was mainly attributable to a decrease in CEMEX, S.A.B. de C.V.'s stock volatility (beta), general decreases in the country-specific sovereign yields in the majority of the countries where we operate and the weighing of debt in the calculation effects that were partially offset for increases during 2018 in the funding cost observed in the industry that changed from 6.1% in 2017 to 7.3% in 2018 and the risk free rate associated with us which increased from 2.8% in 2017 to 2.9% in 2018. As of December 31, 2017, the discount rates we used in our cash flow projections increased slightly in countries with the most significant goodwill balances as compared to the values determined in 2016. During the year, the funding cost observed in the industry decreased from 6.2% in 2016 to 6.1% in 2017, and the risk multiple attributed to us also decreased from approximately 1.29 in 2016 to 1.26 in 2017. Nonetheless, these decreases were offset by an increase in the risk-free rate from 2.70% in 2016 to 2.76% in 2017, as well as by overall increases in the sovereign risk rates of certain major countries. As of December 31, 2016, the discount rates remained almost flat in most cases as compared to the values determined in 2015. Among other factors, the funding cost observed in the industry decreased from 6.9% in 2015 to 6.2% in 2016, and the risk-free rate also decreased from approximately 3.2% in 2015 to 2.7% in 2016. Nonetheless, these increases were offset by reductions in 2016 in the country-specific sovereign yields for the majority of the countries where CEMEX operates. With respect to long-term growth rates, following general practice under IFRS, CEMEX uses country-specific rates, which are mainly obtained from the Consensus Economics, a compilation of analysts' forecasts worldwide, or from the International Monetary Fund when the first are not available for a specific country.

In connection with our assumptions included in the table above, we performed sensitivity analyses to changes in assumptions, affecting the value in use of all groups of cash-generating units with an independent reasonably possible increase of 1% in the pre-tax discount rate and an independent possible decrease of 1% in the long-term growth rate. In addition, we performed cross-check analyses for reasonableness of our results using multiples of Operating EBITDA. In order to arrive at these multiples, which represent a reasonableness check of our discounted cash flow models, we determined a weighted average of multiples of Operating EBITDA to enterprise value observed in the industry and/or in recent mergers and acquisitions in the industry. The average multiple was then applied to a stabilized amount of Operating EBITDA and the result was compared to the corresponding carrying amount for each group of cash-generating units to which goodwill has been allocated. We considered an industry weighted average Operating EBITDA multiple of 9.0 times for each of 2016 and 2017 and 11.1 times for 2018. The lowest multiple observed in our benchmark as of December 31, 2016, 2017 and

2018, was 5.9 times, 6.5 times and 6.7 times, respectively, and the highest was 18.3 times, 18.9 times and 14.9 times, respectively.

As of December 31, 2016, 2017 and 2018, except for our operating segment in Spain described above, in which we determined an impairment loss of goodwill in 2017, none of our sensitivity analyses resulted in a potential impairment risk in our operating segments. Nonetheless, we continually monitor the evolution of the specific cash-generating units to which goodwill has been allocated and, in the event that the relevant economic variables and the related cash flows projections would be negatively affected, it may result in a goodwill impairment loss in the future.

As of December 31, 2017 and 2018, goodwill allocated to the United States accounted in both years for 78% of our total amount of consolidated goodwill. In connection with our determination of value in use relative to our groups of CGUs in the United States in the reported periods, we have considered several factors, such as the historical performance of such operating segment, including operating results in recent years, the long-term nature of our investment, the recent signs of recovery in the construction industry, the significant economic barriers for new potential competitors considering the high investment required and the lack of susceptibility of the industry to technology improvements or alternate construction products, among other factors. We have also considered recent developments in our operations in the United States, such as the decrease in ready-mix concrete volumes of approximately 1% in 2017, affected by the hurricanes that occurred in Texas and Florida during that year, and the increase of 1% in 2016, and the increases in ready-mix concrete prices of approximately 2% in 2018, 1% in 2017 and 1% in 2016, which are key drivers for cement consumption and our profitability, and which trends are expected to continue over the next few years, as anticipated in our cash flow projections.

As a result of impairment tests conducted on several cash-generating units considering certain triggering events, mainly: (i) the closing and/or reduction of operations of cement and ready-mix concrete plants resulting from adjusting our supply to current demand conditions, such as the situation in Puerto Rico in the last quarter of 2016 due to the adverse outlook and the overall uncertain economic conditions in that country, (ii) the transferring of installed capacity to more efficient plants, such as the change in operating model of a cement mill to a distribution center in Colombia and (iii) the recoverability of certain investments in Colombia, we recognized impairment losses on property, plant and equipment for an aggregate amount of Ps1,899 million (U.S.\$101 million), Ps984 million (U.S.\$52 million) and Ps445 million (U.S.\$23 million) in 2016, 2017 and 2018, respectively, and adjusted the related fixed assets to their estimated value in use in those circumstances in which the assets would continue in operation based on estimated cash flows during their remaining useful life, or to their realizable value, in case of permanent shut down.

During 2016, 2017 and 2018, the breakdown of impairment losses of fixed assets by country was as follows:

	For the Year Ended December 31,					
	2016		2017		2018	
	(in millions of Mexican Pesos)					
United States	Ps	277	Ps	153	Ps	252
Poland		—		—		94
Colombia		454		—		37
Spain		—		452		35
Mexico		46		45		25
Czech Republic		—		157		—
Panama		—		56		—
France		—		50		—
Latvia		—		46		—
Puerto Rico		1,087		—		—
Others		35		25		2
	Ps	1,899	Ps	984	Ps	445

See note 14 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Assets and liabilities related to employee benefits

The costs associated with our employees' benefits for: (i) defined benefit pension plans and (ii) other post-employment benefits, primarily comprised of health care benefits, life insurance and seniority premiums, granted by us and/or pursuant to applicable law, are recognized as services rendered, based on actuarial estimations of the benefits' present value with the advice of external actuaries. For certain pension plans, we have created irrevocable trust funds to cover future benefit payments ("plan assets"). These plan assets are valued at their estimated fair value at the statement of financial position date. The actuarial assumptions and accounting policy consider: (i) the use of nominal rates; (ii) a single rate is used for the determination of the expected return on plan assets and the discount of the benefits obligation to present value; (iii) a net interest is recognized on the net defined benefit liability (liability minus plan assets); and (iv) all actuarial gains and losses for the period, related to differences between the projected and real actuarial assumptions at the end of the period, as well as the difference between the expected and real return on plan assets, are recognized as part of "Other items of comprehensive income, net" within stockholders' equity.

The service cost, corresponding to the increase in the obligation for additional benefits earned by employees during the period, is recognized within operating costs and expenses. The net interest cost, resulting from the increase in obligations for changes in net present value (NPV) and the change during the period in the estimated fair value of plan assets, is recognized within "Financial income and other items, net."

The effects from modifications to the pension plans that affect the cost of past services are recognized within operating costs and expenses over the period in which such modifications become effective to the employees or without delay if changes are effective immediately. Likewise, the effects from curtailments and/or settlements of obligations occurring during the period, associated with events that significantly reduce the cost of future services and/or reduce significantly the population subject to pension benefits, respectively, are recognized within operating costs and expenses.

Revenue Recognition

As previously mentioned, we adopted IFRS 15 on January 1, 2018, using the retrospective approach. Our policies under IFRS 15 are as follows:

Revenue is recognized at a point in time or over time in the amount of the price, before tax on sales, expected to be received by our subsidiaries for goods and services supplied as a result of their ordinary activities, as contractual performance obligations are fulfilled and control of goods and services passes to the customer. Revenues are decreased by any trade discounts or volume rebates granted to customers. Transactions between related parties are eliminated in consolidation.

We recognize variable consideration when it is highly probable that a significant reversal in the amount of cumulative revenue recognized for the contract will not occur and is measured using the expected value or the most likely amount method, whichever is expected to better predict the amount based on the terms and conditions of the contract.

Revenue and costs from trading activities, in which we acquire finished goods from a third party and subsequently sell the goods to another third-party, are recognized on a gross basis, considering that we assume the total risk on the goods purchased, not acting as agent or broker.

When revenue is earned over time as contractual performance obligations are satisfied, which is the case of construction contracts, we apply the stage of completion method to measure revenue, which represents: (i) the proportion that contract costs incurred for work performed to date bear to the estimated total contract costs; (ii) the surveys of work performed; or (iii) the physical proportion of the contract work completed, whichever better reflects the percentage of completion under the specific circumstances. Revenue and costs related to construction contracts are recognized in the period in which the work is performed by reference to the contract's stage of completion at the end of the period, considering that the following have been defined: (i) each party's enforceable rights regarding the asset under construction; (ii) the consideration to be exchanged; (iii) the manner and terms of settlement; (iv) actual costs incurred and contract costs required to complete the asset are effectively controlled; and (v) it is probable that the economic benefits associated with the contract will flow to the entity. Progress payments and advances received from customers do not reflect the work performed and are recognized as a short- or long-term advance payments, as appropriate.

Newly-Issued IFRS Adopted as of December 31, 2018

IFRS 9, Financial Instruments: classification and measurement ("IFRS 9")

Effective January 1, 2018, IFRS 9 sets forth the guidance relating to the classification and measurement of financial assets and financial liabilities, the accounting for expected credit losses of financial assets and commitments to extend credits, as well as the requirements for hedge accounting. IFRS 9 replaced IAS 39, Financial instruments: recognition and measurement ("IAS 39"). We applied IFRS 9 prospectively. The accounting policies were changed to comply with IFRS 9. The changes required by IFRS 9 are described as follows:

- Among other aspects, IFRS 9 changed the classification categories for financial assets under IAS 39 and replaced them with categories that more closely reflect the measurement method, the contractual cash flow characteristics and the entity's business model for managing the financial asset.
- Cash and cash equivalents, trade and other accounts receivable and other financial assets, which were classified as "Loans and receivables" and measured at amortized cost under IAS 39, are now classified as "Held to collect" under IFRS 9 and continue to be measured at amortized cost.
- Investments and non-current accounts receivable that were classified as "Held to maturity" and measured at amortized cost under IAS 39 are now classified as "Held to collect" under IFRS 9 and continue to be measured at amortized cost.

- Investments that were classified as “Held for trading” and measured at fair value through profit or loss under IAS 39 are now classified as “Other investments” under IFRS 9 and are measured at fair value through profit or loss.
- Certain investments that were classified as “Held for sale” and measured at fair value through other comprehensive income under IAS 39 are now considered strategic investments under IFRS 9 and continue to be measured at fair value through other comprehensive income.

Debt instruments and other financial obligations continue to be classified as “Loans” and measured at amortized cost under IFRS 9 and derivative financial instruments continue to be measured at fair value through profit or loss under IFRS 9.

We assessed which business models applied to our financial assets and liabilities as of the date of initial application of IFRS 9 and classified our financial instruments into the appropriate IFRS 9 categories. As of January 1, 2018, the changes due to the classification and measurement requirements under IFRS 9 did not impact either the measurement or carrying amount of financial assets and liabilities and there was no effect on our retained earnings.

In addition, under the new impairment model under IFRS 9 based on expected credit losses, impairment losses for the entire lifetime of financial assets, including trade accounts receivable, are recognized on initial recognition and at each subsequent reporting period, even in the absence of a credit event or if a loss has not yet been incurred, accounting for their measurement, past events and current conditions, as well as reasonable and supportable forecasts affecting collectability. We developed an expected credit loss model applicable to our trade accounts receivable that considers the historical performance and economic environment, as well as the credit risk and expected developments for each group of customers, and applied the simplified approach upon adoption of IFRS 9. The effects of the adoption of IFRS 9 on January 1, 2018, related to the expected credit loss model, represented an increase in our allowance for expected credit losses of Ps570 million recognized against retained earnings, net of a deferred income tax asset of Ps154 million. The balances of such allowance and deferred tax assets increased from the reported amounts as of December 31, 2017, of Ps2,145 million and Ps14,817 million, respectively, to Ps2,715 million and Ps14,971 million as of January 1, 2018, respectively, after the adoption effects.

In connection with hedge accounting under IFRS 9, among other changes, there is a relief for entities in performing: a) the retrospective effectiveness test at inception of the hedging relationship and b) the requirement to maintain a prospective effectiveness ratio between 0.8 and 1.25 at each reporting date for purposes of sustaining the hedging designation, both requirements under IAS 39. Under IFRS 9, a hedging relationship can be established to the extent the entity considers, based on the analysis of the overall characteristics of the hedging and hedged items, that the hedge will be highly effective in the future and the hedge relationship at inception is aligned with the entity’s reported risk management strategy. IFRS 9 maintains the same hedge accounting categories of cash flow hedge, fair value hedge and hedge of a net investment established in IAS 39, as well as the requirement of recognizing the ineffective portion of a cash flow hedge immediately in the income statement. We performed an analysis of our derivative financial instruments upon adoption of IFRS 9 on January 1, 2018 and determined that the changes in hedge accounting described above did not impact either the measurement or carrying amount of the assets and liabilities related to our derivative financial instruments and there was no effect on our retained earnings.

IFRS 15, Revenues from contracts with customers (“IFRS 15”)

Under IFRS 15, an entity recognizes revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services, following a five-step model: Step 1: Identify the contract(s) with a customer (agreement that creates enforceable rights and obligations); Step 2: Identify the different performance obligations (promises) in the contract and account for those separately; Step 3: Determine the transaction price (amount of consideration

to which an entity expects to be entitled in exchange for transferring promised goods or services); Step 4: Allocate the transaction price to each performance obligation based on the relative stand-alone selling prices of each distinct good or service; and Step 5: Recognize revenue when (or as) the entity satisfies a performance obligation by transferring control of a promised good or service to the customer. A performance obligation may be satisfied at a point in time (typically for the sale of goods) or over time (typically for the sale of services and construction contracts). IFRS 15 also includes disclosure requirements to provide comprehensive information about the nature, amount, timing and uncertainty of revenue and cash flows arising from the entity's contracts with customers. IFRS 15 became effective on January 1, 2018 and superseded all then-existing guidance on revenue recognition.

After an extensive analysis of our contracts with customers, business practices and operating systems for all reported periods in all countries in which we operate in order to review the different performance obligations and other promises (discounts, loyalty programs, rebates, etc.) included in such contracts, aimed at determining the differences in the accounting recognition of revenue with respect to the prior IFRS, we adopted IFRS 15 on January 1, 2018, using the retrospective approach, without any significant effects on our operating results and financial situation, and restated our previously reported amounts of revenues for 2017 and 2016, resulting in an initial reclassification of other provisions to contract liabilities of Ps660 million as of January 1, 2016, and a subsequent net decrease in revenue of Ps2 million in 2016 and a net decrease in revenue of Ps8 million in 2017 related to IFRS 15. See note 3 to our 2018 audited consolidated financial statements included elsewhere in this annual report. These changes in revenues refer to certain discounts and rebates included in certain contracts and were recognized against deferred revenue as contract liabilities in the statement of financial position after IFRS 15 effects. See note 17 to our 2018 audited consolidated financial statements included elsewhere in this annual report. Changes in equity upon adoption were not significant.

Newly-Issued IFRS not Adopted as of December 31, 2018

There are a number of IFRS that were issued but not adopted as of December 31, 2018.

IFRS 16, Leases (“IFRS 16”)

IFRS 16 defines leases as any contract or part of a contract that conveys to the lessee the right to use an asset for a period of time in exchange for consideration and the lessee directs the use of the identified asset throughout that period. In summary, IFRS 16 introduces a single lessee accounting model and requires a lessee to recognize, for all leases, allowing exemptions in case of the leases with a term of less than 12 months or when the underlying asset is of low value, assets for the right-of-use the underlying asset against a corresponding financial liability, representing the net present value of estimated lease payments under the contract, with a single income statement model in which a lessee recognizes amortization of the right-of-use asset and interest on the lease liability. A lessee shall present either in the statement of financial position or disclose in the notes right-of-use assets separately from other assets, as well as lease liabilities separately from other liabilities. IFRS 16 became effective as of January 1, 2019 and superseded all their then-current standards and interpretations related to lease accounting.

As of December 31, 2018, by means of analyses of our outstanding lease contracts and other contracts that may have embedded the use of an asset and the assessment of the most relevant characteristics of such contracts (types of assets, committed payments, maturity dates, renewal clauses, etc.), we had substantially concluded the inventory and measurement of our leases for purposes of adopting IFRS 16 that is in our final review. Moreover, we defined our accounting policy under IFRS 16 and will apply the recognition exception for short-term leases and low-value assets, as well as the practical expedient to not separate the non-lease component from the lease component included in the same contract. We adopted IFRS 16 effective January 1, 2019 using the full retrospective approach pursuant to which prior periods will be restated. Upon adoption of IFRS 16, we estimated a range for our opening statement of financial position effects as of January 1, 2017 as follows:

(in millions of U.S. Dollars)	As of January 1, 2017	
	Low	High
Assets for the right-of-use	U.S.\$ 920	U.S.\$ 942
Financial liabilities	(1,030)	(1,060)
Retained earnings ⁽¹⁾	(110)	(118)

(1) The effect refers to a timing difference between depreciation expense of the assets calculated under the straight-line method and the interest expense from the liability determined under the effective interest rate method since the beginning of the contracts. This difference will reverse over the remaining life of the contracts.

In addition to IFRS 16, there are several amendments or new IFRS that were issued but not yet effective as of December 31, 2018. See note 2.20 to our audited consolidated financial statements included elsewhere in this annual report.

Results of Operations

Consolidation of Our Results of Operations

Our 2018 audited consolidated financial statements included elsewhere in this annual report include those subsidiaries in which we hold a controlling interest or which we otherwise control. Control exists when we have the power, directly or indirectly, to govern the administrative, financial and operating policies of an entity in order to obtain benefits from its activities.

Investments in associates are accounted for by the equity method, when we have significant influence, which is generally presumed with a minimum equity interest of 20% unless it is proven that we have significant influence with a lower percentage. Under the equity method, after acquisition, the investment's original cost is adjusted for the proportional interest of the holding company in the associate's equity and earnings, considering the effects of inflation.

All balances and transactions between the group subsidiaries have been eliminated in consolidation.

Discontinued operations

Considering the disposal of entire reportable operating segments, our income statements present in the single line item of "Discontinued operations," the results of: (i) our construction materials operations in Brazil sold on September 27, 2018, for the years 2016, 2017 and the period from January 1 to September 27, 2018; (ii) our Pacific Northwest Materials Business operations in the United States sold on June 30, 2017, for the year 2016 and the six months ended June 30, 2017; (iii) our Concrete Pipe Business operations in the United States sold on January 31, 2017, for the year 2016 and the one-month ended January 31, 2017; and (iv) our operations in Bangladesh and Thailand sold on May 26, 2016, for the period from January 1 to May 26, 2016. Discontinued operations are presented net of income tax. See note 4.2 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Significant Transactions

For the years ended December 31, 2016, 2017 and 2018, our consolidated results reflect the following transactions:

- On September 27, 2018, a subsidiary of CEMEX, S.A.B. de C.V. concluded the sale of our Brazilian Operations through the sale to Votorantim Cimentos N/NE S.A. of all shares of our Brazilian subsidiary Cimento Vencemos, consisting of a fluvial cement distribution terminal located in Manaus, Amazonas province, as well as the related operating license. The sale price was U.S.\$31 million (Ps580 million). See note 4.2 to our 2018 audited consolidated financial statements included elsewhere in this annual report.
- In August 2018, a subsidiary of CEMEX, S.A.B. de C.V. in the United Kingdom acquired shares of the ready-mix concrete producer Procon for an amount in Pounds Sterling equivalent to U.S.\$22 million, based on the Pound Sterling to Dollar exchange rate as of August 31, 2018. See note 4.1 to our 2018 audited consolidated financial statements included elsewhere in this annual report.
- On September 29, 2017, one of our subsidiaries in the United States closed the divestment of the Block USA Materials Business, consisting of concrete block, architectural block, concrete pavers, retaining walls and building material operations in Alabama, Georgia, Mississippi and Florida to Oldcastle for U.S.\$38 million. The proceeds obtained from this sale were used mainly for debt reduction and general corporate purposes.
- On September 28, 2017, CEMEX, S.A.B. de C.V. sold its then remaining direct interest in GCC, consisting of 31,483,332 shares of common stock of GCC, representing 9.47% of the equity capital of GCC for U.S.\$168 million (Ps3,012 million), which was used for debt reduction and general corporate purposes. Following this sale of shares, we no longer held a direct interest in GCC but continued to hold an indirect share of 20% in GCC through our minority interest in CAMCEM.
- On June 30, 2017, one of our subsidiaries in the United States closed the divestment of the Pacific Northwest Materials Business, consisting of aggregates, asphalt and ready-mix concrete operations in Oregon and Washington to Cadman Materials for U.S.\$150 million. The proceeds obtained from this sale were used mainly for debt reduction and general corporate purposes.
- On February 15, 2017, we sold 45,000,000 shares of common stock of GCC, representing 13.53% of the equity capital of GCC, at a price of Ps95 per share in a public offering to investors in Mexico authorized by the Comisión Nacional Bancaria y de Valores (Mexican National Banking and Securities Commission) (the “CNBV”) and in a concurrent private placement to eligible investors outside of Mexico. Prior to the offerings, CEMEX, S.A.B. de C.V. owned a 23% direct interest in GCC and a minority interest in CAMCEM, an entity which owns a majority interest in GCC. After the GCC offerings, CEMEX, S.A.B. de C.V. owned a 9.47% direct interest in GCC and a minority interest in CAMCEM. Proceeds from the sale were Ps4,094 million (U.S.\$210 million). The proceeds from the GCC shares offerings were used for general corporate purposes.
- On February 10, 2017, one of our subsidiaries in the United States sold its Fairborn, Ohio cement plant and cement terminal in Columbus, Ohio to Eagle Materials for U.S.\$400 million. The proceeds obtained from this transaction were used mainly for debt reduction and for general corporate purposes.
- On January 31, 2017, one of CEMEX, S.A.B. de C.V.’s subsidiaries in the United States closed the sale of the Concrete Pipe Business to Quikrete for U.S.\$500 million plus an additional U.S.\$40 million contingent consideration based on future performance.
- On December 5, 2016, Sierra, one of CEMEX, S.A.B. de C.V.’s indirect subsidiaries, presented the Offer to all shareholders of TCL, a company then publicly listed in Trinidad and Tobago, Jamaica and Barbados, to acquire up to 132,616,942 ordinary shares in TCL, pursuant to which Sierra offered the Offer Price payable, at the option of shareholders of TCL except for shareholders of TCL in Barbados, in either TT\$ or U.S.\$ in Trinidad, and Jamaican Dollars or U.S.\$ in Jamaica TCL. The Offer Price

represented a premium of 50% over the December 1, 2016 closing price of TCL's shares on the Trinidad and Tobago Stock Exchange. The total number of TCL shares tendered and accepted in response to the Offer was 113,629,723 which, together with Sierra's pre-existing shareholding in TCL (147,994,188 shares), represent 69.83% of the outstanding TCL shares. The total cash payment by Sierra for the tendered shares was U.S.\$86 million. CEMEX started consolidating TCL for financial reporting purposes on February 1, 2017. In March 2017, TCL de-listed from the Jamaica and Barbados stock exchanges. TCL's subsidiaries include, but are not limited to, CCCL, a publicly listed company in Jamaica and Arawak, which, as of December 31, 2018, owned cement plants in Jamaica and Barbados, respectively.

- On December 2, 2016, we agreed to the sale of our assets and operations related to our ready-mix concrete pumping business in Mexico to Pumping Team, a specialist in the supply of ready-mix concrete pumping services based in Spain, for Ps1,649 million. This agreement included the sale of fixed assets upon closing of the transaction for Ps309 million plus administrative and client and market development services. Under this agreement, we will also lease facilities in Mexico to Pumping Team over a period of ten years with the possibility to extend for three additional years, for an aggregate initial amount of Ps1,340 million, plus a contingent revenue subject to results for up to Ps557 million linked to annual metrics beginning in the first year and up to the fifth year of the agreement. On April 28, 2017, after receiving the approval by the Mexican authorities, we concluded the sale.
- On November 18, 2016, after all conditions precedent were satisfied, CEMEX, S.A.B. de C.V. announced that it had closed the sale of certain assets in the United States to GCC for U.S.\$306 million (Ps6,340 million). The assets were sold by an affiliate of CEMEX to an affiliate of GCC in the United States and mainly consisted of CEMEX's cement plant in Odessa, Texas, two cement terminals and the building materials business in El Paso, Texas and Las Cruces, New Mexico.
- On July 18, 2016, CHP closed its initial public offering of 45% of its common shares in the Philippines, and 100% of CHP's common shares started trading on the Philippine Stock Exchange under the ticker "CHP." As of December 31, 2017, CASE, an indirect subsidiary of CEMEX, S.A.B. de C.V., directly owned 55% of CHP's outstanding common shares. The net proceeds to CHP from its initial public offering were U.S.\$507 million after deducting estimated underwriting discounts and commissions, and other estimated offering expenses payable by CHP. CHP used the net proceeds from the initial public offering to repay existing indebtedness owed to BDO Unibank and to an indirect subsidiary of CEMEX, S.A.B. de C.V.
- On May 26, 2016, we closed the sale of our operations in Bangladesh and Thailand to SIAM Cement for U.S.\$70 million.

The proceeds from this transaction were used mainly for debt reduction and for general corporate purposes. See note 4.2 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Selected Consolidated Income Statements Data

The following table sets forth our selected consolidated income statements data for each of the three years ended December 31, 2016, 2017 and 2018 expressed as a percentage of revenues.

	<u>Year Ended December 31,</u>		
	<u>2016</u>	<u>2017</u>	<u>2018</u>
Revenues	100%	100%	100%
Cost of sales	(64.1)	(65.6)	(66.1)
Gross profit	35.9	34.4	33.9
Operating expenses	(21.6)	(21.7)	(21.9)
Operating earnings before other expenses, net	14.3	12.7	12.0
Other expenses, net	(0.7)	(1.5)	(2.1)
Operating earnings	13.6	11.2	9.9
Financial expense	(8.6)	(7.5)	(4.6)
Financial income and other items, net	1.8	1.4	0.03
Share of profit on equity accounted investees	0.3	0.2	0.3
Earnings before income tax	7.1	5.3	5.6
Income tax	(1.3)	(0.2)	(1.6)
Net income from continuing operations	5.8	5.1	4.0
Discontinued operations	0.3	1.4	0.1
Consolidated net income	6.1	6.5	4.1
Non-controlling interest net income	0.5	0.6	0.3
Controlling interest net income	5.6	5.9	3.8

Year Ended December 31, 2018 Compared to Year Ended December 31, 2017

Summarized in the table below are the percentage (%) increases (+) and decreases (-) for the year ended December 31, 2018, compared to the year ended December 31, 2017, in our domestic cement and ready-mix concrete sales volumes, as well as export sales volumes of cement and domestic cement and ready-mix concrete average sales prices for each of our reportable segments.

Reportable segments represent the components of CEMEX that engage in business activities from which we may earn revenues and incur expenses, whose operating results are regularly reviewed by the entity's top management to make decisions about resources to be allocated to the segments and assess their performance, and for which discrete financial information is available. We operate geographically and by line of business on a regional basis. For the reported periods, our operations were organized in five geographical regions, each under the supervision of a regional president, as follows: 1) Mexico, 2) United States, 3) Europe, 4) SCA&C and 5) Asia, Middle East and Africa. The accounting policies applied to determine the financial information by reportable segment are consistent with those described in note 2 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Considering similar regional and economic characteristics and/or materiality, certain countries have been aggregated and presented as single line items as follows: (i) "Rest of Europe" refers mainly to our operations and activities in Croatia, Latvia, Scandinavia and Finland; (ii) "Rest of South, Central America and the Caribbean" refers mainly to our operations and activities in Puerto Rico, Nicaragua, Jamaica, the Caribbean, Guatemala and El Salvador, excluding the acquired operations of the Caribbean TCL; (iii) "Caribbean TCL" refers to TCL's operations mainly in Trinidad and Tobago, Jamaica, Guyana and Barbados; and (iv) "Rest of Asia, Middle East and Africa" refers mainly to our operations in the UAE. The segment "Others" refers to: (1) cement trade maritime operations, (2) Neoris N.V., our subsidiary involved in the business of information technology solutions, (3) CEMEX, S.A.B. de C.V., other corporate entities and finance subsidiaries and (4) other minor subsidiaries with different lines of business.

The table below and the other volume data presented by reportable segment in this “—Year Ended December 31, 2018 Compared to Year Ended December 31, 2017” section are presented before eliminations resulting from consolidation (including those shown in note 4.4 to our 2018 audited consolidated financial statements included elsewhere in this annual report).

Reportable Segment	Domestic Sales Volumes		Export Sales Volumes	Average Domestic Sales Prices in Local Currency ⁽¹⁾	
	Cement	Ready-Mix Concrete	Cement	Cement	Ready-Mix Concrete
Mexico	+1%	+10%	+51%	+3%	+8%
United States	+5%	+8%	—	+3%	+2%
Europe					
United Kingdom	-4%	-5%	—	-1%	Flat
France	—	Flat	—	—	+4%
Germany	-1%	-9%	-24%	+2%	+6%
Spain	+4%	+34%	-30%	+5%	+2%
Poland	+7%	+4%	-60%	+6%	+10%
Czech Republic	+6%	-1%	-5%	+3%	+4%
Rest of Europe	-4%	-9%	-1%	+1%	+3%
South, Central America and the Caribbean					
Colombia	-6%	-11%	—	+2%	Flat
Panama	-18%	-15%	—	-1%	-7%
Costa Rica	+1%	+6%	-19%	+3%	+5%
Caribbean TCL	+6%	+10%	+22%	+2%	-11%
Dominican Republic	-1%	-8%	-10%	+11%	+4%
Rest of South, Central America and the Caribbean	+3%	-21%	-84%	Flat	-3%
Asia, Middle East and Africa					
Philippines	+7%	-94%	+4%	+1%	-1%
Egypt	Flat	-21%	—	+18%	+33%
Israel	—	+4%	—	—	+2%
Rest of Asia, Middle East and Africa	-20%	+4%	-28%	Flat	-1%

“—” = Not Applicable

- (1) Represents the average change in domestic cement and ready-mix concrete prices in local currency terms. For purposes of a reportable segment consisting of a region, the average prices in local currency terms for each individual country within the region are first translated into Dollar terms (except for the Rest of Europe, in which they are translated first into Euros) at the exchange rates in effect as of the end of the reporting period. Variations for a region represent the weighted average change of prices in Dollar terms (except for the Rest of Europe, in which they represent the weighted average change of prices in Euros) based on total sales volumes in the region.

On a consolidated basis, our cement sales volumes increased 2%, from 68.2 million tons in 2017 to 69.4 million tons in 2018, and our ready-mix concrete sales volumes increased 3%, from 51.7 million cubic meters in 2017 to 53.3 cubic meters in 2018. Our revenues increased 8%, from Ps257,437 million in 2017 to Ps276,855 million in 2018, and our operating earnings before other expenses, net increased 2%, from Ps32,612 million in 2017 to Ps33,196 million in 2018.

The following tables present selected financial information of revenues and operating earnings before other expenses, net for each of our reportable segments for the years ended December 31, 2017 and 2018. The revenues information in the table below is presented before eliminations resulting from consolidation (including those shown in note 4.4 to our 2018 audited consolidated financial statements included elsewhere in this annual report). Variations in revenues determined on the basis of Mexican Pesos include the appreciation or depreciation which occurred during the period between the local currencies of the countries in the regions vis-à-vis the Mexican Peso; therefore, such variations differ substantially from those based solely on the countries' local currencies:

Reportable Segment	Variation in Local Currency ⁽¹⁾	Approximate Currency Fluctuations	Variation in Mexican Pesos	Revenues For the Year Ended	
				2017	2018
(in millions of Mexican Pesos)					
Mexico	+9%	—	+9%	Ps 58,442	Ps 63,543
United States	+8%	+2%	+10%	65,536	72,345
Europe					
United Kingdom	-4%	+5%	+1%	20,179	20,431
France	+7%	+6%	+13%	16,162	18,308
Germany	+1%	+7%	+8%	10,056	10,836
Spain	+4%	+7%	+11%	6,870	7,627
Poland	+20%	+6%	+26%	5,552	6,989
Czech Republic	+1%	+9%	+10%	3,450	3,796
Rest of Europe	+4%	+2%	+6%	5,989	6,365
South, Central America and the Caribbean					
Colombia	-7%	+1%	-6%	10,685	10,088
Panama	-17%	+5%	-12%	5,112	4,490
Costa Rica	-5%	—	-5%	2,805	2,674
Caribbean TCL	+10%	+3%	+13%	4,332	4,893
Dominican Republic	+10%	-2%	+8%	3,913	4,218
Rest of South, Central America and the Caribbean	-1%	+1%	—	7,803	7,781
Asia, Middle East and Africa					
Philippines	+6%	-2%	+4%	8,296	8,612
Egypt	+17%	+2%	+19%	3,862	4,586
Israel	+5%	+2%	+7%	11,377	12,128
Rest of Asia, Middle East and Africa	+4%	+2%	+6%	2,139	2,263
Others	+13%	—	+13%	21,820	24,667
Revenues from continuing operations before eliminations resulting from consolidation			+8%	Ps 274,380	Ps 296,640
Eliminations resulting from consolidation				(16,943)	(19,785)
Revenues from continuing operations			+8%	<u>Ps 257,437</u>	<u>Ps 276,855</u>

Reportable Segment	Variation in Local Currency ⁽¹⁾	Approximate Currency Fluctuations	Variation in Mexican Pesos	Operating Earnings Before Other Expenses, Net For the Year Ended December 31,	
				2017	2018
				(in millions of Mexican Pesos)	
Mexico	+5%	—	+5%	Ps 18,969	Ps 20,006
United States	+30%	+8%	+38%	4,452	6,152
Europe					
United Kingdom	-47%	+4%	-43%	1,766	1,007
France	+105%	+22%	+127%	306	695
Germany	-20%	+13%	-7%	234	217
Spain	+20%	+30%	+50%	(294)	(442)
Poland	+37%	—	+37%	286	393
Czech Republic	+10%	+8%	+18%	482	567
Rest of Europe	+19%	+8%	+27%	293	372
South, Central America and the Caribbean					
Colombia	-21%	—	-21%	1,659	1,312
Panama	-47%	+2%	-45%	1,688	921
Costa Rica	-14%	+1%	-13%	901	782
Caribbean TCL	-2%	+59%	+57%	449	705
Dominican Republic	+14%	-4%	+10%	882	973
Rest of South, Central America and the Caribbean	-4%	+3%	-1%	1,271	1,257
Asia, Middle East and Africa					
Philippines	-21%	-3%	-24%	866	660
Egypt	-24%	+1%	-23%	295	226
Israel	+5%	+1%	+6%	1,182	1,256
Rest of Asia, Middle East and Africa	-15%	—	-15%	310	264
Others	+5%	+17%	+22%	(3,385)	(4,127)
Operating earnings before other expenses, net from continuing operations			+2%	<u>Ps 32,612</u>	<u>Ps 33,196</u>

“—” = Not Applicable

(1) Represents the variation in local currency terms. For purposes of a reportable segment consisting of a region, the variation in local currency terms for each individual country within the region are first translated into Dollar terms (except for the Rest of Europe, in which they are translated first into Euros) at the exchange rates in effect as of the end of the reporting period. Variations for a region represent the change in Dollar terms (except for the Rest of Europe region, in which they represent the change in Euros), net, in the region.

Revenues. Our consolidated revenues increased 8%, from Ps257,437 million in 2017 to Ps276,855 million in 2018. The increase was due to higher local currency prices for our products in all of our regions, as well as higher volumes mainly in the ready-mix concrete and aggregates businesses in Mexico and the United States and higher cement volumes in the United States. Set forth below is a quantitative and qualitative analysis of the various factors affecting our revenues on a reportable segment basis. The discussion of volume data and revenues information below is presented before eliminations resulting from consolidation as described in note 4.4 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Mexico

Our domestic cement sales volumes from our operations in Mexico increased 1% in 2018 compared to 2017, and ready-mix concrete sales volumes increased 10% over the same period. Our revenues from our operations in

Mexico represented 21% of our total revenues for the year ended December 31, 2018, in Mexican Peso terms, before eliminations resulting from consolidation. Cement volumes during the year were supported by increased demand from the formal residential and industrial-and-commercial sector mitigated by lower infrastructure activity. In the formal residential sector, investment in mortgages for new home acquisitions continued to grow as INFONAVIT surpassed its 2018 target. In the industrial-and-commercial sector, favorable dynamics continued in tourism, office-space and manufacturing-related construction. Our cement export volumes from our operations in Mexico, which represented 6% of our Mexican cement sales volumes for the year ended December 31, 2018, increased 51% in 2018 compared to 2017. Of our total cement export volumes from our operations in Mexico during 2018, 63% was shipped to the United States, 1% to Costa Rica and 36% to our Rest of South, Central America and the Caribbean region. Our average sales price of domestic cement from our operations in Mexico increased 3%, in Mexican Peso terms, in 2018 compared to 2017, and our average sales price of ready-mix concrete increased 8%, in Mexican Peso terms, over the same period. For the year ended December 31, 2018, cement represented 57%, ready-mix concrete 22% and our aggregates and other businesses 21% of our revenues in Mexican Peso terms from our operations in Mexico before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of increases in domestic cement and ready-mix concrete sales prices and domestic cement and ready-mix concrete sales volumes, our revenues in Mexico, in Mexican Peso terms, increased 9% in 2018 compared to 2017.

United States

Our domestic cement sales volumes from our operations in the United States increased 5% in 2018 compared to 2017, and ready-mix concrete sales volumes increased 8% over the same period. Residential and infrastructure activity were the main drivers of volume growth. In the industrial-and-commercial sector, construction spending was driven by offices, lodging and commercial activity. Regarding infrastructure, street-and-highway spending continued to grow in 2018. Contract awards in our key states are growing in the double-digits and in excess of the national average, driven by specific state infrastructure funding initiatives. Our operations in the United States represented 24% of our total revenues for the year ended December 31, 2018, in Mexican Peso terms, before eliminations resulting from consolidation. Our average domestic cement sales prices of our operations in the United States increased 3%, in Dollar terms, in 2018 compared to 2017, and our average ready-mix concrete sales price increased 2%, in Dollar terms, over the same period. For the year ended December 31, 2018, cement represented 32%, ready-mix concrete 42% and our aggregates and other businesses 26% of revenues in Mexican Peso terms from our operations in the United States before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of the increases in domestic cement and ready-mix concrete sales volumes and domestic cement and ready-mix concrete sales prices, revenues from our operations in the United States, in Dollar terms, increased 8% in 2018 compared to 2017.

Europe

In 2018, our operations in the Europe region consisted of our operations in the United Kingdom, France, Germany, Spain, Poland and the Czech Republic, which represent the most significant operations in this region, in addition to the Rest of Europe, which refers primarily to operations in Croatia, Latvia, Scandinavia and Finland. Our revenues from our operations in the Europe region represented 25% of our total revenues for the year ended December 31, 2018, in Mexican Peso terms, before eliminations resulting from consolidation. As of December 31, 2018, our operations in the Europe region represented 20% of our total assets. Set forth below is a quantitative and qualitative analysis of the effects of the various factors affecting our revenues for our main operations in the Europe region.

United Kingdom

Our domestic cement sales volumes from our operations in the United Kingdom decreased 4% in 2018 compared to 2017, and ready-mix concrete sales volumes decreased 5% over the same period. The decreases in domestic cement and ready-mix concrete sales volumes reflect continued uncertainty around Brexit. Our operations in the United Kingdom represented 7% of our total revenues for the year ended December 31, 2018, in Mexican Peso terms, before eliminations resulting from consolidation. Our average sales price of domestic cement from our operations in the United Kingdom decreased 1%, in Pound terms, in 2018 compared to 2017, and our average sales price of ready-mix concrete remained flat, in Pound terms, over the same period. For the year ended December 31, 2018, cement represented 17%, ready-mix concrete 26% and our aggregates and other businesses 57% of revenues in Mexican Peso terms from our operations in the United Kingdom before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of decreases in domestic cement and ready-mix concrete sales volumes and domestic cement sales prices, revenues from our operations in the United Kingdom, in Pound terms, decreased 4% in 2018 compared to 2017.

France

Our ready-mix concrete sales volumes from our operations in France remained flat in 2018 compared to 2017. Infrastructure activity was the main driver of volume, including the “Grand Paris” project, as well as demand from the industrial-and-commercial sector. Our operations in France represented 6% of our total revenues for the year ended December 31, 2018, in Mexican Peso terms, before eliminations resulting from consolidation. Our average sales price of ready-mix concrete of our operations in France increased 4%, in Euro terms, in 2018 compared to 2017. For the year ended December 31, 2018, ready-mix concrete represented 67% and our aggregates and other businesses 33% of revenues in Mexican Peso terms from our operations in France before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of the increases in ready-mix concrete sales prices, revenues from our operations in France, in Euro terms, increased 7% in 2018 compared to 2017.

Germany

Our domestic cement sales volumes from our operations in Germany decreased 1% in 2018 compared to 2017, and ready-mix concrete sales volumes decreased 9% over the same period. The decrease in ready-mix concrete volumes reflected, in part, continued supply constraints in the construction industry. This also resulted in lower domestic cement volumes supplied to our ready-mix concrete operations. Our operations in Germany represented 4% of our total revenues for the year ended December 31, 2018, in Mexican Peso terms, before eliminations resulting from consolidation. Our cement export volumes from our operations in Germany, which represented 25% of our Germany cement sales volumes for the year ended December 31, 2018, decreased 24% in 2018 compared to 2017. Of our total cement export volumes from our operations in Germany during 2018, 21% were to Poland, 2% were to the Czech Republic and 77% were to our Rest of Europe region. Our average sales price of domestic cement from our operations in Germany increased 2%, in Euro terms, in 2018 compared to 2017, and our average sales price of ready-mix concrete increased 6%, in Euro terms, over the same period. For the year ended December 31, 2018, cement represented 27%, ready-mix concrete 36% and our aggregates and other businesses 37% of revenues in Mexican Peso terms from our operations in Germany before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of the increases in domestic cement and ready-mix concrete sales prices, partially offset by decreases in domestic cement and ready-mix concrete sales volumes, revenues from our operations in Germany, in Euro terms, increased 1% in 2018 compared to 2017.

Spain

Our domestic cement sales volumes from our operations in Spain increased 4% in 2018 compared to 2017, while ready-mix concrete sales volumes increased 34% over the same period. The increase in domestic cement and ready-mix concrete volumes reflected in part the introduction of ten new ready-mix concrete plants and three new aggregates quarries. Activity from the residential and industrial-and-commercial sectors continued to be favorable. The residential sector continued to benefit from favorable credit conditions, low interest rates, positive income perspectives and pent-up housing demand, with double-digit growth in both housing permits and mortgages. Our operations in Spain represented 3% of our total revenues for the year ended December 31, 2018, in Mexican Peso terms, before eliminations resulting from consolidation. Our cement export volumes from our operations in Spain, which represented 38% of our Spain cement sales volumes for the year ended December 31, 2018, decreased 30% in 2018 compared to 2017. Of our total cement export volumes from our operations in Spain during 2018, 9% were to the SCA&C region, 24% were to the United States, 25% were to the United Kingdom, 3% were to Poland, 10% were to the Rest of Europe region and 29% were to the Rest of Asia, Middle East and Africa region. Our average sales price of domestic cement of our operations in Spain increased 5%, in Euro terms, in 2018 compared to 2017, and our average sales price of ready-mix concrete increased 2%, in Euro terms, over the same period. For the year ended December 31, 2018, cement represented 72%, ready-mix concrete 16% and our aggregates and other businesses 12% of revenues in Mexican Peso terms from our operations in Spain before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of increases in domestic cement and ready-mix concrete sales volumes and sales prices, revenues from our operations in Spain, in Euro terms, increased 4% in 2018 compared to 2017.

Poland

Our domestic cement sales volumes from our operations in Poland increased 7% in 2018 compared to 2017, while ready-mix concrete sales volumes increased 4% over the same period. The increases in domestic cement volumes during the year were mainly due to our participation in large infrastructure projects including the S-17 expressway and solid residential activity. Our operations in Poland represented 2% of our total revenues for the year ended December 31, 2018, in Mexican Peso terms, before eliminations resulting from consolidation. Our cement export volumes from our operations in Poland, which represented 1% of our Poland cement sales volumes for the year ended December 31, 2018, decreased 60% in 2018 compared to 2017. Of our total cement export volumes from our operations in Poland during 2018, all were to our Rest of Europe region. Our average sales price of domestic cement of our operations in Poland increased 6%, in Polish Zloty terms, in 2018 compared to 2017, and our average sales price of ready-mix concrete increased 10%, in Polish Zloty terms, over the same period. For the year ended December 31, 2018, cement represented 47%, ready-mix concrete 37% and our aggregates and other businesses 16% of revenues in Mexican Peso terms from our operations in Poland before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of increases in domestic cement and ready-mix concrete sales volumes and sales prices, revenues from our operations in Poland, in Polish Zloty terms, increased 20% in 2018 compared to 2017.

Czech Republic

Our domestic cement sales volumes from our operations in the Czech Republic increased 6% in 2018 compared to 2017, while ready-mix concrete sales volumes decreased 1% over the same period. Our operations in the Czech Republic represented 1% of our total revenues for the year ended December 31, 2018, in Mexican Peso terms, before eliminations resulting from consolidation. Our cement export volumes from our operations in the Czech Republic, which represented 3% of our Czech Republic cement sales volumes for the year ended December 31, 2018, decreased 5% in 2018 compared to 2017. Of our total cement export volumes from our

operations in the Czech Republic during 2018, 14% were to Germany, 62% were to Poland and 24% were to our Rest of Europe region. Our average sales price of domestic cement from our operations in the Czech Republic increased 3%, in Czech Koruna terms, in 2018 compared to 2017, and our average sales price of ready-mix concrete increased 4%, in Czech Koruna terms, over the same period. For the year ended December 31, 2018, our operations in the Czech Republic cement represented 30%, ready-mix concrete 46% and our aggregates and other businesses 24% of revenues in Mexican Peso terms from our operations in the Czech Republic before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of increases in domestic cement sales volumes and sales prices, and ready-mix concrete sales prices, partially offset by decreases in ready-mix concrete sales volumes, revenues from our operations in the Czech Republic, in Czech Koruna terms, increased 1% in 2018 compared to 2017.

Rest of Europe

Our domestic cement sales volumes from our operations in the Rest of Europe decreased 4% in 2018 compared to 2017, and ready-mix concrete sales volumes decreased 9% over the same period. Our cement export volumes from our operations in the Rest of Europe segment, which represented 36% of our Rest of Europe cement sales volumes for the year ended December 31, 2018, decreased 1% in 2018 compared to 2017. Of our total cement export volumes from our operations in Rest of Europe during 2018, 21% were to Germany, 5% were to Poland, 60% were within the region, 12% were to the Asia, Middle East and Africa region and 2% were to our Rest of South, Central America and the Caribbean region. Our revenues from our operations in the Rest of Europe represented 2% of our total revenues for the year ended December 31, 2018, in Mexican Peso terms, before eliminations resulting from consolidation. Our average sales price of domestic cement from our operations in the Rest of Europe increased 1%, in Euro terms, in 2018 compared to 2017, and our average sales price of ready-mix concrete increased 3%, in Euro terms, over the same period. For the year ended December 31, 2018, cement represented 87%, ready-mix concrete 9% and our aggregates and other businesses 4% of revenues in Mexican Peso terms from our operations in the Rest of Europe before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of increases in domestic cement and ready-mix concrete sales prices, partially offset by decreases in domestic cement and ready-mix concrete sales volumes, revenues in the Rest of Europe, in Euro terms, increased 4% in 2018 compared to 2017.

South, Central America and the Caribbean

In 2018, our operations in the SCA&C region consisted of our operations in Colombia, Panama, Costa Rica, the Dominican Republic, as well as our Caribbean TCL operations, which refers to TCL's operations mainly in Trinidad and Tobago, Jamaica, Guyana and Barbados, which represent our most significant operations in this region, and the Rest of South, Central America and the Caribbean, which refers primarily to operations in Puerto Rico, Nicaragua, Jamaica, the Caribbean, Guatemala and El Salvador, excluding the acquired operations of the Caribbean TCL. Our revenues from our operations in the SCA&C region represented 12% of our total revenues in Mexican Peso terms for the year ended December 31, 2018, before eliminations resulting from consolidation. As of December 31, 2018, our operations in the SCA&C region represented 9% of our total assets. Set forth below is a quantitative and qualitative analysis of the effects of the various factors affecting our revenues for our main operations in the SCA&C region.

Colombia

Our domestic cement sales volumes from our operations in Colombia decreased 6% in 2018 compared to 2017, and ready-mix concrete sales volumes decreased 11% over the same period. The decreases in domestic cement sales volumes and in ready-mix concrete sales volumes were primarily due to a general industry downturn and an aggressive pricing strategy carried out by our competitors. Our revenues from our operations in

Colombia represented 3% of our total revenues for the year ended December 31, 2018, in Mexican Peso terms, before eliminations resulting from consolidation. Our average sales price of domestic cement from our operations in Colombia increased 2%, in Colombian Peso terms, in 2018 compared to 2017, and our average sales price of ready-mix concrete remained flat, in Colombian Peso terms, over the same period. For the year ended December 31, 2018, cement represented 51%, ready-mix concrete 27% and our aggregates and other businesses 22% of our revenues in Mexican Peso terms from our operations in Colombia before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of decreases in domestic cement and ready-mix concrete sales volumes, partially offset by an increase in domestic cement sales prices, revenues of our operations in Colombia, in Colombian Peso terms, decreased 7% in 2018 compared to 2017.

Panama

Our domestic cement sales volumes from our operations in Panama decreased 18% in 2018 compared to 2017, and ready-mix concrete sales volumes decreased 15% over the same period. The decreases in domestic cement and ready-mix concrete sales volumes reflected the market slowdown and slow execution of infrastructure projects. Our revenues from our operations in Panama represented 2% of our total revenues for the year ended December 31, 2018, in Mexican Peso terms, before eliminations resulting from consolidation. Our average sales price of domestic cement from our operations in Panama decreased 1% in Dollar terms, in 2018 compared to 2017, and our average sales price of ready-mix concrete decreased 7%, in Dollar terms, over the same period. For the year ended December 31, 2018, cement represented 60%, ready-mix concrete 25% and our aggregates and other businesses 15% of our revenues in Mexican Peso terms from our operations in Panama before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of decreases in domestic cement and ready-mix concrete sales volumes and sales prices, revenues of our operations in Panama, in Dollar terms, decreased 17% in 2018 compared to 2017.

Costa Rica

Our domestic cement sales volumes from our operations in Costa Rica increased 1% in 2018 compared to 2017, and ready-mix concrete sales volumes increased 6% over the same period. The increases in domestic cement and ready-mix concrete sales volumes were mainly due to our participation in commercial projects. Our cement export volumes from our operations in Costa Rica, which represented 22% of cement sales volumes from our operations in Costa Rica for the year ended December 31, 2018, decreased 19% in 2018 compared to 2017. All of our total cement exports from our operations in Costa Rica during 2018 were to the Rest of South, Central America and the Caribbean region. Our revenues from our operations in Costa Rica represented 1% of our total revenues for the year ended December 31, 2018, in Mexican Peso terms, before eliminations resulting from consolidation. Our average sales price of domestic cement from our operations in Costa Rica increased 3%, in Costa Rican Colones terms, in 2018 compared to 2017, and our average sales price of ready-mix concrete increased 5%, in Costa Rican Colones terms, over the same period. For the year ended December 31, 2018, cement represented 76%, ready-mix concrete 15% and our aggregates and other businesses 9% of our revenues from our operations in Mexican Peso terms before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of decreases in exports sales volumes partially offset by increases in domestic cement and ready-mix concrete sales volumes and sales prices, revenues of our operations in Costa Rica, in Costa Rican Colones terms, decreased 5% in 2018 compared to 2017.

Caribbean TCL

Our domestic cement sales volumes from our operations in Caribbean TCL increased 6% in 2018 compared to 2017, while ready-mix concrete sales volumes increased 10% over the same period. As mentioned in note 4.1

to our 2018 audited consolidated financial statements included elsewhere in this annual report, CEMEX acquired a controlling interest in Caribbean TCL in February 2017. Our revenues from our operations in Caribbean TCL represented 2% of our total revenues for the year ended December 31, 2018, in Mexican Peso terms, before eliminations resulting from consolidation. Our cement export volumes from our operations in Caribbean TCL segment represented 19% of our Caribbean TCL cement sales volumes for the year ended December 31, 2018, increased 22% in 2018 compared to 2017. All of our total cement exports from our operations in Caribbean TCL during 2018 were to the Rest of South, Central America and the Caribbean region. Our average sales price of domestic cement of our operations in Caribbean TCL increased 2%, in Trinidad and Tobago Dollar terms, in 2018 compared to 2017, and our average sales price of ready-mix concrete decreased 11%, in Trinidad and Tobago Dollar terms, over the same period. For the year ended December 31, 2018, cement represented 70%, ready-mix concrete 3% and our other businesses 27% of revenues in Mexican Peso terms from our operations in Caribbean TCL before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of increases in domestic cement and ready-mix concrete sales volumes and domestic cement sales prices, partially offset by decreases in ready-mix concrete sales prices, revenues of our operations in Caribbean TCL, in Trinidad and Tobago Dollar terms, increased 10% in 2018 compared to 2017.

Dominican Republic

Our domestic cement sales volumes from our operations in the Dominican Republic decreased 1% in 2018 compared to 2017, while ready-mix concrete sales volumes decreased 8% over the same period. The decreases in our domestic cement and ready-mix concrete sales volumes in our Dominican Republic region were mainly driven by lower consumption from the private sector, fewer government projects and delays of state permits to initiate. Our operations in the Dominican Republic represented 1% of our total revenues for the year ended December 31, 2018, in Mexican Peso terms, before eliminations resulting from consolidation. Our cement export volumes from our operations in the Dominican Republic, which represented 14% of our Dominican Republic cement sales volumes for the year ended December 31, 2018, decreased 10% in 2018 compared to 2017. Of our total cement export volumes from our operations in the Dominican Republic during 2018, all were to our Rest of South, Central America and the Caribbean region. Our average sales price of domestic cement of our operations in the Dominican Republic increased 11%, in Dominican Peso terms, in 2018 compared to 2017, and our average sales price of ready-mix concrete increased 4%, in Dominican Peso terms, over the same period. For the year ended December 31, 2018, cement represented 75%, ready-mix concrete 11% and our aggregates and other businesses 14% of revenues in Mexican Peso terms from our operations in the Dominican Republic before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of increases in domestic cement and ready-mix concrete sales prices, partially offset by decreases in domestic cement and ready-mix concrete sales volumes, revenues from our operations in the Dominican Republic, in Dominican Peso terms, increased 10% in 2018 compared to 2017.

Rest of South, Central America and the Caribbean

Our domestic cement volumes from our operations in the Rest of South, Central America and the Caribbean increased 3% in 2018 compared to 2017, and ready-mix concrete sales volumes decreased 21% over the same period. Our cement export volumes from our operations in the Rest of South, Central America and the Caribbean segment, which represented less than 1% of our Rest of South, Central America and the Caribbean cement sales volumes for the year ended December 31, 2018, decreased 84% in 2018 compared to 2017. Of our total cement export volumes from our operations in Rest of South, Central America and the Caribbean during 2018, 96% were within the same region and 4% were to the Rest of Europe region. Our revenues from our operations in the Rest of South, Central America and the Caribbean represented 3% of our total revenues for the year ended December 31, 2018, in Mexican Peso terms, before eliminations resulting from consolidation. Our average sales price of domestic cement from our operations in the Rest of South, Central America and the Caribbean remained

flat in Dollar terms, in 2018 compared to 2017, and our average sales price of ready-mix concrete decreased 3%, in Dollar terms, over the same period. For the year ended December 31, 2018, cement represented 88%, ready-mix concrete 9% and our other businesses 3% of revenues in Mexican Peso terms from our operations in the Rest of South, Central America and the Caribbean before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of decreases in ready-mix concrete sales volumes and sales prices, partially offset by an increase in domestic cement sales volumes, revenues of our operations in the Rest of South, Central America and the Caribbean, in Dollar terms, decreased 1% in 2018 compared to 2017.

Asia, Middle East and Africa

For the year ended December 31, 2018, our operations in the Asia, Middle East and Africa region consisted of our operations in the Philippines, Egypt and Israel, which represent the most significant operations in this region, in addition to the Rest of Asia, Middle East and Africa, which refers primarily to operations in the UAE. Our revenues from our operations in the Asia, Middle East and Africa region represented 10% of our total revenues for the year ended December 31, 2018, in Mexican Peso terms, before eliminations resulting from consolidation. As of December 31, 2018, our operations in the Asia, Middle East and Africa region represented 6% of our total assets. Set forth below is a quantitative and qualitative analysis of the effects of the various factors affecting our revenues for our main operations in the Asia, Middle East and Africa region.

The Philippines

Our domestic cement sales volumes from our operations in the Philippines increased 7% in 2018 compared to 2017, and ready-mix concrete sales volumes, which constitute 1% of our revenues in Mexican Peso terms from our operations in the Philippines, decreased 94% over the same period. The increase in domestic cement volumes were supported by the infrastructure and residential sectors, coupled with operational and logistics debottlenecking efforts. Our cement export volumes from our operations in the Philippines, which represented less than 1% of our Philippines cement sales volumes for the year ended December 31, 2018, increased 4% in 2018 compared to 2017. All of our total cement exports from our operations in Philippines during 2018 were to the Rest of Asia, Middle East and Africa region. Our revenues from our operations in the Philippines represented 3% of our total revenues for the year ended December 31, 2018, in Mexican Peso terms, before eliminations resulting from consolidation. Our average sales price of domestic cement from our operations in the Philippines increased 1%, in Philippine Peso terms, in 2018 compared to 2017, and our average sales price of ready-mix concrete decreased 1%, in Philippine Peso terms, over the same period. For the year ended December 31, 2018, cement represented 99% and our ready-mix concrete and other businesses 1% of our revenues in Mexican Peso terms from our operations in the Philippines before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of increases in domestic cement sales volumes and sales prices, revenues of our operations in the Philippines, in Philippine Peso terms, increased 6% in 2018 compared to 2017.

Egypt

Our domestic cement sales volumes from our operations in Egypt remained flat in 2018 compared to 2017, while ready-mix concrete sales volumes decreased 21% over the same period. The ready-mix concrete sales volume decline was mainly due to weaker market demand and our focus on our most profitable markets. Our revenues from our operations in Egypt represented 2% of our total revenues for the year ended December 31, 2018, in Mexican Peso terms, before eliminations resulting from consolidation. Our average sales price of domestic cement increased 18%, in Egyptian Pound terms, in 2018 compared to 2017, and our average sales price of ready-mix concrete increased 33%, in Egyptian Pound terms, over the same period. For the year ended December 31, 2018, cement represented 84%, ready-mix concrete 11% and our aggregates and other businesses

5% of revenues in Mexican Peso terms from our operations in Egypt before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of the increase in domestic cement and ready-mix concrete sales prices, partially offset by a decrease in ready-mix concrete sales volumes, our revenues in Egypt, in Egyptian Pound terms, increased 17% in 2018 compared to 2017.

Israel

Our ready-mix concrete sales volumes from our operations in Israel increased 4% in 2018 compared to 2017. The increase in the ready-mix concrete sales volumes was mainly driven by an increase in market demand, as well as projects in the south and center regions. Our operations in Israel represented 4% of our total revenues for the year ended December 31, 2018, in Mexican Peso terms, before eliminations resulting from consolidation. Our average sales price of ready-mix concrete of our operations in Israel increased 2%, in Israeli New Shekel terms, in 2018 compared to 2017. For the year ended December 31, 2018, ready-mix concrete represented 66% and our aggregates and other businesses 34% of revenues in Mexican Peso terms from our operations in Israel before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of increases in ready-mix concrete sales volumes and sales prices, revenues from our operations in Israel, in Israeli New Shekel terms, increased 5% in 2018 compared to 2017.

Rest of Asia, Middle East and Africa

Our domestic cement sales volumes from our operations in the Rest of Asia, Middle East and Africa decreased 20% in 2018 compared to 2017, and ready-mix concrete sales volumes increased 4% over the same period. Our cement export volumes from our operations in Rest of Asia, Middle East and Africa, which represented 13% of our Rest of Asia, Middle East and Africa cement sales volumes for the year ended December 31, 2018, decreased 28% in 2018 compared to 2017. All of our total cement exports from our operations in the region during 2018 were within the same operations region. Our revenues from our operations in our Rest of Asia, Middle East and Africa segment represented 1% of our total revenues for the year ended December 31, 2018, in Mexican Peso terms, before eliminations resulting from consolidation. Our average sales price of domestic cement remained flat, in Dollar terms, in 2018 compared to 2017, and the average sales price of ready-mix concrete decreased 1%, in Dollar terms, over the same period. For the year ended December 31, 2018, cement represented 35% and ready-mix concrete 65% of revenues from our operations in the Rest of Asia, Middle East and Africa before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of increases in ready-mix concrete sales volumes, partially offset by a decrease in domestic cement sales volumes and ready-mix concrete sales prices, revenues from our operations in Rest of Asia, Middle East and Africa, in Dollar terms, increased 4% in 2018 compared to 2017.

Others

Our Others segment refers to: (i) cement trade maritime operations, (ii) our information technology solutions business (Neoris N.V.), (iii) CEMEX, S.A.B. de C.V. and other corporate entities and (iv) other minor subsidiaries with different lines of business. Revenues from our Others segment increased 13% before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable, in 2018 compared to 2017, in Dollar terms. The increase resulted primarily from an increase in our worldwide cement volume of our trading operations and a sales increase in our information technology solutions company. For the year ended December 31, 2018, our information technology solutions company represented 20% and our trading operations represented 50% of our revenues in our Others segment, in Dollar terms.

Cost of Sales. Our cost of sales, including depreciation, increased 8% from Ps168,858 million in 2017 to Ps182,965 million in 2018. As a percentage of revenues, cost of sales increased from 65.6% in 2017 to 66.1% in 2018. The increase in cost of sales as a percentage of revenues was mainly driven by higher energy costs, as well as higher volumes of purchased cement and clinker. Our cost of sales includes freight expenses of raw materials used in our producing plants.

Gross Profit. For the reasons explained above, our gross profit increased 6% from Ps88,579 million in 2017 to Ps93,890 million in 2018. As a percentage of revenues, gross profit decreased from 34.4% in 2017 to 33.9% in 2018. In addition, our gross profit may not be directly comparable to those of other entities that include all their freight expenses in cost of sales. As described below, we include freight expenses of finished products from our producing plants to our points of sale and from our points of sale to our customers' locations within operating expenses as part of distribution and logistics expenses.

Operating expenses. Our operating expenses, which are represented by administrative, selling and distribution and logistics expenses, increased 8%, from Ps55,967 million in 2017 to Ps60,694 million in 2018. As a percentage of revenues, operating expenses increased from 21.7% in 2017 to 21.9% in 2018. Our operating expenses include expenses related to personnel, equipment and services involved in sales activities and storage of product at points of sale, which are included as part of the operating expenses, as well as freight expenses of finished products between plants and points of sale and freight expenses between points of sale and the customers' facilities, which are included as part of the line item "Distribution and logistics expenses." For the years ended December 31, 2017 and 2018, selling expenses included as part of the line item "Operating expenses" amounted to Ps6,429 million and Ps6,315 million, respectively. As discussed above, we include freight expenses of finished products from our producing plants to our points of sale and from our points of sale to our customers' locations within distribution and logistics expenses, which in the aggregate represented costs of Ps28,485 million in 2017 and Ps31,992 million in 2018. As a percentage of revenues, distribution and logistics expenses increased from 11.1% in 2017 to 11.6% in 2018.

Operating Earnings Before Other Expenses, Net

For the reasons mentioned above, our operating earnings before other expenses, net increased 2% from Ps32,612 million in 2017 to Ps33,196 million in 2018. As a percentage of revenues, operating earnings before other expenses, net decreased from 12.7% in 2017 to 12.0% in 2018. Additionally, set forth below is a quantitative and qualitative analysis of the effects of the various factors affecting our operating earnings before other expenses, net on a reportable segment basis.

Mexico

Our operating earnings before other expenses, net, from our operations in Mexico increased 5% in 2018 compared to 2017, in Mexican Peso terms, from operating earnings before other expenses, net, of Ps18,969 million in 2017 to operating earnings before other expenses, net, of Ps20,006 million in 2018. Our operating earnings before other expenses from our operations in Mexico represented 60% of our total operating earnings before other expenses for the year ended December 31, 2018, in Mexican Peso terms. The increase resulted primarily from the increase in our revenues, partially offset by higher maintenance cost.

United States

Our operating earnings before other expenses, net, from our operations in the United States increased 30% in 2018 compared to 2017, in Dollar terms. Our operating earnings before other expenses from our operations in the United States represented 19% of our total operating earnings before other expenses for the year ended December 31, 2018, in Mexican Peso terms. The increase resulted primarily from an increase in our revenues.

Europe

United Kingdom. Our operating earnings before other expenses, net, from our operations in the United Kingdom decreased 47% in 2018 compared to 2017, in Pound terms. Our operating earnings before other expenses from our operations in the United Kingdom represented 3% of our total operating earnings before other expenses for the year ended December 31, 2018, in Mexican Peso terms. The decrease resulted primarily from a decrease in our revenues, as well as higher production cost.

France. Our operating earnings before other expenses, net, from our operations in France increased 105% in 2018 compared to 2017, in Euro terms. Our operating earnings before other expenses from our operations in France represented 2% of our total operating earnings before other expenses for the year ended December 31, 2018, in Mexican Peso terms. The increase resulted primarily from an increase in our revenues and due to our cost reduction efforts.

Germany. Our operating earnings before other expenses, net, from our operations in Germany decreased 20% in 2018 compared to 2017, in Euro terms. Our operating earnings before other expenses from our operations in Germany represented 1% of our total operating earnings before other expenses for the year ended December 31, 2018, in Mexican Peso terms. The decrease resulted primarily from an increase in our operational costs, partially offset by an increase in our revenues.

Spain. Our operating loss before other expenses, net, from our operations in Spain increased 20% in 2018 compared to 2017, in Euro terms. Our operating loss before other expenses from our operations in Spain represented a loss of Ps442 million, which was a negative impact of 1% of our total operating earnings before other expenses for the year ended December 31, 2018, in Mexican Peso terms. The increase resulted primarily from an increase in our production and operational costs, partially offset by an increase in our revenues.

Poland. Our operating earnings before other expenses, net, from our operations in Poland increased 37% in 2018 compared to 2017, in Polish Zloty terms. Our operating earnings before other expenses from our operations in Poland represented 1% of our total operating earnings before other expenses for the year ended December 31, 2018, in Mexican Peso terms. The increase resulted primarily from an increase in our revenues, partially offset by an increase in our production cost.

Czech Republic. Our operating earnings before other expenses, net, from our operations in the Czech Republic increased 10% in 2018 compared to 2017, in Czech Koruna terms. Our operating earnings before other expenses from our operations in the Czech Republic represented 2% of our total operating earnings before other expenses for the year ended December 31, 2018, in Mexican Peso terms. The increase resulted primarily from an increase in our revenues, as well as a reduction in our operational costs.

Rest of Europe. Our operating earnings before other expenses, net, from our operations in the Rest of Europe increased 19% in 2018 compared to 2017, in Euro terms. Our operating earnings before other expenses from our operations in the Rest of Europe region represented 1% of our total operating earnings before other expenses for the year ended December 31, 2018, in Mexican Peso terms. The increase resulted primarily from an increase in our revenues and an increase in our operating costs.

South, Central America and the Caribbean

Colombia. Our operating earnings before other expenses, net, from our operations in Colombia decreased 21% in 2018 compared to 2017, in Colombian Peso terms. Our operating earnings before other expenses from our operations in Colombia represented 4% of our total operating earnings before other expenses for the year ended December 31, 2018, in Mexican Peso terms. The decrease resulted primarily from a decrease in revenues, as well as an increase in our production cost due to lower demand.

Panama. Our operating earnings before other expenses, net, from our operations in Panama decreased 47% in 2018 compared to 2017, in Dollar terms. Our operating earnings before other expenses from our operations in

Panama represented 3% of our total operating earnings before other expenses for the year ended December 31, 2018, in Mexican Peso terms. The decrease resulted primarily from a decrease in our revenues, as well as an increase in our energy cost.

Costa Rica. Our operating earnings before other expenses, net, from our operations in Costa Rica decreased 14% in 2018 compared to 2017, in Costa Rican Colones terms. Our operating earnings before other expenses from our operations in Costa Rica represented 2% of our total operating earnings before other expenses for the year ended December 31, 2018, in Mexican Peso terms. The decrease resulted primarily from a decrease in revenues and an increase in production and transportation costs.

Caribbean TCL. Our operating earnings before other expenses, net, from our operations in Caribbean TCL decreased 2% in 2018 compared to 2017, in Trinidad and Tobago Dollar terms. Our operating earnings before other expenses from our Caribbean TCL operations represented 2% of our total operating earnings before other expenses for the year ended December 31, 2018, in Mexican Peso terms. The decrease resulted primarily from an increase in production and energy costs, partially offset by an increase in our revenues.

Dominican Republic. Our operating earnings before other expenses, net, from our operations in the Dominican Republic increased 14% in 2018 compared to 2017, in Dominican Peso terms. Our operating earnings before other expenses from our operations in the Dominican Republic represented 3% of our total operating earnings before other expenses for the year ended December 31, 2018, in Mexican Peso terms. The increase resulted primarily from an increase in our revenues, partially offset by an increase in production cost.

Rest of South, Central America and the Caribbean. Our operating earnings before other expenses, net, from our operations in the Rest of South, Central America and the Caribbean decreased 4% in 2018 compared to 2017, in Dollar terms. Our operating earnings before other expenses from our operations in the Rest of South, Central America and the Caribbean region represented 4% of our total operating earnings before other expenses for the year ended December 31, 2018, in Mexican Peso terms. The decrease resulted primarily from a decrease in our revenues.

Asia, Middle East and Africa

The Philippines. Our operating earnings before other expenses, net, from our operations in the Philippines decreased 21% in 2018 compared to 2017, in Philippine Peso terms. Our operating earnings before other expenses from our operations in the Philippines represented 2% of our total operating earnings before other expenses for the year ended December 31, 2018, in Mexican Peso terms. The decrease resulted primarily from an increase in our energy costs, partially offset by an increase in revenues.

Egypt. Our operating earnings before other expenses, net, from our operations in Egypt decreased 24% in 2018 compared to 2017 in Egyptian Pound terms. Our operating earnings before other expenses from our operations in Egypt represented 1% of our total operating earnings before other expenses for the year ended December 31, 2018, in Mexican Peso terms. The decrease resulted primarily from higher fuel and electricity costs, partially offset by an increase in our revenues.

Israel. Our operating earnings before other expenses, net, from our operations in Israel increased 5% in 2018 compared to 2017, in Israeli New Shekel terms. Our operating earnings before other expenses from our operations in Israel represented 4% of our total operating earnings before other expenses for the year ended December 31, 2018, in Mexican Peso terms. The increase resulted primarily from an increase in our revenues.

Rest of Asia, Middle East and Africa. Our operating earnings before other expenses, net, from our operations in the Rest of Asia, Middle East and Africa decreased 15% in 2018 compared to 2017, in Dollar terms. Our operating earnings before other expenses from our operations in the Rest of Asia, Middle East and Africa region represented 1% of our total operating earnings before other expenses for the year ended December 31, 2018, in Mexican Peso terms. The decrease resulted primarily from an increase in our production cost, partially offset by an increase in our revenues.

Others. Our operating loss before other expenses, net, from our operations in our Others segment increased 5% in 2018 compared to 2017, in Dollar terms. The increase resulted primarily from an increase in our operating cost from our other segment, partially offset by an increase in our revenues.

Other Expenses, Net. Our other expenses, net, increased 53%, in Mexican Peso terms, from an expense of Ps3,815 million in 2017 to an expense of Ps5,837 million in 2018. The increase in 2018 resulted primarily from the losses from the sale of assets and others, net, which includes a loss of Ps1,080 million in connection with property damages and natural disasters, partially offset by a decrease in impairment losses in 2017 compared to 2018. See notes 6, 14, 15 and 24.1 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

The most significant items included under this caption for the years ended December 31, 2017 and 2018, are as follows:

	For the Year Ended December 31,	
	2017	2018
	(in millions of Mexican Pesos)	
Impairment losses	Ps (2,936)	Ps (1,188)
Restructuring costs	(843)	(1,382)
Charitable contributions	(127)	(105)
Results from the sale of assets and others, net	91	(2,994)
Remeasurement of pension liabilities	—	(168)
	<u>Ps (3,815)</u>	<u>Ps (5,837)</u>

Financial expense. Our financial expense decreased 35%, from Ps19,301 million in 2017 to Ps12,597 million in 2018, primarily attributable to lower interest rates on our financial debt as well as a decrease in our financial debt during 2018 compared to 2017. See note 16.1 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Financial income and other items, net. Our financial income and other items, net, in Mexican Peso terms, decreased significantly, from Ps3,616 million in 2017 to Ps96 million in 2018, mainly as a result of the sale of associates and the remeasurement of previously held interest before change in control of associates, which decreased significantly, from a gain of Ps4,164 million in 2017 to a loss of Ps204 million in 2018, primarily attributable to the gain from the sale of GCC's common stock during 2017. See notes 13.1 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

The most significant items included under this caption for the years ended December 31, 2017 and 2018 are as follows:

	For the Year Ended December 31,	
	2017	2018
	(in millions of Mexican Pesos)	
Financial income and other items, net:		
Results from sale of associates and remeasurement of previously held interest before change in control of associates	Ps 4,164	Ps (204)
Financial income	338	355
Results from financial instruments, net	161	692
Foreign exchange results	(26)	341
Effects of amortized cost on assets and liabilities and others, net	(1,021)	(1,088)
	<u>Ps 3,616</u>	<u>Ps 96</u>

Income Taxes. Our income tax effect in the income statements, which is primarily comprised of current income taxes plus deferred income taxes, increased significantly from an expense of Ps520 million in 2017 to an expense of Ps4,467 million in 2018.

The increase in the income tax expense is mainly attributable to an increase in our deferred income tax expense during the period, which decreased from a deferred income tax revenue of Ps2,938 million in 2017, mainly associated with the recognition of deferred tax assets related to tax loss carryforwards from our operations in the United States in 2017, to a deferred tax expense of Ps2,569 million in 2018 that includes the derecognition of deferred income tax assets of Ps1,770 million mainly related to net operating tax losses recognized in prior years. Such increase in our deferred income tax expense during 2018 was partially offset by a decrease in our current income tax expense, which decreased from Ps3,458 million in 2017 to Ps1,898 million in 2018. The decrease in our current income tax expense in 2018 was mainly attributable to lower taxable income in certain operations, such as Central and South America, as well as a reduction in our uncertain tax positions during the period of Ps624 million. See notes 19.1, 19.2, 19.3 and 19.4 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

For each of the years ended December 31, 2017 and 2018, our statutory income tax rate in Mexico was 30%. Our average effective tax rate in 2017, as described below, resulted in an income tax rate of 3.8%, considering earnings before income tax of Ps13,700 million, and our average effective tax rate in 2018 resulted in an income tax rate of 28.8%, considering earnings before income tax of Ps15,511 million. Our average effective tax rate equals the net amount of income tax expense divided by earnings before income taxes, as these line items are reported in our consolidated income statements. See “Item 3—Key Information—Risk Factors—Risks Relating to Our Business—Certain tax matters may have an adverse effect on our cash flow, financial condition and net income, as well as on our reputation” and note 19.4 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Net Income from continuing operations. For the reasons described above, our net income from continuing operations for 2018 decreased 16%, from a net income from continuing operations of Ps13,180 million in 2017 to a net income from continuing operations of Ps11,044 million in 2018. As a percentage of revenues, net income from continuing operations represented 5.1% for the year ended as of December 31, 2017 and 4.0% for the year ended as of December 31, 2018.

Discontinued operations. For the years ended December 31, 2017 and 2018, our discontinued operations included in our consolidated income statements amounted to Ps3,461 million and Ps212 million, respectively. As a percentage of revenues, discontinued operations, net of tax, represented 1.3% for the year ended as of December 31, 2017, and 0.1% for the year ended as of December 31, 2018. See note 4.2 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Consolidated Net Income. For the reasons described above, our consolidated net income (before deducting the portion allocable to non-controlling interest) for 2018 decreased 32%, from a consolidated net income of Ps16,641 million in 2017 to a consolidated net income of Ps11,256 million in 2018. As a percentage of revenues, consolidated net income represented 6.5% for the year ended as of December 31, 2017, and 4.1% for the year ended as of December 31, 2018.

Non-controlling Interest Net Income. Changes in non-controlling interest net income in any period reflect changes in the percentage of the stock of our subsidiaries held by non-associated third parties as of the end of each month during the relevant period and the consolidated net income attributable to those subsidiaries. Non-controlling interest net income decreased 44%, from an income of Ps1,417 million in 2017 to an income of Ps789 million in 2018, primarily attributable to a decrease in the net income of the consolidated entities in which others have a non-controlling interest. As a percentage of revenues, non-controlling interest net income represented 0.6% for the year ended as of December 31, 2017, and 0.3% for the year ended as of December 31, 2018. See note 20.4 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Controlling Interest Net Income. Controlling interest net income represents the difference between our consolidated net income and non-controlling interest net income, which is the portion of our consolidated net income attributable to those of our subsidiaries in which non-associated third parties hold interests. For the reasons described above, our controlling interest net income decreased 31%, from a controlling interest net income of Ps15,224 million in 2017 to Ps10,467 million in 2018. As a percentage of revenues, controlling interest net income, represented 5.9% for the year ended as of December 31, 2017, and 3.8% for the year ended as of December 31, 2018.

Year Ended December 31, 2017 Compared to Year Ended December 31, 2016

Summarized in the table below are the percentage (%) increases (+) and decreases (-) for the year ended December 31, 2017, compared to the year ended December 31, 2016, in our domestic cement and ready-mix concrete sales volumes, as well as export sales volumes of cement and domestic cement and ready-mix concrete average sales prices for each of our reportable segments.

Reportable segments represent the components of CEMEX that engage in business activities from which we may earn revenues and incur expenses, whose operating results are regularly reviewed by the entity's top management to make decisions about resources to be allocated to the segments and assess their performance, and for which discrete financial information is available. We operate geographically and by line of business on a regional basis. For the reported periods, our operations were reorganized into five geographical regions, each under the supervision of a regional president, as follows: (1) Mexico, (2) United States, (3) Europe, (4) SCA&C, and (5) Asia, Middle East and Africa. Under the new organization, the geographical operating segments under the former Mediterranean region were incorporated to the Europe region or the Asia, Middle East and Africa. The accounting policies applied to determine the financial information by reportable segment are consistent with those described in note 2 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Considering similar regional and economic characteristics and/or materiality, certain countries have been aggregated and presented as single line items as follows: (i) "Rest of Europe" refers mainly to our operations and activities in Croatia, Latvia, Scandinavia and Finland; (ii) "Rest of South, Central America and the Caribbean" refers mainly to our operations and activities in Puerto Rico, Nicaragua, Jamaica, the Caribbean, Guatemala and El Salvador, excluding the acquired operations of TCL; (iii) "Caribbean TCL" refers to TCL's operations mainly in Trinidad and Tobago, Jamaica, Guyana and Barbados; and (iv) "Rest of Asia, Middle East and Africa" refers mainly to our operations in the UAE. The segment "Others" refers to: (1) cement trade maritime operations, (2) Neoris N.V., our subsidiary involved in the business of information technology solutions, (3) CEMEX, S.A.B. de C.V., other corporate entities and finance subsidiaries, and (4) other minor subsidiaries with different lines of business.

The table below and the other volume data presented by reportable segment in this “—Year Ended December 31, 2017 Compared to Year Ended December 31, 2016” section are presented before eliminations resulting from consolidation (including those shown on note 4.4 to our 2018 audited consolidated financial statements included elsewhere in this annual report).

Reportable Segment	Domestic Sales Volumes		Export Sales Volumes	Average Domestic Sales Prices in Local Currency ⁽¹⁾	
	Cement	Ready-Mix Concrete	Cement	Cement	Ready-Mix Concrete
Mexico	-4%	-3%	+20%	+16%	+10%
United States	-6%	-2%	—	+3%	+1%
Europe					
United Kingdom	-6%	-2%	—	+1%	Flat
France	—	+7%	—	—	+1%
Germany	+15%	-3%	-19%	Flat	+2%
Spain	+28%	+4%	-19%	-4%	+6%
Poland	+5%	+5%	-25%	+3%	+1%
Czech Republic	+6%	+6%	-26%	+2%	+2%
Rest of Europe	+10%	+38%	+36%	-1%	+4%
South, Central America and the Caribbean					
Colombia	-6%	-13%	—	-19%	-2%
Panama	+3%	+9%	—	Flat	Flat
Costa Rica	+3%	+11%	-11%	-3%	-10%
Caribbean TCL	—	—	—	—	—
Dominican Republic	-4%	-5%	-28%	+12%	-4%
Rest of South, Central America and the Caribbean	+2%	+7%	-1%	+1%	-6%
Asia, Middle East and Africa					
Philippines	Flat	-58%	-1%	-10%	+16%
Egypt	-6%	-4%	—	+10%	-3%
Israel	—	+10%	—	—	-1%
Rest of Asia, Middle East and Africa	+46%	+8%	-87%	+3%	Flat

“—” = Not Applicable

- (1) Represents the average change in domestic cement and ready-mix concrete prices in local currency terms. For purposes of a reportable segment consisting of a region, the average prices in local currency terms for each individual country within the region are first translated into Dollar terms (except for the Rest of Europe, in which they are translated first into Euros) at the exchange rates in effect as of the end of the reporting period. Variations for a region represent the weighted average change of prices in Dollar terms (except for the Rest of Europe, in which they represent the weighted average change of prices in Euros) based on total sales volumes in the region.

On a consolidated basis, our cement sales volumes increased 1%, with 68.1 million tons in 2016 and 68.5 million tons in 2017, and our ready-mix concrete sales volumes increased 1%, from 51.4 million cubic meters in 2016 to 51.7 cubic meters in 2017. Our revenues increased 3%, from Ps249,477 million in 2016 to Ps257,437 in 2017, and our operating earnings before other expenses, net decreased 8%, from Ps35,618 million in 2016 to Ps32,612 in 2017.

The following tables present selected financial information of revenues and operating earnings before other expenses, net for each of our reportable segments for the years ended December 31, 2016 and 2017. The revenues information in the table below is presented before eliminations resulting from consolidation (including those shown in note 4.4 to our 2018 audited consolidated financial statements included elsewhere in this annual report). Variations in revenues determined on the basis of Mexican Pesos include the appreciation or depreciation

which occurred during the period between the local currencies of the countries in the regions vis-à-vis the Mexican Peso; therefore, such variations differ substantially from those based solely on the countries' local currencies:

<u>Reportable Segment</u>	<u>Variation in Local Currency⁽¹⁾</u>	<u>Approximate Currency Fluctuations</u>	<u>Variation in Mexican Pesos</u>	<u>Revenues For the Year Ended</u>	
				<u>2016</u>	<u>2017</u>
				(in millions of Mexican Pesos)	
Mexico	+9%	—	+9%	Ps 53,579	Ps 58,442
United States	-2%	—	-2%	66,554	65,536
Europe					
United Kingdom	-2%	-3%	-5%	21,153	20,179
France	+7%	+4%	+11%	14,535	16,162
Germany	+2%	+3%	+5%	9,572	10,056
Spain	+1%	+4%	+5%	6,563	6,870
Poland	+9%	+7%	+16%	4,799	5,552
Czech Republic	+7%	+7%	+14%	3,027	3,450
Rest of Europe	+22%	—	+22%	4,908	5,989
South, Central America and the Caribbean					
Colombia	-17%	+3%	-14%	12,415	10,685
Panama	+4%	—	+4%	4,906	5,112
Costa Rica	+2%	-2%	—	2,818	2,805
Caribbean TCL	—	—	—	—	4,332
Dominican Republic	-6%	-1%	-7%	4,223	3,913
Rest of South, Central America and the Caribbean	+5%	+4%	+9%	7,155	7,803
Asia, Middle East and Africa					
Philippines	-10%	-4%	-14%	9,655	8,296
Egypt	+4%	-48%	-44%	6,950	3,862
Israel	+9%	+9%	+18%	9,650	11,377
Rest of Asia, Middle East and Africa	-4%	+1%	-3%	2,208	2,139
Others	+29%	-10%	+19%	18,381	21,820
Revenues from continuing operations before eliminations resulting from consolidation			+4%	<u>Ps 263,051</u>	<u>Ps 274,380</u>
Eliminations resulting from consolidation				(13,574)	(16,943)
Revenues from continuing operations			+3%	<u>Ps 249,477</u>	<u>Ps 257,437</u>

Reportable Segment	Variation in Local Currency ⁽¹⁾	Approximate Currency Fluctuations	Variation in Mexican Pesos	Operating Earnings Before Other Expenses, Net For the Year Ended	
				2016	2017
(in millions of Mexican Pesos)					
Mexico	+12%	—	+12%	Ps16,866	Ps18,969
United States	+2%	-5%	-3%	4,573	4,452
Europe					
United Kingdom	-28%	-3%	-31%	2,559	1,766
France	+69%	-4%	+65%	185	306
Germany	+89%	+74%	+163%	89	234
Spain	-275%	-20%	-295%	151	(294)
Poland	+11%	+4%	+15%	249	286
Czech Republic	+54%	+10%	+64%	294	482
Rest of Europe	+60%	-3%	+57%	187	293
South, Central America and the Caribbean					
Colombia	-55%	+3%	-52%	3,486	1,659
Panama	-7%	-1%	-8%	1,830	1,688
Costa Rica	-9%	-2%	-11%	1,011	901
Caribbean TCL	—	—	—	—	449
Dominican Republic	+1%	-14%	-13%	1,011	882
Rest of South, Central America and the Caribbean	-10%	-1%	-11%	1,427	1,271
Asia, Middle East and Africa					
Philippines	-58%	-2%	-60%	2,157	866
Egypt	-70%	-15%	-85%	1,915	295
Israel	-1%	+7%	+6%	1,114	1,182
Rest of Asia, Middle East and Africa	+39%	+13%	+52%	204	310
Others	+14%	-22%	-8%	(3,690)	(3,385)
Operating earnings before other expenses, net from continuing operations			-8%	<u>Ps35,618</u>	<u>Ps32,612</u>

“—” = Not Applicable

- (1) Represents the variation in local currency terms. For purposes of a reportable segment consisting of a region, the variation in local currency terms for each individual country within the region are first translated into Dollar terms (except for the Rest of Europe, in which they are translated first into Euros) at the exchange rates in effect as of the end of the reporting period. Variations for a region represent the change in Dollar terms (except for the Rest of Europe region, in which they represent the change in Euros), net, in the region.

Revenues. Our consolidated revenues increased 3%, from Ps249,477 million in 2016 to Ps257,437 million in 2017. The increase was primarily attributable to higher prices for our products, in local currency terms, in our Mexico, the United States and Europe regions, as well as higher cement volumes in our Europe and Rest of Asia, Middle East and Africa regions. Set forth below is a quantitative and qualitative analysis of the various factors affecting our revenues on a reportable segment basis. The discussion of volume data and revenues information below is presented before eliminations resulting from consolidation as described in note 4.4 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Mexico

Our domestic cement sales volumes from our operations in Mexico decreased 4% in 2017 compared to 2016, and ready-mix concrete sales volumes decreased 3% over the same period. Our revenues from our

operations in Mexico represented 21% of our total revenues for the year ended December 31, 2017, in Mexican Peso terms, before eliminations resulting from consolidation. The decrease in domestic sales volumes was primarily attributable to the continued implementation of our value-before-volume strategy. Our cement export volumes from our operations in Mexico, which represented 4% of our Mexican cement sales volumes for the year ended December 31, 2017, increased 20% in 2017 compared to 2016. Of our total cement export volumes from our operations in Mexico during 2017, 53% was shipped to the United States, 2% to Costa Rica and 45% to our Rest of South, Central America and the Caribbean region. Our average sales price of domestic cement from our operations in Mexico increased 16%, in Mexican Peso terms, in 2017 compared to 2016, and our average sales price of ready-mix concrete increased 10%, in Mexican Peso terms, over the same period. For the year ended December 31, 2017, cement represented 59%, ready-mix concrete 21% and our aggregates and other businesses 20% of our revenues in Mexican Peso terms from our operations in Mexico before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of increases in domestic cement and ready-mix concrete sales prices, partially offset by decreases in domestic cement and ready-mix concrete sales volumes, our revenues in Mexico, in Mexican Peso terms, increased 9% in 2017 compared to 2016.

United States

Our domestic cement sales volumes from our operations in the United States decreased 6% in 2017 compared to 2016, and ready-mix concrete sales volumes decreased 2% over the same period. The decreases in the domestic cement and ready-mix concrete sales volume of our operation in the United States were mainly driven by the sale to an affiliate of GCC of certain assets consisting in a cement plant in Odessa, Texas, two cement terminals and the building materials business in El Paso, Texas, and Las Cruces, New Mexico, and the sale of the Fairborn, Ohio, cement plant and cement terminal in Columbus, Ohio, to Eagle Materials. The operations of the net assets sold to GCC and Eagle Materials did not represent discontinued operations and were consolidated by CEMEX line-by-line in the income statements for 2016 and 2017. See note 4.3 to our 2018 audited consolidated financial statements included elsewhere in this annual report. In the residential sector, activity accelerated supported by single-family construction and improvements. In the industrial-and-commercial sector, national contract awards declined during 2017; however, awards in our key states increased, including in Florida and Texas. Our operations in the United States represented 24% of our total revenues for the year ended December 31, 2017, in Mexican Peso terms, before eliminations resulting from consolidation. Our average domestic cement sales prices of our operations in the United States increased 3%, in Dollar terms, in 2017 compared to 2016, and our average ready-mix concrete sales price increased 1%, in Dollar terms, over the same period. For the year ended December 31, 2017, cement represented 33%, ready-mix concrete 42% and our aggregates and other businesses 25% of revenues in Mexican Peso terms from our operations in the United States before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of decreases in domestic cement and ready-mix concrete sales volumes, partially offset by increases in domestic cement and ready-mix concrete sales prices, revenues from our operations in the United States, in Dollar terms, decreased 2% in 2017 compared to 2016.

Europe

In 2017, our operations in the Europe region consisted of our operations in the United Kingdom, France, Germany, Spain, Poland and the Czech Republic, which represent the most significant operations in this region, in addition to the Rest of Europe, which refers primarily to operations in the Croatia, Latvia, Scandinavia and Finland. Our revenues from our operations in the Europe region represented 25% of our total revenues for the year ended December 31, 2017, in Mexican Peso terms, before eliminations resulting from consolidation. As of December 31, 2017, our operations in the Europe region represented 20% of our total assets. Set forth below is a quantitative and qualitative analysis of the effects of the various factors affecting our revenues for our main operations in the Europe region.

United Kingdom

Our domestic cement sales volumes from our operations in the United Kingdom decreased 6% in 2017 compared to 2016, and ready-mix concrete sales volumes decreased 2% over the same period. The decreases in domestic cement and ready-mix concrete sales volumes resulted primarily from a high base of comparison due to non-recurring industry sales in 2016, as well as softening market conditions due to political uncertainty. The residential sector was the main driver of demand during 2017, supported by government's help-to-buy program. Our operations in the United Kingdom represented 7% of our total revenues for the year ended December 31, 2017, in Mexican Peso terms, before eliminations resulting from consolidation. Our average sales price of domestic cement from our operations in the United Kingdom increased 1%, in Pound terms, in 2017 compared to 2016, and our average sales price of ready-mix concrete remained flat, in Pound terms, over the same period. For the year ended December 31, 2017, cement represented 17%, ready-mix concrete 26% and our aggregates and other businesses 57% of revenues in Mexican Peso terms from our operations in the United Kingdom before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of decreases in domestic cement and ready-mix concrete sales volumes, partially offset by an increase in our sales prices of domestic cement, revenues from our operations in the United Kingdom, in Pound terms, decreased 2% in 2017 compared to 2016.

France

Our ready-mix concrete sales volumes from our operations in France increased 7% in 2017 compared to 2016. Volume growth during the full year reflects continued activity in the residential sector, as well as "Grand Paris"-related projects. The residential sector was supported by low interest rates and government's initiatives including a buy-to-let program and zero-rate loans for first time buyers. Our operations in France represented 6% of our total revenues for the year ended December 31, 2017, in Mexican Peso terms, before eliminations resulting from consolidation. Our average sales price of ready-mix concrete of our operations in France increased 1%, in Euro terms, in 2017 compared to 2016. For the year ended December 31, 2017, ready-mix concrete represented 67% and our aggregates and other businesses 33% of revenues in Mexican Peso terms from our operations in France before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of the increases in ready-mix concrete sales volumes and sales prices, revenues from our operations in France, in Euro terms, increased 7% in 2017 compared to 2016.

Germany

Our domestic cement sales volumes from our operations in Germany increased 15% in 2017 compared to 2016, and ready-mix concrete sales volumes decreased 3% over the same period. Cement volume growth during the year reflects our participation in infrastructure projects and strong demand from the residential sector. The infrastructure sector benefited from increased central government spending, while the residential sector continued to benefit from low unemployment and mortgage rates, rising purchasing power and ongoing immigration. Our operations in Germany represented 4% of our total revenues for the year ended December 31, 2017, in Mexican Peso terms, before eliminations resulting from consolidation. Our cement export volumes from our operations in Germany, which represented 30% of our Germany cement sales volumes for the year ended December 31, 2017, decreased 19% in 2017 compared to 2016. Of our total cement export volumes from our operations in Germany during 2017, 23% were to Poland and 77% were to Our Rest of Europe region. Our average sales price of domestic cement from our operations in Germany remained flat, in Euro terms, in 2017 compared to 2016, and our average sales price of ready-mix concrete increased 2%, in Euro terms, over the same period. For the year ended December 31, 2017, cement represented 28%, ready-mix concrete 37% and our aggregates and other businesses 35% of revenues in Mexican Peso terms from our operations in Germany before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of the increase in domestic cement sales volumes and ready-mix concrete sales prices, partially offset by the decreases in ready-mix concrete sales volumes, revenues from our operations in Germany, in Euro terms, increased 2% in 2017 compared to 2016.

Spain

Our domestic cement sales volumes from our operations in Spain increased 28% in 2017 compared to 2016, while ready-mix concrete sales volumes increased 4% over the same period. Our cement volume growth during the year reflects favorable activity from the residential and the industrial-and-commercial sectors. The residential sector benefited from favorable credit conditions, income increases, job creation and pent-up housing demand. The industrial-and-commercial sector was supported by offices, tourism and agricultural projects. Our operations in Spain represented 3% of our total revenues for the year ended December 31, 2017, in Mexican Peso terms, before eliminations resulting from consolidation. Our cement export volumes from our operations in Spain, which represented 47% of our Spain cement sales volumes for the year ended December 31, 2017, decreased 19% in 2017 compared to 2016. Of our total cement export volumes from our operations in Spain during 2017, 5% were to the SCA&C region, 33% were to the United States, 9% were to the United Kingdom, 1% were to Poland, 7% were to the Rest of Europe region and 45% were to the Rest of Asia, Middle East and Africa region. Our average sales price of domestic cement of our operations in Spain decreased 4%, in Euro terms, in 2017 compared to 2016, and our average sales price of ready-mix concrete increased 6%, in Euro terms, over the same period. For the year ended December 31, 2017, cement represented 75%, ready-mix concrete 13% and our aggregates and other businesses 12% of revenues in Mexican Peso terms from our operations in Spain before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of increases in domestic cement and ready-mix concrete sales volumes and ready-mix concrete sales prices, partially offset by decreases in domestic cement sales prices, revenues from our operations in Spain, in Euro terms, increased 1% in 2017 compared to 2016.

Poland

Our domestic cement sales volumes from our operations in Poland increased 5% in 2017 compared to 2016, while ready-mix concrete sales volumes increased 5% over the same period. The residential sector continued with favorable trends supported by low interest rates, low unemployment and government-sponsored programs. Our operations in Poland represented 2% of our total revenues for the year ended December 31, 2017, in Mexican Peso terms, before eliminations resulting from consolidation. Our cement export volumes from our operations in Poland, which represented 3% of our Poland cement sales volumes for the year ended December 31, 2017, decreased 25% in 2017 compared to 2016. Of our total cement export volumes from our operations in Poland during 2017, 26% were to Germany and 74% were to our Rest of Europe region. Our average sales price of domestic cement of our operations in Poland increased 3%, in Polish Zloty terms, in 2017 compared to 2016, and our average sales price of ready-mix concrete increased 1%, in Polish Zloty terms, over the same period. For the year ended December 31, 2017, cement represented 48%, ready-mix concrete 38% and our aggregates and other businesses 14% of revenues in Mexican Peso terms from our operations in Poland before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of increases in domestic cement sales volumes and sales prices, and ready-mix concrete sales volumes and sales prices, revenues from our operations in Poland, in Polish Zloty terms, increased 9% in 2017 compared to 2016.

Czech Republic

Our domestic cement sales volumes from our operations in the Czech Republic increased 6% in 2017 compared to 2016, while ready-mix concrete sales volumes increased 6% over the same period. Our operations in

the Czech Republic represented 1% of our total revenues for the year ended December 31, 2017, in Mexican Peso terms, before eliminations resulting from consolidation. Our cement export volumes from our operations in the Czech Republic, which represented 3% of our Czech Republic cement sales volumes for the year ended December 31, 2017, decreased 26% in 2017 compared to 2016. Of our total cement export volumes from our operations in the Czech Republic during 2017, 79% were to Poland and 21% were to our Rest of Europe region. Our average sales price of domestic cement of our operations in the Czech Republic increased 2%, in Koruna terms, in 2017 compared to 2016, and our average sales price of ready-mix concrete increased 2%, in Koruna terms, over the same period. For the year ended December 31, 2017, cement represented 28%, ready-mix concrete 46% and our aggregates and other businesses 26% of revenues in Mexican Peso terms from our operations in the Czech Republic before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of increases in domestic cement sales volumes and sales prices, and ready-mix concrete sales volumes and sales prices, revenues from our operations in the Czech Republic, in Koruna terms, increased 7% in 2017 compared to 2016.

Rest of Europe

Our domestic cement sales volumes from our operations in the Rest of Europe increased 10% in 2017 compared to 2016, and ready-mix concrete sales volumes increased 38% over the same period. Our cement export volumes from our operations in the Rest of Europe segment, which represented 36% of our Rest of Europe cement sales volumes for the year ended December 31, 2017, increased 36% in 2017 compared to 2016. Of our total cement export volumes from our operations in Rest of Europe during 2017, 9% were to Germany, 8% were to Spain, 57% were within the region, 20% were to the Asia, Middle East and Africa region and 6% were to our Rest of South, Central and the Caribbean region. Our revenues from our operations in the Rest of Europe represented 2% of our total revenues for the year ended December 31, 2017, in Mexican Peso terms, before eliminations resulting from consolidation. Our average sales price of domestic cement from our operations in the Rest of Europe decreased 1%, in Euro terms, in 2017 compared to 2016, and our average sales price of ready-mix concrete increased 4%, in Euro terms, over the same period. For the year ended December 31, 2017, cement represented 85%, ready-mix concrete 10% and our aggregates and other businesses 5% of revenues in Mexican Peso terms from our operations in the Rest of Europe before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of increases in domestic cement sales volumes and ready-mix concrete sales volumes and ready-mix concrete sales prices, partially offset by decreases in domestic cement sales prices, revenues in the Rest of Europe, in Euro terms, increased 22% in 2017 compared to 2016.

South, Central America and the Caribbean

In 2017, our operations in the SCA&C region consisted of our operations in Colombia, Panama, Costa Rica, the Dominican Republic, as well as our Caribbean TCL operations, which refers to TCL's operations mainly in Trinidad and Tobago, Jamaica, Guyana and Barbados, which represent our most significant operations in this region and the Rest of South, Central America and the Caribbean, which refers primarily to operations in Puerto Rico, Nicaragua, Jamaica, the Caribbean, Guatemala and El Salvador, excluding the acquired operations of TCL. Our revenues from our operations in the SCA&C region represented 13% of our total revenues in Mexican Peso terms for the year ended December 31, 2017, before eliminations resulting from consolidation. As of December 31, 2017, our operations in the SCA&C region represented 9% of our total assets. Set forth below is a quantitative and qualitative analysis of the effects of the various factors affecting our revenues for our main operations in the SCA&C region.

Colombia

Our domestic cement sales volumes from our operations in Colombia decreased 6% in 2017 compared to 2016, and ready-mix concrete sales volumes decreased 13% over the same period. The decreases in domestic

cement sales volumes and in ready-mix concrete sales volumes was primarily due to weak demand from industrial and commercial projects, as well as from high and middle-income housing developments. Our revenues from our operations in Colombia represented 4% of our total revenues for the year ended December 31, 2017, in Mexican Peso terms, before eliminations resulting from consolidation. Our average sales price of domestic cement from our operations in Colombia decreased 19%, in Colombian Peso terms, in 2017 compared to 2016, and our average sales price of ready-mix concrete decreased 2%, in Colombian Peso terms, over the same period. For the year ended December 31, 2017, cement represented 49%, ready-mix concrete 28% and our aggregates and other businesses 23% of our revenues in Mexican Peso terms from our operations in Colombia before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of decreases in domestic cement and ready-mix concrete sales volumes and sales prices, revenues of our operations in Colombia, in Colombian Peso terms, decreased 17% in 2017 compared to 2016.

Panama

Our domestic cement sales volumes from our operations in Panama increased 3% in 2017 compared to 2016, and ready-mix concrete sales volumes increased 9% over the same period. Our revenues from our operations in Panama represented 2% of our total revenues for the year ended December 31, 2017, in Mexican Peso terms, before eliminations resulting from consolidation. Our average sales price of domestic cement and the ready-mix concrete from our operations in Panama remained flat, in Dollar terms, in 2017 compared to 2016. For the year ended December 31, 2017, cement represented 62%, ready-mix concrete 28% and our aggregates and other businesses 10% of our revenues in Mexican Peso terms from our operations in Panama before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of increases in domestic cement and ready-mix concrete sales volumes, revenues of our operations in Panama, in Dollar terms, increased 4% in 2017 compared to 2016.

Costa Rica

Our domestic cement sales volumes from our operations in Costa Rica increased 3% in 2017 compared to 2016, and ready-mix concrete sales volumes increased 11% over the same period. Our cement export volumes from our operations in Costa Rica, which represented 26% of cement sales volumes from our operations in Costa Rica for the year ended December 31, 2017, decreased 11% in 2017 compared to 2016. All of our total cement exports from our operations in Costa Rica during 2017 were to the Rest of South, Central America and the Caribbean region. Our revenues from our operations in Costa Rica represented 1% of our total revenues for the year ended December 31, 2017, in Mexican Peso terms, before eliminations resulting from consolidation. Our average sales price of domestic cement from our operations in Costa Rica decreased 3%, in Costa Rican Colones terms, in 2017 compared to 2016, and our average sales price of ready-mix concrete decreased 10%, in Costa Rican Colones terms, over the same period. For the year ended December 31, 2017, cement represented 77%, ready-mix concrete 14% and our aggregates and other businesses 9% of our revenues from our operations in Mexican Peso terms before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of increases in domestic cement and ready-mix concrete sales volumes, partially offset by the decreases in domestic cement and ready-mix concrete sales prices, revenues of our operations in Costa Rica, in Costa Rican Colones terms, increased 2% in 2017 compared to 2016.

Caribbean TCL

Our revenues from our operations in Caribbean TCL represented 2% of our total revenues for the year ended December 31, 2017, in Mexican Peso terms, before eliminations resulting from consolidation. Our cement export

volumes from our operations in Caribbean TCL segment represented 16% of our Caribbean TCL cement sales volumes for the year ended December 31, 2017. All of our total cement exports from our operations in Caribbean TCL during 2017 were to the Rest of South, Central America and the Caribbean region. For the year ended December 31, 2017, cement represented 94%, ready-mix concrete 1% and our other businesses 5% of revenues in Mexican Peso terms from our operations in Caribbean TCL before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

Dominican Republic

Our domestic cement sales volumes from our operations in the Dominican Republic decreased 4% in 2017 compared to 2016, while ready-mix concrete sales volumes decreased 5% over the same period. Our operations in the Dominican Republic represented 1% of our total revenues for the year ended December 31, 2017, in Mexican Peso terms, before eliminations resulting from consolidation. Our cement export volumes from our operations in the Dominican Republic, which represented 16% of our Dominican Republic cement sales volumes for the year ended December 31, 2017, decreased 28% in 2017 compared to 2016. Of our total cement export volumes from our operations in the Dominican Republic during 2017, 100% were to our SCA&C region. Our average sales price of domestic cement of our operations in the Dominican Republic increased 12%, in Dominican Peso terms, in 2017 compared to 2016, and our average sales price of ready-mix concrete decreased 4%, in Dominican Peso terms, over the same period. For the year ended December 31, 2017, cement represented 79%, ready-mix concrete 14% and our aggregates and other businesses 7% of revenues in Mexican Peso terms from our operations in the Dominican Republic before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of decreases in domestic cement and ready-mix concrete sales volumes and ready-mix concrete sales prices, partially offset by the increases in domestic cement sales prices, revenues of our operations in the Dominican Republic, in Dominican Peso terms, decreased 6% in 2017 compared to 2016.

Rest of South, Central America and the Caribbean

Our domestic cement volumes from our operations in the Rest of South, Central America and the Caribbean increased 2% in 2017 compared to 2016, and ready-mix concrete sales volumes increased 7% over the same period. Our cement export volumes from our operations in the Rest of South, Central America and the Caribbean segment, which represented 6% of our Rest of South, Central America and the Caribbean cement sales volumes for the year ended December 31, 2017, decreased 1% in 2017 compared to 2016. Of our total cement export volumes from our operations in Rest of South, Central America and the Caribbean during 2017, 71% were within the same region and 29% were to the Rest of Europe region. Our revenues from our operations in the Rest of South, Central America and the Caribbean represented 3% of our total revenues for the year ended December 31, 2017, in Mexican Peso terms, before eliminations resulting from consolidation. Our average sales price of domestic cement from our operations in the Rest of South, Central America and the Caribbean increased 1% in Dollar terms, in 2017 compared to 2016, and our average sales price of ready-mix concrete decreased 6%, in Dollar terms, over the same period. For the year ended December 31, 2017, cement represented 88%, ready-mix concrete 9% and our other businesses 3% of revenues in Mexican Peso terms from our operations in the Rest of South, Central America and the Caribbean before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of increases in domestic cement sales volumes and sales prices and ready-mix concrete sales volumes, partially offset by the decrease in ready-mix concrete sales prices, revenues of our operations in the Rest of South, Central America and the Caribbean, in Dollar terms, increased 5% in 2017 compared to 2016.

Asia, Middle East and Africa

For the year ended December 31, 2017, our operations in the Asia, Middle East and Africa region consisted of our operations in the Philippines, Egypt and Israel, which represent the most significant operations in this

region, in addition to the Rest of Asia, Middle East and Africa, which refers primarily to operations in the UAE. Our revenues from our operations in the Asia, Middle East and Africa region represented 9% of our total revenues for the year ended December 31, 2017, in Mexican Peso terms, before eliminations resulting from consolidation. As of December 31, 2017, our operations in the Asia, Middle East and Africa region represented 6% of our total assets. Set forth below is a quantitative and qualitative analysis of the effects of the various factors affecting our revenues for our main operations in the Asia, Middle East and Africa region.

The Philippines

Our domestic cement sales volumes from our operations in the Philippines remained flat in 2017 compared to 2016, and ready-mix concrete sales volumes decreased 58% over the same period. The steadiness in our domestic cement sales volumes resulted primarily from a moderation in cement consumption, especially in infrastructure, due to the post-election government transition. Our cement export volumes from our operations in the Philippines, which represented less than 1% of our Philippines cement sales volumes for the year ended December 31, 2017, decreased 1% in 2017 compared to 2016. All of our total cement exports from our operations in Philippines during 2017 were to the Rest of Asia, Middle East and Africa region. Our revenues from our operations in the Philippines represented 3% of our total revenues for the year ended December 31, 2017, in Mexican Peso terms, before eliminations resulting from consolidation. Our average sales price of domestic cement from our operations in the Philippines decreased 10%, in Philippine Peso terms, in 2017 compared to 2016, and our average sales price of ready-mix concrete increased 16%, in Philippine Peso terms, over the same period. For the year ended December 31, 2017, cement represented 97% and our ready-mix concrete and other businesses 3% of our revenues in Mexican Peso terms from our operations in the Philippines before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of decreases in domestic cement sales prices, revenues of our operations in the Philippines, in Philippine Peso terms, decreased 10% in 2017 compared to 2016.

Egypt

Our domestic cement sales volumes from our operations in Egypt decreased 6% in 2017 compared to 2016, and ready-mix concrete sales volumes decreased 4% over the same period. Government projects related to the Suez Canal tunnels and low-income housing continued to drive cement demand during the year. Our revenues from our operations in Egypt represented 1% of our total revenues for the year ended December 31, 2017, in Mexican Peso terms, before eliminations resulting from consolidation. Our average sales price of domestic cement increased 10%, in Egyptian Pound terms, in 2017 compared to 2016, and our average sales price of ready-mix concrete decreased 3%, in Egyptian Pound terms, over the same period. For the year ended December 31, 2017, cement represented 83%, ready-mix concrete 12% and our aggregates and other businesses 5% of revenues in Mexican Peso terms from our operations in Egypt before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of the increase in domestic cement sales prices, partially offset by a decrease in ready-mix concrete sales volumes and sales prices and in domestic cement sales volumes, our revenues in Egypt, in Egyptian Pound terms, increased 4% in 2017 compared to 2016.

Israel

Our ready-mix concrete sales volumes from our operations in Israel increased 10% in 2017 compared to 2016. Our operations in Israel represented 4% of our total revenues for the year ended December 31, 2017, in Mexican Peso terms, before eliminations resulting from consolidation. Our average sales price of ready-mix concrete of our operations in Israel decreased 1%, in Israeli New Shekel terms, in 2017 compared to 2016. For

the year ended December 31, 2017, ready-mix concrete represented 65% and our aggregates and other businesses 35% of revenues in Mexican Peso terms from our operations in Israel before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of increases in domestic ready-mix concrete sale volumes, partially offset by a decrease in ready-mix concrete sales prices, revenues from our operations in Israel, in Israeli New Shekel terms, increased 9% in 2017 compared to 2016.

Rest of Asia, Middle East and Africa

Our domestic cement sales volumes from our operations in the Rest of Asia, Middle East and Africa increased 46% in 2017 compared to 2016, and ready-mix concrete sales volumes increased 8% over the same period. Our cement export volumes from our operations in Rest of Asia, Middle East and Africa, which represented 14% of our Rest of Asia, Middle East and Africa cement sales volumes for the year ended December 31, 2017, decreased 87% in 2017 compared to 2016. All of our total cement exports from our operations in the region during 2017 were within the same operations region. Our revenues from our operations in our Rest of Asia, Middle East and Africa segment represented 1% of our total revenues for the year ended December 31, 2017, in Mexican Peso terms, before eliminations resulting from consolidation. Our average sales price of domestic cement increased 3%, in Dollar terms, in 2017 compared to 2016, and the average sales price of ready-mix concrete remained flat, in Dollar terms, over the same period. For the year ended December 31, 2017, cement represented 36% and ready-mix concrete 64% of revenues from our operations in the Rest of Asia, Middle East and Africa before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable.

As a result of increases in domestic cement sales volumes and sales prices and in ready-mix concrete sales volumes, partially offset by a decrease in cement export sales, revenues from our operations in the Rest of Asia, Middle East and Africa, in Dollar terms, decreased 4% in 2017 compared to 2016.

Others

Our Others segment refers to: (i) cement trade maritime operations, (ii) our information technology solutions business (Neoris N.V.), (iii) CEMEX, S.A.B. de C.V. and other corporate entities and (iv) other minor subsidiaries with different lines of business. Revenues from our Others segment increased 29% before intra-sector eliminations within the segment and before eliminations resulting from consolidation, as applicable, in 2017 compared to 2016, in Dollar terms. The increase resulted primarily from an increase in our worldwide cement volume of our trading operations and a sales increase in our information technology solutions company. For the year ended December 31, 2017, our information technology solutions company represented 30% and our trading operations represented 37% of our revenues in our Others segment, in Dollar terms.

Cost of Sales. Our cost of sales, including depreciation, increased 6% from Ps159,946 million in 2016 to Ps168,858 million in 2017. As a percentage of revenues, cost of sales increased from 64.1% in 2016 to 65.6% in 2017. The increase in cost of sales as a percentage of revenues was mainly driven by higher energy costs. Our cost of sales includes freight expenses of raw materials used in our producing plants.

Gross Profit. For the reasons explained above, our gross profit decreased 1% from Ps89,531 million in 2016 to Ps88,579 million in 2017. As a percentage of revenues, gross profit decreased from 35.9% in 2016 to 34.4% in 2017. In addition, our gross profit may not be directly comparable to those of other entities that include all their freight expenses in cost of sales. As described below, we include freight expenses of finished products from our producing plants to our points of sale and from our points of sale to our customers' locations within operating expenses as part of distribution and logistic expenses.

Operating expenses. Our operating expenses, which are represented by administrative, selling and distribution and logistics expenses, increased 4%, from Ps53,913 million in 2016 to Ps55,967 million in 2017. As

a percentage of revenues, operating expenses increased from 21.6% in 2016 to 21.7% in 2017. Our operating expenses include expenses related to personnel, equipment and services involved in sales activities and storage of product at points of sale, which are included as part of the operating expenses, as well as freight expenses of finished products between plants and points of sale and freight expenses between points of sale and the customers' facilities, which are included as part of the line item "Distribution and logistic expenses." For the years ended December 31, 2016 and 2017, selling expenses included as part of the line item "Operating expenses" amounted to Ps6,945 million and Ps6,429 million, respectively. As discussed above, we include freight expenses of finished products from our producing plants to our points of sale and from our points of sale to our customers' locations within distribution and logistic expenses, which in the aggregate represented costs of Ps26,235 million in 2016 and Ps28,485 million in 2017. As a percentage of revenues, distribution and logistics expenses increased from 10.5% in 2016 to 11.0% in 2017.

Operating Earnings Before Other Expenses, Net

For the reasons mentioned above, our operating earnings before other expenses, net decreased 8% from Ps35,618 million in 2016 to Ps32,612 million in 2017. As a percentage of revenues, operating earnings before other expenses, net decreased from 14.3% in 2016 to 12.7% in 2017. Additionally, set forth below is a quantitative and qualitative analysis of the effects of the various factors affecting our operating earnings before other expenses, net on a reportable segment basis.

Mexico

Our operating earnings before other expenses, net, from our operations in Mexico increased 12% in 2017 compared to 2016, in Mexican Peso terms, from operating earnings before other expenses, net, of Ps16,866 million in 2016 to operating earnings before other expenses, net, of Ps18,969 million in 2017. Our operating earnings before other expenses from our operations in Mexico represented 58% of our total operating earnings before other expenses for the year ended December 31, 2017, in Mexican Peso terms. The increase resulted primarily from the increase in our revenues and the continued implementation of our value-before-volume strategy.

United States

Our operating earnings before other expenses, net, from our operations in the United States increased 2% in 2017 compared to 2016, in Dollar terms. Our operating earnings before other expenses from our operations in the United States represented 14% of our total operating earnings before other expenses for the year ended December 31, 2017, in Mexican Peso terms. The increase resulted primarily from the value-before-volume strategy partially offset by a decrease in our revenues.

Europe

United Kingdom. Our operating earnings before other expenses, net, from our operations in the United Kingdom decreased 28% in 2017 compared to 2016, in Pound terms. Our operating earnings before other expenses from our operations in the United Kingdom represented 5% of our total operating earnings before other expenses for the year ended December 31, 2017, in Mexican Peso terms. The decrease resulted primarily from a decrease in our revenues.

France. Our operating earnings before other expenses, net, from our operations in France increased 69% in 2017 compared to 2016, in Euro terms. Our operating earnings before other expenses from our operations in France represented 1% of our total operating earnings before other expenses for the year ended December 31, 2017, in Mexican Peso terms. The increase resulted primarily from an increase in our revenues.

Germany. Our operating earnings before other expenses, net, from our operations in Germany increased 89% in 2017 compared to 2016, in Euro terms. Our operating earnings before other expenses from our operations

in Germany represented 1% of our total operating earnings before other expenses for the year ended December 31, 2017, in Mexican Peso terms. The increase resulted primarily from an increase in revenues.

Spain. Our operating earnings before other expenses, net, from our operations in Spain decreased significantly in 2017 compared to 2016, in Euro terms. Our operating loss before other expenses from our operations in Spain represented a negative impact of 1% of our total operating earnings before other expenses for the year ended December 31, 2017, in Mexican Peso terms. The decrease resulted primarily from higher energy costs, partially offset by an increase in our revenues.

Poland. Our operating earnings before other expenses, net, from our operations in Poland increased 11% in 2017 compared to 2016, in Polish Zloty terms. Our operating earnings before other expenses from our operations in Poland represented 1% of our total operating earnings before other expenses for the year ended December 31, 2017, in Mexican Peso terms. The increase resulted primarily from an increase in our revenues.

Czech Republic. Our operating earnings before other expenses, net, from our operations in the Czech Republic increased 54% in 2017 compared to 2016, in Czech Koruna terms. Our operating earnings before other expenses from our operations in the Czech Republic represented 1% of our total operating earnings before other expenses for the year ended December 31, 2017, in Mexican Peso terms. The increase resulted primarily from an increase in our revenues.

Rest of Europe. Our operating earnings before other expenses, net, from our operations in the Rest of Europe increased 60% in 2017 compared to 2016, in Euro terms. Our operating earnings before other expenses from our operations in the Rest of Europe region represented 1% of our total operating earnings before other expenses for the year ended December 31, 2017, in Mexican Peso terms. The increase resulted primarily from an increase in our revenues, driven by improved economic fundamentals that supported volume growth for our three core products.

South, Central America and the Caribbean

Colombia. Our operating earnings before other expenses, net, from our operations in Colombia decreased 55% in 2017 compared to 2016, in Colombian Peso terms. Our operating earnings before other expenses from our operations in Colombia represented 5% of our total operating earnings before other expenses for the year ended December 31, 2017, in Mexican Peso terms. The decrease resulted primarily from a decrease in revenues affected by weak demand from industrial and commercial projects, as well as from high and middle-income housing developments.

Panama. Our operating earnings before other expenses, net, from our operations in Panama decreased 7% in 2017 compared to 2016, in Dollar terms. Our operating earnings before other expenses from our operations in Panama represented 5% of our total operating earnings before other expenses for the year ended December 31, 2017, in Mexican Peso terms. The decrease resulted primarily from a slowdown in the high-income residential and industrial-and-commercial sectors and higher fuel costs, partially offset by an increase in our revenues.

Costa Rica. Our operating earnings before other expenses, net, from our operations in Costa Rica decreased 9% in 2017 compared to 2016, in Costa Rican Colones terms. Our operating earnings before other expenses from our operations in Costa Rica represented 3% of our total operating earnings before other expenses for the year ended December 31, 2017, in Mexican Peso terms. The decrease resulted primarily from higher energy costs, partially offset by an increase in our revenues.

Caribbean TCL. Our operating earnings before other expenses from our Caribbean TCL operations represented 1% of our total operating earnings before other expenses for the year ended December 31, 2017, in Mexican Peso terms.

Dominican Republic. Our operating earnings before other expenses, net, from our operations in the Dominican Republic increased 1% in 2017 compared to 2016, in Dominican Peso terms. Our operating earnings before other expenses from our operations in the Dominican Republic represented 3% of our total operating earnings before other expenses for the year ended December 31, 2017, in Mexican Peso terms. The increase resulted primarily by our cost reduction efforts, partially offset by a decrease in our revenues.

Rest of South, Central America and the Caribbean. Our operating earnings before other expenses, net, from our operations in the Rest of South, Central America and the Caribbean decreased 10% in 2017 compared to 2016, in Dollar terms. Our operating earnings before other expenses from our operations in the Rest of South, Central America and the Caribbean region represented 4% of our total operating earnings before other expenses for the year ended December 31, 2017, in Mexican Peso terms. The decrease resulted primarily from a slowdown in construction activity for new projects in Nicaragua, partially offset by an increase in our revenues in the rest of the region.

Asia, Middle East and Africa

The Philippines. Our operating earnings before other expenses, net, from our operations in the Philippines decreased 58% in 2017 compared to 2016, in Philippine Peso terms. Our operating earnings before other expenses from our operations in the Philippines represented 3% of our total operating earnings before other expenses for the year ended December 31, 2017, in Mexican Peso terms. The decrease resulted primarily from a decrease in revenues and by an increase in our energy and distribution costs.

Egypt. Our operating earnings before other expenses, net, from our operations in Egypt decreased 70% in 2017 compared to 2016, in Egyptian Pound terms. Our operating earnings before other expenses from our operations in Egypt represented 1% of our total operating earnings before other expenses for the year ended December 31, 2017, in Mexican Peso terms. The decrease resulted primarily from higher fuel and electricity costs, partially offset by an increase in our revenues.

Israel. Our operating earnings before other expenses, net, from our operations in Israel decreased 1% in 2017 compared to 2016, in Israeli New Shekel terms. Our operating earnings before other expenses from our operations in Israel represented 4% of our total operating earnings before other expenses for the year ended December 31, 2017, in Mexican Peso terms. The decrease resulted primarily from an increase in our production and operational costs, partially offset by an increase in our revenues.

Rest of Asia, Middle East and Africa. Our operating earnings before other expenses, net, from our operations in the Rest of Asia, Middle East and Africa increased 39% in 2017 compared to 2016, in Dollar terms. Our operating earnings before other expenses from our operations in the Rest of Asia, Middle East and Africa region represented 1% of our total operating earnings before other expenses for the year ended December 31, 2017, in Mexican Peso terms. The increase resulted primarily from our cost reduction efforts, partially offset by a decrease in our revenues.

Others. Our operating loss before other expenses, net, from our operations in our Others segment increased 14% in 2017 compared to 2016, in Dollar terms. The increase resulted primarily from an increase in our operating cost from our other segment, partially offset by an increase in our revenues.

Other Expenses, Net. Our other expenses, net, increased by Ps2,145, in Mexican Peso terms, from an expense of Ps1,670 million in 2016 to an expense of Ps3,815 million in 2017. The increase in 2017 resulted primarily from goodwill impairment related to our operating segment in Spain, in addition to an expense recognized for a penalty imposed by the SIC in Colombia in connection with a market investigation, partially offset by the results from the sale of assets and lower impairment losses on property, machinery and equipment as compared to the prior year, net of other items. As a percentage of revenues, other expenses, net, increased from 0.7% in 2016 to 1.5% in 2017. See notes 6, 13.2, 14, 15 and 24.1 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

The most significant items included under this caption for the years ended December 31, 2016 and 2017 are as follows:

	For the Year Ended December 31,	
	2016	2017
	(in millions of Mexican Pesos)	
Impairment losses	Ps (2,518)	Ps (2,936)
Restructuring costs	(778)	(843)
Charitable contributions	(93)	(127)
Results from the sale of assets and others, net	1,719	91
	<u>Ps (1,670)</u>	<u>Ps (3,815)</u>

Financial expense. Our financial expense decreased 10%, from Ps21,487 million in 2016 to Ps19,301 million in 2017, primarily attributable to lower interest rates on our financial debt as well as a decrease in our financial debt during 2017 compared to 2016, partially offset by higher premium payments during 2017 compared to 2016. See notes 16.1 and 16.2 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Financial income (expense) and other items, net. Our financial income and other items, net, in Mexican Peso terms, decreased 19%, from Ps4,467 million in 2016 to Ps3,616 million in 2017, mainly as a result of foreign exchange results, which decreased significantly, from a gain of Ps4,982 million in 2016 to a loss of Ps26 million in 2017, primarily attributable to the fluctuation of the Mexican Peso versus the U.S. Dollar, partially offset by a gain in the sale and remeasurement of associates of Ps4,164. See notes 7 and 16.4 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

The most significant items included under this caption for the years ended December 31, 2016 and 2017 are as follows:

	For the Year Ended December 31,	
	2016	2017
	(in millions of Mexican Pesos)	
Financial income and other items, net:		
Results from sale of associates and remeasurement of previously held interest before change in control of associates	Ps —	Ps 4,164
Financial income	402	338
Results from financial instruments	113	161
Foreign exchange results	4,982	(26)
Effects of net present value on assets and liabilities and others, net	<u>(1,030)</u>	<u>(1,021)</u>
	<u>Ps 4,467</u>	<u>Ps 3,616</u>

Income Taxes. Our income tax effect in the income statements, which is primarily comprised of current income taxes plus deferred income taxes, decreased 83% from an expense of Ps3,125 million in 2016 to an expense of Ps520 million in 2017.

The decrease in the income tax expense is mainly attributable to our deferred income taxes during the period, which increased from deferred tax revenue of Ps331 in 2016 to deferred tax revenue of Ps2,938 in 2017. Such increase resulted primarily from the recognition of deferred income tax assets related to our operations in the United States due to revised and improved projections of taxable revenue in the future determined in 2017 as compared to 2016, net of the decrease in such deferred income tax assets in the United States regarding the Tax

Cuts and Jobs Act enacted on December 22, 2017, which reduced the United States statutory federal tax rate from 35% to 21%. This net increase in deferred tax assets in the United States was partially offset by increases in the deferred income tax expense from our other operations during 2017 as compared to 2016. Our current income tax expense remained flat in 2017 as compared to 2016. See notes 19.1, 19.2 and 19.4 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

For each of the years ended December 31, 2016 and 2017, our statutory income tax rate in Mexico was 30%. Our average effective tax rate in 2016, as described below, resulted in an income tax rate of 17.7%, considering earnings before income tax of Ps17,616 million, and our average effective tax rate in 2017 resulted in an income tax rate of 3.8%, considering earnings before income tax of Ps13,700 million. Our average effective tax rate equals the net amount of income tax expense divided by income before income taxes, as these line items are reported in our consolidated income statements. See “Item 3—Key Information—Risk Factors—Risks Relating to Our Business—Certain tax matters may have an adverse effect on our cash flow, financial condition and net income, as well as on our reputation” and note 19.3 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Net Income from continuing operations. For the reasons described above, our net income from continuing operations for 2017 decreased 9%, from a net income from continuing operations of Ps14,491 million in 2016 to a net income from continuing operations of Ps13,180 million in 2017.

Discontinued operations. For the years ended December 31, 2016 and 2017, our discontinued operations included in our consolidated income statements amounted to Ps713 million and Ps3,461 million, respectively. As a percentage of revenues, discontinued operations, net of tax, represented 0.3% for the year ended as of December 31, 2016, and 1.4% for the year ended as of December 31, 2017. See note 4.2 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Consolidated Net Income. For the reasons described above, our consolidated net income (before deducting the portion allocable to non-controlling interest) for 2017 increased 9%, from a consolidated net income of Ps15,204 million in 2016 to a consolidated net income of Ps16,641 million in 2017.

Non-controlling Interest Net Income. Changes in non-controlling interest net income in any period reflect changes in the percentage of the stock of our subsidiaries held by non-associated third parties as of the end of each month during the relevant period and the consolidated net income attributable to those subsidiaries. Non-controlling interest net income increased 21%, from an income of Ps1,173 million in 2016 to an income of Ps1,417 million in 2017, primarily attributable to an increase in the net income of the consolidated entities in which others have a non-controlling interest. See note 20.4 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Controlling Interest Net Income. Controlling interest net income represents the difference between our consolidated net income and non-controlling interest net income, which is the portion of our consolidated net income attributable to those of our subsidiaries in which non-associated third parties hold interests. For the reasons described above, our controlling interest net income increased 9%, from a controlling interest net income of Ps14,031 million in 2016 to Ps15,224 million in 2017.

Liquidity and Capital Resources

Operating Activities

We have satisfied our operating liquidity needs primarily through the operation of our subsidiaries and expect to continue to do so for both the short- and long-term. Although cash flow from our operations has historically met our overall liquidity needs for operations, servicing debt and funding capital expenditures and

acquisitions, our subsidiaries are exposed to risks from changes in foreign currency exchange rates, price and currency controls, interest rates, inflation, governmental spending, social instability and other political, economic and/or social developments in the countries in which we operate, any one of which may materially decrease our net income and cash from operations. Consequently, in order to meet our liquidity needs, we also rely on cost-cutting and operating improvements to optimize capacity utilization and maximize profitability, as well as borrowing under credit facilities, proceeds of debt and equity offerings and proceeds from asset sales. Our consolidated net cash flows provided by operating activities from continuing operations before financial expense and coupons on Perpetual Debentures and income taxes paid in cash were Ps61,342 million in 2016, Ps51,420 million in 2017 and Ps43,316 million in 2018. See our statements of cash flows included elsewhere in this annual report. CEMEX management is of the opinion that working capital is sufficient for our present requirements.

Sources and Uses of Cash

Our review of sources and uses of cash below refers to nominal amounts included in our statement of cash flows for 2016, 2017 and 2018.

Our primary sources and uses of cash during the years ended December 31, 2016, 2017 and 2018 were as follows:

	Year Ended December 31,		
	2016	2017	2018
	(in millions of Mexican Pesos)		
Operating Activities			
Consolidated net income	15,204	16,641	11,256
Discontinued operations	713	3,461	212
Net income from continuing operations	14,491	13,180	11,044
Non-cash items	35,834	30,201	33,334
Changes in working capital, excluding income taxes	11,017	8,039	(1,062)
Net cash flows provided by operating activities from continuing operations before financial expense, coupons on Perpetual Debentures and income taxes	61,342	51,420	43,316
Financial expense and coupons on Perpetual Debentures and income taxes paid	(23,312)	(20,423)	(16,781)
Net cash flows provided by operating activities from continuing operations	38,030	30,997	26,535
Net cash flows provided by operating activities from discontinued operations	1,192	108	10
Net cash flows provided by operating activities	39,222	31,105	26,545
Investing Activities			
Property, machinery and equipment, net	(4,563)	(10,753)	(11,631)
Acquisition and disposal of subsidiaries and other disposal groups, net	1,424	23,841	(481)
Intangible assets, other deferred charges and other non-current assets and others, net	(2,341)	(1,481)	(3,575)
Net cash flows (used in) provided by investing activities from continuing operations	(5,480)	11,607	(15,687)
Net cash flows (used in) provided by investing activities from discontinued operations	1	—	—
Net cash flows (used in) provided by investing activities	(5,479)	11,607	(15,687)
Financing Activities			
Sale of non-controlling interest in subsidiaries	9,777	(55)	—
Derivative instruments	399	246	392
Repayment of debt, net	(41,044)	(37,826)	(9,260)
Other financial obligations, net	(5,779)	(1,473)	(7,082)
Share repurchase program	—	—	(1,520)
Securitization of trade receivables	(999)	169	644
Non-current liabilities, net	(1,972)	(3,745)	(2,716)
Net cash flows used in financing activities	(39,618)	(42,684)	(19,542)
Decrease in cash and cash equivalents from continuing operations	(7,068)	(80)	(8,694)
Increase in cash and cash equivalents from discontinued operations	1,193	108	10
Cash conversion effect, net	2,169	2,097	1,011
Cash and cash equivalents at beginning of period	15,322	11,616	13,741
Cash and cash equivalents at end of period	11,616	13,741	6,068

2018. During 2018, excluding the positive foreign currency effect of our initial balances of cash and cash equivalents generated during the period of Ps1,011 million, there was a decrease in cash and cash equivalents from continuing operations of Ps8,694 million. This decrease was the result of our net cash flows used in financing activities of Ps19,542 million and our net cash flows used in investing activities from continuing

operations of Ps15,687 million, partially offset by our net cash flows provided by operating activities from continuing operations, which, after financial expense and coupons on Perpetual Debentures and income taxes paid in cash of Ps16,781 million, amounted to Ps26,535 million.

For the year ended December 31, 2018, our net cash flows provided by operating activities included cash flows applied in working capital of Ps1,062 million, which was primarily comprised of other accounts receivable and other assets, inventories and other accounts payable and accrued expenses, for an aggregate amount of Ps5,949 million, partially offset by trade payables and trade receivables, net for an aggregate amount of Ps4,887 million.

During 2018, our net cash flows provided by operating activities from continuing operations after financial expense and coupons on Perpetual Debentures and income taxes paid in cash of Ps26,535 million were mainly disbursed in connection with (i) our net cash flows used in financing activities of Ps19,542 million, which include repayment of our debt, net, other financial obligations, net, share repurchase program and non-current liabilities, net, for an aggregate amount of Ps20,578 million, partially offset by derivative instruments and securitization of trade receivables for an aggregate amount of Ps1,036 million and (ii) our net cash flows used in the investing activities from continuing operations of Ps15,687 million, which was primarily comprised of investment in property, machinery and equipment, net, intangible assets, other deferred charges and other non-current assets, net and by acquisition and disposal of subsidiaries and other disposal groups, net.

2017. During 2017, excluding the positive foreign currency effect of our initial balances of cash and cash equivalents generated during the period of Ps2,097 million, there was a decrease in cash and cash equivalents from continuing operations of Ps80 million. This decrease was the result of our net cash flows used in financing activities of Ps42,684 million and our net cash flows used in our investing activities from continuing operations of Ps11,607 million, partially offset by our net cash flows provided by operating activities from continuing operations, which, after financial expense and coupons on Perpetual Debentures and income taxes paid in cash of Ps20,423 million, amounted to Ps30,997 million.

For the year ended December 31, 2017, our net cash flows provided by operating activities included cash flows generated in working capital of Ps8,039 million, which was primarily comprised of trade receivables, net, other accounts receivable and other assets, inventories, trade payables and other accounts payable and accrued expenses.

During 2017, our net cash flows provided by operating activities from continuing operations after financial expense and coupons on Perpetual Debentures and income taxes paid in cash of Ps30,997 million and our net cash flows provided by investing activities from continuing operations of Ps11,607 million, which include acquisition and disposal of subsidiaries and other disposal groups, net for an amount of Ps23,841 million, partially offset by investment in property, machinery and equipment, net and intangible assets, other deferred charges and other non-current assets, net for an aggregate amount of Ps12,234 million, were disbursed in connection with our net cash flows used in financing activities of Ps42,684 million, which include repayment of our debt, net, other financial obligations, net, non-current liabilities and sale of non-controlling interest in subsidiaries for an aggregate amount of Ps43,099 million, partially offset by derivative instruments and securitization of trade receivables for an aggregate amount of Ps415 million.

2016. During 2016, excluding the positive foreign currency effect of our initial balances of cash and cash equivalents generated during the period of Ps2,169 million, there was a decrease in cash and cash equivalents from continuing operations of Ps7,068 million. This decrease was the result of our net cash flows used in financing activities of Ps39,618 million and our net cash flows used in investing activities from continuing operations of Ps5,479 million, partially offset by our net cash flows provided by operating activities from continuing operations, which, after financial expense and coupons on Perpetual Debentures and income taxes paid in cash of Ps23,312 million, amounted to Ps38,030 million.

For the year ended December 31, 2016, our net cash flows provided by operating activities included cash flows generated in working capital of Ps11,017 million, which was primarily comprised of trade payables and other accounts payable and accrued expenses, for an aggregate amount of Ps16,928 million, partially offset by trade receivable, net, other accounts receivable and other assets and inventories for an aggregate amount of Ps5,911 million.

During 2016, our net cash flows provided by operating activities from continuing operations after financial expense and coupons on Perpetual Debentures and income taxes paid in cash of Ps38,030 million were mainly disbursed in connection with (i) our net cash flows used in financing activities of Ps39,618 million, which include repayment of our debt, net, other financial obligations, net, securitization of trade receivables and non-current liabilities for an aggregate amount of Ps49,794 million, partially offset by derivative instruments and sale of non-controlling interest in subsidiaries for an aggregate amount of Ps10,176 million and (ii) our net cash flows used in the investing activities from continuing operations of Ps5,479 million, which include investment in property, machinery and equipment, net and intangible assets, other deferred charges and other non-current assets, net for an aggregate amount of Ps6,904 million, partially offset by acquisition and disposal of subsidiaries and other disposal groups, net for an amount of Ps1,424 million.

As of December 31, 2018, we had the following lines of credit, of which the only committed portion refers to the revolving credit facility under the 2017 Credit Agreement, at annual interest rates ranging between 0.75% and 8.50%, depending on the negotiated currency:

	<u>Lines of Credit</u>	<u>Available</u>
	<u>(in millions of Mexican Pesos)</u>	
Other lines of credit in foreign subsidiaries	9,440	7,286
Other lines of credit from banks	11,294	8,956
Revolving credit facility	<u>22,303</u>	<u>16,211</u>
	<u>43,037</u>	<u>32,453</u>

In addition, as of December 31, 2018, we had available committed lines of credit under the 2017 Credit Agreement of Ps16,211 million (U.S.\$825 million), which include a revolving credit facility. This, in addition to our proven capacity to continually refinance and replace short-term obligations, will enable us to meet any liquidity risk in the short term.

Capital Expenditures

Our capital expenditures incurred for the years ended December 31, 2017 and 2018, and our expected capital expenditures during 2019, which include an allocation to 2019 of a portion of our total future committed amount, are as follows:

	Actual for the Year Ended December 31, Actual		Estimated in 2019
	2017	2018	
	(in millions of U.S. Dollars)		
Mexico	113	117	157
United States	185	239	236
Europe			
United Kingdom	53	47	44
France	20	23	39
Germany	23	16	18
Spain	29	26	14
Poland	12	29	25
Czech Republic	8	9	8
Rest of Europe	9	12	13
South, Central America and the Caribbean			
Colombia	62	22	22
Panama	8	12	9
Costa Rica	2	3	3
Caribbean TCL	31	27	16
Dominican Republic	9	8	8
Rest of South, Central America and the Caribbean . . .	10	10	18
Asia, Middle East and Africa			
Philippines	28	28	152
Egypt	22	9	10
Israel	21	21	19
Rest of Asia, Middle East and Africa	3	5	9
Others	5	5	30
Total consolidated	<u>653</u>	<u>668</u>	<u>850</u>
Of which:			
Expansion capital expenditures	137	160	300
Base capital expenditures	<u>516</u>	<u>508</u>	<u>550</u>

For the years ended December 31, 2017 and 2018, we recognized U.S.\$653 million and U.S.\$668 million in capital expenditures from our continuing operations, respectively. As of December 31, 2018, in connection with our significant projects, we had contractually committed capital expenditures of approximately U.S.\$140 million, including our capital expenditures estimated to be incurred during 2019. This amount is expected to be incurred during 2019, based on the evolution of the related projects. Pursuant to the 2017 Credit Agreement, we are prohibited from making aggregate annual capital expenditures in excess of U.S.\$1.5 billion in any financial year (excluding certain capital expenditures, joint venture investments and acquisitions by each of CLH and CHP and their respective subsidiaries and those funded by Relevant Proceeds (as defined in the 2017 Credit Agreement)), which capital expenditures, joint venture investments and acquisitions at any time then incurred are subject to a separate aggregate limit of (i) U.S.\$500 million (or its equivalent) for CLH and its subsidiaries and (ii) U.S.\$500 million (or its equivalent) for CHP and its subsidiaries. In addition, the amounts of which we and our subsidiaries are allowed for permitted acquisitions and investments in joint ventures cannot exceed certain thresholds as set out in the 2017 Credit Agreement.

Our Indebtedness

As of December 31, 2018, we had Ps207,724 million (U.S.\$10,571 million) (principal amount Ps209,153 million (U.S.\$10,644 million), excluding deferred issuance costs) of total debt plus other financial obligations in our statement of financial position, which does not include Ps8,729 million (U.S.\$444 million) of Perpetual Debentures. Of our total debt plus other financial obligations, 7% were short-term (including current maturities of long-term debt) and 93% were long-term. As of December 31, 2018, 64% of our total debt plus other financial obligations was Dollar-denominated, 26% was Euro-denominated, 5% was Pound Sterling-denominated, 2% was Philippine Peso-denominated and immaterial amounts were denominated in other currencies. See notes 16.1, 16.2 and 20.4 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

On August 14, 2009, CEMEX, S.A.B. de C.V. and certain of its subsidiaries entered into the 2009 Financing Agreement, which extended the final maturities of U.S.\$15 billion in syndicated and bilateral loans and private placement notes to February 14, 2014. On July 5, 2012, CEMEX, S.A.B. de C.V. and certain of its subsidiaries launched an exchange offer and consent request (the “2012 Exchange Offer and Consent Request”) to eligible creditors under the 2009 Financing Agreement, pursuant to which eligible creditors were requested to consent to certain amendments to the 2009 Financing Agreement (together, the “2012 Amendment Consents”). In addition, CEMEX, S.A.B. de C.V. and certain of its subsidiaries offered to exchange the indebtedness owed to such creditors under the 2009 Financing Agreement that were eligible to participate in the 2012 Exchange Offer and Consent Request (the “Participating Creditors”) for (i) new loans (or, in the case of the private placement notes, new private placement notes) or (ii) up to U.S.\$500 million of our CEMEX, S.A.B. de C.V.’s 9.500% Senior Secured Notes due 2018 issued on September 17, 2012 (the “June 2018 U.S. Dollar Notes”), in each case, in transactions exempt from registration under the Securities Act of 1933, as amended (the “Securities Act”). On September 17, 2012, CEMEX, S.A.B. de C.V. and certain of its subsidiaries successfully completed the 2012 Exchange Offer and Consent Request (collectively, the “2012 Refinancing Transaction”), and CEMEX, S.A.B. de C.V. and certain of its subsidiaries entered into (i) an amendment and restatement agreement, dated September 17, 2012, pursuant to which the 2012 Amendment Consents with respect to the 2009 Financing Agreement were given effect and (ii) a facilities agreement, dated September 17, 2012 (as amended from time to time, the “2012 Facilities Agreement”), pursuant to which CEMEX, S.A.B. de C.V. and certain of its subsidiaries were deemed to borrow loans from those Participating Creditors participating in the 2012 Exchange Offer and Consent Request in principal amounts equal to the principal amounts of indebtedness subject to the 2009 Financing Agreement that was extinguished by such Participating Creditors. As a result of the 2012 Refinancing Transaction, Participating Creditors received (i) U.S.\$6,155 million in aggregate principal amount of new loans and new private placement notes and (ii) U.S.\$500 million aggregate principal amount of the June 2018 U.S. Dollar Notes. In addition, U.S.\$525 million aggregate principal amount of loans and private placement notes, which had remained outstanding under the 2009 Financing Agreement as of September 17, 2012, were subsequently repaid in full as a result of prepayments made in accordance with the 2012 Facilities Agreement.

On September 29, 2014, CEMEX, S.A.B. de C.V. and certain of its subsidiaries entered into a facilities agreement as amended and restated (the “2014 Credit Agreement”) for U.S.\$1.35 billion with nine of the main lending banks from its 2012 Facilities Agreement. On November 3, 2014, five additional banks joined the 2014 Credit Agreement as lenders with aggregate commitments of U.S.\$515 million, increasing the total amount of the 2014 Credit Agreement from U.S.\$1.35 billion to U.S.\$1.87 billion (increasing the revolving tranche of the 2014 Credit Agreement proportionally to U.S.\$746 million).

On July 30, 2015, CEMEX, S.A.B. de C.V. repaid in full the U.S.\$1.94 billion outstanding under the 2012 Facilities Agreement with new funds from 17 financial institutions, which joined new tranches under the 2014 Credit Agreement.

On November 30, 2016, CEMEX, S.A.B. de C.V. prepaid U.S.\$373 million outstanding under the 2014 Credit Agreement and corresponding to the September 2017 amortization thereunder. In addition to this

prepayment, and as part of an agreement reached with a group of lenders under the 2014 Credit Agreement, U.S.\$664 million (Ps13,758 million) of funded commitments under the 2014 Credit Agreement maturing in 2018 were exchanged into a revolving facility, maintaining their original amortization schedule and the same terms and conditions.

On July 19, 2017, CEMEX, S.A.B. de C.V. and certain of its subsidiaries entered into a facilities agreement (as amended and/or restated from time to time, including as amended by the 2019 Credit Agreement Amendments, the “2017 Credit Agreement”) for an amount in different currencies equivalent to U.S.\$4.1 billion (in aggregate), the proceeds of which were used to refinance in full the indebtedness incurred under the 2014 Credit Agreement and other debt repayment obligations, allowing us to increase the average life of our syndicated bank debt to approximately 4.3 years with a final maturity in July 2022. The indebtedness incurred under the 2017 Credit Agreement ranks equally in right of payment with certain of our other existing and future indebtedness, pursuant to the terms of an intercreditor agreement, dated September 17, 2012, among CEMEX, S.A.B. de C.V. and certain of its subsidiaries named therein, Citibank Europe PLC, UK Branch (formerly Citibank International plc), as facility agent, the financial institutions, noteholders and other entities named therein and Wilmington Trust (London) Limited, as security agent, as amended by an amendment agreement, dated October 31, 2014, and as amended and restated by an amendment and restatement agreement, dated on or about July 23, 2015, and an amendment and restatement agreement, dated July 19, 2017 (the “Intercreditor Agreement”).

As of July 19, 2017, total commitments initially available under the 2017 Credit Agreement included (i) €741 million, (ii) £344 million and (iii) U.S.\$2,746 million, out of which U.S.\$1,135 million were in the revolving credit facility tranche of the 2017 Credit Agreement. As of December 31, 2018, the 2017 Credit Agreement had an amortization profile, considering all commitments of U.S.\$4.0 billion under the 2017 Credit Agreement, of U.S.\$580 million in 2020, U.S.\$1,159 million in 2021 and U.S.\$2,294 million in 2022. See note 16.1 to our 2018 audited consolidated financial statements included elsewhere in this annual report. As a result of the 2019 Credit Agreement Amendments, U.S.\$530 million and U.S.\$530 million, payable under the 2017 Credit Agreement in July 2020 and January 2021, respectively, will now mature in July 2023 and January 2024, respectively, and U.S.\$48 million and U.S.\$48 million remains payable under the 2017 Credit Agreement in July 2020 and January 2021, respectively.

CEMEX, S.A.B. de C.V. and certain of its subsidiaries have pledged the Collateral and all proceeds of the Collateral to secure our payment obligations under the 2017 Credit Agreement, our outstanding Senior Secured Notes and under several other of our financing arrangements. These subsidiaries whose shares were pledged or transferred as part of the Collateral collectively own, directly or indirectly, substantially all our operations worldwide. See “Item 3—Key Information—Risk Factors—Risks Relating to Our Business—We pledged the capital stock of some of our subsidiaries that represent substantially all of our business as collateral to secure our payment obligations under the 2017 Credit Agreement, the indentures governing our outstanding Senior Secured Notes and other financing arrangements.”

As of December 31, 2018, we reported an aggregate amount of outstanding debt of Ps62,460 million (U.S.\$3,179 million) under the 2017 Credit Agreement. As of December 31, 2018, we had U.S.\$825 million available under the U.S.\$1,135 million revolving credit facility tranche of the 2017 Credit Agreement. If we are unable to comply with our upcoming principal maturities under our indebtedness, or refinance or extend maturities of our indebtedness, our debt could be accelerated. Acceleration of our debt would have a material adverse effect on our financial condition. See “Risk Factors—We have a substantial amount of debt and other financial obligations maturing in the next several years. If we are unable to secure refinancing on favorable terms or at all, we may not be able to comply with our upcoming payment obligations. Our ability to comply with our principal maturities and financial covenants may depend on us implementing certain initiatives which may include making asset sales, and there is no assurance that we will be able to execute such sales on terms favorable to us or at all.”

For a discussion of restrictions and covenants under the 2017 Credit Agreement, see “Item 3—Key Information—Risk Factors—Risks Relating to Our Business—The 2017 Credit Agreement contains several restrictions and covenants. Our failure to comply with such restrictions and covenants could have a material adverse effect on our business and financial conditions” .

For a description of the Senior Secured Notes, see “Item 5—Operating and Financial Review and Prospects—Summary of Material Contractual Obligations and Commercial Commitments—Senior Secured Notes.”

Some of our subsidiaries and special purpose vehicles (“SPVs”) have issued or provided guarantees of certain of our indebtedness, as indicated in the table below.

	<u>The Notes</u>	<u>Senior Secured Notes</u>	<u>2017 Credit Agreement</u>	<u>Perpetual Debentures</u>
		U.S.\$5,606 million (Ps110,157 million) (principal amount U.S.\$5,644 (Ps110,907 million))	U.S.\$3,179 million (Ps62,460 million) (principal amount U.S.\$3,208 million (Ps63,040 million))	U.S.\$444 million (Ps8,729 million)
Amount outstanding as of December 31, 2018⁽¹⁾				
CEMEX Finance LLC	✓	✓	✓	
CEMEX, S.A.B. de C.V.	✓	✓	✓	✓
CEMEX México, S.A. de C.V.	✓	✓	✓	✓
CEMEX Concretos, S.A. de C.V.	✓	✓	✓	
Empresas Tolteca de México, S.A. de C.V.....	✓	✓	✓	
New Sunward Holding B.V.	✓	✓	✓	✓
CEMEX España, S.A.	✓	✓	✓	
Cemex Asia B.V.	✓	✓	✓	
CEMEX Corp.	✓	✓	✓	
Cemex Africa & Middle East Investments B.V.	✓	✓	✓	
CEMEX France Gestion (S.A.S.)	✓	✓	✓	
Cemex Research Group AG	✓	✓	✓	
CEMEX UK	✓	✓	✓	

(1) Includes Senior Secured Notes and Perpetual Debentures held by CEMEX, as applicable.

In addition, as of December 31, 2018, (i) CEMEX Materials LLC was a borrower of Ps3,042 million (U.S.\$155 million) (principal amount Ps2,945 million (U.S.\$150 million)) under an indenture which is guaranteed by CEMEX Corp. and (ii) several of our other operating subsidiaries were borrowers under debt facilities aggregating Ps6,728 million (U.S.\$342 million).

Most of our outstanding indebtedness has been incurred to finance our acquisitions and to finance our capital expenditure programs. Historically, we have addressed our liquidity needs (including funds required to make scheduled principal and interest payments, refinance debt, and fund working capital and planned capital expenditures) with operating cash flow, securitizations, borrowings under credit facilities, proceeds of debt and equity offerings and proceeds from asset sales.

If the global economic environment deteriorates and our operating results worsen significantly, if we were unable to complete debt or equity offerings or if the proceeds of any divestitures and/or our cash flow or capital resources prove inadequate, we could face liquidity problems and may not be able to comply with our upcoming principal payments under our indebtedness or refinance our indebtedness. If we are unable to comply with our upcoming principal maturities under our indebtedness, or refinance or extend maturities of our indebtedness, our debt could be accelerated. Acceleration of our debt would have a material adverse effect on our business and financial condition.

We and our subsidiaries have sought and obtained waivers and amendments to several of our debt instruments relating to a number of financial ratios in the past. Our ability to comply with these ratios may be affected by current global economic conditions and volatility in foreign exchange rates and the financial and capital markets. We may need to seek waivers or amendments in the future. However, we cannot assure you that any future waivers or amendments, if requested, will be obtained. If we or our subsidiaries are unable to comply with the provisions of our debt instruments and are unable to obtain a waiver or amendment, the indebtedness outstanding under such debt instruments could be accelerated. Acceleration of these debt instruments would have a material adverse effect on our financial condition.

Relevant Transactions Related to Our Indebtedness in 2018

The following is a description of our most important transactions related to our indebtedness in 2018:

- On January 10, 2018, we redeemed the remaining January 2022 Euro Notes.
- On February 12, 2018, we drew down the U.S.\$377 million aggregate principal amount under the previously undrawn term loan tranche of the 2017 Credit Agreement.
- On March 15, 2018, we redeemed the remaining U.S.\$365 million aggregate principal amount of the 3.750% Convertible Subordinated Notes due 2018 issued by CEMEX, S.A.B. de C.V. in March 2011 (the “March 2018 Optional Convertible Subordinated U.S. Dollar Notes”).
- On March 15, 2018, we redeemed the remaining U.S.\$341 million aggregate principal amount of the 7.250% Senior Secured Notes due 2021 (the “January 2021 U.S. Dollar Notes”).
- During March 2018, we renewed the securitization programs outstanding in the United States, France and the United Kingdom.
- During June 2018, we renewed the securitization program outstanding in Mexico. As a result of such renewal, the program is now scheduled to mature in June 2019.
- In July 2018, we redeemed the remaining U.S.\$313 million aggregate principal amount of the October 2018 U.S. Dollar Notes (as defined below).
- During 2018, we conducted drawdowns and repayments under the revolving tranche of the 2017 Credit Agreement, resulting in a principal amount outstanding under the revolving tranche of the 2017 Credit Agreement of Ps6,092 million (U.S.\$310 million) as of December 31, 2018. In addition, as of December 31, 2018, we had an aggregate amount of Ps16,211 million (U.S.\$825 million) available under the revolving tranche of the 2017 Credit Agreement.

We used a substantial portion of the proceeds from these transactions to repay and refinance indebtedness, to improve our liquidity position and for general corporate purposes. Through these and prior refinancing transactions, we addressed all maturities under the 2009 Financing Agreement, the 2012 Facilities Agreement and the 2014 Credit Agreement. For a description of the 2017 Credit Agreement, see “—Our Indebtedness.”

Our Other Financial Obligations

Other financial obligations in the consolidated statement of financial position as of December 31, 2017 and 2018 are detailed as follows:

	December 31, 2017			December 31, 2018		
	Short-term	Long-term	Total	Short-term	Long-term	Total
March 2020 Optional Convertible Subordinated						
U.S. Dollar Notes	Ps —	9,985	9,985	—	10,097	10,097
March 2018 Optional Convertible Subordinated						
U.S. Dollar Notes	7,115	—	7,115	—	—	—
November 2019 Mandatory Convertible Mexican						
Peso Notes	323	371	694	374	—	374
Liabilities secured with accounts receivable	11,313	—	11,313	11,770	—	11,770
Finance leases	611	2,503	3,114	595	1,931	2,526
	<u>Ps19,362</u>	<u>12,859</u>	<u>32,221</u>	<u>12,739</u>	<u>12,028</u>	<u>24,767</u>

As mentioned in note 2.6 to our 2018 audited consolidated financial statements included elsewhere in this annual report, financial instruments convertible into CEMEX, S.A.B. de C.V.'s CPOs and/or ADSs contain components of both liability and equity, which are recognized differently depending on whether the instrument is mandatorily convertible or is optionally convertible by election of the note holders, as well as the currency in which the instrument is denominated and the functional currency of the issuer.

March 2020 Optional Convertible Subordinated U.S. Dollar Notes

During 2015, CEMEX, S.A.B. de C.V. issued U.S.\$521 million aggregate principal amount of its 3.72% Convertible Subordinated Notes due March 2020 (“March 2020 Optional Convertible Subordinated U.S. Dollar Notes”) as a result of exchanges or settlements of other convertible notes. The March 2020 Optional Convertible Subordinated U.S. Dollar Notes, which are subordinated to all of CEMEX’s liabilities and commitments, are convertible into a fixed number of CEMEX, S.A.B. de C.V.’s ADSs at any time at the holder’s election and are subject to anti-dilution adjustments. The aggregate fair value of the conversion option as of the issuance dates, which amounted to Ps199 million, was recognized in other equity reserves. As of December 31, 2017 and 2018, the conversion price per ADS for the March 2020 Optional Convertible Subordinated U.S. Dollar Notes was approximately U.S.\$11.01 in both years. After anti-dilution adjustments, the conversion rate for the March 2020 Optional Convertible Subordinated U.S. Dollar Notes as of December 31, 2017 and 2018 was 90.8592 ADSs per each U.S.\$1,000 principal amount of such notes in both years. See note 16.2 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

March 2018 Optional Convertible Subordinated U.S. Dollar Notes

On March 15, 2011, CEMEX, S.A.B. de C.V. closed the offering of U.S.\$690 million aggregate principal amount of the March 2018 Optional Convertible Subordinated U.S. Dollar Notes. These notes were subordinated to all of CEMEX’s liabilities and commitments. The notes were convertible into a fixed number of CEMEX, S.A.B. de C.V.’s ADSs and subject to anti-dilution adjustments. On June 19, 2017, CEMEX, S.A.B. de C.V. agreed with certain institutional holders on the early conversion of U.S.\$325 million of the March 2018 Optional Convertible Subordinated U.S. Dollar Notes in exchange for the issuance of 43 million ADSs, which included the number of additional ADSs issued to holders as non-cash inducement premiums. As a result of the early conversion, the liability component of the converted notes of Ps5,468 million was reclassified from “Other financial obligations” to “Other equity reserves.” In addition, CEMEX, S.A.B. de C.V. increased common stock for Ps4 million and additional paid-in capital for Ps7,059 million against other equity reserves, and recognized expense for the inducement premiums paid in shares of Ps769 million, recognized within “Financial income and

other items, net” in the income statement for 2017. After the early conversion of notes described above, the U.S.\$365 million of the March 2018 Optional Convertible Subordinated U.S. Dollar Notes that remained outstanding were repaid in cash at their maturity on March 15, 2018. Concurrent with the offering of the March 2018 Optional Convertible Subordinated U.S. Dollar Notes, a portion of the net proceeds from this transaction was used to fund the purchase of capped call options, which, when purchased, were generally expected to reduce the potential dilution cost to CEMEX upon the potential conversion of such notes. See notes 16.2 and 16.4 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

November 2019 Mandatory Convertible Mexican Peso Notes

In December 2009, CEMEX, S.A.B. de C.V. exchanged certain debt into U.S.\$315 million principal amount of 10% mandatorily convertible securities denominated in Mexican Pesos with maturity in 2019 (the “November 2019 Mandatory Convertible Mexican Peso Notes”). Reflecting anti-dilution adjustments, the notes will be converted at maturity or earlier if the price of the CPO reaches Ps26.22 into approximately 236 million CPOs at a conversion price of Ps17.48 per CPO. Holders have an option to voluntarily convert their securities on any interest payment date into CPOs. Considering the currency in which the notes are denominated and the functional currency of CEMEX, S.A.B. de C.V.’s financing division, the conversion option embedded in these securities is treated as a stand-alone derivative liability at fair value in the income statements. Changes in fair value of the conversion option generated losses of U.S.\$29 million (Ps545 million) in 2016, gains of U.S.\$19 million (Ps359 million) in 2017 and gains of U.S.\$20 million (Ps391 million) in 2018. See notes 2.4, 16.2 and 16.4 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Our Receivables Financing Arrangements

Our subsidiaries in Mexico, the United States, France and the United Kingdom are parties to sales of trade accounts receivable programs with financial institutions, referred to as securitization programs. As of December 31, 2017 and 2018, trade accounts receivable included receivables of U.S.\$647 million (Ps12,713 million) and U.S.\$664 million (Ps13,048 million), respectively. Under these programs, our subsidiaries effectively surrender control associated with the trade accounts receivable sold and there is no guarantee or obligation to reacquire the assets. Nonetheless, in such programs, our subsidiaries retain certain residual interest in the programs and/or maintain continuing involvement with the accounts receivable. Therefore, the trade accounts receivable sold were not removed from the statement of financial position, and the funded amounts were recognized within the line item of “Other financial obligations” and the difference in each year against the trade receivables sold was maintained as reserves. Trade accounts receivable qualifying for sale exclude amounts over certain days past due or concentrations over certain limits to any customer, according to the terms of the programs. The portion of the accounts receivable sold maintained as reserves amounted to U.S.\$71 million (Ps1,400 million) and U.S.\$65 million (Ps1,278 million) as of December 31, 2017 and 2018, respectively. Therefore, the funded amount to us was U.S.\$576 million (Ps11,313 million) in 2017 and U.S.\$599 million (Ps11,770 million) as of December 31, 2018. The discount granted to the acquirers of the trade accounts receivable is recorded as financial expense and amounted to U.S.\$16 million (Ps308 million) and U.S.\$23 million (Ps446 million) in 2017 and 2018, respectively. As of December 31, 2018, our securitization programs were negotiated for periods of one year and are usually renewed at their maturity. See notes 9 and 16.2 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Finance Leases

As of December 31, 2017 and 2018, we held several operating buildings and mainly mobile equipment, under finance lease contracts for a total of U.S.\$158 million (Ps3,114 million) and U.S.\$129 million (Ps2,526 million), respectively. See note 16.2 to our 2018 audited consolidated financial statements included elsewhere in this annual report. Future payments associated with these contracts are presented in note 23.5 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Perpetual Debentures

We define the “Perpetual Debentures,” collectively, as the (i) U.S. Dollar-Denominated 6.196% Fixed-to-Floating Rate Callable Perpetual Debentures issued by C5 Capital (SPV) Limited, (ii) U.S. Dollar-Denominated 6.640% Fixed-to-Floating Rate Callable Perpetual Debentures issued by C8 Capital (SPV) Limited, (iii) U.S. Dollar-Denominated 6.722% Fixed-to-Floating Rate Callable Perpetual Debentures issued by C10 Capital (SPV) Limited and (iv) Euro-Denominated 6.277% Fixed-to-Floating Rate Callable Perpetual Debentures issued by C10-EUR Capital (SPV) Limited.

As of December 31, 2016, 2017 and 2018, non-controlling interest stockholders’ equity included U.S.\$438 million (Ps9,075 million), U.S.\$447 million (Ps8,784 million) and U.S.\$444 million (Ps8,729 million), respectively, representing the notional amount of Perpetual Debentures, which exclude any perpetual debentures held by subsidiaries. The Perpetual Debentures have no fixed maturity date and do not represent contractual obligations to exchange any series of its outstanding Perpetual Debentures for financial assets or financial liabilities. Based on their characteristics, the Perpetual Debentures, issued through SPVs, qualify as equity instruments and are classified within non-controlling interest as they were issued by consolidated entities, and, if the conditions to interest deferred are satisfied, we have the unilateral right to defer indefinitely the payment of interest due on the Perpetual Debentures. Issuance costs, as well as the interest expense, which is accrued based on the principal amount of the Perpetual Debentures, are included within “Other equity reserves” and represented expenses of Ps507 million, Ps482 million and Ps553 million in 2016, 2017 and 2018, respectively. The different SPVs were established solely for purposes of issuing the Perpetual Debentures and are included in our 2018 audited consolidated financial statements included elsewhere in this annual report. As of December 31, 2018, the Perpetual Debentures were as follows:

Issuer	Issuance Date	Nominal Amount at Issuance Date (in millions)	Nominal Amount Outstanding as of December 31, 2018 (in millions)	Repurchase Option	Interest Rate
C10-EUR Capital (SPV) Ltd. ⁽³⁾	May 2007	€ 730	€ 64	Tenth anniversary	EURIBOR + 4.79%
C8 Capital (SPV) Ltd. ⁽²⁾	February 2007	U.S.\$750	U.S.\$135	Eighth anniversary	LIBOR + 4.40%
C5 Capital (SPV) Ltd. ⁽¹⁾⁽²⁾	December 2006	U.S.\$350	U.S.\$ 61	Fifth anniversary	LIBOR + 4.277%
C10 Capital (SPV) Ltd. ⁽²⁾	December 2006	U.S.\$900	U.S.\$175	Tenth anniversary	LIBOR + 4.71%

- (1) Under the 2017 Credit Agreement, and previously under the 2014 Credit Agreement, we are not permitted to call the Perpetual Debentures.
- (2) “LIBOR” above refers to the London Inter-Bank Offered Rate. As of December 31, 2017 and 2018, 3-month LIBOR was approximately 1.6943% and 2.8076%, respectively.
- (3) “EURIBOR” above refers to the Euro Interbank Offered Rate. As of December 31, 2017 and 2018, 3-month EURIBOR was approximately –0.329% and –0.309%, respectively.

Stock Repurchase Program

Under Mexican law, CEMEX, S.A.B. de C.V.’s shareholders are the only ones authorized to approve the maximum amount of resources that can be allocated to the stock repurchase program at any annual general ordinary shareholders’ meeting. Unless otherwise instructed by CEMEX, S.A.B. de C.V.’s shareholders, we are not required to purchase any minimum number of shares pursuant to such program.

In connection with CEMEX, S.A.B. de C.V.’s 2015 and 2016 annual general ordinary shareholders’ meetings held on March 31, 2016 and March 30, 2017, respectively, no maximum amount of resources was proposed for a stock repurchase program. In connection with CEMEX, S.A.B. de C.V.’s 2017 annual general ordinary shareholders’ meeting held on April 5, 2018, a proposal was approved to set the amount of U.S.\$500 million or its equivalent in Mexican Pesos as the maximum amount of resources for the year ending on

December 31, 2018, and until the next ordinary shareholders' meeting held in 2019, which reviewed the 2018 financial year, that CEMEX, S.A.B. de C.V. can use to repurchase its own shares or securities that represent such shares. The board of directors of CEMEX, S.A.B. de C.V. approved the policy and procedures for the operation of the stock repurchase program, and is authorized to determine the basis on which the repurchase and placement of such shares is made, appoint the persons who will be authorized to make the decision of repurchasing or replacing such shares and appoint the persons responsible to make the transaction and furnish the corresponding notices to authorities. The board of directors of CEMEX, S.A.B. de C.V. and/or attorneys-in-fact or delegates designated in turn, or the persons responsible for such transactions, will determine, in each case, if the repurchase is made with a charge to stockholders' equity as long as the shares belong to CEMEX, S.A.B. de C.V. or with a charge to share capital if it is resolved to convert the shares into non-subscribed shares to be held in treasury. See "Item 5—Recent Developments—Recent Developments Relating to Our Shareholders Meeting." We remain subject to certain restrictions regarding the repurchase of shares of our capital stock under the 2017 Credit Agreement and the indentures governing the outstanding Senior Secured Notes.

On November 27, 2018, CEMEX, S.A.B. de C.V. initiated its stock repurchase program as per the resolutions approved at CEMEX, S.A.B. de C.V.'s 2017 annual general ordinary shareholders' meeting held on April 5, 2018. As of December 31, 2018, a total of 153,603,753 CPOs were repurchased at an average price of approximately Ps9.90 per CPO, for a total amount of Ps1,520 million (U.S.\$75 million).

The following table sets out information concerning repurchases by CEMEX, S.A.B. de C.V. of its CPOs in 2018. We did not repurchase CPOs other than through the stock repurchase program.

Period	Total Number of CPOs Purchased	Average Price per CPO	Total Number of CPOs Purchases as Part of Publicly Announced Plans or Programs	Approximate Peso Value of CPOs that May Yet Be Purchased Under Plans
January 1 to January 31	—	—	—	—
February 1 to February 28	—	—	—	—
March 1 to March 31	—	—	—	—
April 1 to April 30	—	—	—	9,309,800,000.00
May 1 to May 31	—	—	—	9,309,800,000.00
June 1 to June 30	—	—	—	9,309,800,000.00
July 1 to July 31	—	—	—	9,309,800,000.00
August 1 to August 31	—	—	—	9,309,800,000.00
September 1 to September 30	—	—	—	9,309,800,000.00
October 1 to October 31	—	—	—	9,309,800,000.00
November 1 to November 30	37,743,252	9.9481	37,743,252	8,934,326,030.80
December 1 to December 31	<u>115,860,501</u>	9.8780	<u>115,860,501</u>	7,789,859,079.81
Total	<u>153,603,753</u>		<u>153,603,753</u>	

Research and Development, Patents and Licenses, etc.

Headed by CEMEX Research and Development Centers in Switzerland ("CEMEX Research Center"), R&D is increasingly assuming a key role as it is recognized as an important contributor to CEMEX's comprehensive pricing strategy for CEMEX's products. Through the development of innovative technologies, services, and commercial models, CEMEX is leveraging its know-how based assets to create an important differentiation in its offerings to customers in a broad range of markets with unique challenges. Focus is placed on creating tangible value for our customers by making their business more profitable, but more importantly, as leaders in the industry, there is an underlying mission for CEMEX to elevate and accelerate the industry's evolution in order to achieve greater sustainability, increase engagement in social responsibility and provoke an important leap in its technological advancement.

CEMEX's R&D initiatives are globally led, coordinated and managed by CEMEX Research Center, which encompasses the areas of Product Development & Construction Trends, Cement Production Technology, Sustainability, Business Process & IT, Innovation, and Commercial & Logistics. CEMEX's interaction and engagement with customers is growing and evolving through the exploration of novel interaction methodologies. CEMEX's R&D continues to develop and evolve in the area of customer centricity, but with complementary emphases on digitalization, development of digital-based business models, socio-urban dynamics, processes and technologies to mitigate CO₂, and evaluating, adopting and proposing methodologies to engage specific types of customers who are the key decision makers in the very early stages of a construction project. Such methodologies are defining innovative approaches to involve and expose existing, potential, and future customers (e.g. Engineering & Architectural students) to our value added products (cement, aggregates, ready-mix concrete, and admixtures) and constructions solutions. In other words, we aspire to create a unique customer experience in which the customer can see, touch, interact and even stimulate the modification of our technologies. The areas of Product Development & Construction Trends and Cement Production Technology are responsible for, among others, developing new products for our cement, ready-mix concrete, aggregate and admixture businesses as well as introduce novel and/or improved processing and manufacturing technology for all of CEMEX's core businesses. These areas also address energy efficiency of buildings, comfort, novel and more efficient construction systems. Additionally, the Product Development & Construction Trends and Sustainability areas collaborate to develop and propose construction solutions through consulting and the integration of the aforementioned technologies. The Cement Production Technology and Sustainability areas are dedicated to, among others, operational efficiencies leading to cost reductions and enhancing our CO₂ footprint and overall environmental impact through the usage of alternative or biomass fuels, the use of supplementary materials in substitution of clinker, as well as by managing our CO₂ footprint, mitigating it and processing it in the context of a circular economy. For example, we have developed processes and products that allow us to reduce heat consumption in our kilns, which in turn reduces energy costs. Special emphasis is placed on defining parameters by which we communicate our efforts to preserve resources for the future, reduce our CO₂ footprint and become more resilient with respect to our energy-related needs and potential supply-constraints. With respect to energy, the R&D team is focusing on energy storage, which represents the largest and most near-term opportunity to accelerate renewable energy deployments and bring us closer to replacing fossil fuels as the primary resource to meet the world's continual growth in energy demand. Global products/brands have been conceptualized and engineered to positively impact the jobsite safety, promote efficient construction practices, sensibly preserve natural resources vital to life, lower carbon foot-print and improve the quality of life in rapidly transforming cities. Underlying CEMEX's R&D philosophy is a growing culture of global collaboration and coordination, where the Innovation Team identifies and promotes novel collaboration practices and mobilizes its adoption within CEMEX. Getting closer and understanding our customers is a fundamental transformation within CEMEX, and consequently the Commercial & Logistics area is carrying out research initiatives to better attend the needs of customers as well as identify key changes in our supply chain management that should enable us to bring products, solutions and services to our customers in the most cost-effective and efficient manner, using what we believe to be the best available technologies to design a new standard in digital commercial models.

There are nine laboratories supporting CEMEX's R&D efforts under a collaborative network. The laboratories are strategically located in close proximity to our plants and assist the operating subsidiaries with troubleshooting, optimization techniques and quality assurance methods. The laboratory located in Switzerland is continually improving and consolidating our research and development efforts in the areas of cement, concrete, aggregates, admixtures, mortar and asphalt technology, sustainability and energy management. In addition, CEMEX Research Center actively generates and registers patents and pending applications in many of the countries in which CEMEX operates. Patents and trade secrets are managed strategically in order for us to achieve important technology lock-ins associated with CEMEX technology.

Our Information Technology divisions develop information management systems and software relating to cement and ready-mix concrete operational practices, automation and maintenance. These systems have helped us to better serve our clients with respect to purchasing, delivery and payment. More importantly, thanks to the activities of the Business Process and IT departments, CEMEX is continuously improving and innovating its

business processes to adapt them to the dynamically evolving markets to better serve CEMEX's needs. The launch of CEMEX Go and its deployment throughout our operations is a testament to our commitment to evolve our digital commercial model to better serve the market and our customers.

R&D activities comprise part of the daily routine of the departments and divisions mentioned above. Therefore, the costs associated with such activities are expensed as incurred. However, the costs incurred in the development of software for internal use are capitalized and amortized in operating results over the estimated useful life of the software, which is approximately five years.

Trend Information

Other than as disclosed elsewhere in this annual report, we are not aware of any trends, uncertainties, demands, commitments or events for the year ended December 31, 2018 that are reasonably likely to have a material and adverse effect on our revenues, income, profitability, liquidity or capital resources, or that would cause the disclosed financial information to be not necessarily indicative of future results of operations or financial conditions.

Summary of Material Contractual Obligations and Commercial Commitments

The 2017 Credit Agreement

On July 19, 2017, CEMEX, S.A.B. de C.V. and certain of its subsidiaries entered into the 2017 Credit Agreement for an amount in different currencies equivalent to U.S.\$4.1 billion (in the aggregate), the proceeds of which were used to refinance indebtedness incurred under a then-existing credit agreement and other debt repayment obligations. In March 2019, CEMEX, S.A.B. de C.V. obtained the requisite consents from lenders under the 2017 Credit Agreement to make the 2019 Credit Agreement Amendments. The 2019 Credit Agreement Amendments became effective when certain customary conditions precedent were fulfilled, and the parties entered into an amendment and restatement agreement to the 2017 Credit Agreement, on April 2, 2019. See "Recent Developments—Recent Developments Relating to Our Indebtedness—2019 Credit Agreement Amendments" for a discussion of the 2019 Credit Agreement Amendments.

As of December 31, 2018, we reported an aggregate principal amount of outstanding debt of Ps63,040 million (U.S.\$3,208 million) under the 2017 Credit Agreement. The 2017 Credit Agreement is secured by a first-priority security interest over the Collateral and all proceeds of such Collateral. As of July 19, 2017, commitments initially available under the 2017 Credit Agreement included (i) €741 million, (ii) £344 million and (iii) U.S.\$2,746 million, out of which U.S.\$1,135 million were in the revolving credit facility tranche of the 2017 Credit Agreement. As of December 31, 2018, the 2017 Credit Agreement had an amortization profile, considering all commitments of U.S.\$4.0 billion under the 2017 Credit Agreement, of U.S.\$580 million in 2020, U.S.\$1,159 million in 2021 and U.S.\$2,294 million in 2022.

Our failure to comply with restrictions and covenants under the 2017 Credit Agreement could have a material adverse effect on our business and financial conditions.

For a discussion of restrictions and covenants under the 2017 Credit Agreement, see "Item 3—Key Information—Risk Factors—Risks Relating to Our Business—The 2017 Credit Agreement contains several restrictions and covenants. Our failure to comply with such restrictions and covenants could have a material adverse effect on our business and financial conditions."

Senior Secured Notes

We refer to the March 2023 Euro Notes, April 2024 U.S. Dollar Notes, June 2024 Euro Notes, January 2025 U.S. Dollar Notes, May 2025 U.S. Dollar Notes, April 2026 U.S. Dollar Notes, December 2024 Euro Notes and March 2026 Euro Notes (each as defined below) collectively as the "Senior Secured Notes."

The indentures governing our outstanding Senior Secured Notes impose significant operating and financial restrictions on us. These restrictions will limit our ability, among other things, to: (i) create liens; (ii) incur in additional debt; (iii) change CEMEX's business or the business of any obligor or material subsidiary (in each case, as defined in the 2017 Credit Agreement); (iv) enter into mergers; (v) enter into agreements that restrict our subsidiaries' ability to pay dividends or repay intercompany debt; (vi) acquire assets; (vii) enter into or invest in joint venture agreements; (viii) dispose certain assets; (ix) grant additional guarantees or indemnities; (x) declare or pay cash dividends or make share redemptions; (xi) enter into certain derivatives transactions; and (xii) exercise any call option in relation to any perpetual bonds issues unless the exercise of the call options does not have a materially negative impact on our cash flow.

January 2021 U.S. Dollar Notes and October 2018 U.S. Dollar Notes. On October 2, 2013, CEMEX, S.A.B. de C.V. issued the January 2021 U.S. Dollar Notes and the Floating Rate Senior Secured Notes due 2018 (the "October 2018 U.S. Dollar Notes") in transactions exempt from registration pursuant to Rule 144A and Regulation S under the Securities Act. CEMEX México, CEMEX España, New Sunward, CEMEX Asia B.V. ("CEMEX Asia"), CEMEX Concretos, S.A. de C.V. ("CEMEX Concretos") CEMEX Corp., CEMEX Finance LLC ("CEMEX Finance"), Cemex Africa & Middle East Investments B.V. ("Cemex Africa & Middle East Investments"), CEMEX France, CEMEX Research Group AG ("CEMEX Research Group"), CEMEX UK and Empresas Tolteca de México, S.A. de C.V. ("Empresas Tolteca") have fully and unconditionally guaranteed the performance of all obligations of CEMEX, S.A.B. de C.V. under the January 2021 U.S. Dollar Notes and October 2018 U.S. Dollar Notes. The payment of principal, interest and premium, if any, on such notes is secured by a first-priority security interest over the Collateral and all proceeds of the Collateral. On May 12, 2016, CEMEX, S.A.B. de C.V. completed the purchase of U.S.\$178.5 million aggregate principal amount of the October 2018 U.S. Dollar Notes through a cash tender offer (the "May 2016 Tender Offer"). All such October 2018 U.S. Dollar Notes purchased in the May 2016 Tender Offer were immediately canceled. Following the settlement of the May 2016 Tender Offer, U.S.\$319.5 million aggregate principal amount of the October 2018 U.S. Dollar Notes remained outstanding. In addition, we repurchased U.S.\$6.1 million principal amount of the October 2018 U.S. Dollar Notes in open market purchases in 2016, all of which have been canceled. The remaining U.S.\$313 million aggregate principal amount of the October 2018 U.S. Dollar Notes were redeemed in July 2018. CEMEX, S.A.B. de C.V. completed the purchase of U.S.\$241.9 million and U.S.\$385.1 million aggregate principal amount of the January 2021 U.S. Dollar Notes through cash tender offers. All such January 2021 U.S. Dollar Notes purchased in the tender offers were immediately canceled.

Following the settlement of both tender offers, U.S.\$341.7 million aggregate principal amount of the January 2021 U.S. Dollar Notes remained outstanding. In addition, we repurchased U.S.\$31.4 million principal amount of the January 2021 U.S. Dollar Notes in open market purchases in 2016, all of which have been canceled. In addition, we repurchased U.S.\$8.5 million principal amount of the January 2021 U.S. Dollar Notes and the December 2019 U.S. Dollar Notes in an open market purchase in 2017, all of which have been cancelled. On March 15, 2018, we redeemed all of the outstanding January 2021 U.S. Dollar Notes.

April 2024 U.S. Dollar Notes. On April 1, 2014, CEMEX Finance issued U.S.\$1.0 billion aggregate principal amount of its 6.000% U.S. Dollar-Denominated Senior Secured Notes due 2024 (the "April 2024 U.S. Dollar Notes"), in transactions exempt from registration pursuant to Rule 144A and Regulation S under the Securities Act. CEMEX, S.A.B. de C.V., CEMEX México, CEMEX España, New Sunward, CEMEX Asia, CEMEX Concretos, CEMEX Corp., Cemex Africa & Middle East Investments, CEMEX France, CEMEX Research Group, CEMEX UK and Empresas Tolteca have fully and unconditionally guaranteed the performance of all obligations of CEMEX Finance under the April 2024 U.S. Dollar Notes. The payment of principal, interest and premium, if any, on such notes is secured by a first-priority security interest over the Collateral and all proceeds of the Collateral.

January 2025 U.S. Dollar Notes and January 2022 Euro Notes. On September 11, 2014, CEMEX, S.A.B. de C.V. issued U.S.\$1.1 billion aggregate principal amount of its 5.700% Senior Secured Notes due 2025 (the "January 2025 U.S. Dollar Notes") and €400 million aggregate principal amount of its 4.750% Senior Secured

Notes due 2022 (the “January 2022 Euro Notes”) in transactions exempt from registration pursuant to Rule 144A and Regulation S under the Securities Act. CEMEX México, CEMEX Concretos, Empresas Tolteca, New Sunward, CEMEX España, CEMEX Asia, CEMEX Corp., CEMEX Finance, Cemex Africa & Middle East Investments, CEMEX France, CEMEX Research Group and CEMEX UK have fully and unconditionally guaranteed the performance of all obligations of CEMEX, S.A.B. de C.V. under the January 2025 U.S. Dollar Notes and January 2022 Euro Notes. The payment of principal, interest and premium, if any, on such notes is secured by a first-priority security interest over the Collateral and all proceeds of the Collateral. On January 10, 2018, we redeemed all of the outstanding January 2022 Euro Notes.

May 2025 U.S. Dollar Notes and March 2023 Euro Notes. In March 2015, CEMEX, S.A.B. de C.V. issued U.S.\$750 million aggregate principal amount of its 6.125% Senior Secured Notes due 2025 (the “May 2025 U.S. Dollar Notes”) and €550 million aggregate amount of its 4.375% Senior Secured Notes due 2023 (the “March 2023 Euro Notes”) in transactions exempt from registration pursuant to Rule 144A and Regulation S under the Securities Act. CEMEX México, CEMEX Concretos, Empresas Tolteca, New Sunward, CEMEX España, CEMEX Asia, CEMEX Corp., CEMEX Finance, Cemex Africa & Middle East Investments, CEMEX France, CEMEX Research Group and CEMEX UK, have fully and unconditionally guaranteed the performance of all obligations of CEMEX, S.A.B. de C.V. under the May 2025 U.S. Dollar Notes and March 2023 Euro Notes. The payment of principal, interest and premium, if any, on such notes is secured by a first-priority security interest over the Collateral and all proceeds of the Collateral.

April 2026 U.S. Dollar Notes. On March 16, 2016, CEMEX, S.A.B. de C.V. issued U.S.\$1.0 billion aggregate principal amount of its 7.75% Senior Secured Notes due 2026 (the “April 2026 U.S. Dollar Notes”) in transactions exempt from registration pursuant to Rule 144A and Regulation S under the Securities Act. CEMEX México, CEMEX España, New Sunward, CEMEX Asia, CEMEX Concretos, CEMEX Corp., CEMEX Finance, Cemex Africa & Middle East Investments, CEMEX France, CEMEX Research Group and CEMEX UK and Empresas Tolteca have fully and unconditionally guaranteed the performance of all obligations of CEMEX, S.A.B. de C.V. under the April 2026 U.S. Dollar Notes. The payment of principal, interest and premium, if any, on such notes is secured by a first-priority security interest over the Collateral and all proceeds of the Collateral.

June 2024 Euro Notes. On June 14, 2016, CEMEX Finance issued €400 million of 4.625% Senior Secured Notes due 2024 denominated in Euros (the “June 2024 Euro Notes”) in transactions exempt from registration pursuant to Rule 144A and Regulation S under the Securities Act. CEMEX, S.A.B. de C.V., CEMEX México, CEMEX Concretos, Empresas Tolteca, New Sunward, CEMEX España, CEMEX Asia, CEMEX Corp., Cemex Africa & Middle East Investments, CEMEX France, CEMEX Research Group and CEMEX UK have fully and unconditionally guaranteed the performance of all obligations of CEMEX Finance under the June 2024 Euro Notes. The payment of principal, interest and premium, if any, on such notes is secured by a first-priority security interest over the Collateral and all proceeds of the Collateral.

December 2024 Euro Notes. On December 5, 2017, CEMEX, S.A.B. de C.V. issued €650 million of its 2.750% Euro-Denominated Senior Secured Notes due 2024 (the “December 2024 Euro Notes”) in transactions exempt from registration pursuant to Rule 144A and Regulation S under the Securities Act. CEMEX México, CEMEX España, New Sunward, CEMEX Asia, CEMEX Concretos, CEMEX Corp., CEMEX Finance, Cemex Africa & Middle East Investments, CEMEX France, CEMEX Research Group, CEMEX UK and Empresas Tolteca have fully and unconditionally guaranteed the performance of all obligations of CEMEX, S.A.B. de C.V. under the December 2024 Euro Notes. The payment of principal, interest and premium, if any, on such notes is secured by a first-priority security interest over the Collateral and all proceeds of the Collateral.

March 2026 Euro Notes. On March 19, 2019, CEMEX, S.A.B. de C.V. issued €400 million of its 3.125% Euro-Denominated Senior Secured Notes due 2026 (the “March 2026 Euro Notes”) in transactions exempt from registration pursuant to Rule 144A and Regulation S under the Securities Act. CEMEX México, CEMEX España, New Sunward, CEMEX Asia, CEMEX Concretos, CEMEX Corp., CEMEX Finance, Cemex Africa & Middle East Investments, CEMEX France, CEMEX Research Group, CEMEX UK and Empresas Tolteca have

fully and unconditionally guaranteed the performance of all obligations of CEMEX, S.A.B. de C.V. under the March 2026 Euro Notes. The payment of principal, interest and premium, if any, on such notes is secured by a first-priority security interest over the Collateral and all proceeds of the Collateral.

Convertible Notes

March 2020 Optional Convertible Subordinated U.S. Dollar Notes. During 2015, CEMEX, S.A.B. de C.V. issued U.S.\$521 million aggregate principal amount of its March 2020 Optional Convertible Subordinated U.S. Dollar Notes. The March 2020 Optional Convertible Subordinated U.S. Dollar Notes issued were: (i) U.S.\$200 million as a result of the exercise on March 13, 2015 of U.S.\$200 million notional amount of Contingent Convertible Units and (ii) U.S.\$321 million as a result of private exchanges with certain institutional investors on May 28, 2015, which, together with early conversions, resulted in a total of U.S.\$626 million aggregate principal amount of the March 2016 Optional Convertible Subordinated U.S. Dollar Notes held by such investors being paid and the issuance and delivery by CEMEX of an estimated 42 million ADSs, which included a number of additional ADSs issued to the holders as non-cash inducement premiums. The March 2020 Optional Convertible Subordinated U.S. Dollar Notes, which are subordinated to all of CEMEX's liabilities and commitments, are convertible into a fixed number of CEMEX, S.A.B. de C.V.'s ADSs at any time at the holder's election and are subject to anti-dilution adjustments. The difference at the exchange date between the fair value of the March 2016 Optional Convertible Subordinated U.S. Dollar Notes and the 42 million ADSs against the fair value of the March 2020 Optional Convertible Subordinated U.S. Dollar Notes, represented a loss of Ps365 million recognized in 2015 as part of "Financial income and other items, net." The aggregate fair value of the conversion option as of the issuance dates which amounted to Ps199 million was recognized in other equity reserves. As of December 31, 2017 and 2018, the conversion price per ADS for the March 2020 Optional Convertible Subordinated U.S. Dollar Notes was U.S.\$11.01 in both years. After anti-dilution adjustments, the conversion rate for the March 2020 Optional Convertible Subordinated U.S. Dollar Notes as of December 31, 2017 and 2018 was 90.8592 ADS per each U.S.\$1,000 principal amount of such notes in both years. See note 16.2 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

November 2019 Mandatory Convertible Mexican Peso Notes. In December 2009, CEMEX, S.A.B. de C.V. completed an exchange offer of debt into mandatorily convertible securities in Pesos for U.S.\$315 million principal amount of the November 2019 Mandatory Convertible Mexican Peso Notes. Reflecting antidilution adjustments, the notes will be converted at maturity or earlier if the price of the CPO reaches Ps26.22 into 236 million CPOs at a conversion price of Ps17.48 per CPO. The conversion rate under the November 2019 Mandatory Convertible Mexican Peso Notes is 509.1077 CPOs per each convertible obligation. During their tenure, holders have an option to voluntarily convert their securities on any interest payment date into CPOs. Considering the currency in which the notes are denominated and the functional currency of CEMEX, S.A.B. de C.V.'s financing division, the conversion option embedded in these securities is treated as a stand-alone derivative liability at fair value in the income statements. Changes in fair value generated a gain of U.S.\$20 million (Ps391 million) in 2018, a gain of U.S.\$19 million (Ps359 million) in 2017 and a loss of U.S.\$29 million (Ps545 million) in 2016. See note 16.2 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

March 2018 Optional Convertible Subordinated U.S. Dollar Notes. On March 15, 2011, CEMEX, S.A.B. de C.V. closed the offering of U.S.\$690 million aggregate principal amount of the March 2018 Optional Convertible Subordinated U.S. Dollar Notes. The notes are subordinated to all of CEMEX's liabilities and commitments. The notes are convertible into a fixed number of CEMEX, S.A.B. de C.V.'s ADSs, at the holder's election, and are subject to anti-dilution adjustments. On June 19, 2017, the CEMEX, S.A.B. de C.V. agreed to, with certain institutional holders, the early conversion of U.S.\$325 million in aggregate principal amount of the March 2018 Optional Convertible Subordinated U.S. Dollar Notes in exchange for 43 million ADSs, which included the number of additional ADSs issued to the holders as non-cash inducement premiums. As a result of the early conversion agreements, the liability components of the converted notes in the amount of Ps5,468 million was reclassified from other financial obligations to other equity reserves. In addition, considering the issuance of

shares, CEMEX, S.A.B. de C.V. increased common stock of Ps4 million and additional paid-in capital of Ps7,059 million against other equity reserves, and recognized expense for the inducement premiums paid in shares of Ps769 million, recognized within “Financial income and other items, net” in the 2017 income statement. After the early conversion of notes described above, the U.S.\$365 million of the March 2018 Optional Convertible Subordinated U.S. Dollar Notes that remained outstanding were repaid in cash at their maturity on March 15, 2018. Concurrent with the offering of the March 2018 Optional Convertible Subordinated U.S. Dollar Notes, a portion of the net proceeds from this transaction was used to fund the purchase of capped call options, which, when purchased, were generally expected to reduce the potential dilution cost to CEMEX upon the potential conversion of such notes See note 16.2 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Commercial Commitments

On July 27, 2012, we entered into a Master Professional Services Agreement with IBM. This agreement provides the framework for the services IBM provides to us on a global scale, including: information technology, application development and maintenance, finance and accounting outsourcing, human resources administration and contact center services. The term of the agreement began on July 27, 2012 and will end on August 31, 2022, unless terminated earlier. Our minimum required payments to IBM under the agreement is approximately U.S.\$50 million per year. We have the right to negotiate a reduction of service fees every two years if, as a result of a third party’s benchmarking assessment, it is determined that IBM’s fees are greater than those charged by other providers for services of similar nature. We may terminate the agreement (or a portion of it) at our discretion and without cause at any time by providing at least six-months’ notice to IBM and paying termination charges consisting of IBM’s unrecovered investment and breakage and wind-down costs. In addition, we may terminate the agreement (or a portion of it) for cause without paying termination charges. Other termination rights may be available to us for a termination charge that varies depending on the reason for termination. IBM may terminate the agreement if we (i) fail to make payments when due or (ii) become bankrupt and do not pay in advance for the services.

On April 28, 2017, we completed the sale of the assets and activities related to the ready-mix concrete pumping business in Mexico to Cementos Españoles de Bombeo, S. de R.L., a Mexican subsidiary of Pumping Team specializing in the supply of ready-mix concrete pumping services, for an aggregate price of Ps1,649 million, which included the sale of fixed assets for Ps309 million, plus administrative and client and market development services, as well as the lease of facilities in Mexico that we will supply to Pumping Team over a period of ten years with the possibility to extend for three additional years, for an aggregate initial amount of Ps1,340 million. The proceeds are recognized each period as services are rendered. There is a possibility of contingent revenue, subject to results, of up to Ps557 million linked to annual metrics beginning in the first year and through the fifth year of the agreement. For the first year of operation under the agreements, from May 2017 to April 2018, we received Ps25 million of such contingent revenue.

As of December 31, 2018, we did not depend on any single one of our suppliers of goods or services to conduct our business.

Contractual Obligations

As of December 31, 2017 and 2018, we had material contractual obligations as set forth in the table below.

Obligations	As of December 31, 2017		As of December 31, 2018				Total
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years		
			(in millions)				
Long-term debt	U.S.\$ 9,892	7	1,788	2,347	5,197	9,339	
Finance lease obligations ⁽¹⁾	175	36	87	19	1	143	
Convertible notes ⁽²⁾	906	19	514	—	—	533	
Total debt and other financial obligations ⁽³⁾	10,973	62	2,389	2,366	5,198	10,015	
Interest payments on debt ⁽⁴⁾	3,073	508	960	777	535	2,780	
Pension plans and other benefits ⁽⁵⁾	1,587	148	270	270	664	1,352	
Acquisition of property, plant and equipment ⁽⁶⁾	—	87	43	—	—	130	
Purchases of raw material, fuel and energy ⁽⁷⁾	4,326	702	955	1,230	2,270	5,157	
Total contractual obligations	U.S.\$ 19,959	1,507	4,617	4,643	8,667	19,434	
Total contractual obligations (Mexican Pesos) ⁽⁸⁾	Ps 392,194	29,613	90,724	91,235	170,307	381,878	

- (1) Represents nominal cash flows. As of December 31, 2018, the net present value of future payments under such leases was U.S.\$122 million (Ps2,396 million), of which, U.S.\$74 million (Ps1,450 million) refers to payments from 1 to 3 years and U.S.\$14 million (Ps276 million) refers to payments from 3 to 5 years. Beginning January 1, 2019, IFRS 16 eliminates the classifications of finance and operating leases. This elimination has no effect on the reported amounts of cash flows considering the contracts outstanding as of December 31, 2018. See note 2.20 to our 2018 audited consolidated financial statements included elsewhere in this annual report.
- (2) Refers to the components of liability of the convertible notes described in note 16.2 and 16.4 to our 2018 audited consolidated financial statements included elsewhere in this annual report and assumes repayment at maturity and no conversion of such convertible notes.
- (3) The schedule of debt payments, which includes current maturities, does not consider the effect of any refinancing of debt that may occur during the following years. In the past, CEMEX has replaced its long-term obligations for others of a similar nature.
- (4) Estimated cash flows on floating rate denominated debt were determined using the floating interest rates in effect as of December 31, 2017 and 2018.
- (5) Represents estimated annual payments under these benefits for the next 10 years (see note 18 to our 2018 audited consolidated financial statements included elsewhere in this annual report), including the estimate of new retirees during such future years.
- (6) Refers mainly to the expansion of a cement-production line in the Philippines.
- (7) Future payments for the purchase of raw materials are presented on the basis of contractual nominal cash flows. Future nominal payments for energy were estimated for all contractual commitments on the basis of an aggregate average expected consumption per year using the future prices of energy established in the contracts for each period. Future payments also include CEMEX's commitments for the purchase of fuel.
- (8) Additionally to the contractual obligations mentioned in the table above, as of December 31, 2018, there is a contractual obligation for an amount of U.S.\$1,207 million regarding operating leases, for which maturities are U.S.\$186 million in less than 1 year, U.S.\$351 million after 1 through 3 years, U.S.\$231 million after 3 through 5 years and U.S.\$439 million after more than 5 years. The amounts represent nominal cash flows. CEMEX has operating leases, primarily for operating facilities, cement storage and distribution facilities and certain transportation and other equipment, under which annual rental payments are required plus the payment of certain operating expenses. Rental expense was U.S.\$121 million (Ps2,507 million) in 2016,

U.S.\$115 million (Ps2,252 million) in 2017 and U.S.\$185 million (Ps3,493 million) in 2018. Beginning January 1, 2019, IFRS 16 eliminates the classifications of finance and operating leases. This elimination has no effect on the reported amounts of cash flows considering the contracts outstanding as of December 31, 2018.

As of December 31, 2016, 2017 and 2018, in connection with the commitments for the purchase of fuel and energy included in the table above, a description of the most significant contracts is as follows:

In connection with the beginning of full commercial operations of Ventikas, located in the Mexican state of Nuevo Leon with a combined generation capacity of 252 MW, we agreed to acquire a portion of the energy generated by Ventikas for our overall electricity needs in Mexico for a period of 20 years, which began in April 2016. As of December 31, 2018, the estimated annual cost of this agreement was U.S.\$24.7 million, assuming energy generation at full capacity (energy supply from wind sources is variable in nature and final amounts can be determined only based on energy ultimately received at the agreed prices per unit).

In September 2006, in order to take advantage of the high wind potential in the “Tehuantepec Isthmus,” we and ACCIONA formed an alliance to develop a wind farm project for the generation of 250 MW in the Mexican state of Oaxaca. We acted as promoter of the project, which was named EURUS. ACCIONA provided the required financing, constructed the facility and currently owns and operates the wind farm. The operation of the 167 wind turbines on the farm commenced on November 15, 2009. The agreements between us and ACCIONA established that our plants in Mexico will acquire a portion of the energy generated by the wind farm for a period of at least 20 years, which began in February 2010, when EURUS reached the committed limit capacity. For the years ended December 31, 2015, 2016, 2017 and 2018, EURUS supplied approximately 28.0%, 22.9%, 20.6% and 21.0%, respectively, of our overall electricity needs in Mexico during such years.

In 1999, we entered into agreements with an international partnership which financed, built and operated TEG, an electrical energy generating plant in Mexico. In 2007, the original operator was replaced. Pursuant to those agreements, we would purchase the energy generated from TEG for a term of not less than 20 years, which started in April 2004 and was further extended until 2027 with the change of operator. In addition, we committed to supply TEG and another third-party electrical energy generating plant adjacent to TEG all fuel necessary for their operations, a commitment that has been hedged through two 20-year agreements entered with PEMEX, one of which ends in 2022 and the other which ends in 2023. Consequently, CEMEX intends to purchase the required fuel for TEG and the other third-party electrical energy generating plant in the market once the terms of the two agreements with PEMEX that we use to hedge our fuel supply commitments with TEG and the other third-party electrical energy generating plant end. For the years ended December 31, 2016, 2017 and 2018, TEG supplied approximately 66.3%, 68.4% and 64.9%, respectively, of our overall electricity needs during such years for our cement plants in Mexico.

In connection with the above, we entered into two additional 20-year pet coke supply agreements, for a total of four 20-year pet coke supply agreements, with PEMEX, two of which were signed in 1998, one of which was signed in 1999 and one of which was signed in 2002, which provide that PEMEX’s refineries in Cadereyta and Madero City would supply us with a combined volume of approximately 1.75 million tons of pet coke per year. As per the pet coke contracts with PEMEX, 1.2 million tons of the contracted volume will be allocated to TEG and the other energy generating plant adjacent to TEG and the remaining volume will be allocated to our operations in Mexico. Pursuant to the pet coke contracts with PEMEX, we expected to have a consistent source of pet coke throughout the 20-year term, however, during the past years, the volumes delivered by PEMEX to our operations in Mexico have been affected as a result of operational issues at PEMEX’s refineries.

In 2007, CEMEX Zement GmbH (“CXZ”), our subsidiary in Germany, entered into a long-term energy supply contract with Vattenfall Europe New Energy Ecopower (“VENEE”), pursuant to which VENEE committed to supply energy to our Rüdersdorf plant for a period of 15 years starting on January 1, 2008. Since 2017 the new owner of the power plant and the contract is the STEAG—Industriekraftwerk Rüdersdorf GmbH

("SIKW"). Based on the contract, each year CXZ has the option to fix in advance the volume of energy that it will acquire from SIKW, with the option to adjust the purchase amount one time on a monthly and quarterly basis. According to this agreement, CXZ has acquired 27 MW for 2018 and 28 MW for 2019, and CXZ expects to acquire between 26 and 28 MW for the following years starting in 2018 and thereafter. The estimated annual cost of this agreement is approximately U.S.\$12 million assuming that CEMEX receives all its energy allocation. The contract, which establishes a price mechanism for the energy acquired based on the price of energy future contracts quoted on the European Energy Exchange, did not require initial investments and was expected to be performed at a future date. Based on its terms, this contract qualified as a financial instrument under IFRS. However, as the contract is for CEMEX's own use and CEMEX sells any energy surplus as soon as actual energy requirements are known, regardless of changes in prices and thereby avoiding any intention of trading in energy, such contract is not recognized at its fair value.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements that are reasonably likely to have a material effect on our financial condition, operating results and liquidity or capital resources.

Quantitative and Qualitative Market Disclosure

Our Derivative Financial Instruments

For the year ended December 31, 2017, we had net gains related to the recognition of changes in fair values of derivative financial instruments of Ps161 million (U.S.\$9 million). For the year ended December 31, 2018, we had a net gain related to the recognition of changes in fair values of derivative financial instruments of Ps692 million (U.S.\$38 million). See note 16.4 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

In the ordinary course of business, we are exposed to credit risk, interest rate risk, foreign exchange risk, equity risk, commodities risk and liquidity risk, considering the guidelines set forth by the CEMEX, S.A.B. de C.V. board of directors, which represent our risk management framework and are supervised by several of our committees. Our management establishes specific policies that determine strategies focused on obtaining natural hedges or risk diversification to the extent possible, such as avoiding customer concentration on a determined market or aligning the currencies portfolio in which we incur our debt with those in which we generate our cash flows. As of December 31, 2017 and 2018, these strategies were sometimes complemented by the use of derivative financial instruments. See note 16.4 and 16.5 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

During the reported periods, in compliance with the guidelines established by our Risk Management Committee and in line with any restrictions set forth by our debt agreements and our hedging strategy and risk management framework, we held derivative financial instruments with the objectives of: (i) hedging foreign exchange risk of our net assets in foreign subsidiaries; (ii) changing the risk profile associated with changes in the interest rates of our debt agreements; (iii) hedging of forecasted transactions; (iv) changing the risk profile or fixing the price of fuels and electric energy; and (v) accomplishing other corporate objectives.

For the majority of the last ten years, we significantly decreased our use of derivative instruments related to debt, both currency and interest rate derivatives, thereby reducing the risk of cash margin calls.

Since February 2017, we began a U.S.\$/Mexican Peso Forward program to hedge some of our foreign exchange exposures, with a planned notional amount up to \$1.25 billion. As of December 31, 2018, we have forwards in place for approximately U.S.\$1,249 million. These instruments have a negative pay-out when Mexican Peso is strengthening and vice-versa. For accounting purposes under IFRS, this program has been designated as a hedge of our net investment in Mexican Pesos, pursuant to which changes in the fair market value of these instruments are recognized as part of other comprehensive income in equity.

In June 2018, we entered into U.S.\$1 billion of interest rate swaps to hedge interest payments of existing bank loans referenced to United States floating rates. These interest rate swaps, effective June 2019, will mature in June 2023. For accounting purposes under IFRS, these contracts have been designated as cash flow hedges, pursuant to which changes in fair value are initially recognized as part of other comprehensive income in equity and are subsequently recycled through financial expense as interest expense on the related bank loans accrues.

We maintain forward contracts negotiated to hedge the price of certain fuels, including diesel, gas and coal, as solid fuel, in several of our operations. By means of these contracts, for our own consumption only, we fixed the price of these fuels over certain volumes representing a portion of the estimated consumption of such fuels in several of our operations. These contracts have been designated as cash flow hedges of diesel, gas or coal consumption, and as such, changes in fair value are recognized temporarily through other comprehensive income and are recycled to operating expenses as the related fuel volumes are consumed.

With respect to our existing financial derivatives, we may incur net losses and be subject to margin calls that will require cash. If we enter into new derivative financial instruments, we may incur net losses and be subject to margin calls in which the cash required to cover margin calls may be substantial and may reduce the funds available to us for our operations or other capital needs.

As with any derivative financial instrument, we assume the creditworthiness risk of the counterparty, including the risk that the counterparty may not honor its obligations to us. Before entering into any derivative financial instrument, we evaluate, by reviewing credit ratings and our business relationship according to our policies, the creditworthiness of the financial institutions and corporations that are prospective counterparties to our derivative financial instruments. We select our counterparties to the extent we believe that they have the financial capacity to meet their obligations in relation to these instruments. Under current financial conditions and volatility, we cannot assure that risk of non-compliance with the obligations agreed to with such counterparties is minimal. See note 16.4 and 16.5 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

The fair value of derivative financial instruments is based on estimated settlement costs or quoted market prices and supported by confirmations of these values received from the counterparties to these financial instruments. The notional amounts of derivative financial instrument agreements are used to measure interest to be paid or received and do not represent the amount of exposure to credit loss.

<u>(in millions of U.S. Dollars)</u>	<u>At December 31, 2017</u>		<u>At December 31, 2018</u>		<u>Maturity Date</u>
	<u>Notional Amount</u>	<u>Estimated Fair value</u>	<u>Notional Amount</u>	<u>Estimated Fair value</u>	
Net investment hedge	1,160	47	1,249	2	December 2020
Foreign exchange forwards related to forecasted transactions	381	3	—	—	—
Equity forwards on third-party shares . . .	168	7	111	2	March 2020
Interest Rate Swaps	137	16	1,126	(8)	September 2022/June 2023
Fuel price hedging	72	20	122	(14)	December 2023
November 2019 Mandatory Convertible Mexican Peso Notes	—	(20)	—	(1)	November 2019
	<u>1,918</u>	<u>73</u>	<u>2,608</u>	<u>(19)</u>	

Our Net Investment Hedge. As of December 31, 2017 and 2018, we negotiated foreign exchange forwards contracts (U.S.\$/Mexican Peso) under a program for up to U.S.\$1,250 million, with monthly revolving settlement dates from 1 to 24 months to hedge our exposure to currency translation effects arising from certain investments in foreign subsidiaries. The average life of these contracts is approximately one year. For accounting purposes under IFRS, we have designated this program as a hedge of CEMEX's net investment in Mexican Pesos,

pursuant to which changes in fair market value of these instruments are recognized as part of other comprehensive income in stockholders' equity. For the years 2017 and 2018, changes in the fair value of these foreign exchange forward contracts generated gains of U.S.\$6 million (Ps110 million) and losses of U.S.\$59 million (Ps1,157 million). As of December 31, 2017 and 2018, the fair value of the foreign exchange forward represented an asset of U.S.\$47 million (Ps924 million) and U.S.\$2 million (Ps39 million), respectively. See note 16.4 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Our Foreign exchange forward contracts. As of December 31, 2017, we held U.S.\$/Euro foreign exchange forward contracts maturing on January 10, 2018, negotiated to maintain the Euro value of a portion of proceeds from debt issuances maintained in U.S. Dollars that were used to repurchase debt denominated in Euros (see note 16.1 to our 2018 audited consolidated financial statements included elsewhere in this annual report). In addition, in February 2017, we settled U.S.\$/Mexican Peso foreign exchange forward contracts negotiated to hedge the U.S. Dollar value of the proceeds from the expected sale of pumping assets in Mexico (see note 4.3 to our 2018 audited consolidated financial statements included elsewhere in this annual report). For the years 2016, 2017 and 2018, the aggregate results of these instruments, including the effects resulting from positions entered and settled during the year, generated gains of U.S.\$10 million (Ps186 million) in 2016, losses of U.S.\$17 million (Ps337 million) in 2017 and losses of U.S.\$1 million (Ps21 million) in 2018, recognized within "Financial income and other items, net" in the income statement. As of December 31, 2017, the fair value of the foreign exchange forward contracts represented an asset of U.S.\$3 million (Ps59 million). See note 16.4 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Our Equity Forward Contracts on Third-Party Shares. As of December 31, 2017 and 2018, in connection with the definitive sale of our GCC shares in September 2017 to two financial institutions that acquired all corporate rights and control under the aforementioned shares (see note 13.1 to our 2018 audited consolidated financial statements included elsewhere in this annual report), we negotiated equity forward contracts to be settled in cash maturing in March 2019 and March 2020, over the price of 31.5 million GCC shares in 2017 and 20.9 million GCC shares in 2018, respectively. During 2018, we settled a portion of these contracts early for 10.6 million shares. During 2017 and 2018, changes in the fair value of these instruments and early settlement effects generated losses of U.S.\$24 million (Ps463 million) in 2017 and gains of U.S.\$25 million (Ps436 million) in 2018, recognized within "Financial income and other items, net" in the income statement. GCC is a Mexican construction company listed on the Mexican Stock Exchange. As of December 31, 2017 and 2018, the fair value of the equity forward contracts represented an asset of U.S.\$7 million (Ps138 million) and U.S.\$2 million (Ps39 million), respectively, net of cash collateral. See note 16.4 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Interest Rate Risk, Foreign Currency Risk and Equity Risk

Interest Rate Risk. The table below presents tabular information of our fixed and floating rate long-term foreign currency-denominated debt as of December 31, 2018. Average floating interest rates are calculated based on forward rates in the yield curve as of December 31, 2018. Future cash flows represent contractual principal payments. The fair value of our floating rate long-term debt is determined by discounting future cash flows using borrowing rates available to us as of December 31, 2018 and is summarized as follows:

Long-Term Debt⁽¹⁾	Expected maturity dates as of December 31, 2018						Fair Value
	2019	2020	2021	2022	After 2023	Total	
	(In millions of U.S. Dollars, except percentages)						
Variable rate	U.S.\$ 5	585	1,200	1,497	118	U.S.\$3,405	U.S.\$3,252
Average interest rate	4.51%	3.62%	3.68%	3.35%	4.15%		
Fixed rate	U.S.\$ 2	1	1	38	5,825	U.S.\$5,867	U.S.\$5,902
Average interest rate	6.58%	5.55%	5.58%	5.62%	5.60%		

(1) The information above includes the current maturities of the long-term debt. Total long-term debt as of December 31, 2018 does not include our other financial obligations and the Perpetual Debentures for an

aggregate amount of U.S.\$444 million (Ps8,729 million) issued by consolidated entities. See notes 16.2 and 20.4 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

As of December 31, 2018, we were subject to the volatility of floating interest rates, which, if such rates were to increase, may adversely affect our financing cost and our net income. As of December 31, 2017, 30% of our foreign currency-denominated long-term debt bears floating rates at a weighted average interest rate of LIBOR plus 268 basis points. As of December 31, 2018, 37% of our foreign currency-denominated long-term debt bears floating rates at a weighted average interest rate of LIBOR plus 241 basis points. As of December 31, 2017 and 2018, if interest rates at that date had been 0.5% higher, with all other variables held constant, CEMEX's net income for 2017 and 2018 would have been reduced by U.S.\$18 million (Ps353 million) and U.S.\$19 million (Ps366 million), respectively, as a result of higher interest expense on variable-rate debt. However, this analysis does not include the interest rate swaps held by CEMEX during 2017 and 2018. See note 16.5 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Foreign Currency Risk. Due to our geographic diversification, our revenues are generated in various countries and settled in different currencies. However, some of our production costs, including fuel and energy, and some of our cement prices, are periodically adjusted to take into account fluctuations in the U.S. Dollar/Mexican Peso exchange rate. For the year ended December 31, 2018, 21% of our revenues, before eliminations resulting from consolidation, were generated in Mexico, 24% in the United States, 7% in the United Kingdom, 6% in France, 4% in Germany, 3% in Spain, 2% in Poland, 1% in the Czech Republic, 2% in the Rest of Europe, 3% in Colombia, 2% in Panama, 1% in Costa Rica, 2% in Caribbean TCL, 1% in the Dominican Republic, 3% in the Rest of South, Central America and the Caribbean region, 3% in Philippines, 2% in Egypt, 4% in Israel, 1% in the Rest of Asia, Middle East and Africa region and 8% from our Other operations.

Foreign exchange gains and losses occur by monetary assets or liabilities in a currency different from its functional currency and are recorded in the consolidated income statements, except for exchange fluctuations associated with foreign currency indebtedness directly related to the acquisition of foreign entities and related parties' long-term balances denominated in foreign currency, for which the resulting gains or losses are reported in other comprehensive income. As of December 31, 2017 and 2018, excluding from the sensitivity analysis the impact of translating the net assets of foreign operations into our reporting currency and considering a hypothetical 10% strengthening of the U.S. Dollar against the Mexican Peso, with all other variables held constant, our net income for 2017 and 2018 would have increased by approximately U.S.\$119 million (Ps2,343 million) and U.S.\$63 million (Ps1,240 million), respectively, as a result of higher foreign exchange losses on our Dollar-denominated net monetary liabilities held in consolidated entities with other functional currencies. Conversely, a hypothetical 10% weakening of the U.S. Dollar against the Mexican Peso would have had the opposite effect.

As of December 31, 2018, 64% of our total debt plus other financial obligations was U.S. Dollar-denominated, 26% was Euro-denominated, 5% was British Pound-denominated, 2% was Philippine Peso-denominated and immaterial amounts were denominated in other currencies, which does not include Ps8,729 million (U.S.\$444 million) of Perpetual Debentures. Therefore, we had a foreign currency exposure arising from the debt plus other financial obligations denominated in U.S. Dollars and the debt and other financial obligations denominated in Euros versus the currencies in which our revenues are settled in most countries in which we operate. We cannot guarantee that we will generate sufficient revenues in U.S. Dollars and Euros from our operations to service these obligations. As of December 31, 2017 and 2018, CEMEX had not implemented any derivative financing hedging strategy to address this foreign currency risk.

Equity Risk. As described above, we have entered into equity forward contracts on GCC shares. Under these equity forward contracts, there is a direct relationship in the change in the fair value of the derivative with the change in price of the underlying share. Upon liquidation, the equity forward contracts provide for cash settlement and the effects are recognized in the income statements as part of "Financial income and other items, net" in our 2018 audited consolidated financial statements included elsewhere in this annual report.

As of December 31, 2018, the potential change in the fair value of CEMEX's forward contracts in GCC shares that would result from a hypothetical, instantaneous decrease of 10% in the market price of GCC shares in Dollars, with all other variables held constant, CEMEX's net income for 2017 and 2018 would have been reduced by U.S.\$14 million (Ps283 million) and U.S.\$11 million (Ps210 million), respectively, as a result of additional negative changes in fair value associated with these forward contracts. A 10% hypothetical increase in the price of GCC shares in 2017 would have generated approximately the opposite effect.

In addition, even though the changes in fair value of our embedded conversion option in the November 2019 Mandatory Convertible Mexican Peso Notes that are denominated in a currency other than the functional issuer's currency affect the income statement, they do not imply any risk or variability in cash flows, considering that through their exercise, we will settle a fixed amount of debt with a fixed amount of shares. As of December 31, 2017 and 2018, the potential change in the fair value of the embedded conversion options in the November 2019 Mandatory Convertible Mexican Peso Notes that would result from a hypothetical, instantaneous increase of 10% in the market price of our CPOs, with all other variables held constant, would have decreased our net income by U.S.\$9 million (Ps180 million) in 2017 and decreased by U.S.\$1 million (Ps16 million) in 2018 as a result of additional negative changes in fair value associated with this option. A 10% hypothetical decrease in our CPO price would generate approximately the opposite effect.

Liquidity Risk. We are exposed to risks from changes in foreign currency exchange rates, prices and currency controls, interest rates, inflation, governmental spending, social instability and other political, economic and/or social developments in the countries in which we operate, any one of which may materially affect our results and reduce cash from operations.

As of December 31, 2018, current liabilities, which included Ps13,622 million of current maturities of debt and other financial obligations, exceeded current assets by Ps22,891 million. For the year ended December 31, 2018, we generated net cash flows provided by operating activities from continuing operations of Ps26,545 million, after payments of interest and income taxes. Our management believes that we will generate sufficient cash flows from operations. In addition, as of December 31, 2018, we have committed available lines of credit under the 2017 Credit Agreement, which include the revolving credit facility for a combined amount of Ps16,211 million (U.S.\$825 million). This, in addition to our proven capacity to continually refinance and replace our short-term obligations, will enable us to meet any liquidity risk in the short term. See notes 16.1 and 23.5 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

As of December 31, 2017 and 2018, the potential requirement for additional margin calls under our different commitments is not significant.

Investments, Acquisitions and Divestitures

The transactions described below represent our principal investments, acquisitions and divestitures completed during 2016, 2017 and 2018.

Investments and Acquisitions

On February 14, 2018, we increased our interest in Lehigh White Cement Company, a company that manufactures white cement in the United States, from 24.5% to 36.75%, by paying a total consideration of U.S.\$36 million.

In August 2018, our subsidiary in the United Kingdom acquired the shares of the ready-mix concrete producer Procon for an amount in Pounds Sterling equivalent to U.S.\$22 million, based on the Pound Sterling to Dollar exchange rate as of August 31, 2018. As of December 31, 2018, based on the preliminary valuation of the fair values of the assets acquired and liabilities assumed, the net assets of Procon amount to U.S.\$10 million (Ps196 million) and goodwill was determined in the amount of U.S.\$12 million (Ps244 million).

On January 24, 2017, Sierra, which is a wholly-owned CEMEX España subsidiary, announced that, having received a foreign investment license from the Trinidad and Tobago Ministry of Finance, all terms and conditions had been complied with or waived and the Offer to all shareholders that took place on December 5, 2016 had accordingly been declared unconditional. In addition, such Offer closed in Jamaica on February 7, 2017. Sierra acquired all TCL shares deposited pursuant to the Offer up to the maximum number of the offered shares. TCL shares deposited in response to the Offer together with Sierra's existing shareholding in TCL, represented 69.83% of the outstanding TCL shares. The total consideration paid by Sierra for the TCL shares was U.S.\$86 million.

After conclusion of the Offer, CEMEX consolidates TCL and its subsidiaries, including CCCL, for financial reporting purposes beginning February 1, 2017.

Divestitures

During 2016, 2017 and 2018, we made divestitures of U.S.\$1,045 million, U.S.\$1,514 million and U.S.\$84 million, respectively (which included fixed assets of U.S.\$121 million, U.S.\$93 million and U.S.\$69 million, respectively).

On May 26, 2016, we closed the sale of our operations in Bangladesh and Thailand to SIAM Cement for U.S.\$70 million. The proceeds from this transaction were used mainly for debt reduction and for general corporate purposes.

On July 18, 2016, CHP closed its initial public offering of 45% of its common shares in the Philippines, and 100% of CHP's common shares started trading on the Philippine Stock Exchange under the ticker "CHP". As of December 31, 2017, CASE, an indirect subsidiary of CEMEX España, directly owned 55% of CHP's outstanding common shares. The net proceeds to CHP from its initial public offering were U.S.\$507 million after deducting estimated underwriting discounts and commissions and other estimated offering expenses payable by CHP. CHP used the net proceeds from the initial public offering to repay existing indebtedness owed to BDO Unibank and to an indirect subsidiary of CEMEX, S.A.B. de C.V. CHP's assets consist primarily of CEMEX's cement manufacturing assets in the Philippines.

On August 29, 2016, we announced that we would be participating in the corporate restructuring of GCC, which resulted in CEMEX owning 23% of the outstanding share capital of GCC and, additionally, a minority interest in CAMCEM, an entity which in turn owns a majority interest in GCC. On the same day, we also announced that we reached an agreement with GCC on the terms and conditions regarding the sale to GCC of certain assets in the United States. On November 18, 2016, after all conditions precedent were satisfied, CEMEX announced that it had closed the sale of certain assets in the U.S. to GCC for U.S.\$306 million. The assets were sold by an affiliate of CEMEX to an affiliate of GCC in the United States, and mainly consisted of CEMEX's cement plant in Odessa, Texas, two cement terminals and the building materials business in El Paso, Texas, and Las Cruces, New Mexico. On February 15, 2017, we sold 45,000,000 shares of common stock of GCC, representing 13.53% of the equity capital of GCC, at a price of Ps95 per share in a public offering to investors in Mexico authorized by the CNBV and in a concurrent private placement to eligible investors outside of Mexico. After the offerings, CEMEX, S.A.B. de C.V. owned a 9.47% direct interest in GCC and the minority interest in CAMCEM. Proceeds from the sale were Ps4,094 million (U.S.\$210 million). On September 28, 2017, CEMEX, S.A.B. de C.V. announced the final sale of the remaining 9.47% direct interest in GCC previously held by CEMEX, S.A.B. de C.V. for U.S.\$168 million (Ps3,012 million). Following this sale of shares, we no longer held a direct interest but continued to hold an indirect share of 20% in GCC through our minority interest in CAMCEM. The proceeds of this transaction were mainly used for debt reduction and for general corporate purposes.

On December 2, 2016, we agreed to the sale of our assets and operations related to our ready-mix concrete pumping business in Mexico to Pumping Team, a specialist in the supply of ready-mix concrete pumping

services based in Spain, for Ps1,649 million. This agreement included the sale of fixed assets upon closing of the transaction for Ps309 million plus administrative and client and market development services. Under this agreement, we will also lease facilities in Mexico to Pumping Team over a period of ten years with the possibility to extend for three additional years, for an aggregate initial amount of Ps1,340 million, plus a contingent revenue subject to results for up to Ps557 million linked to annual metrics beginning in the first year and up to the fifth year of the agreement. On April 28, 2017, after receiving the approval by the Mexican authorities, we concluded the sale.

On January 31, 2017, one of our subsidiaries in the United States closed the sale of our Concrete Pipe Business to Quikrete for U.S.\$500 million, plus an additional U.S.\$40 million contingent consideration based on future performance.

On February 10, 2017, one of our subsidiaries in the United States sold its Fairborn, Ohio, cement plant and cement terminal in Columbus, Ohio, to Eagle Materials for U.S.\$400 million. The proceeds obtained from this transaction were used mainly for debt reduction and for general corporate purposes.

On June 30, 2017, one of our subsidiaries in the United States closed the divestment of the Pacific Northwest Materials Business, consisting of aggregates, asphalt and ready-mix concrete operations in Oregon and Washington to Cadman Materials for U.S.\$150 million. The proceeds obtained from this sale were used mainly for debt reduction and general corporate purposes.

On September 29, 2017, one of our subsidiaries in the United States closed the divestment of the Block USA Materials Business, consisting of concrete block, architectural block, concrete pavers, retaining walls and building material operations in Alabama, Georgia, Mississippi and Florida to Oldcastle for U.S.\$38 million. The proceeds obtained from this sale were used mainly for debt reduction and general corporate purposes.

On September 27, 2018, a subsidiary of CEMEX, S.A.B. de C.V. concluded the sale of our Brazilian Operations through the sale to Votorantim Cimentos N/NE S.A. of all shares of our Brazilian subsidiary Cimento Vencemos, consisting of a fluvial cement distribution terminal located in Manaus, Amazonas province, as well as the related operating license. See note 4.2 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

Recent Developments

Recent Developments Relating to Our Assets Divestiture Plans

On March 19, 2019, CEMEX, S.A.B. de C.V. announced it had reached a binding agreement to sell its aggregates and ready-mix concrete assets in the North and North-West regions of Germany to GP Günter Papenburg AG for approximately €87 million. The assets being divested consist of 4 aggregates quarries and 4 ready-mix concrete facilities in North Germany, and 9 aggregates quarries and 14 ready-mix concrete facilities in North-West Germany. We expect to sign a final agreement for the sale of assets before, or around, May 2019 and close this divestment during the second quarter of 2019. We expect to use the proceeds from this divestment mainly for debt reduction and for general corporate purposes.

On March 29, 2019, CEMEX, S.A.B. de C.V. closed the sale of our assets in the Baltics and Nordics to the German building materials group SCHWENK for €340 million. We expect to use the proceeds for debt reduction and general corporate purposes.

On March 29, 2019, CEMEX, S.A.B. de C.V. announced that it had signed final agreements to divest our white cement business to Cimsa Cimento Sanayi Ve Ticaret A.S. for approximately U.S.\$180 million. The divestment mainly includes our Buñol white cement plant in Spain and our white cement international business. However, this divestment does not include our white cement business in Mexico, the United States and our

minority investment, mainly in Lehigh White Cement Company. Closing of this divestment, which is expected to happen during the second half of 2019, is subject to the satisfaction of standard conditions for this type of transaction, which includes approvals by regulators. Proceeds from this divestment would be mainly used for debt reduction and general corporate purposes.

Recent Developments Relating to Our Shareholders Meeting

On March 28, 2019, CEMEX, S.A.B. de C.V. held an ordinary general shareholders' meeting followed by an extraordinary general shareholders' meeting. The most significant items that were approved by shareholders at the ordinary general shareholders' meeting were:

- The decree of a cash dividend of U.S.\$150 million, to be paid in Mexican Pesos, payable in two installments, the first installment will be for half of the dividend starting on June 17, 2019 and the second installment for the remainder of the dividend starting on December 17, 2019.
- The cancellation of the shares of CEMEX, S.A.B. de C.V. repurchased during 2018 and setting the amount of U.S.\$500 million as the maximum amount of resources that for the year ending on December 31, 2019, and until the next ordinary general shareholders' meeting is held, that CEMEX S.A.B. de C.V. can use to purchase its own shares or securities that represent such shares.
- The appointment of the members of CEMEX, S.A.B. de C.V.'s board of directors, including the new director Isabel María Aguilera Navarro, the reduction in the number of members of CEMEX, S.A.B. de C.V.'s audit committee from 4 to 3 and the appointment of Everardo Elizondo Almaguer as President of CEMEX, S.A.B. de C.V.'s audit committee and Francisco Javier Fernandez Carbajal as President of CEMEX, S.A.B. de C.V. corporate practices and finance committee.

The most significant items that were approved by shareholders at the extraordinary general shareholders' meeting were (i) the merger between CEMEX, S.A.B. de C.V. and certain direct and indirect subsidiaries in Mexico, with CEMEX, S.A.B. de C.V. being the surviving company, and (ii) the amendment to articles 2 and 28 of CEMEX, S.A.B. de C.V.'s by-laws.

Recent Developments Relating to CEMEX, S.A.B. de C.V.'s Senior Management and Board of Directors

Effective February 1, 2019, (i) Juan Romero Torres, then President of CEMEX México, was appointed Executive Vice President of Global Commercial Development; (ii) Ricardo Naya Barba, then President of CEMEX Colombia, was appointed President of CEMEX México; (iii) Jaime Gerardo Elizondo Chapa, then President of CEMEX Europe, was appointed Executive Vice President of Global Supply Chain Development;

and (iv) Sergio Mauricio Menendez Medina, then Distribution Channel Vice President for CEMEX México, was appointed President of CEMEX Europe.

<u>Name, Position (Age)</u>	<u>Experience</u>
Ricardo Naya Barba President CEMEX México (Male – 46)	Joined CEMEX in 1996. He has held several executive positions, including Vice President of Strategic Planning for the South, Central America and the Caribbean region, Vice President of Strategic Planning for the Europe, Middle East, Africa and Asia region, President of CEMEX Poland and the Czech Republic, Vice President of Strategic Planning for the United States, Vice President of Commercial and Marketing in Mexico, Vice President of Distribution Segment Sales in Mexico, and most recently, President of CEMEX Colombia. Mr. Naya Barba holds a B.A. in Economics from Tecnológico de Monterrey and an M.B.A from the Massachusetts Institute of Technology.
Sergio Mauricio Menéndez Medina President CEMEX Europe (Male – 48)	Joined CEMEX in 1993. He has held several executive positions, including Director of Planning and Logistics in Asia, Corporate Director of Commercial Development, President of CEMEX Philippines, Vice President of Strategic Planning for the Europe, Middle East, Africa and Asia region, President of CEMEX Egypt, Vice President of Infrastructure Segment and Government Sales in Mexico, and most recently, Vice President of Distribution Segment Sales in Mexico. Sergio holds a B.S. in Industrial Engineering from Tecnológico de Monterrey and an M.B.A from Stanford University.

As described above under “—Recent Developments Relating to Our Shareholders Meeting,” on March 28, 2019, Isabel María Aguilera Navarro was appointed as member of CEMEX, S.A.B. de C.V.’s board of directors. Additionally, the following events occurred: José Manuel Rincón Gallardo Purón was not appointed as a member of the board of directors of CEMEX, S.A.B. de C.V. and President of CEMEX, S.A.B. de C.V.’s audit committee; the composition of CEMEX, S.A.B. de C.V.’s audit committee was reduced from 4 to 3 members; Everardo Elizondo Almaguer was appointed President of CEMEX, S.A.B. de C.V.’s audit committee; Francisco Javier Fernandez Carbajal was appointed President of CEMEX, S.A.B. de C.V. Corporate Practices and Finance Committee; and Rogelio Zambrano Lozano, Roger Saldaña Madero and René Delgadillo Galván were elected as Chairman, Secretary and Assistant Secretary of the board of directors of CEMEX, S.A.B. de C.V., respectively.

<u>Name, Position (Age)</u>	<u>Experience</u>
Isabel María Aguilera Navarro Independent Director (Female – 58)	Mrs. Aguilera Navarro is an independent consultant and also an associate professor at the School of Business Administration and Management (<i>Escuela Superior de Administración y Dirección de Empresas</i>) (ESADE). She is a member of the Board of Directors of the following public companies: LAR Spain Real Estate SOCIMI, S.A. since June 26, 2017, Oryzon Genomics, S.A. since November 3, 2015 and since April 2018, she is a member of the Board of Directors of the Italian

Name, Position (Age)

Experience

bank Banca Farmafactoring S.p.A. (BFF). In 2015, Mrs. Aguilera Navarro became a member of the Board of Directors of the non-listed company Egasa.

With her vast experience and extensive knowledge in multinational corporations, Mrs. Aguilera Navarro brings to the CEMEX, S.A.B. de C.V. Board of Directors guidance and strategic vision which contributes to the business strategy to enhance CEMEX's objectives at a global level, including the constant strengthening of information technology and digitalization efforts.

Mrs. Aguilera Navarro held the Presidency of General Electric (GE) Spain and Portugal, the General Management of Google Inc. Spain and Portugal (now Alphabet), the Operations Directorate of NH Hoteles from May 2002 to June 2005 and the General Directorate of Dell Computer Corporation for Spain, Italy and Portugal, from March 1997 to May 2002. The main business newspaper of the United Kingdom, Financial Times, named her as one of the 25 most important executive women in Europe, while American magazine Fortune rated her as one of the 50 leading women in the world.

Mrs. Aguilera was also a member of the Board of Directors of Indra Sistemas, S.A. from June 27, 2005 to June 29, 2017 and from Banco Mare Nostrum (BMN) from February 2013 to December 2017.

Ms. Aguilera Navarro was a member of the Board of Directors of Emergia Contact Center, S.L. (2011-2015), from Aegon Spain (2014-2016) and from Laureate Education Inc. (2002-2006).

Ms. Aguilera Navarro has also served as a Counselor to several Spanish non-profit organizations, such as the Companies Institute (*Instituto de Empresa*) and the Association for Management Progress (*Asociación para el Progreso de la Gestión*), was a member of the Advisory Board of Farmaindustria, Ikor and Pelayo Mutua de Seguros and a business entrepreneur from 2009 to 2012 at Twindocs International.

Ms. Aguilera Navarro has a degree in Architecture (Civil Engineering) and Urban Planning (Urban Planning) from ETSA in Seville, has a master's degree in business administration from the Companies Institute (*Instituto de Empresa*), a General Management Program from the IESE Business School and a program of Senior Management of Leading Companies by the San Telmo Institute.

Recent Development Relating to Our Indebtedness

Offering of March 2026 Euro Notes

On March 19, 2019, CEMEX, S.A.B. de C.V. issued €400 million aggregate principal amount of its March 2026 Euro Notes in transactions exempt from registration pursuant to Rule 144A and Regulation S under the Securities Act. CEMEX México, CEMEX España, New Sunward, CEMEX Asia, CEMEX Concretos, CEMEX Corp., CEMEX Finance, Cemex Africa & Middle East Investments, CEMEX France, CEMEX Research Group, CEMEX UK and Empresas Tolteca have fully and unconditionally guaranteed the performance of all obligations of CEMEX, S.A.B. de C.V. under the March 2026 Euro Notes. The payment of principal, interest and premium, if any, on such notes is secured by a first-priority security interest over the Collateral and all proceeds of the Collateral.

March 2023 Euro Notes Redemption

On April 15, 2019, CEMEX, S.A.B. de C.V. redeemed €400 million aggregate principal amount of its March 2023 Euro Notes (the “March 2023 Euro Notes Redemption”) using mainly the proceeds from the issuance of the March 2026 Euro Notes.

On March 30, 2019, CEMEX, S.A.B. de C.V. issued a notice of full redemption of the remaining €150 million aggregate principal amount of the March 2023 Euro Notes which are expected to be redeemed on April 30, 2019.

2019 Credit Agreement Amendments

In February 2019, CEMEX, S.A.B. de C.V. launched a consent request to lenders under the 2017 Credit Agreement, pursuant to which lenders were requested to consent to certain amendments to the 2017 Credit Agreement in order to, among other things, (i) extend the July 2020 and January 2021 repayment installments for a significant portion of the term loan tranches by three years; (ii) delay the scheduled tightening of the consolidated financial leverage ratio limit by one year; and (iii) make adjustments for the implementation of IFRS 16—Leases (together, the “2019 Credit Agreement Amendments”). In March 2019, CEMEX, S.A.B. de C.V. obtained the requisite consents from lenders under the 2017 Credit Agreement to make the 2019 Credit Agreement Amendments. The 2019 Credit Agreement Amendments became effective when certain customary conditions precedent were fulfilled, and the parties entered into an amendment and restatement agreement to the 2017 Credit Agreement, on April 2, 2019.

Other Recent Developments

During March 2019, we renewed the securitization programs outstanding in France and the United Kingdom and extended the securitization program outstanding in the United States by an additional six months. As a result of the aforementioned, the securitization programs outstanding in France and the United Kingdom are now scheduled to mature in March 2020, while the United States program is scheduled to mature in September 2019.

During the first quarter of 2019, we conducted drawdowns and repayments under the revolving tranche of the 2017 Credit Agreement, resulting in there being no principal amount outstanding under the revolving tranche of the 2017 Credit Agreement as of March 31, 2019. In addition, as of March 31, 2019, we had an aggregate amount of Ps22,019 million (U.S.\$1,135 million) available under the revolving tranche of the 2017 Credit Agreement.

Recent Developments Relating to our Regulatory Matters and Legal Proceedings

In connection with the ongoing proceedings related to the rejection by the Colombian Tax Authority of certain deductions taken by CEMEX Colombia in its 2012 year-end income tax return, CEMEX Colombia has appealed the Colombian Tax Authority’s decision. The Colombian Tax Authority has a year to respond to this appeal. See “Item 4—Information on the Company—Regulatory Matters and Legal Proceedings—Tax Matters—Colombia.”

In connection with the ongoing matters related to the IPPC Permit (as defined below) for part of our operations in Croatia, on February 6, 2019, CEMEX Croatia was provided with the High Administrative Courts' decision, dated as of December 13, 2018, on a previously filed appeal. The High Administrative Court ruled in favor of CEMEX Croatia, whereby it (i) overruled the annulment of the IPPC Permit (restating the IPPC Permit) and (ii) rejected the claim of the City of Kastela. The High Administrative Court's decision is final. See "Item 4—Information on the Company—Regulatory Matters and Legal Proceedings—Environmental Matters—Croatia."

As of March 9, 2019, with respect to tariffs on imports of cement, clinker, slag cement and granulated slag into the United States from China and the increase of the existing tariffs that was scheduled to take place in early March of 2019, the decision to increase the tariffs has been delayed by the United States Government and no increase has been announced.

In connection with the Lease Agreement (see "Item 4—Information on the Company—Regulatory Matters and Legal Proceedings—Other Legal Proceedings—Maceo, Colombia—Operational Matters") with respect to the Affected Assets, CEMEX Colombia reached a conciliatory agreement with the Attorney General's Office allowing CEMEX Colombia to operate its Maceo cement plant in the region of Antioquia (the "Maceo Plant"), pursuant to which the signing of a mining operation, the provision of manufacturing services and dispatch and leasing of real estate for cement production (the "New Lease Agreement") was endorsed. CEMEX Colombia, under the terms of the New Lease Agreement, will lease the land portion of the Affected Assets for a duration of 21 years, which can be extended by another 10 years. The New Lease Agreement will remain in full force and effect regardless of the outcome following the expiration of the property proceeding over the Affected Assets unless the criminal judge grants CEMEX Colombia (and of one of its subsidiaries) the ownership rights related to the Affected Assets. In such case, the New Lease Agreement will be terminated given that CEMEX Colombia and its subsidiary would be the owners of the Affected Assets and the New Lease Agreement would no longer be required to operate and manage them. As of the date of this annual report, it is expected that the Maceo Plant will begin operating when the following main applications and procedures that are being processed with the competent authorities are positively resolved: (i) the partial discharge of the Maceo Plant from the Integrated Management District (*Distrito de Manejo Integrado*) of the Alicante River Canyon (*Cañón de Río Alicante*), (ii) the amendment to the environmental license that allows the production of at least 950,000 metric tons of cement per year, (iii) the land usage amendment to allow for industrial and mining use and (iv) obtaining permits to complete the construction of several sections of the access road to the Maceo Plant. Once these permits are obtained, we expect to complete construction of the access road to the Maceo Plant.

Item 6—Directors, Senior Management and Employees

Senior Management and Directors

Senior Management

Set forth below is the name and position of each member of our senior management team as of December 31, 2018. The terms of office of the senior managers are indefinite. For a description of changes to our senior management team, see the description of CEMEX, S.A.B. de C.V.'s 2018 annual general ordinary shareholders' meeting held on March 28, 2019 in "Item 5—Operating and Financial Review and Prospects—Recent Developments—Recent Developments Relating to CEMEX, S.A.B. de C.V.'s Senior Management and Board of Directors," which mainly consists of Ricardo Naya Barba and Sergio Mauricio Menendez Medina becoming part of our senior management team effective as of February 1, 2019, and Juan Rometo Torres and Jaime Gerardo Elizondo Chapa being assigned new positions within our senior management.

Name, Position (Age)	Experience
Fernando Ángel González Olivieri Chief Executive Officer (Male - 64)	Mr. González Olivieri has been a member of CEMEX, S.A.B. de C.V.'s Board of Directors since March 26, 2015. He has been CEMEX, S.A.B. de C.V.'s Chief Executive Officer since May 15, 2014,

Name, Position (Age)

Experience

and he is also a member of the board of directors of Grupo Cementos de Chihuahua, S.A.B. de C.V., Axtel, S.A.B. de C.V. and EGADE Business School of the Instituto Tecnológico y de Estudios Superiores de Monterrey.

With his deep knowledge of CEMEX and the markets in which CEMEX operates, Mr. Gonzalez brings to the CEMEX, S.A.B. de C.V. Board of Directors a global vision and leadership that directly contributes to the formulation and the integral implementation of CEMEX's global business strategy.

He joined CEMEX in 1989 and from that year through 1994 occupied different positions within CEMEX in the Strategic Planning, Business Development and Human Resources departments. He then served as Corporate Vice-President of Strategic Planning from 1994 to 1998, President of CEMEX Venezuela, S.A.C.A. from 1998 to 2000, President of CEMEX Asia from 2000 to May 2003 and President of CEMEX's South, Central American and the Caribbean region from May 2003 to February 2005. He was appointed President of CEMEX's former European Region in March 2005, President of CEMEX's former Europe, Middle East, Africa, Asia and Australia Region in February 2007 and CEMEX's Executive Vice President of Planning and Development in May 2009. In February 2010, Mr. González Olivieri was appointed CEMEX's Executive Vice President of Planning and Finance and, in 2011, was also appointed CEMEX's Chief Financial Officer. He held these positions until he was named Chief Executive Officer in 2014. He was a member of the Board of Directors of CEMEX México until February 2017.

Mr. González Olivieri earned his B.A. and M.B.A. degrees from the Instituto Tecnológico y de Estudios Superiores de Monterrey.

Ignacio Madridejos Fernández
President CEMEX USA
(Male - 53)

Joined CEMEX in 1996 and, after holding management positions in the Strategic Planning area, headed CEMEX's operations in Egypt, Spain, Western Europe and Northern Europe. He is currently President of CEMEX USA. He has served as a member of the board of directors of COMAC (*Comercial de Materiales de Construcción S.L.*), member of the board and President of OFICEMEN, member of the board and President of IECA (*Instituto Español del Cemento y sus Aplicaciones*),

Name, Position (Age)

Experience

Jaime Muguero Domínguez
President CEMEX South, Central America and the
Caribbean
(Male - 50)

President of CEMA (*Fundación Laboral del Cemento y el Medioambiente*), Patron of the Junior Achievement Foundation and Vice President and Chairman of CEMBUREAU (European Cement Association) and member of the board of Inversiones Danaime SICAV S.A. He graduated with a degree in Civil Engineering from the Universidad Politécnica de Madrid and holds an M.B.A. from Stanford University.

Joined CEMEX in 1996 and has held several executive positions in the areas of Strategic Planning, Business Development, Ready-mix Concrete, Aggregates and Human Resources. He headed CEMEX's operations in Egypt and our former Mediterranean Region. He is currently President of CEMEX's SCA&C Region and Chief Executive Officer of CLH. He graduated with a Management degree from San Pablo CEU University, holds a Law degree from the Universidad Complutense de Madrid and an M.B.A. from the Massachusetts Institute of Technology.

Joaquín Miguel Estrada Suarez
President CEMEX Asia, Middle East and Africa
(Male - 55)

Joined CEMEX in 1992 and has held several executive positions, including head of operations in Egypt and Spain, as well as head of Trading for Europe, the Middle East and Asia. He is currently President of CEMEX Asia, Middle East and Africa and is also responsible for our global trading activities. He is also the Chairman of the board of directors of CHP. From 2008 to 2011, he served as a member of the board of directors of COMAC (*Comercial de Materiales de Construcción S.L.*), President and member of the board of OFICEMEN and member of the board of IECA (*Instituto Español del Cemento y sus Aplicaciones*). He was also the President of CEMA (*Fundación Laboral del Cemento y el Medioambiente*) from 2010 to 2011. He graduated with a degree in Economics from the Universidad de Zaragoza and holds an M.B.A. from the Instituto de Empresa.

José Antonio González Flores
Executive Vice President of Finance and Administration
and Chief Financial Officer
(Male - 48)

Joined CEMEX in 1998 and has held management positions in corporate and operating areas in Finance, Strategic Planning, and Corporate Communications and Public Affairs. He is currently responsible for CEMEX's Finance, Controllership, Tax, Process Assessment, Legal and Global Services Organization areas. Mr. González is also a member of the board of directors of GCC and is an alternate director of the board of directors of Axtel. Mr. González has a B.S. in Industrial and Management Systems Engineering

Name, Position (Age)

Experience

Juan Pablo San Agustín Rubio
Executive Vice President of Strategic Planning and New
Business Development
(Male - 50)

from ITESM and an M.B.A. from Stanford
University.

Joined CEMEX in 1994 and has held executive
positions in the Strategic Planning, Continuous
Improvement, E-business and Marketing areas. He is
currently Executive Vice President of Strategic
Planning and New Business Development. Mr. San
Agustín is Chairman of the board of directors of
CLH. He graduated with a B.S. from the Universidad
Metropolitana and holds an International M.B.A.
from the Instituto de Empresa.

Luis Hernández Echávez
Executive Vice President of Digital and
Organization Development
(Male - 55)

Joined CEMEX in 1996 and has held senior
management positions in the Strategic Planning,
Human Resources and Administration areas. He is
currently Executive Vice President of Organization
and Human Resources, Information Technology,
Digital Innovation, as well as Neoris. He graduated
with a degree in Civil Engineering from ITESM and
holds a Master's degree in Civil Engineering and an
M.B.A. from the University of Texas at Austin.

Maher Al-Haffar
Executive Vice President of Investor Relations,
Corporate Communications and Public Affairs
(Male - 61)

Joined CEMEX in 2000. Prior to his current position,
he was Vice President of Investor Relations,
Corporate Communications and Public Affairs. He
also served as a Managing Director in Finance and
Head of Investor Relations for CEMEX. Before
joining CEMEX, he spent 19 years with Citicorp
Securities Inc. and Santander Investment Securities
as an investment banker and capital markets
professional. Mr. Al-Haffar holds a B.S. in
Economics from the University of Texas and a
Master's degree in International Relations and
Finance from Georgetown University.

Mauricio Doehner Cobián
Executive Vice President of Corporate Affairs and
Enterprise Risk Management
(Male - 44)

Joined CEMEX in 1996 and has held several
executive positions in areas such as Strategic
Planning and Enterprise Risk Management for
Europe, Asia, the Middle East, South America and
Mexico. He is currently in charge of Corporate
Affairs and Enterprise Risk Management. He has also
worked in the public sector within the Mexican
Presidency. Mr. Doehner is president of the Mexican
National Cement Chamber (*Cámara Nacional del
Cemento*) and member of the board of directors of
Vista Oil & Gas, S.A.B. de C.V., Editorial Clio, Trust
for the Americas, Universidad TecMilenio, Museo de
Arte Contemporáneo de Monterrey, A.C., Arzys,
S.A. de C.V. and Casa Paterna La Gran Familia, A.C.
Mr. Doehner earned his B.A. in Economics from
ITESM, holds an M.B.A. from IESE/IPADE and a

Name, Position (Age)

Experience

Juan Romero Torres
President of CEMEX México
(Male - 62)

professional certification in Competitive Intelligence from the FULD Academy of Competitive Intelligence in Boston, Massachusetts.

Joined CEMEX in 1989 and has occupied several senior management positions, including President of CEMEX Colombia, President of our operations in Mexico, President of the South America and the Caribbean Regions and President of our former Europe, Middle East, Africa and Asia Region. As of December 31, 2018, he was President of our operations in Mexico and is also in charge of our global procurement area. Mr. Romero was appointed Vice President and representative of the board of directors of the National Chamber of Cement (*Cámara Nacional del Cemento*) in June 2011, and is also a member of the board of directors of GCC. Mr. Romero graduated from Universidad de Comillas in Spain, where he studied Law and Economic and Enterprise Sciences.

Effective as of February 1, 2019, he is our Executive Vice President of Global Commercial Development and is no longer the President of CEMEX México.

Jaime Gerardo Elizondo Chapa
President CEMEX Europe
(Male - 55)

Joined CEMEX in 1985 and has headed several operations, including Panama, Colombia, Venezuela and Mexico and was President of CEMEX South America (including Central America) and the Caribbean. As of December 31, 2018, he was the President of CEMEX Europe. Mr. Elizondo served as President and Vice President of the National Chamber of Cement (*Cámara Nacional del Cemento*) and as Vice President of the Transformation Industry Chamber of Nuevo León (*Cámara de la Industria de la Transformación de Nuevo León*). Mr. Elizondo is currently the Vice Chairman of CLH's board of directors. He graduated with a B.S. in Chemical and System Engineering and holds an M.B.A. from ITESM.

Effective as of February 1, 2019, he is our Executive Vice President of Global Supply Chain, responsible for the global technology area, and is no longer the President of CEMEX Europe.

Jesús Vicente González Herrera
Executive Vice President of Sustainability and
Operations Development
(Male - 54)

Joined CEMEX in 1998 and has held several senior positions, including Corporate Director of Strategic Planning, Vice President of Strategic Planning in CEMEX USA, President of CEMEX Central America and, more recently, as President of CEMEX UK. In his current position, Mr. González heads the

Name, Position (Age)

Experience

Rafael Garza Lozano
Vice President of Comptrollership
(Male - 55)

Health and Safety, Operations and Technology, Energy, Procurement, Sustainability, and Research and Development areas. He holds a M.Sc. in Naval Engineering from the Polytechnic University of Madrid and an M.B.A. from IESE—University of Navarra, Barcelona.

Joined CEMEX in 1985 and has served as Chief Accounting Officer since 1999. He is currently a member of the board of directors of Consejo Mexicano para la Investigación y Desarrollo de Normas de Información Financiera and an alternate member of the board of directors of GCC. Mr. Garza is a certified public accountant and he received a Master's degree in Administration and Finance from ITESM. He also attended executive programs at ITAM, IPADE and Harvard University.

Roger Saldaña Madero
Senior Vice President of Legal
(Male - 51)

Joined CEMEX in 2000 and served as Legal Counsel of CEMEX, S.A.B. de C.V. and, from 2001 to 2011, as General Counsel of NEORIS, a CEMEX subsidiary specialized in providing information technology services. Since 2005, Mr. Saldaña has as Senior Corporate Counsel of CEMEX, and is responsible for, among other matters, corporate finance legal affairs and, since June 1, 2017, has served as CEMEX's Senior Vice President of Legal. On March 30, 2017, Mr. Saldaña was appointed Secretary of the board of directors of CEMEX, S.A.B. de C.V. and the committees to such Board. Prior to joining CEMEX, he served as Legal Counsel in CYDSA, S.A.B. de C.V., was a foreign associate in the law firm Fried, Frank, Harris, Shriver & Jacobson, in New York, N.Y., USA and previously was Chief of the Double Taxation Department in Mexico's Ministry of Finance and Public Credit (*Secretaría de Hacienda y Crédito Público*). Mr. Saldaña is a graduate of the Universidad de Monterrey, A.C. (UDEM) with a degree in Law, holds a Master's degree in Law (LLM) from Harvard University and a diploma from Harvard University's International Tax Program.

Board of Directors

Set forth below are the names of the members of CEMEX, S.A.B. de C.V.'s board of directors as of December 31, 2018. For a description of changes to CEMEX, S.A.B. de C.V.'s board of directors, see the description of CEMEX, S.A.B. de C.V.'s 2018 annual general ordinary shareholders' meeting held on March 28, 2019 in "Item 5—Operating and Financial Review and Prospects—Recent Developments—Recent Developments Relating to CEMEX, S.A.B. de C.V.'s Senior Management and Board of Directors," which changes mainly consisted of: Isabel María Aguilera Navarro being appointed as member of CEMEX, S.A.B. de C.V.'s board of directors; José Manuel Rincón Gallardo Purón not being appointed as a member of the board of directors of CEMEX, S.A.B. de C.V. and President of CEMEX, S.A.B. de C.V.'s audit committee; the reduction from 4 to 3 members in the composition of CEMEX, S.A.B. de C.V.'s audit committee; Everardo Elizondo Almaguer being appointed President of CEMEX, S.A.B. de C.V.'s audit committee; Francisco Javier Fernandez Carbajal being appointed President of CEMEX, S.A.B. de C.V. corporate practices and finance committee; and Rogelio Zambrano Lozano, Roger Saldaña Madero and René Delgadillo Galván being elected as Chairman, Secretary and Assistant Secretary of the board of directors of CEMEX, S.A.B. de C.V., respectively.

No alternate directors were elected at CEMEX, S.A.B. de C.V.'s 2018 annual general ordinary shareholders' meeting. Members of CEMEX, S.A.B. de C.V.'s board of directors serve for one-year terms.

Name, Position (Age)

Rogelio Zambrano Lozano
Chairman
Non-Independent Director
(Male - 62)

Experience

Mr. Zambrano Lozano has been a member of CEMEX, S.A.B. de C.V.'s Board of Directors since 1987 and Chairman of CEMEX, S.A.B. de C.V.'s Board of Directors since May 15, 2014. Currently, he is a member of the Board of Directors of Carza, S.A. de C.V., a member of the advisory board of Citibanamex, a member of the regional council of Banco de México and a member of the Mexican Business Council (Consejo Mexicano de Negocios) and the Instituto Tecnológico y de Estudios Superiores de Monterrey. He is also a visiting professor at Instituto Tecnológico y de Estudios Superiores de Monterrey.

With his vast experience and knowledge in the construction, building materials and real estate sectors, since his appointment as Chairman of the Board of CEMEX, S.A.B. de C.V., Mr. Zambrano has focused on strengthening corporate governance practices and guiding the business strategy to enhance the operational and financial performance of CEMEX at a global level, based on the commitment to create long-term value for all CEMEX's stakeholders.

He was President of CEMEX, S.A.B. de C.V.'s Finance Committee from 2009 until March 2015 and he was also Chairman of CEMEX México's Board of Directors until February 2017.

He holds an Industrial and Systems Engineering degree from the Instituto Tecnológico y de Estudios

Name, Position (Age)

Experience

Fernando Ángel González Olivieri
Non-Independent Director
(Male - 64)

Marcelo Zambrano Lozano
Non-Independent Director
(Male - 63)

Superiores de Monterrey and an M.B.A. from the Wharton Business School of the University of Pennsylvania (1980).

He is a grandson of the late Mr. Lorenzo Zambrano Gutiérrez, one of CEMEX, S.A.B. de C.V.'s founders, and a son of Mr. Marcelo Zambrano Hellion, who was a member of CEMEX, S.A.B. de C.V.'s Board of Directors from 1957 until his passing away and Chairman of the Board of Directors from 1979 to 1995. He has a family relationship with Tomás Milmo Santos, Ian Christian Armstrong Zambrano and Marcelo Zambrano Lozano, who are all members of CEMEX, S.A.B. de C.V.'s Board of Directors.

See “— Senior Management.”

Mr. Zambrano Lozano has been a member of the Board of Directors of CEMEX, S.A.B. de C.V. since March 31, 2017 and a member of the Sustainability Committee of CEMEX, S.A.B. de C.V. from July 27, 2017 to the present date. He is a founding partner and Executive Chairman of the Board of Directors of Carza, S.A. de C.V., a recognized construction company in the residential, commercial and industrial sectors. Currently, he is also a member of the boards of directors of Green Paper (formerly Productora de Papel, S.A. de C.V.), Fibra Inn (a trust that has securities trading in Mexico and in the U.S.), Nacional Financiera (NAFIN) Nuevo León Delegation, Grupo Vigía, S.A. de C.V. and Fundación Treviño Elizondo. Furthermore, he is a member of the General Council of Universidad de Monterrey, A.C. (UDEM) and of the General Board of Telmex. He is also an alternate member of the Board of Directors of AF Banregio, S.A. de C.V., SOFOM, E.R., Banregio Grupo Financiero and of Banregio Grupo Financiero, S.A.B. de C.V., which is a publicly listed company in Mexico.

His detailed knowledge of the real estate and construction industries, as well as the construction materials sector, provides the CEMEX, S.A.B. de C.V. Board of Directors with an extensive view of the main trends in the sector, thus helping CEMEX to anticipate and satisfy the needs of customers in each of the market segments CEMEX participates in.

He graduated with a degree in Marketing from the Instituto Tecnológico y de Estudios Superiores de Monterrey.

Name, Position (Age)

Experience

Ian Christian Armstrong Zambrano
Non-Independent Director
(Male - 39)

Mr. Zambrano Lozano has a familial relationship with Mr. Rogelio Zambrano Lozano, Chairman of CEMEX, S.A.B. de C.V.'s Board of Directors, Tomás Milmo Santos and Ian Christian Armstrong Zambrano, both members of CEMEX, S.A.B. de C.V.'s Board of Directors.

Mr. Armstrong Zambrano has been a member of CEMEX, S.A.B. de C.V.'s Board of Directors since March 26, 2015, and a member of the Sustainability Committee of CEMEX, S.A.B. de C.V. since it was established on September 25, 2014. Currently, he is a founding partner and President of Biopower, which provides the private and public sectors with voltage optimization solutions and services related to quality of energy, as well as a founding member of RIC Energy Mexico, which is a qualified energy services provider and power generator. Mr. Armstrong Zambrano is also member of the Boards of Directors of Tec Salud and Fondo Zambrano Hellión. With his experience in the financial and energy sectors, Mr. Armstrong Zambrano has advised and carried out several projects with leading multinational companies in Mexico. Thus, in addition to contributing his knowledge to CEMEX, S.A.B. de C.V.'s Sustainability Committee to evaluate energy projects, he provides strategic guidance to the CEMEX, S.A.B. de C.V. Board of Directors for the development and global expansion of CEMEX.

He had previously been a provisional member of CEMEX, S.A.B. de C.V.'s Board of Directors since May 15, 2014 until March 2015 and was Vice President of Promotion and Analysis at Evercore Casa de Bolsa.

Mr. Armstrong Zambrano is a graduate in Business Administration from the Instituto Tecnológico y de Estudios Superiores de Monterrey and holds an M.B.A. from the IE Business School.

He has a familial relationship with Rogelio Zambrano Lozano, Chairman of CEMEX, S.A.B. de C.V.'s Board of Directors, and Marcelo Zambrano Lozano, a member of CEMEX, S.A.B. de C.V.'s Board of Directors.

Armando J. García Segovia
Independent Director
(Male - 67)

Mr. García Segovia has been a member of CEMEX, S.A.B. de C.V.'s Board of Directors since 1983 and a member of the Sustainability Committee of CEMEX, S.A.B. de C.V. since it was established on

Name, Position (Age)

Experience

September 25, 2014. Currently, he is the alternate director of the board of Grupo Cementos de Chihuahua, S.A.B. de C.V., member of the Board of Directors of Hoteles City Express, S.A.P.I. de C.V. and of Innovación y Conveniencia, S.A. de C.V. (formerly Grupo Chapa, S.A. de C.V.). He is also a member of the Board of Directors of Universidad de Monterrey, A.C. (UDEM), Unidos para la Conservación, Pronatura Noreste, A.C. and Vice President of the Patronato del Museo de la Fauna y Ciencias Naturales, A.B.P., as well as member of the Consejo de Participación Ciudadana de Parques y Vida Silvestre de Nuevo León. Mr. García Segovia is also honorary consul in Monterrey of the Kingdom of Denmark. He is also founder and Chairman of the Board of Directors of Comenzar de Nuevo, A.C.

He brings to the CEMEX, S.A.B. de C.V. Board of Directors a considerable level of detailed knowledge of different aspects of CEMEX, as well as a commitment to the care and conservation of nature, which allows him to make significant contributions to the constant strengthening of CEMEX's sustainability policy, a central component of CEMEX's business strategy focused on creating long-term value.

He initially joined CEMEX in 1975, was employed at Cydsa, S.A. from 1979 to 1981, at Conek, S.A. de C.V. from 1981 to 1985 and rejoined CEMEX in 1985. During his second stint at CEMEX, he occupied multiple positions from 1985 to March 2010, being Director of Operations, Strategic Planning, Corporate Services and Affiliates, Development, and also Executive Vice President of Development, and of Technology, Energy and Sustainability. He was also Vice President of the Mexican Employers' Association (Confederación Patronal de la República Mexicana or "COPARMEX"), member of the Board and former Chairman of the Private Sector Center for Sustainable Development Studies (Centro de Estudios del Sector Privado para el Desarrollo Sustentable), former Chairman of COPARMEX Nuevo León, Chairman and member of the Board of Directors of Gas Industrial de Monterrey, S.A. de C.V., served as Chairman of an Advisory Board of the School of Engineering and Information Technology of the Instituto Tecnológico y de Estudios Superiores de Monterrey, a member of the Board of Directors of the World Environmental

Name, Position (Age)

Experience

Rodolfo García Muriel
Independent Director
(Male - 73)

Center and President of the Advisory Council of Flora y Fauna del Estado de Nuevo León, A.C.

He is a graduate of the Instituto Tecnológico y de Estudios Superiores de Monterrey with a degree in Mechanical Engineering and Administration and holds an M.B.A. from the University of Texas.

He has a familial relationship with Rodolfo García Muriel, a member of CEMEX, S.A.B. de C.V.'s Board of Directors.

Mr. García Muriel has been a member of CEMEX, S.A.B. de C.V.'s Board of Directors since 1985, a member of the corporate practices and finance committee since March 26, 2015 and member of the audit committee since March 31, 2016. He is Chief Executive Officer of Compañía Industrial de Parras, S.A. de C.V., Chairman of the Board of Directors of Grupo Romacarel, S.A.P.I de C.V., a member of the Board of Directors of Comfort Jet, S.A. de C.V., a member of the Regional Board of Directors of Grupo Financiero Banamex and a member of the directive board of the National Chamber of the Textile Industry (Cámara Nacional de la Industria Textil).

He is a business leader with a long history as a founder, director and president of many different companies in the manufacturing, construction, transport and communications industries, among others, thereby contributing his vast experience to CEMEX, S.A.B. de C.V.'s Board of Directors wide vision of the global business environment.

He was a member of CEMEX, S.A.B. de C.V.'s Finance Committee from 2009 until March 2015, as well as a member of CEMEX México's Board of Directors until February 2017.

He graduated with a degree in Electric Mechanical Engineering from the Universidad Iberoamericana and completed a specialized program in Business Administration at Harvard University and at the Anderson School of the University of California in Los Angeles (UCLA).

Mr. García Muriel has a familial relationship with Mr. Armando J. García Segovia, a member of CEMEX, S.A.B. de C.V.'s Board of Directors.

Name, Position (Age)

Dionisio Garza Medina
Independent Director
(Male - 65)

Experience

Mr. Garza Medina has been a member of CEMEX, S.A.B. of C.V.'s Board of Directors since 1995, and on March 26, 2015 he was appointed member and president of the corporate practices and finance committee. He is founder, Chairman of the Board of Directors and CEO of TOPAZ, S.A.P.I. de C.V., a company dedicated to the energy, education and real estate sectors. Currently, he is also a member of the Board of Directors of ABC Holding, S.A.P.I. of C.V. and of Autlán, S.A.B. of C.V. (a publicly listed company in Mexico).

With his extensive business experience and in-depth knowledge of the energy, oil and education sectors, the economy and global markets in general, Mr. Garza Medina brings to CEMEX, S.A.B. de C.V.'s Board of Directors a strategic vision that contributes to the achievement of CEMEX's business objectives, including the constant strengthening and improvement of CEMEX's corporate governance practices.

Mr. Garza Medina developed his professional career at ALFA, S.A.B. de C.V., where he held senior executive positions for 35 years, including Chief Executive Officer and Chairman of the Board of Directors, until he retired in March 2010. He was also Chairman of the Board of the University of Monterrey, A.C. for 13 years, as well as member of the Advisory Committee of the David Rockefeller Center for Latin American Studies at Harvard University, the Advisory Council of the Stanford University School of Engineering and the Latin American Advisory Board of the Harvard Business School, where he was President in 2009. He has served as Chairman of the Corporate Practices Committee of CEMEX, S.A.B. of C.V. since 2009.

Mr. Garza Medina graduated as an industrial engineer and holds a Master's degree in Industrial Engineering from Stanford University, where he earned the F. Terman Award. He also holds an M.B.A. from Harvard University.

José Manuel Rincón Gallardo Purón
Independent Director
(Male - 76)

Was a member of CEMEX, S.A.B. de C.V.'s board of directors from 2003 until March 28, 2019. On March 26, 2015, he was appointed as President of CEMEX, S.A.B. de C.V.'s audit committee, where he qualified as a "financial expert" for purposes of the Sarbanes-Oxley Act of 2002 and was its President until March 28, 2019. He is president of the board of

Name, Position (Age)

Experience

Francisco Javier Fernández Carbajal
Independent Director
(Male - 64)

directors of Sonoco de México S.A. de C.V., member of the board of directors and audit committees of Grupo Financiero Citibanamex, Grupo Herdez, S.A. de C.V., Peña Verde, S.A.B., Cinépolis, S.A. de C.V., Citelis, S.A. de C.V., Grupo Proa, S.A. de C.V., Centro Inter de Servicios, S.A. de C.V. and chairman of the board of directors of Invekra, S.A.P.I. de C.V. and Fondo Walmex, S.A. de C.V. Mr. Rincón Gallardo is a member of the Instituto Mexicano de Contadores Públicos, A.C., he was a managing partner of KPMG México, and was member of the board of directors of KPMG United States and KPMG International. He was a member of CEMEX México's board of directors until February 2017. He is also a member of the Corporate Practices Committee of Consejo Coordinador Empresarial (CCE). He is a certified public accountant from the Universidad Nacional Autónoma de México.

Mr. Fernández Carbajal has been a member of CEMEX, S.A.B. de C.V.'s Board of Directors since February 2012. On March 26, 2015, he was appointed as a member of CEMEX, S.A.B. de C.V.'s audit committee, corporate practices and finance committee and, on April 28, 2016, was elected by CEMEX, S.A.B. de C.V.'s Board of Directors to participate in its Sustainability Committee. He remains a member of these committees.

Mr. Fernández Carbajal is also the current Chief Executive Officer of Servicios Administrativos Contry, S.A. de C.V., a privately held company that provides investment management and central administrative services. Furthermore, Mr. Fernández Carbajal is a member of the Board of Directors of the following public companies: Alfa, S.A.B. de C.V., Fomento Económico Mexicano, S.A.B. de C.V. and VISA, Inc. (a company that is publicly listed in the United States)

He has a 38-year business career that has allowed him to gain substantial knowledge in relation to payment systems, financial services and senior leadership experience from his tenure in Grupo Financiero BBVA Bancomer, Mexico's largest financial services company, in which he served in a diverse array of senior executive roles, including Executive Vice President of Strategic Planning, Deputy President of Systems and Operations, Chief Information Officer, Deputy President and Chief Financial Officer.

Name, Position (Age)

Experience

Armando Garza Sada
Independent Director
(Male - 61)

His background and career related to the payments and financial services industry enables him to bring a global perspective to CEMEX, S.A.B. de C.V.'s Board of Directors and to provide relevant insights in relation to strategic planning, operations and management and an enhanced understanding of risk management of large, complex organizations. In addition, as the Chief Financial Officer of a large publicly traded company, and through his board and committee membership in several large companies in Mexico and the United States, he has accumulated extensive experience in corporate finance and accounting, financial reporting and internal controls, and human resources and compensation, which contributes to his service on CEMEX, S.A.B. de C.V.'s Board of Directors.

He graduated with a degree in Electric Mechanical Engineering from the Instituto Tecnológico y de Estudios Superiores de Monterrey and holds an M.B.A. from Harvard Business School.

Mr. Garza Sada has been a member of CEMEX, S.A.B. de C.V.'s Board of Directors and corporate practices and finance committee since March 26, 2015. Mr. Garza Sada is currently the Chairman of the Board of Directors of ALFA, S.A.B. de C.V., a public company with a business portfolio that includes refrigerated food, petrochemicals, aluminum auto parts, IT and communications, and hydrocarbons, with operations in 28 countries. Currently, he is a member of the Board of Directors of Alpek, S.A.B. de C.V., Axtel, S.A.B. de C.V., BBVA Bancomer, Nemak S.A.B. de C.V., El Puerto de Liverpool, S.A.B. de C.V., Grupo Lamosa, S.A.B. de C.V., Fomento Económico Mexicano, S.A.B. de C.V. and Grupo Proeza, S.A.P.I. de C.V., all of which are public companies, as well as Instituto Tecnológico y de Estudios Superiores de Monterrey.

The performance at the highest corporate level of Mr. Garza Sada in companies in the manufacturing sectors provides CEMEX, S.A.B. de C.V.'s Board of Directors a unique insight on the global economic and commercial landscape, thus allowing the constant improvement of CEMEX's business strategy.

He also has participated in university and think tank boards, thus developing some knowledge of education and economic development.

Name, Position (Age)

Experience

David Martínez Guzmán
Independent Director
(Male - 61)

Mr. Garza Sada holds a Bachelor's degree from the Massachusetts Institute of Technology and an M.B.A. from Stanford University.

Mr. Martínez Guzmán has been a member of CEMEX, S.A.B. de C.V.'s Board of Directors since March 26, 2015. Mr. Martínez Guzmán is the Principal and founder of Fintech Advisory Inc., successor of Fintech, Inc., and managing director of its London subsidiary Fintech Advisory, Ltd. He currently serves on the boards of Mexican companies Alfa, S.A.B. de C.V., Vitro, S.A.B. de C.V., ICA Tenedora, S.A. de C.V., as well as the board of Sabadell Bank in Spain, all of which are public companies.

He brings extensive knowledge and expertise in the financial sector and global markets to CEMEX, S.A.B. de C.V.'s Board of Directors, which allows Mr. Martínez Guzmán to provide significant guidance regarding CEMEX's financial strategy and contribute directly to CEMEX's business strategy focused on regaining CEMEX's investment grade credit metrics.

After receiving his M.B.A. in 1984, Mr. Martínez Guzmán joined Citibank, N.A. in New York in the Latin America Sovereign Restructuring unit, where he helped coordinate the 1984 Argentina Financing Plan and subsequent restructuring.

In 1987, he formed Fintech in New York to trade and structure transactions in both sovereign and corporate debt of emerging economies and is recognized as one of the earliest participants in the secondary market for these securities. Since its formation, Fintech has participated in most of the sovereign debt restructurings around the world, starting with the Brady Plan in the 1980s, which was developed to provide substantial debt relief to countries suffering from economic stagnation and to stimulate growth and enable those countries to regain access to global capital markets.

In the corporate sector, over the last three decades, Mr. Martínez Guzmán has consistently pursued high-value strategic investments through numerous restructurings across various industries in Latin America, forging partnerships with local shareholders and management. Over the last decade, Mr. Martínez Guzmán has also pursued strategic investments in the

Name, Position (Age)

Experience

Everardo Elizondo Almaguer
Independent Director
(Male - 75)

Eurozone periphery. His involvement in the region also includes active participation in the recapitalization process of systemically important banks in Greece, Spain and Italy.

Mr. Martínez Guzmán holds a Master's degree in Business Administration from Harvard Business School. He holds a Bachelor of Arts degree in Philosophy from the Universitas Gregoriana in Rome, Italy, and a Bachelor of Science degree in Mechanical and Electrical Engineering from the Universidad Nacional Autónoma de México.

Mr. Elizondo Almaguer has been a member of CEMEX, S.A.B. de C.V.'s Board of Directors since March 31, 2016. Mr. Elizondo is a professor of economics and international finance at EGADE Business School of the Instituto Tecnológico y de Estudios Superiores de Monterrey. He is also a professor of monetary policy in the School of Economics of the Universidad Autónoma de Nuevo León. Currently, he is a member of the Board of Directors of the following public companies: Grupo Financiero Banorte, S.A.B. de C.V.'s, Autlán, S.A.B. de C.V., Rassini, S.A.B. de C.V., Gruma, S.A.B. de C.V. and Grupo Senda Autotransporte, S.A. de C.V.

With his renowned career as a financial analyst, exemplary public official and university scholar, Mr. Elizondo Almaguer brings to CEMEX, S.A.B. de C.V.'s Board of Directors an extensive knowledge of the financial system and the macroeconomic environment at the international level, contributing to the strategy design and business initiatives to enhance CEMEX's growth. In particular, he is being proposed as the President of CEMEX, S.A.B. de C.V.'s audit committee, where he qualifies as a "financial expert" for purposes of the Sabarnes-Oxley Act of 2002, as a result of the expertise he has gained through experience in, and an understanding of, internal control over financial reporting, as well as oversight of independent auditors in companies that have been publicly listed in Mexico and in the United States, with respect to the preparation, auditing or evaluation of financial statements, which is supplemented with several decades of experience in the banking/finance industry and academia.

He was the director for economic studies at Alfa, S.A.B. de C.V. and Grupo Financiero BBVA Bancomer, S.A. de C.V. Additionally, he founded

Name, Position (Age)

Experience

Ramiro Gerardo Villarreal Morales
Non-Independent Director
(Male - 71)

and was the director of the Graduate School of Economics of the Universidad Autónoma de Nuevo León and he was deputy governor of the Banco de México from 1998 to 2008.

Mr. Elizondo Almaguer is a graduate in Economics from the Universidad de Nuevo León, and holds a Master's degree in Economics from the University of Wisconsin-Madison and a certificate from Harvard's International Tax Program.

Mr. Villarreal Morales has been a member of the Board of Directors of CEMEX, S.A.B. de C.V. since 2017. He is currently also a member of the Board of Directors of Grupo Cementos de Chihuahua, S.A.B. de C.V., the real estate development company Vinte Viviendas Integrales, S.A.B. de C.V. and Banco Bancrea, S.A. Institución de Banca Múltiple, all of which are public companies.

With his vast knowledge and experience within CEMEX, Mr. Villarreal Morales offers the CEMEX, S.A.B. de C.V.'s Board of Directors key guidance in regulatory and legal matters, as well as extensive knowledge related to corporate governance and financial transactions issues.

Mr. Villarreal Morales has more than 50 years of professional experience in the legal and financial fields. He joined CEMEX in 1987 as General Legal Director and served in different positions, including Executive Vice President of Legal, Advisor to the Chairman of the Board of Directors and the Chief Executive Officer of CEMEX until December 2017. Prior to this, he served as General Director of Banca Regional de Banpaís, a financial institution where he was responsible for the operation of the bank's 121 branches, and, until February 2012, he was the secretary of the Board of Directors of Enseñanza e Investigación Superior, A.C., a non-profit company that manages the Instituto Tecnológico y de Estudios Superiores de Monterrey. Likewise, he served as Secretary of CEMEX, S.A.B. de C.V.'s Board of Directors from 1995 to March 30, 2017 and was the Secretary of CEMEX México's Board of Directors until February 2017.

He graduated with a degree in Law with honorary citation from the Universidad Autónoma de Nuevo León and received a Master's of Science degree in Finance from the University of Wisconsin-Madison, where he was appointed to the honor roll.

Name, Position (Age)

Gabriel Jaramillo Sanint
Independent Director
(Male - 69)

Experience

Mr. Jaramillo Sanint has been a member of CEMEX, S.A.B. de C.V.'s Board of Directors since 2018. Currently, he is also a member of the boards of Minerva Foods (Brazil), Phoenix Group (USA) and the non-profit organization Medicines For Malaria Ventures, based in Geneva, Switzerland, and founded and manages a program of sustainable economic development in the Orinoco Basin in Colombia.

With an outstanding 35-year career in the financial sector and in the field of philanthropy, being mainly focused on the health sector, as well as a deep knowledge of the overall U.S. and SCA&C regions, Mr. Jaramillo Sanint not only brings to CEMEX, S.A.B. de C.V.'s Board of Directors an extensive experience in financial matters, but also in corporate social responsibility, one of the pillars of CEMEX's global business strategy to achieve sustainable growth and create long-term value.

Among other positions, he was a member of the Board of Directors of CEMEX Latam Holdings, S.A. He also served as Chairman of the Board of Directors and CEO of Santander USA (Sovereign Bank), Banco Santander Brasil, Banco Santander Colombia and CEO of Citibank Mexico and Citibank Colombia.

After his retirement, he has concentrated on philanthropic work in Global Health, leading the transformation of the Global Fund to Fight AIDS, TB and Malaria. As a consequence of the turnaround, the Global Fund raised \$13 billion from 2017 to 2020.

Mr. Jaramillo Sanint holds an M.B.A. and Bachelor's degree in Marketing from California State University. In 2015, Mr. Jaramillo received honorary degrees from Universidad Autonoma de Manizales and North Eastern University.

Senior Management and Board Composition

As of December 31, 2018, all members of our senior management and of CEMEX, S.A.B. de C.V.'s board of directors were male. A female was appointed to CEMEX, S.A.B. de C.V.'s board of directors on March 28, 2019.

As of December 31, 2018, there were no alternate members in CEMEX, S.A.B. de C.V.'s board of directors.

Board Practices

In compliance with the Mexican Securities Market Law (*Ley del Mercado de Valores*), which was enacted on December 28, 2005 and became effective on June 28, 2006 (the "Mexican Securities Market Law"), CEMEX,

S.A.B. de C.V.'s shareholders approved, at an extraordinary shareholders' meeting held on April 27, 2006, a proposal to amend various articles of CEMEX, S.A.B. de C.V.'s by-laws (*estatutos sociales*), in order to improve our standards of corporate governance and transparency, among other matters. The amendments included outlining the fiduciary duties of the members of CEMEX, S.A.B. de C.V.'s board of directors, who are now required:

- to perform their duties in a value-creating manner for the benefit of CEMEX without favoring a specific shareholder or group of shareholders;
- to act diligently and in good faith by adopting informed decisions; and
- to comply with their duty of care and loyalty, abstaining from engaging in illicit acts or activities.

The Mexican Securities Market Law also eliminated the position of statutory examiner, whose duties of surveillance are now the responsibility of the board of directors, fulfilled through the corporate practices and finance committee the audit committees, as well as through the external auditor who audits the entity's financial statements, each within its professional role. With its surveillance duties, CEMEX, S.A.B. de C.V.'s board of directors is no longer in charge of managing CEMEX; instead, this is the responsibility of CEMEX, S.A.B. de C.V.'s chief executive officer.

Pursuant to the Mexican Securities Market Law and CEMEX, S.A.B. de C.V.'s by-laws, at least 25% of its directors must qualify as independent directors.

Other than any contractual arrangements entered into with any member of CEMEX, S.A.B. de C.V.'s board of directors while employed by us, which provide or may provide for retirement and pension benefits, CEMEX, S.A.B. de C.V. has not entered into any service contracts with its directors that provide for benefits upon termination of employment.

The Audit Committee, the Corporate Practices and Finance Committee and Other Committees

The Mexican Securities Market Law required CEMEX, S.A.B. de C.V. to create a corporate practices committee comprised entirely of independent directors, in addition to its then existing audit committee. In compliance with such requirement, in 2006 CEMEX, S.A.B. de C.V. increased the responsibilities of its audit committee and changed its name to "corporate practices and audit committee." To further enhance the effectiveness of its corporate governance, at CEMEX, S.A.B. de C.V.'s annual general ordinary shareholders' meeting held on April 23, 2009, CEMEX, S.A.B. de C.V.'s shareholders approved the division of this committee into two committees with different members and responsibilities: the audit committee and the corporate practices committee. In addition, at the annual general ordinary shareholders' meeting held on April 29, 2010, CEMEX, S.A.B. de C.V.'s shareholders approved the creation of the finance committee. In addition, at the annual general ordinary shareholders' meeting held on March 26, 2015, CEMEX, S.A.B. de C.V.'s shareholders approved that the then-existing corporate practices committee take over certain responsibilities of the then-existing finance committee and changes its name to "corporate practices and finance committee."

CEMEX, S.A.B. de C.V.'s audit committee is responsible for:

- evaluating our internal controls and procedures and identifying deficiencies;
- following up with corrective and preventive measures in response to any non-compliance with our operation and accounting guidelines and policies;
- evaluating the performance of our external auditors;
- describing and valuing non-audit services performed by our external auditor;
- reviewing CEMEX, S.A.B. de C.V.'s financial statements;
- assessing the effects of any modifications to the accounting policies approved during any fiscal year;

- overseeing measures adopted as a result of any observations made by CEMEX, S.A.B. de C.V.’s shareholders, directors, executive officers, employees or any third parties with respect to accounting, internal controls and internal and external audit, as well as any complaints regarding management irregularities, including anonymous and confidential methods for addressing concerns raised by employees; and
- analyzing the risks identified by CEMEX, S.A.B. de C.V.’s independent auditors, accounting, internal control and process assessment areas.

CEMEX, S.A.B. de C.V.’s corporate practices committee and finance committee is responsible for:

- evaluating the hiring, firing and compensation of CEMEX, S.A.B. de C.V.’s chief executive officer;
- reviewing the hiring and compensation policies for CEMEX, S.A.B. de C.V.’s executive officers;
- reviewing related party transactions;
- reviewing policies regarding use of corporate assets;
- reviewing unusual or material transactions;
- evaluating waivers granted to our directors or executive officers regarding seizure of corporate opportunities;
- identifying, evaluating and following up on the operating risks affecting the company and its subsidiaries;
- evaluating the company’s financial plans;
- reviewing the company’s financial strategy and its implementation; and
- evaluating mergers, acquisitions, review of market information and financial plans, including financing and related transactions.

Under CEMEX, S.A.B. de C.V.’s by-laws and the Mexican Securities Market Law, all members of the corporate practices and finance committee and the audit committee, including their presidents, are required to be independent directors. The president of the audit committee and the corporate practices and finance committee shall be appointed and removed from his or her position only by the general shareholders’ meeting, and the rest of the members may only be removed by a resolution of the general shareholders or of the board of directors.

Set forth below are the names of the members of CEMEX, S.A.B. de C.V.’s audit committee and corporate practices and finance committee as of December 31, 2018. Each member of the committees is an independent director. The terms of the members of the committees are indefinite. Jose Manuel Rincon Gallardo Puron qualified, up to the date he was not re-appointed as a member of CEMEX, S.A.B. de C.V.’s board of directors, as an “audit committee financial expert” for purposes of the Sarbanes Oxley Act of 2002. See “Item 16A—Audit Committee Financial Expert.”

AUDIT COMMITTEE:

Jose Manuel Rincon Gallardo Puron	President
Francisco Javier Fernandez Carbajal	
Rodolfo García Muriel	
Everardo Elizondo Almaguer	

CORPORATE PRACTICES AND FINANCE COMMITTEE:

Dionisio Garza Medina	President
Francisco Javier Fernandez Carbajal	
Rodolfo García Muriel	
Armando Garza Sada	

Set forth below are the names of the members of CEMEX, S.A.B. de C.V.'s audit committee and corporate practices and finance committee as of the date of this annual report. Each member of the committees is an independent director. The terms of the members of the committees are indefinite. Everardo Elizondo Almaguer qualifies as an "audit committee financial expert" for purposes of the Sarbanes Oxley Act of 2002. See "Item 16A—Audit Committee Financial Expert."

AUDIT COMMITTEE:

Everardo Elizondo Almaguer	President
Rodolfo García Muriel	
Francisco Javier Fernández Carbajal	

CORPORATE PRACTICES AND FINANCE COMMITTEE:

Francisco Javier Fernández Carbajal	President
Dionisio Garza Medina	
Rodolfo García Muriel	
Armando Garza Sada	

In addition, at a meeting of CEMEX, S.A.B. de C.V.'s board of directors held on September 25, 2014, CEMEX, S.A.B. de C.V.'s directors approved the creation of a sustainability committee.

CEMEX, S.A.B. de C.V.'s sustainability committee is responsible for:

- ensuring sustainable development in CEMEX's strategy;
- supporting CEMEX, S.A.B. de C.V.'s board of directors in fulfilling its responsibility to shareholders regarding sustainable growth;
- evaluating the effectiveness of sustainability programs and initiatives;
- proving assistance to CEMEX's Chief Executive Officer and senior management team regarding the strategic direction on sustainability; and
- endorsing a model of sustainability, priorities and key indicators.

As of the date of this annual report, the members of CEMEX, S.A.B. de C.V.'s sustainability committee are:

Armando J. García Segovia	President
Francisco Javier Fernández Carvajal	Member
Ian Christian Armstrong Zambrano	Member
Marcelo Zambrano Lozano	Member

Compensation of CEMEX, S.A.B. de C.V.'s Directors and Members of Our Senior Management

For the year ended December 31, 2018, the aggregate amount of compensation we paid, or our subsidiaries paid, to all members of CEMEX, S.A.B. de C.V.'s board of directors and senior management, as a group, was U.S.\$38 million, of which U.S.\$29 million was paid as base compensation plus performance bonuses, including pension and post-employment benefits, and U.S.\$9 million corresponds to stock-based compensation. During 2018, we issued approximately 14 million CPOs to this group pursuant to the Restricted Stock Incentive Plan ("RSIP") described below under "—Restricted Stock Incentive Plan (RSIP)."

Restricted Stock Incentive Plan (RSIP)

Under the terms of the RSIP, eligible employees are allocated a specific number of restricted CPOs as variable compensation to be vested over a four-year period. CPOs to cover the RSIP are issued pursuant to the

corresponding approvals from the CEMEX, S.A.B. de C.V. ordinary general shareholders' meetings. The CPOs are held in an individual account with a third-party supplier. At the end of each year during such four-year period, the restrictions lapse with respect to 25% of the allocated CPOs and such CPOs became freely transferable and subject to withdrawal from the trust. This current variable remuneration plan has been applied to all its applicable participants since 2009, and it constitutes a further development to the variable remuneration plan that started in 2005.

As of the date of this annual report, we have three compensation programs that conform to the RSIP, the first program is known as the "Ordinary Plan," the second as the "KVP Plan" and the third as the "Performance Plan". Most participants participate in only one of the programs, the Ordinary Plan, and only KVPs participate in both the KVP Plan and the Performance Plan.

As of December 31, 2018, the CPO Ordinary Plan had around 557 participants, which constitute the top employees of the company. The annual award under the Ordinary Plan is calculated based on the result of the gross annual guaranteed compensation of the participants in U.S. Dollars as of May 31 of each calendar year, times a management factor, that, depending on the level of the participant, is 28%, 24%, 18% or 12%, and divided by the last 90-day average closing price, converted into U.S. Dollars, of CPOs as of June 29 of such calendar year.

As of December 31, 2018, the KVP Plan had around 60 participants, which constitute employees in Key Value Positions. The annual award under the KVP Plan is based on the result of the cash variable compensation bonus in U.S. Dollars paid in April 2018 to these participants and divided by the closing price, converted into U.S. Dollars, of CPOs as of April 16 of each calendar year.

The total number of CPOs granted for the Ordinary Plan and the KVP Plan during 2018 were approximately 32 million and 22 million, respectively, of which approximately 11 million were related to our senior management. In 2018, approximately 49 million CPOs of the Ordinary Plan and KVP Plan were issued, representing the first 25% of the 2018 compensation program, the second 25% of the 2017 compensation program, the third 25% of the 2016 compensation program and the final 25% of the 2015 compensation program. Of these 49 million CPOs, approximately 14 million CPOs corresponded to our senior management.

Starting in 2017, a third compensation program, known as the Performance Plan, replaced the Ordinary Plan that our KVP Plan participants received prior to 2017. The Performance Plan entails calculating a specific target of CPOs for each plan participant. The final payout under such plan can range from 0% to 200% of the target of CPOs according to CEMEX, S.A.B. de C.V.'s three-year total shareholder return relative to two market references: one market reference is comprised of seven public companies from the global construction and materials industry, and the second market reference is comprised of the 107 companies of the Morgan Stanley Capital International (MSCI) of Emerging Markets – LATAM Industry Index.

Under the Performance Plan, the vesting period occurs at the end of three years in a single 100% block, at which time the resultant number of CPOs become unrestricted immediately. Approximately 10 million CPOs were granted during 2017 under the Performance Plan, with an estimated fair value of 139%, which are expected to vest on July 1, 2020. For 2018, approximately 15 million CPOs were granted under the Performance Plan, with an estimated fair value of 149%, which are expected to vest on July 1, 2021.

See note 21 to our 2018 audited consolidated financial statements included elsewhere in this annual report.

CLH Employee stock-ownership plan

To better align CLH's executives' interests with those of its stockholders, on January 16, 2013, CLH's board of directors approved, effective as of January 1, 2013, a long-term incentive plan available to eligible executives of CLH, which consists of an annual compensation plan based on CLH shares. The underlying shares in this long-term incentive plan, which are held in the CLH's treasury and subject to certain restrictions, are delivered fully vested under each annual program over a service period of four years. During 2018, 2017 and 2016, CLH delivered 258,511 shares, 172,981 shares and 271,461 shares, respectively, corresponding to the

vested portion of prior years' grants, which were subscribed and held in CLH's treasury. As of December 31, 2018, there are 1,162,186 shares of CLH associated with these annual programs that are expected to be delivered in the following years as the executives render services.

CEMEX Holdings Philippines Employee Restricted Stock Incentive Plan

Starting in 2018, a CHP compensation plan was granted to Philippines eligible participants. While this plan replaced their Ordinary CPO plan the mechanics of the plan remain the same. As of December 31, 2018, there were 11 eligible participants with a total award of 5.3 million CHP shares. The first 25% of these shares were granted during 2018.

Compensation of CEMEX, S.A.B. de C.V.'s Chief Executive Officer and senior management

2018 Chief Executive Officer	<u>%</u>
Salary	20%
Short Term Performance Bonus (Cash)	20%
Short Term Performance Bonus (Restricted Stock)	40%
Long Term Performance Shares	<u>20%</u>
	100%
 2018 Senior Management	 <u>%</u>
Salary	42%
Short Term Performance Bonus (Cash)	22%
Short Term Performance Bonus (Restricted Stock)	22%
Long Term Performance Shares	<u>14%</u>
	100%

The short-term variable performance bonus is paid in both cash and restricted shares and the long-term variable performance bonus is paid in the form of restricted shares. We use Cash Value Added to measure short-term performance bonus.

CEMEX, S.A.B. de C.V.'s board of directors is compensated in a fixed manner based on participation in board meetings. The Chairman of CEMEX, S.A.B. de C.V.'s board of directors, however, is compensated in a similar manner as CEMEX, S.A.B. de C.V.'s senior management, including through the long-term performance plan based on CEMEX's total shareholder return versus peer groups. The base salary of the Chairman of CEMEX, S.A.B. de C.V.'s board of directors is 27% fixed and the remaining 73% is variable compensation.

The compensation structure, including the competitiveness factor, as well as the mix between base and variable compensation, is reviewed every two years. This review analysis is performed by the firm of Willis, Towers, Watson versus a size adjusted General Industry U.S. Market.

Employees

As of December 31, 2018, we had 42,024 employees worldwide, which represented an increase of approximately 2.8% from the total number of employees we had as of December 31, 2017.

The following table sets forth the number of our full-time employees and a breakdown of their geographic location as of December 31, 2016, 2017 and 2018:

<u>Location</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
Mexico	11,249	11,113	11,818
United States	9,830	8,426	8,702
Europe			
United Kingdom	2,922	2,867	2,937
France	1,833	1,853	1,905
Germany	1,473	1,493	1,532
Spain	1,722	1,843	2,025
Poland	1,147	1,125	1,104
Rest of Europe	2,025	2,128	2,234
South, Central America and the Caribbean			
Colombia	3,048	2,720	2,615
Panama	724	707	685
Costa Rica	384	380	377
Caribbean TCL	—	571	673
Rest of South, Central America and the Caribbean	2,582	2,503	2,310
Asia, Middle East and Africa			
Egypt	679	675	576
Philippines	710	688	706
Rest of Asia, Middle East and Africa	1,864	1,786	1,825
Total	<u>42,192</u>	<u>40,878</u>	<u>42,024</u>

In Mexico, as of December 31, 2018, we have entered into collective bargaining agreements on a plant-by-plant basis, and such collective bargaining agreements are renewable on an annual basis with respect to salaries and on a biannual basis with respect to benefits. During 2018, we renewed approximately 102 contracts with different labor unions in Mexico.

In the United States, as of December 31, 2018, approximately 29% of our employees were represented by unions, with the largest number being members of the International Brotherhood of Teamsters, the Laborers' International Union of North America, United Steelworkers, International Union of Operating Engineers and the International Brotherhood of Boilermakers. We have entered into or are in the process of negotiating various collective bargaining agreements at many of our United States plants, which collective bargaining agreements have various expiration dates through January 31, 2024.

In Spain, as of December 31, 2018, (i) our employees in the cement business had a company-specific collective bargaining agreement that is renewable in 2021 on a legal entity and business basis and (ii) some of our employees in the ready-mix concrete, mortar, aggregates and transport sectors had industry-specific collective bargaining agreements.

In the United Kingdom, as of December 31, 2018, our cement manufacturing and cement logistics operations had collective bargaining agreements with Unite the Union. The rest of our operations in the United Kingdom are not part of collective bargaining agreements. However, there are local agreements for consultations and employees can be represented by a trade union official at specific types of meetings.

In Germany, as of December 31, 2018, most of our employees are working under collective bargaining agreements with the Industriegewerkschaft Bauen Agrar Umwelt—IG B.A.U. union. Most employees are subject to the in-house bargaining agreement with the IG B.A.U., which means salaries are negotiated between the applicable company and the trade union IG B.A.U. Collective bargaining agreement negotiations for cement

operations employees occurred between employers' associations Arbeitgeberverband Zement e.V. and IG B.A.U. during the second quarter of 2018. Both negotiations led to the execution of agreements. The period of both agreements began in June 2018 and will end in June 2020. In addition, there are internal company agreements, negotiated between the works council and the company itself. The next works council elections for most areas will take place during 2019.

In France, as of December 31, 2018, less than 5% of our employees were members of one of the five main unions. At least one representative from one of the five main unions was represented in the following legal entities: Cemex Granulats (two representatives), Cemex Bétons Nord Ouest (one representative), Cemex Bétons Ile de France (three representatives), Cemex Bétons Sud Est (one representative) and Cemex Granulats Rhône Méditerranée (two representatives). All agreements are negotiated with unions and non-union representatives elected in the local workers council (*Comité social et économique*) for periods of four years.

In Panama, as of December 31, 2018, approximately 59% of our workforce were members of Sindicato de Trabajadores de Cemento Bayano, a union which is a legal entity registered before the Panamanian Ministry of Labor. The union's board of directors is elected every two to four years through a general voting process. The collective bargaining agreement that is currently in full force and effect was entered into in January 2016 and expires in December 2019. In March 2019, we expect to start negotiations of the collective bargaining agreement for the period beginning in January 2020.

In Colombia, as of December 31, 2018, there were five regional sectionals of a single industry union that represents our employees at the Caracolito, Clemencia, Bucaramanga, Cúcuta and Maceo cement plants and mills, and a minority part of the logistic operations at the national level. Another union represented a minority of the employees in the ready-mix concrete operations, and there was also another union in the logistic operation which currently have no affiliated CEMEX employees. There were also collective agreements with non-union workers at the Santa Rosa cement plant, all aggregates operations and the majority of the logistics and ready-mix concrete operations in Colombia. We consider our relationships with labor unions representing our employees in Colombia to be satisfactory.

In Caribbean TCL, as of December 31, 2018, the majority of our employees are party to collective bargaining agreements with the exception of those in the Guyana operations. Collective bargaining agreements in Trinidad and Barbados have all expired, however negotiations are currently ongoing regarding new agreements to replace those that have expired. In Jamaica, as of December 31, 2018, approximately 84% of our employees were represented by unions, with the largest number being members of the National Workers' Union (37%), Union of Clerical And Supervisory Employees (25%) and STAFF Association (22%). The collective bargaining agreement with the National Workers' Union ends in July 2019, and the two remaining collective bargaining agreements end in December 2018. However, there are ongoing negotiations to discuss the terms governing the new applicable period.

In Israel, as of December 31, 2018, our aggregates manufacturing and lime manufacturing operations had existing special collective bargaining agreements with the "Histadrut"—the largest employee organization in Israel. The rest of our operations in Israel are not part of collective bargaining agreements.

In the Philippines, as of December 31, 2018, approximately 31% of the non-managerial employees of our plants were members of, and were represented by, labor unions. Their labor conditions including wages and benefits are governed by collective bargaining agreements negotiated at the plant level. The Solid Cement Plant has one rank and file union and one supervisors' union. The collective bargaining agreement for the Solid Cement Plant with the supervisors' union that is in full force and effect will expire on December 31, 2022, while the rank and file union collective bargaining agreement will expire in February 28, 2023. The APO cement plant has two rank and two file unions. The collective bargaining agreement for the APO cement plant unions will expire in December 31, 2021.

In Egypt, as of December 31, 2018, the majority of our eligible employees were represented by the Assiut Cement Labor Union and the General Building Materials Union. The collective bargaining agreement, of which our employees are party to, governs annual profit share and productivity bonus payments. Such agreement will expire on December 31, 2021.

Share Ownership

As of December 31, 2018, to the best of our knowledge, our senior management and directors and their immediate families owned, collectively, approximately 1.64% of CEMEX, S.A.B. de C.V.'s outstanding shares, including shares underlying stock options and restricted CPOs under our RSIP. This percentage does not include shares held by the extended families of members of our senior management and directors, since, to the best of our knowledge, no voting arrangements or other agreements exist with respect to those shares. As of December 31, 2018, to the best of our knowledge, no individual director or member of our senior management beneficially owned one percent or more of any class of CEMEX, S.A.B. de C.V.'s outstanding capital stock and each such individual's share ownership has not been previously disclosed to shareholders or otherwise made public.

Item 7—Major Shareholders and Related Party Transactions

Major Shareholders

The information contained in Amendment No. 8 to a statement on Schedule 13G filed with the SEC on February 11, 2019, stated that as of December 31, 2018, BlackRock beneficially owned 1,552,173,623 CPOs, representing 10.2% of CEMEX, S.A.B. de C.V.'s outstanding capital stock. BlackRock does not have voting rights different from our other non-Mexican holders of CPOs. As required by CEMEX, S.A.B. de C.V.'s by-laws, CEMEX, S.A.B. de C.V.'s board of directors is required to approve BlackRock beneficial ownership of CEMEX, S.A.B. de C.V.'s outstanding capital stock. Pursuant to the authorizations by Board of Directors, BlackRock is authorized to acquire up to 13% of capital stock.

The information contained in Schedule 13G filed with the SEC on February 14, 2019, stated that as of December 31, 2018, Dodge & Cox, an investment adviser registered under the United States Investment Advisers Act of 1940, as amended, beneficially owned 124,800,090 ADSs, representing 8.2% of CEMEX, S.A.B. de C.V.'s outstanding capital stock. As of the date of this annual report, Dodge & Cox has been authorized by CEMEX, S.A.B. de C.V.'s board of directors to own up to 10% of CEMEX, S.A.B. de C.V.'s outstanding capital stock. Dodge & Cox does not have voting rights different from our other non-Mexican holders of CPOs.

As of December 31, 2018, CEMEX, S.A.B. de C.V.'s outstanding capital stock consisted of 30,274,919,814 Series A shares and 15,137,459,907 Series B shares, in each case including shares held by our subsidiaries.

As of December 31, 2019, a total of 30,002,628,318 Series A shares and 15,001,314,159 Series B shares outstanding were held by the CPO trust. Each CPO represents two Series A shares and one Series B share. A portion of the CPOs is represented by ADSs. As set forth in the Deposit Agreement, holders of ADSs do not have the right to instruct the depository as to the exercise of voting rights in respect of Series A shares underlying CPOs held in the CPO trust. Under the terms of the CPO trust agreement, Series A shares underlying CPOs held by non-Mexican nationals, including all Series A shares underlying CPOs represented by ADSs, will be voted by the trustee according to the majority of all Series A shares held by Mexican nationals and Series B shares voted at the meeting. However, holders of ADSs will have the right to instruct the depository to exercise the voting rights of the Series B shares underlying the CPOs represented by ADSs. Voting instructions may be given only with respect to ADSs representing an integral number of Series B shares. If the depository shall not have received voting instructions from a holder of ADSs on or prior to the ADS voting instructions deadline, such holder shall be deemed, and the depository and CEMEX, S.A.B. de C.V. shall deem such holder, subject to the terms of the Deposit Agreement, to have instructed the depository to give a discretionary proxy to a person designated by

CEMEX, S.A.B. de C.V. (or, if requested by CEMEX, S.A.B. de C.V., a person designated by the technical committee appointed pursuant to the CPO trust agreement) to vote the Series B shares underlying the CPOs represented by such holder's ADSs in his or her discretion. The Series B shares underlying the CPOs represented by ADSs for which no actual or deemed voting instructions have been received will be voted by the trustee for the CPO trust in cooperation with, and under the direction of, a technical committee appointed pursuant to the terms of the CPO trust agreement.

Other than BlackRock, Dodge & Cox and the CPO trust, we are not aware of any person that is the beneficial owner of five percent or more of any class of CEMEX, S.A.B. de C.V.'s voting securities.

As of December 31, 2018, through CEMEX, S.A.B. de C.V.'s subsidiaries, we owned approximately 20.5 million CPOs, representing approximately 0.137% of CEMEX, S.A.B. de C.V.'s outstanding voting stock. These CPOs are voted at the direction of our management. CEMEX, S.A.B. de C.V.'s voting rights over those CPOs are the same as those of any other CPO holder. As of the same date, we did not hold any CPOs in derivative instruments hedging expected cash flows of stock options exercises.

CEMEX, S.A.B. de C.V.'s by-laws provide that its board of directors must authorize in advance any transfer of voting shares of its capital stock that would result in any persons, or groups acting in concert, becoming a holder of 2% or more of CEMEX, S.A.B. de C.V.'s voting shares. In the event this requirement is not met, the persons acquiring such shares will not be entitled to any corporate rights with respect to such shares, such shares will not be taken into account for purposes of determining a quorum for shareholders' meetings, CEMEX, S.A.B. de C.V. will not record such persons as holders of such shares in its share registry and the registry undertaken by Indeval (as defined below) shall not have any effect.

Mexican securities regulations provide that our majority-owned subsidiaries may neither directly nor indirectly invest in CEMEX, S.A.B. de C.V.'s CPOs nor other securities representing CEMEX, S.A.B. de C.V.'s capital stock. The Mexican securities authority could require any disposition of the CPOs or of other securities representing our capital stock so owned and/or impose fines on us if it were to determine that the ownership of CEMEX, S.A.B. de C.V.'s CPOs or of other securities representing CEMEX, S.A.B. de C.V.'s capital stock by CEMEX, S.A.B. de C.V.'s subsidiaries, in most cases, negatively affects the interests of CEMEX, S.A.B. de C.V.'s shareholders. Notwithstanding the foregoing, the exercise of all rights pertaining to CEMEX, S.A.B. de C.V.'s CPOs or to other securities representing our capital stock in accordance with the instructions of CEMEX, S.A.B. de C.V.'s subsidiaries does not violate any provisions of CEMEX, S.A.B. de C.V.'s by-laws or the by-laws of its subsidiaries. The holders of these CPOs or of other securities representing CEMEX, S.A.B. de C.V.'s capital stock are entitled to exercise the same rights relating to their CPOs or their other securities representing CEMEX, S.A.B. de C.V.'s capital stock, including all voting rights, as any other holder of the same series.

As of December 31, 2018, we had 521 ADS holders of record, holding 632,164,713 ADRs, representing 6,321,647,130 CPOs, or approximately 42.14% of CEMEX, S.A.B. de C.V.'s outstanding capital stock as of such date.

Related Party Transactions

From January 1, 2018 through the date of this annual report, there were no transactions or proposed transactions that were material to either CEMEX, S.A.B. de C.V. or any related party, nor were there any transactions with any related party that were unusual in their nature or conditions. During the same period, we did not have any outstanding loans to any of CEMEX, S.A.B. de C.V.'s directors or members of senior management.

Item 8—Financial Information

Consolidated Financial Statements and Other Financial Information

See “Item 18—Financial Statements” and “Item 18—Index to Consolidated Financial Statements.”

Legal Proceedings

See “Item 4—Information on the Company—Regulatory Matters and Legal Proceedings.”

Dividends

A declaration of any dividend can be made by CEMEX, S.A.B. de C.V.’s shareholders at any general ordinary shareholders’ meeting. Any dividend declaration is usually based upon the recommendation of CEMEX, S.A.B. de C.V.’s board of directors. However, CEMEX, S.A.B. de C.V.’s shareholders are not obligated to approve the board’s recommendation. CEMEX, S.A.B. de C.V. may only pay dividends from retained earnings included in financial statements that have been approved by CEMEX, S.A.B. de C.V.’s shareholders and after all losses have been paid for. A legal reserve equal to 5% of its paid-in capital has been created and CEMEX, S.A.B. de C.V.’s shareholders have approved the relevant dividend payment. See “Item 10—Additional Information—Taxation—Mexican Tax Considerations.” Since CEMEX, S.A.B. de C.V. conducts its operations through its subsidiaries, it has no significant assets of its own except for its investments in those subsidiaries. Consequently, CEMEX, S.A.B. de C.V.’s ability to pay dividends to its shareholders is dependent upon its ability to receive funds from its subsidiaries in the form of dividends, management fees or otherwise. The 2017 Credit Agreement and the indentures governing our outstanding Senior Secured Notes effectively prohibit CEMEX, S.A.B. de C.V. from declaring and paying cash dividends or making other cash distributions to its shareholders. See “Item 3—Key Information—Risk Factors—Risks Relating to Our Business—CEMEX, S.A.B. de C.V.’s ability to repay debt and pay dividends depends on our subsidiaries’ ability to transfer income and dividends to us.”

The recommendation of CEMEX, S.A.B. de C.V.’s board of directors as to whether to pay and the amount of any annual dividends has been, and will continue to be, in absence of contractual restrictions to pay or declare dividends, based upon, among other things, earnings, cash flow, capital requirements, contractual restrictions, and our financial condition and other relevant factors.

Owners of ADSs on the applicable record date will be entitled to receive any dividends payable in respect of the Series A shares and the Series B shares underlying the CPOs represented by those ADSs. However, as permitted by the Deposit Agreement, CEMEX, S.A.B. de C.V. may instruct the ADS depository not to extend the option to elect to receive cash in lieu of the stock dividend to the holders of ADSs. The ADS depository will fix a record date for the holders of ADSs with respect to each dividend distribution. Unless otherwise stated, the ADS depository has agreed to convert cash dividends received by it with respect to the Series A shares and the Series B shares underlying the CPOs represented by ADSs from Mexican Pesos into U.S. Dollars and, after deduction or after payment of expenses of the ADS depository, to pay those dividends to holders of ADSs in U.S. Dollars. CEMEX, S.A.B. de C.V. cannot assure holders of its ADSs that the ADS depository will be able to convert dividends received in Mexican Pesos into U.S. Dollars.

CEMEX, S.A.B. de C.V. did not declare a dividend for fiscal years 2016 and 2017. For fiscal year 2018 CEMEX, S.A.B. de C.V. declared a cash dividend of U.S.\$150 million, to be paid in Mexican Pesos, payable in two installments. The first installment will be for half of the dividend starting on June 17, 2019 and the second installment will be for the remainder of the dividend starting on December 17, 2019.

Significant Changes

Except as described herein, no significant change has occurred since the date of our 2018 consolidated financial statements included elsewhere in this annual report.

Item 9—Offer and Listing

Listing Details

CEMEX, S.A.B. de C.V.'s CPOs are listed on the Mexican Stock Exchange and trade under the symbol "CEMEX.CPO." CEMEX, S.A.B. de C.V.'s ADSs, each of which currently represents ten CPOs, are listed on the NYSE and trade under the symbol "CX."

Item 10—Additional Information

Articles of Association and By-laws

General

Pursuant to the requirements of Mexican corporations law, CEMEX, S.A.B. de C.V.'s articles of association and by-laws (*estatutos sociales*) have been registered with the Mercantile Section of the Public Registry of Property and Commerce in Monterrey, Nuevo León, Mexico, under entry number 21, since June 11, 1920.

CEMEX, S.A.B. de C.V. is an operating and a holding company engaged directly or indirectly, through its operating subsidiaries, primarily in the production, distribution, marketing and sale of cement, ready-mix concrete, aggregates, clinker and other construction materials throughout the world. CEMEX, S.A.B. de C.V.'s corporate purpose can be found in article 2 of CEMEX, S.A.B. de C.V.'s by-laws.

CEMEX, S.A.B. de C.V. has two series of common stock, the Series A common stock, with no par value ("Series A shares"), which can only be owned by Mexican nationals, and the Series B common stock, with no par value ("Series B shares"), which can be owned by both Mexican and non-Mexican nationals. CEMEX, S.A.B. de C.V.'s by-laws state that the Series A shares may not be held by non-Mexican individuals, corporations, groups, units, trusts, associations or governments that are foreign or have participation by foreign governments or their agencies. CEMEX, S.A.B. de C.V.'s by-laws also state that the Series A shares shall at all times account for a minimum of 64% of CEMEX, S.A.B. de C.V.'s total outstanding voting stock and that the Series B shares shall at all times account for a minimum of 36% of CEMEX, S.A.B. de C.V.'s total outstanding voting stock. Other than as described herein, holders of the Series A shares and the Series B shares have the same rights and obligations.

In 1994, CEMEX, S.A.B. de C.V. changed from a fixed capital corporation to a variable capital corporation in accordance with Mexican corporation law. As a result, CEMEX, S.A.B. de C.V. established a fixed capital account and a variable capital account and issued one share of variable capital stock of the same series for each eight shares of fixed capital stock held by any shareholder. Each of our fixed and variable capital accounts is comprised of Series A shares and Series B shares. Under the Mexican Securities Market Law and CEMEX, S.A.B. de C.V.'s by-laws, holders of shares representing variable capital are not entitled to withdraw those shares.

Shareholder authorization is required to increase or decrease either the fixed capital account or the variable capital account. Shareholder authorization to increase or decrease the fixed capital account must be obtained at an extraordinary meeting of shareholders. Shareholder authorization to increase or decrease the variable capital account must be obtained at an ordinary general meeting of shareholders.

On April 29, 1999, CEMEX, S.A.B. de C.V.'s shareholders approved a stock split, and for every one of CEMEX, S.A.B. de C.V.'s shares of any series CEMEX, S.A.B. de C.V. issued two Series A shares and one Series B share. Concurrently with this stock split, CEMEX, S.A.B. de C.V. also consummated an exchange offer to exchange new CPOs and new ADSs representing the new CPOs for CEMEX, S.A.B. de C.V.'s then-existing Series A shares, Series B shares and ADSs, and converted CEMEX, S.A.B. de C.V.'s then existing CPOs into the new CPOs.

On June 1, 2001, the then-effective Mexican Securities Market Law was amended, among other things, to increase the protection granted to minority shareholders of Mexican listed companies and to commence bringing corporate governance procedures of Mexican listed companies in line with international standards.

On February 6, 2002, the Mexican securities authority (*Comisión Nacional Bancaria y de Valores*) issued an official communication authorizing the amendment of CEMEX, S.A.B. de C.V.'s by-laws to incorporate additional provisions to comply with the then new provisions of the then-effective Mexican securities market law. Following approval from CEMEX, S.A.B. de C.V.'s shareholders at the 2002 annual shareholders' meeting, CEMEX, S.A.B. de C.V. amended and restated its by-laws to incorporate these additional provisions, which consisted of, among other things, protective measures to prevent share acquisitions, hostile takeovers, and direct or indirect changes of control.

On March 19, 2003, the Mexican securities authority issued new regulations designed to (i) further implement minority rights granted to shareholders by the then-effective Mexican securities market law and (ii) simplify and consolidate in a single document provisions relating to securities offerings and periodic reports by Mexican-listed companies.

On April 24, 2003, CEMEX, S.A.B. de C.V.'s shareholders approved changes to its by-laws, incorporating additional provisions and removing some restrictions. The changes that are still in force are as follows:

- The limitation on CEMEX, S.A.B. de C.V.'s variable capital was removed. Formerly, CEMEX, S.A.B. de C.V.'s variable capital was limited to ten times CEMEX, S.A.B. de C.V.'s minimum fixed capital.
- Increases and decreases in CEMEX, S.A.B. de C.V.'s variable capital now require the notarization of the minutes of the ordinary general shareholders' meeting that authorize such increase or decrease, as well as the filing of these minutes with the Mexican National Securities Registry (*Registro Nacional de Valores*), except when such increase or decrease results from (i) shareholders exercising their redemption rights or (ii) stock repurchases.
- The cancellation of registration of our shares in the Securities Section of the Mexican National Securities Registry now involves an amended procedure, which is described below under "—Repurchase Obligation." In addition, any amendments to the article containing these provisions no longer require the consent of the Mexican securities authority and 95% approval by shareholders entitled to vote.

On December 30, 2005, the Mexican Securities Market Law was published to continue bringing corporate governance requirements of Mexican listed companies in line with international standards. This new law included provisions increasing disclosure information requirements, improving minority shareholder rights and strengthening corporate governance standards, including the introduction of new requirements and fiduciary duties (duties of care and loyalty) applicable to each director, officer, external auditor and major shareholder of publicly traded companies. The law also provided that each member of the audit committee must be an independent director and required the creation of corporate governance committees integrated by independent directors as well. In addition, the law clarified directors' duties, specified safe harbors for directors' actions, clarified what is deemed as a conflict of interest and clarified what are the confidentiality obligations for directors.

Under the then new Mexican Securities Market Law, CEMEX, S.A.B. de C.V. was required to adopt specific amendments to its by-laws within 180 days of the effective date of the new law. Following approval from CEMEX, S.A.B. de C.V.'s shareholders at its extraordinary shareholders' meeting held on April 27, 2006, CEMEX, S.A.B. de C.V. amended and restated its by-laws to incorporate these amendments. The amendments to CEMEX, S.A.B. de C.V.'s by-laws became effective on July 3, 2006. The most significant of these amendments were as follows:

- The change of its corporate name from CEMEX, S.A. de C.V. to CEMEX, S.A.B. de C.V., which means that it is now called a publicly traded company (*sociedad anónima bursátil* or S.A.B.).

- The creation of a corporate practices committee, which was a new committee of CEMEX, S.A.B. de C.V.'s board of directors and which is comprised exclusively of independent directors.
- The elimination of the position of statutory examiner (*comisario*) and the assumption of its responsibilities by the board of directors through the audit committee and the then new corporate practices committee, as well as through the external auditor who audits CEMEX, S.A.B. de C.V.'s financial statements, each within its professional role.
- The express attribution of certain duties (such as the duty of loyalty and the duty of care) and liabilities on members of the board of directors as well as on certain senior executive officers.
- The implementation of a mechanism for claims of a breach of a director's or officer's duties, to be brought by us or by holders of 5% or more of CEMEX, S.A.B. de C.V.'s shares.
- The chief executive officer is now the person in charge of managing the company. Previously, this was the duty of the board of directors. The board of directors now supervises the chief executive officer.
- Shareholders are given the right to enter into certain agreements with other shareholders.

On March 20, 2014, CEMEX, S.A.B. de C.V. held an extraordinary shareholders' meeting, at which its shareholders approved, among other items, the board of directors' proposal to expand the corporate purpose of CEMEX, S.A.B. de C.V. so that, aside from being a holding company, CEMEX, S.A.B. de C.V. can undertake operating activities related to the production and commercialization of cement, ready-mix concrete and aggregates.

On March 26, 2015, CEMEX, S.A.B. de C.V. held an extraordinary shareholders' meeting, at which its shareholders approved, among other items, changes to CEMEX, S.A.B. de C.V.'s by-laws, incorporating additional provisions and removing some restrictions. The changes, among other items, are the following: extend CEMEX, S.A.B. de C.V.'s corporate existence for an indefinite period of time; adopt the electronic system established by the Ministry of Economy (*Secretaría de Economía*) for the publication of notices and other legal matters; remove a redundancy in minority rights; adopt additional considerations that CEMEX, S.A.B. de C.V.'s board of directors shall consider in order to authorize purchases of 2% or more of shares; adopt provisions to improve corporate governance with respect to the presidency at shareholders' meetings and corporate bodies; separation of roles of chairman of the board and chief executive officer; include the possibility of electing an alternate secretary of the board of directors; authorization to formalize CEMEX, S.A.B. de C.V.'s restated by-laws; and authorization to exchange the share certificates that represent CEMEX, S.A.B. de C.V.'s then outstanding capital stock.

On March 28, 2019, CEMEX, S.A.B. de C.V. held an extraordinary shareholders' meeting, at which its shareholders approved, among other items, changes to articles 2 and 28 of CEMEX, S.A.B. de C.V.'s by-laws, incorporating additional provisions and removing some restrictions. The changes, among other items, are the following: broadening CEMEX, S.A.B. de C.V.'s corporate purpose, which would permit CEMEX to transport goods; amending the provision regarding seaport related services for its marine terminals; the manufacture and commercialization of cement bags, etc.; and clarifying that CEMEX, S.A.B. de C.V.'s Relevant Executives (as defined under the laws of Mexico) are entitled to indemnification and liability protection only for liability arising from the lack of diligence when acting in good faith and pursuant to our best interests.

Changes in Capital Stock and Preemptive Rights

Subject to certain exceptions discussed below, CEMEX, S.A.B. de C.V.'s by-laws allow for a decrease or increase in its capital stock if it is approved by its shareholders at a shareholders' meeting. Additional shares of CEMEX, S.A.B. de C.V.'s capital stock, having no voting rights or limited voting rights, are authorized by its by-laws and may be issued upon the approval of its shareholders at a shareholders' meeting, with the prior approval of the Mexican securities authority.

CEMEX, S.A.B. de C.V.'s by-laws provide that, subject to certain exceptions, shareholders have preemptive rights with respect to the class and in proportion to the number of shares of our capital stock they hold, in connection with any capital increase in the number of outstanding Series A shares, Series B shares or any other existing series of shares, as the case may be. Subject to certain requirements: (i) under article 53 of the Mexican Securities Market Law, this preemptive right to subscribe is not applicable to increases of CEMEX, S.A.B. de C.V.'s capital through public offers and (ii) under article 210 of the General Law of Negotiable Instruments and Credit Operations (*Ley General de Títulos y Operaciones de Crédito*), this preemptive right to subscribe is not applicable when issuing shares under convertible notes. Preemptive rights give shareholders the right, upon any issuance of shares by us, to purchase a sufficient number of shares to maintain their existing ownership percentages. Preemptive rights must be exercised within the period and under the conditions established for that purpose by the shareholders, and CEMEX, S.A.B. de C.V.'s by-laws and applicable law provide that this period must be 15 days following the publication of the notice of the capital increase through the electronic system established by the Ministry of Economy (*Secretaría de Economía*) or, in its absence, in the Official Gazette of the State of Nuevo León (*Periódico Oficial del Estado de Nuevo León*) or in any major newspaper published and distributed in the city of Monterrey, Nuevo León, México.

Holdings of ADSs that are United States persons or are located in the United States may be restricted in their ability to participate in the exercise of such preemptive rights. See “Item 3—Key Information—Risk Factors—Risks Relating to Our Business—Preemptive rights may be unavailable to ADS holders.”

Pursuant to CEMEX, S.A.B. de C.V.'s by-laws, significant acquisitions of shares of CEMEX, S.A.B. de C.V.'s capital stock and changes of control of CEMEX, S.A.B. de C.V. require prior approval from CEMEX, S.A.B. de C.V.'s board of directors. CEMEX, S.A.B. de C.V.'s board of directors must authorize in advance any transfer of, or creation of any encumbrance or lien on, voting shares of CEMEX, S.A.B. de C.V.'s capital stock that would result in any person or group becoming a holder of 2% or more of CEMEX, S.A.B. de C.V.'s shares. CEMEX, S.A.B. de C.V.'s board of directors shall consider the following when determining whether to authorize such transfer of voting shares: a) the type of investors involved; b) if stock prices may be affected or if the number of CEMEX, S.A.B. de C.V.'s shares outstanding would be reduced in such way that marketability may be affected; c) whether the acquisition would result in the potential acquirer exercising a significant influence or being able to obtain control; d) whether all applicable rules and CEMEX, S.A.B. de C.V.'s by-laws have been observed by the potential acquirer; e) whether the potential acquirers are our competitors or are persons or legal entities participating in companies, entities or persons that are or competitors and whether there is a risk of affecting market competition, or the potential acquirers could have access to confidential and privileged information; f) the morality and economic solvency of the potential acquirers; g) the protection of minority rights and the rights of our employees; and h) whether an adequate base of investors would be maintained. If CEMEX, S.A.B. de C.V.'s board of directors denies the authorization, or the transfer had been authorized on the basis of false or incorrect information or information had been withheld or the requirements established in CEMEX, S.A.B. de C.V.'s by-laws are not complied with, the persons involved in the transfer shall not be entitled to exercise the voting rights corresponding to the transferred shares, such shares shall not be taken into account for the determination of the quorums of attendance and voting at shareholders' meetings and the transfers shall not be recorded or have any effect in our share registry and the registry undertaken by S.D. Indeval, Institución para el Depósito de Valores, S.A. de C.V. (“Indeval”), the Mexican securities depository.

Any acquisition of shares of CEMEX, S.A.B. de C.V.'s capital stock representing 30% or more of its capital stock by a person or group of persons requires prior approval from CEMEX, S.A.B. de C.V.'s board of directors and, in the event approval is granted, the acquirer has an obligation to make a public offer to purchase all of the outstanding shares of CEMEX, S.A.B. de C.V.'s capital stock.

In the event the requirements for significant acquisitions of shares of CEMEX, S.A.B. de C.V.'s capital stock are not met, the persons acquiring such shares will not be entitled to any corporate rights with respect to such shares, such shares will not be taken into account for purposes of determining a quorum for shareholders' meetings, CEMEX, S.A.B. de C.V. will not record such persons as holders of such shares in its share registry and the registry undertaken by Indeval shall not have any effect.

CEMEX, S.A.B. de C.V.'s by-laws require the stock certificates representing shares of its capital stock to make reference to the provisions in its by-laws relating to the prior approval of the CEMEX, S.A.B. de C.V. board of directors for significant share transfers and the requirements for recording share transfers in its share registry. In addition, shareholders are responsible for informing CEMEX, S.A.B. de C.V. within five business days whenever their shareholdings exceed 5%, 10%, 15%, 20%, 25% and 30% of CEMEX, S.A.B. de C.V.'s capital stock. If a person acquires beneficial ownership (within the meaning of Rule 13d-3 promulgated by the SEC under the Exchange Act) of 20% or more in voting power of the outstanding voting stock of CEMEX, S.A.B. de C.V., a change of control will be deemed to have occurred under the 2017 Credit Agreement and other debt agreements of CEMEX.

CEMEX, S.A.B. de C.V. is required to maintain a share registry to record the names, nationalities and domiciles of all significant shareholders, and any shareholder that meets or exceeds these thresholds must be recorded in this registry if such shareholder is to be recognized or represented at any shareholders' meeting. If a shareholder fails to inform CEMEX, S.A.B. de C.V. of its shareholdings reaching a threshold as described above, we will not record the transactions that cause such threshold to be met or exceeded in CEMEX, S.A.B. de C.V.'s share registry, and such transaction will have no legal effect and will not be binding on us.

CEMEX, S.A.B. de C.V.'s by-laws also require that its shareholders comply with legal provisions regarding acquisitions of securities and certain shareholders' agreements that require disclosure to the public.

Repurchase Obligation

In accordance with Mexican securities regulations, CEMEX, S.A.B. de C.V. is obligated to make a public offer for the purchase of stock to its shareholders if CEMEX, S.A.B. de C.V.'s registration with the Mexican securities registry is canceled, either by resolution of its shareholders or by an order of the Mexican securities authority. The minimum price at which we must purchase the stock is the higher of:

- the weighted average price per share based on the weighted average trading price of CEMEX, S.A.B. de C.V.'s CPOs on the Mexican Stock Exchange during the latest period of 30 trading days preceding the date of the offer, for a period not to exceed six months; or
- the book value per share, as reflected in the last quarterly report filed with the Mexican securities authority and the Mexican Stock Exchange before the date of the offer.

CEMEX, S.A.B. de C.V.'s board of directors shall prepare and disclose to the public through the Mexican Stock Exchange, within ten business days after the day the public offer begins, and after consulting the corporate practices and finance committee, its opinion regarding the price of the offer and any conflicts of interests that each of its members may have regarding such offer. This opinion may be accompanied by an additional opinion issued by an independent expert that we may hire.

Following the cancellation of CEMEX, S.A.B. de C.V.'s registration with the Mexican securities registry, it must place in a trust set up for that purpose for a six-month period an amount equal to that required to purchase the remaining shares held by investors who did not participate in the offer.

Shareholders' Meetings and Voting Rights

Shareholders' meetings may be called by:

- CEMEX, S.A.B. de C.V.'s board of directors or the corporate practices and finance committee and audit committee;
- shareholders representing at least 10% of outstanding and fully paid shares, by making a request to the chairman of CEMEX, S.A.B. de C.V.'s board of directors or CEMEX, S.A.B. de C.V.'s corporate practices and finance committee and audit committee;

- any shareholder (i) if no meeting has been held for two consecutive years or when the matters referred to in Article 181 of the Mexican corporations law have not been dealt with or (ii) when, for any reason, the required quorum for valid sessions of the corporate practices and finance committee and audit committee was not reached and the board of directors failed to make the appropriate provisional appointments; or
- a Mexican court of competent jurisdiction, in the event CEMEX, S.A.B. de C.V.'s board of directors or the corporate practices and finance committee and audit committee do not comply with the valid shareholders' request described above.

Notice of shareholders' meetings must be published through the electronic system established by the Ministry of Economy (*Secretaría de Economía*) or, in its absence, in the Official Gazette of the State of Nuevo León (*Periódico Oficial del Estado de Nuevo León*), Mexico or in any major newspaper published and distributed in the city of Monterrey, Nuevo León, Mexico. The notice must be published at least 15 days prior to the date of any shareholders' meeting. Consistent with Mexican law, CEMEX, S.A.B. de C.V.'s by-laws further require that all information and documents relating to the shareholders' meeting be available to shareholders from the date the notice of the meeting is published.

General shareholders' meetings can be ordinary or extraordinary. At every general shareholders' meeting, each qualified holder of Series A shares and Series B shares is entitled to one vote per share. Shareholders may vote by proxy duly appointed in writing. Under the CPO trust agreement, holders of CPOs who are not Mexican nationals cannot exercise voting rights corresponding to the Series A shares represented by their CPOs, in which case, the CPO trustee will vote the underlying Series A shares in the same manner as the holders of the majority of the voting shares.

An annual general ordinary shareholders' meeting must be held during the first four months after the end of each of CEMEX, S.A.B. de C.V.'s fiscal year to consider the approval of a report of its board of directors regarding CEMEX, S.A.B. de C.V.'s performance and its financial statements for the preceding fiscal year and to determine the allocation of profits from the preceding year. In addition, CEMEX, S.A.B. de C.V.'s annual general ordinary shareholders' meeting must:

- review the annual reports of CEMEX, S.A.B. de C.V.' corporate practices and finance committee and audit committee, its chief executive officer and its board of directors;
- elect, remove, or substitute the members of CEMEX, S.A.B. de C.V.'s board of directors;
- determine the level of independence of the members of CEMEX, S.A.B. de C.V.'s board of directors;
- elect or remove the chairman of CEMEX, S.A.B. de C.V.'s corporate practices and finance and the audit committees;
- approve any transaction that represents 20% or more of CEMEX, S.A.B. de C.V. consolidated assets; and
- resolve any issues not reserved for extraordinary shareholders' meetings.

A general extraordinary shareholders' meeting may be called at any time to deal with any of the matters specified by Article 182 of the Mexican corporations law, which include, among other things:

- extending CEMEX, S.A.B. de C.V.'s corporate existence;
- CEMEX, S.A.B. de C.V.'s voluntary dissolution;
- increasing or reducing CEMEX, S.A.B. de C.V.'s fixed capital stock;
- changing CEMEX, S.A.B. de C.V.'s corporate purpose;
- changing CEMEX, S.A.B. de C.V.'s country of incorporation;

- changing CEMEX, S.A.B. de C.V.'s form of organization;
- a proposed merger;
- issuing preferred shares;
- redeeming CEMEX, S.A.B. de C.V.'s own shares;
- any amendment to CEMEX, S.A.B. de C.V.'s by-laws; and
- any other matter for which a special quorum is required by law or by CEMEX, S.A.B. de C.V.'s by-laws.

In order to vote at a meeting of shareholders, shareholders must (i) appear on the list that Indeval and Indeval participants holding shares on behalf of the shareholders prepare prior to the meeting, or (ii) prior to the meeting, deposit the certificates representing their shares at CEMEX, S.A.B. de C.V.'s offices or in a Mexican credit institution or brokerage house that operates in accordance with applicable laws in Mexico. The certificate of deposit with respect to the share certificates must be presented to CEMEX, S.A.B. de C.V.'s company secretary at least 48 hours before a meeting of shareholders. CEMEX, S.A.B. de C.V.'s company secretary verifies that the person in whose favor any certificate of deposit was issued is named in CEMEX, S.A.B. de C.V.'s share registry and issues an admission pass authorizing that person's attendance at the meeting of shareholders.

CEMEX, S.A.B. de C.V.'s by-laws provide that a shareholder may only be represented by proxy in a shareholders' meeting with a duly completed form provided by CEMEX, S.A.B. de C.V. authorizing the proxy's presence. In addition, CEMEX, S.A.B. de C.V.'s by-laws require that the secretary acting at the shareholders' meeting publicly affirm the compliance by all proxies with this requirement. A shareholders' resolution is required to take action on any matter presented at a shareholders' meeting.

At an ordinary shareholders' meeting, the affirmative vote of the holders of a majority of the shares present at the meeting is required to adopt a shareholders' resolution. At an extraordinary meeting of shareholders, the affirmative vote of at least 50% of the capital stock is required to adopt a shareholders' resolution, except that when amending Article 7 (with respect to measures limiting shareholding ownership), Article 10 (relating to the register of shares and significant participations) or Article 22 (specifying the impediments to being appointed a member of CEMEX, S.A.B. de C.V.'s board of directors) of CEMEX, S.A.B. de C.V.'s by-laws, the affirmative vote of at least 75% of the voting stock is required.

The attendance quorum for a general ordinary shareholders' meeting upon the first call is 50% of CEMEX, S.A.B. de C.V.'s outstanding and fully paid shares and, for the second call, is any number of CEMEX, S.A.B. de C.V.'s outstanding and fully paid shares. If the quorum is not met upon the first call, a subsequent meeting may be called and the quorum for the second ordinary shareholders' meeting is any number of CEMEX, S.A.B. de C.V.'s outstanding and fully paid shares represented at the meeting. The attendance quorum for the extraordinary shareholders' meeting upon the first call is 75% of CEMEX, S.A.B. de C.V.'s outstanding and fully paid shares and, upon the second and subsequent calls, is 50% of CEMEX, S.A.B. de C.V.'s outstanding and fully paid shares.

Rights of Minority Shareholders

At CEMEX, S.A.B. de C.V.'s annual general ordinary shareholders' meeting, any shareholder or group of shareholders representing 10% or more of its voting stock has the right to appoint or remove one member of CEMEX, S.A.B. de C.V.'s board of directors, in addition to the directors appointed by the majority. Such appointment may only be revoked by other shareholders when the appointment of all other directors is also revoked.

CEMEX, S.A.B. de C.V.'s by-laws provide that holders of at least 10% of its outstanding capital stock are entitled to demand the postponement of the voting on any resolution of which they deem they have not been sufficiently informed.

Under Mexican law, holders of at least 20% of CEMEX, S.A.B. de C.V.'s outstanding capital stock are entitled to vote on a particular matter they oppose on any resolution at a shareholders' meeting by filing a petition with a court of law for a court order to suspend the resolution temporarily within 15 days after the adjournment of the meeting at which that action was taken and showing that the challenged action violates Mexican law or CEMEX, S.A.B. de C.V.'s by-laws, provided the opposing shareholders deliver a bond to the court to secure payment of any damages that we suffer as a result of suspending the resolution in the event that the court ultimately rules against the opposing shareholders. Relief under these provisions is only available to holders who were entitled to vote on, or whose rights as shareholders were adversely affected by, the challenged shareholder action and whose shares were not represented when the action was taken or, if represented, voted against it.

Under Mexican law, an action for civil liabilities against directors may be initiated by a shareholders' resolution for violation of their duty of loyalty to shareholders. In the event shareholders decide to bring an action of this type, the persons against whom that action is brought will immediately cease to be directors. Additionally, shareholders representing not less than 33% of the outstanding shares may directly exercise that action against the directors; provided that:

- those shareholders shall not have voted against exercising such action at the relevant shareholders' meeting; and
- the claim covers all of the damage alleged to have been caused to us and not merely the damage suffered by the plaintiffs.

Under CEMEX, S.A.B. de C.V.'s by-laws, shareholders representing 5% or more of its outstanding capital stock may initiate actions exclusively on behalf of CEMEX, S.A.B. de C.V. against members of its board of directors, its corporate practices and finance committee and audit committee, its chief executive officer, or any relevant executives, for breach of their duty of care or duty of loyalty to shareholders or for committing illicit acts or activities. The only requirement is that the claim covers all of the damage alleged to have been caused to us or any entities on which we have a significant influence and not merely the damage suffered by the plaintiffs. Actions initiated on these grounds have a five-year statute of limitations from the day of the act or action that caused the damage.

Any recovery of damages with respect to these actions will be for CEMEX, S.A.B. de C.V.'s benefit and not that of the shareholders bringing the action.

Registration and Transfer

CEMEX, S.A.B. de C.V.'s common stock is evidenced by share certificates in registered form with registered dividend coupons attached. Shareholders who have not deposited their shares into the CPO trust may hold their shares in the form of physical certificates or through institutions that have accounts with Indeval. Accounts may be maintained at Indeval by brokers, banks and other entities approved by the Mexican securities authority. CEMEX, S.A.B. de C.V. maintains a stock registry, and, in accordance with Mexican law, only those holders listed in CEMEX, S.A.B. de C.V.'s stock registry and those holding certificates issued by Indeval and by Indeval participants indicating ownership are recognized as CEMEX, S.A.B. de C.V. shareholders.

Pursuant to Mexican law, any transfer of shares must be registered in CEMEX, S.A.B. de C.V.'s stock registry, if effected physically, or through book entries that may be tracked back from CEMEX, S.A.B. de C.V.'s stock registry to the records of Indeval.

Redemption

CEMEX, S.A.B. de C.V.'s capital stock is subject to redemption upon approval of our shareholders at an extraordinary shareholders' meeting.

Share Repurchases

If approved by CEMEX, S.A.B. de C.V.'s shareholders at a general shareholders' meeting, we may purchase CEMEX, S.A.B. de C.V.'s outstanding shares. The economic and voting rights corresponding to repurchased shares cannot be exercised during the period the shares are owned by us and the shares will be deemed outstanding for purposes of calculating any quorum or vote at any shareholders' meeting. We may also repurchase our equity securities on the Mexican Stock Exchange at the then prevailing market prices in accordance with Mexican securities law. If we intend to repurchase shares representing more than 1% of CEMEX, S.A.B. de C.V.'s outstanding shares at a single trading session, we must inform the public of such intention at least ten minutes before submitting our bid. If we intend to repurchase shares representing 3% or more of CEMEX, S.A.B. de C.V.'s outstanding shares during a period of 20 trading days, we are required to conduct a public tender offer for such shares. We must conduct share repurchases as per the framework authorized by CEMEX, S.A.B. de C.V.'s board of directors and through the person or persons approved by CEMEX, S.A.B. de C.V.'s board of directors, through a single broker dealer during the relevant trading session and without submitting bids during the first and the last 30 minutes of each trading session. We must inform the Mexican Stock Exchange of the results of any share repurchase no later than the business day following any such share repurchase.

Directors' and Shareholders' Conflict of Interest

Under Mexican law, any shareholder who has a conflict of interest with CEMEX, S.A.B. de C.V. with respect to any transaction is obligated to disclose such conflict and is prohibited from voting on that transaction. A shareholder who violates this prohibition may be liable for damages if the relevant transaction would not have been approved without that shareholder's vote.

Under Mexican law, any director who has a conflict of interest with CEMEX, S.A.B. de C.V. in any transaction must disclose that fact to the other directors and is prohibited from participating and being present during the deliberations and voting on that transaction. A director who violates this prohibition will be liable for damages and lost profits. Additionally, CEMEX, S.A.B. de C.V.'s directors may not represent shareholders in our shareholders' meetings.

Withdrawal Rights

Whenever CEMEX, S.A.B. de C.V.'s shareholders approve a change of corporate purpose, change of nationality or transformation from one form of corporate organization to another, Mexican law provides that any shareholder entitled to vote on that change who has voted against it may withdraw from CEMEX, S.A.B. de C.V. and receive an amount equal to the book value (in accordance with the latest statement of financial position approved by the annual general ordinary shareholders' meeting) attributable to such shareholder's shares, provided that such shareholder exercises that right within 15 days following the meeting at which the change was approved.

Dividends

At each annual general ordinary shareholders' meeting, CEMEX, S.A.B. de C.V.'s board of directors submits, for approval by its shareholders, its financial statements together with a report on them prepared by its board of directors and the statutory auditors. CEMEX, S.A.B. de C.V.'s shareholders, once they have approved the financial statements, determine the allocation of our net income, after provision for income taxes, legal

reserve and statutory employee profit sharing payments, for the preceding year. All shares of CEMEX, S.A.B. de C.V.'s capital stock outstanding at the time a dividend or other distribution is declared are entitled to share equally in that dividend or other distribution.

Liquidation Rights

In the event CEMEX, S.A.B. de C.V. is liquidated, the surplus assets remaining after payment of all its creditors will be divided among CEMEX, S.A.B. de C.V.'s shareholders in proportion to the respective shares held by them. The liquidator may, with the approval of CEMEX, S.A.B. de C.V.'s shareholders, distribute the surplus assets in kind among CEMEX, S.A.B. de C.V.'s shareholders, sell the surplus assets and divide the proceeds among CEMEX, S.A.B. de C.V.'s shareholders or put the surplus assets to any other uses agreed to by a majority of CEMEX, S.A.B. de C.V.'s shareholders voting at an extraordinary shareholders' meeting.

Differences Between Our Corporate Governance Practices and NYSE Standards for Domestic Companies

For a description of significant ways in which CEMEX, S.A.B. de C.V.'s corporate governance practices differ from those required of domestic companies under NYSE standards, see "Item 16G—Corporate Governance."

You may find additional information in the corporate governance section of our website www.cemex.com, or you may contact our investment relations team, by writing to or telephoning us as follows:

CEMEX, S.A.B. de C.V.
Avenida Ricardo Margáin Zozaya #325
Colonia Valle del Campestre
San Pedro Garza García, Nuevo León, 66265, México
Attn: Eduardo Rendón
Telephone: +52 81 8888-4292
Email: eduardo.rendon@cemex.com

The information on our website is not, and is not intended to be, part of this annual report and is not incorporated into this annual report by reference.

Share Capital

CEMEX, S.A.B. de C.V. did not declare a dividend for fiscal years 2016 and 2017. See "Item 8—Financial Information—Dividends" for a description of CEMEX, S.A.B. de C.V.'s policy on dividend distributions and dividend restrictions.

At CEMEX, S.A.B. de C.V.'s 2016 annual general ordinary shareholders' meeting, held on March 30, 2017, CEMEX, S.A.B. de C.V.'s shareholders approved a recapitalization of retained earnings. New CPOs issued pursuant to such recapitalization were allocated to shareholders on a pro-rata basis. As a result, shares equivalent to approximately 562 million CPOs were allocated to shareholders on a pro-rata basis in connection with the 2016 recapitalization. CPO holders received one new CPO for each 25 CPOs held and ADS holders received one new ADS for each 25 ADSs held. There was no cash distribution and no entitlement to fractional shares. No recapitalization of retained earnings was approved at CEMEX, S.A.B. de C.V.'s 2017 annual general ordinary shareholders' meeting held on April 5, 2018.

At CEMEX, S.A.B. de C.V.'s 2018 annual general ordinary shareholders' meeting, held on March 28, 2019, CEMEX, S.A.B. de C.V. declared a cash dividend in the amount of U.S.\$150 million, to be paid in Mexican Pesos, payable in two equal installments, in June 2019 and December 2019.

As of December 31, 2018, CEMEX, S.A.B. de C.V.'s common stock was represented as follows:

Shares ⁽¹⁾	2018	
	Series A ⁽²⁾	Series B ⁽²⁾
Subscribed and paid shares	30,002,628,318	15,001,314,159
Unissued shares authorized for stock compensation programs . . .	936,375,524	468,187,762
Repurchased shares ⁽³⁾	307,207,506	153,603,753
Shares that guarantee the issuance of convertible securities ⁽⁴⁾ . . .	4,529,603,200	2,264,801,600
Shares authorized for the issuance of stock or convertible securities ⁽⁵⁾	302,144,720	151,072,360
	<u>36,077,959,268</u>	<u>18,038,979,634</u>

- (1) As of December 31, 2018, 13,068,000,000 shares correspond to the fixed portion, and 41,048,938,902 shares, correspond to the variable portion.
- (2) Series "A" or Mexican shares must represent at least 64% of CEMEX, S.A.B. de C.V.'s capital stock and Series "B" or free subscription shares must represent at most 36% of CEMEX, S.A.B. de C.V.'s capital stock.
- (3) Shares repurchased under the share repurchase program authorized by our shareholders.
- (4) Refers to those shares that guarantee the conversion of both the outstanding voluntary and mandatorily convertible securities and new securities issues.
- (5) Shares authorized for issuance in a public offer or private placement and/or by issuance of new convertible securities.

Material Contracts

On December 18, 2006, CEMEX, through two special purpose vehicles, issued two tranches of fixed-to-floating rate callable Perpetual Debentures. C5 Capital (SPV) Limited issued U.S.\$350 million original principal amount of Perpetual Debentures under the first tranche, with the issuer having the option to redeem such Perpetual Debentures on December 31, 2011 and on each interest payment date thereafter, of which U.S.\$61 million principal amount were outstanding as of December 31, 2018 (excluding Perpetual Debentures held by us). C10 Capital (SPV) Limited issued U.S.\$900 million original principal amount of Perpetual Debentures under the second tranche, with the issuer having the option to redeem such Perpetual Debentures on December 31, 2016 and on each interest payment date thereafter, of which U.S.\$175 million principal amount were outstanding as of December 31, 2018 (excluding Perpetual Debentures held by us). Both tranches pay coupons denominated in U.S. Dollars at a fixed rate until the call date and at a floating rate thereafter. On February 12, 2007, CEMEX, through a special purpose vehicle, issued a third tranche of fixed-to-floating rate callable debentures. C8 Capital (SPV) Limited issued U.S.\$750 million original principal amount of Perpetual Debentures under this third tranche, with the issuer having the option to redeem such Perpetual Debentures on December 31, 2014 and on each interest payment date thereafter, of which U.S.\$135 million principal amount were outstanding as of December 31, 2018 (excluding Perpetual Debentures held by us). This third tranche also pays coupons denominated in U.S. Dollars at a fixed rate until the call date and at a floating rate thereafter. On May 9, 2007, CEMEX, through a special purpose vehicle, issued a fourth tranche of fixed-to-floating rate callable Perpetual Debentures. C10-EUR Capital (SPV) Limited issued €730 million original principal amount of Perpetual Debentures under this fourth tranche, with the issuer having the option to redeem such Perpetual Debentures on June 30, 2017, and on each interest payment date thereafter, of which €64 million principal amount were outstanding as of December 31, 2018 (excluding Perpetual Debentures held by us). This fourth tranche pays coupons denominated in Euros at a fixed rate until the call date and at a floating rate thereafter. Due to their perpetual nature and optional deferral of coupons, these transactions, in accordance with IFRS, qualify as equity.

For a description of the material terms relating to the November 2019 Mandatory Convertible Mexican Peso Notes and the March 2020 Optional Convertible Subordinated U.S. Dollar Notes, see "Item 5—Operating and

Financial Review and Prospects—Summary of Material Contractual Obligations and Commercial Commitments.”

In connection with the 2017 Credit Agreement, we are also parties to the amendment and restatement agreement, dated July 19, 2017 related to the Intercreditor Agreement; the Dutch law share pledge, dated as of September 12, 2012; the Dutch law share pledge, dated as of December 15, 2015; the security confirmation agreement to Dutch law share pledges, dated as of July 19, 2017; the Swiss law share pledge, dated as of September 17, 2012; the security confirmation agreement to the Swiss law share pledge, dated as of July 19, 2017; the Spanish law share pledge, dated as of November 8, 2012; the ratification and extension deed to the Spanish law share pledge, dated as of July 19, 2017; and the amendment and restatement agreement, dated July 19, 2017 to the Mexican law security trust agreement, dated as of September 17, 2012. For a description of the material terms of the 2017 Credit Agreement and related agreements, see “Item 5—Operating and Financial Review and Prospects—Liquidity and Capital Resources—Our Indebtedness.”

For a description of the material terms relating to the Senior Secured Notes, see “Item 5—Operating and Financial Review and Prospects—Summary of Material Contractual Obligations and Commercial Commitments—Senior Secured Notes.”

Exchange Controls

Not applicable.

Taxation

Mexican Tax Considerations

General

The following is a summary of certain Mexican federal income tax considerations relating to the ownership and disposition of CEMEX, S.A.B. de C.V.’s CPOs or ADSs.

This summary is based on Mexican income tax law that is in effect on the date of this annual report, which is subject to change. This summary is limited to non-residents of Mexico, as defined below, who own CEMEX, S.A.B. de C.V.’s CPOs or ADSs. This summary does not address all aspects of Mexican income tax law. Holders are urged to consult their tax counsel as to the tax consequences that the purchase, ownership and disposition of CEMEX, S.A.B. de C.V.’s CPOs or ADSs may have.

For purposes of Mexican taxation, an individual is a resident of Mexico if he or she has established his or her home in Mexico. If the individual also has a home in another country, he or she will be considered a resident of Mexico if his or her center of vital interests is in Mexico. Under Mexican law, an individual’s center of vital interests is in Mexico if, among other things:

- more than 50% of the individual’s total income in the relevant year comes from Mexican sources; or
- the individual’s main center of professional activities is in Mexico.

Mexican nationals that are employed by the Mexican government are deemed residents of Mexico, even if his or her center of vital interests is located outside of Mexico. Unless otherwise proven, Mexican nationals are deemed residents of Mexico for tax purposes.

A legal entity is a resident of Mexico if it is organized under the laws of Mexico or if it maintains the principal administration of its business or the effective location of its management in Mexico.

A Mexican citizen is presumed to be a resident of Mexico for tax purposes unless such person or entity can demonstrate otherwise. If a legal entity or an individual is deemed to have a permanent establishment in Mexico for tax purposes, all income attributable to such permanent establishment will be subject to Mexican taxes, in accordance with relevant tax provisions.

Individuals or legal entities that cease to be residents of Mexico must notify the tax authorities within 15 business days before their change of residency.

A non-resident of Mexico is a legal entity or individual that does not satisfy the requirements to be considered a resident of Mexico for Mexican federal income tax purposes.

Taxation of Dividends

Dividends from earnings generated before January 1, 2014, either in cash or in any other form, paid to non-residents of Mexico with respect to Series A shares or Series B shares represented by the CPOs (or in the case of holders who hold CPOs represented by ADSs), will not be subject to withholding tax in Mexico.

As a result of the enactment of certain tax provisions in Mexico, as of January 1, 2014, dividends in cash from identified pre-tax retained earnings generated after January 1, 2014 will be subject to a 10% withholding tax. This tax is considered as a definitive payment.

Disposition of CPOs or ADSs

As a result of the enactment of certain tax provisions in Mexico, as of January 1, 2014, in the case of individuals, capital gains of shares issued by Mexican companies in the Mexican Stock Exchange will be subject to a 10% withholding tax, which will be withheld by the intermediary acting as a withholding agent. If the individual is a tax resident in a country with a tax treaty in force with Mexico, such individual will not be subject to any withholding tax.

Gains on the sale or disposition of CPOs by a holder who is a non-resident of Mexico will not be subject to any Mexican tax, if the sale is carried out through the Mexican Stock Exchange or other recognized securities market, as determined by Mexican tax authorities. Gains realized on sales or other dispositions of CPOs by non-residents of Mexico made in other circumstances would be subject to Mexican income tax. However, gains on the sale or disposition of ADSs by a holder who is a non-resident of Mexico will not be subject to Mexican tax.

Under the terms of the Convention Between the United States and Mexico for Avoidance of Double Taxation and Prevention of Fiscal Evasion with Respect to Income Taxes, and a protocol thereto (together, the "Tax Treaty"), gains obtained by a U.S. Shareholder (as defined below) eligible for benefits under the Tax Treaty on the disposition of CPOs will generally not be subject to Mexican tax, provided that such gains are not attributable to a permanent establishment of such U.S. Shareholder in Mexico and that the eligible U.S. Shareholder did not own, directly or indirectly, 25% or more of our outstanding stock during the 12-month period preceding the disposition. In the case of non-residents of Mexico eligible for the benefits of a tax treaty, gains derived from the disposition of ADSs or CPOs may also be exempt, in whole or in part, from Mexican taxation under a treaty to which Mexico is a party.

Deposits and withdrawals of ADSs will not give rise to any Mexican tax or transfer duties.

The term "U.S. Shareholder" shall have the same meaning ascribed below under the section "U.S. Federal Income Tax Considerations."

Estate and Gift Taxes

There are no Mexican inheritance or succession taxes applicable to the ownership, transfer or disposition of ADSs or CPOs by holders that are non-residents of Mexico, although gratuitous transfers of CPOs may, in some circumstances, cause a Mexican federal tax to be imposed upon a recipient. There are no Mexican stamp, issue, registration or similar taxes or duties payable by holders of ADSs or CPOs.

U.S. Federal Income Tax Considerations

General

The following is a summary of certain United States federal income tax consequences generally applicable to the ownership and disposition of CEMEX, S.A.B. de C.V.'s CPOs and ADSs.

This summary is based on provisions of Title 26 of the U.S. Code (Internal Revenue Code), as amended (the "Internal Revenue Code"), United States Department of the Treasury regulations promulgated under the Internal Revenue Code, administrative rulings, and judicial interpretations of the Internal Revenue Code, all as in effect on the date of this annual report and all of which are subject to change, possibly retroactively. This summary is limited to U.S. Shareholders (as defined below) who hold our ADSs or CPOs, as the case may be, as capital assets. This summary does not discuss all aspects of United States federal income taxation that may be important to an investor in light of its individual circumstances, for example, an investor subject to special tax rules (e.g., banks, thrifts, real estate investment trusts, regulated investment companies, insurance companies, dealers in securities or currencies, expatriates, tax-exempt investors, persons who own 10% or more of our voting stock, or holders whose functional currency is not the U.S. Dollar or U.S. Shareholders who hold a CPO or an ADS as a position in a "straddle," as part of a "synthetic security" or "hedge," as part of a "conversion transaction" or other integrated investment, or as other than a capital asset). In addition, this summary does not address the Medicare tax imposed on certain net investment income or any aspect of state, local foreign, gift, estate or alternative minimum tax considerations.

For purposes of this summary, a "U.S. Shareholder" means a beneficial owner of CPOs or ADSs, who is for United States federal income tax purposes:

- an individual citizen or resident of the United States;
- a corporation or other entity taxable as a corporation that is created or organized in the United States or under the laws of the United States or any political subdivision thereof;
- an estate the income of which is subject to United States federal income tax regardless of its source; or
- a trust that (i) is subject to the primary supervision of a court within the United States and the control of one or more United States persons are authorized to control all substantial decisions or (ii) has a valid election in effect under applicable United States Department of the Treasury regulations to be treated as a United States person.

If a partnership (including any entity arrangement treated as a partnership for United States federal income tax purposes) is the beneficial owner of CPOs or ADSs, the United States federal income tax treatment of a partner in such partnership will generally depend upon the status of the partner and the activities of the partnership. A partner in a partnership that is the beneficial owner of CPOs or ADSs should consult its tax advisor regarding the associated tax consequences.

U.S. Shareholders should consult their tax advisors as to the particular tax consequences to them under United States federal, state and local, and foreign laws relating to the ownership and disposition of CEMEX, S.A.B. de C.V.'s CPOs and ADSs.

Ownership of CPOs or ADSs in general

In general, for United States federal income tax purposes, U.S. Shareholders who own ADSs will be treated as the beneficial owners of the CPOs represented by those ADSs, and each CPO will represent a beneficial interest in two Series A shares and one Series B share.

Taxation of distributions with respect to CPOs and ADSs

A distribution of cash or property with respect to the Series A shares or Series B shares represented by CPOs, including CPOs represented by ADSs, generally will be treated as a dividend to the extent paid out of our current or accumulated earnings and profits, as determined under United States federal income tax principles, and will be includible in the gross income of a U.S. Shareholder as foreign source “passive” income on the date the distribution is received by the CPO trustee or successor thereof. Any such dividend will not be eligible for the dividends-received deduction allowed to corporate U.S. Shareholders. To the extent, if any, that the amount of any distribution by us exceeds our current and accumulated earnings and profits as determined under United States federal income tax principles, it will be treated first as a tax-free return of the U.S. Shareholder’s adjusted tax basis in the CPOs or ADSs, as applicable, and thereafter as capital gain.

The gross amount of any dividends paid in Mexican Pesos will be includible in the income of a U.S. Shareholder in a Dollar amount calculated by reference to the exchange rate in effect the day the Mexican Pesos are received by the CPO trustee or successor thereof whether or not the Mexican Pesos are converted into Dollars on that day. Generally, any gain or loss resulting from currency exchange fluctuations during the period from the date the dividend payment is includible in income to the date such payment is converted into Dollars will be treated as ordinary income or loss. Such gain or loss will generally be income from sources within the United States for foreign tax credit limitation purposes.

Dividend income is generally taxed as ordinary income. However “qualified dividend income” received by U.S. Shareholders that are individuals (as well as certain trusts and estates) is generally eligible for preferential United States federal income tax rates (provided that certain holding period requirements are met). “Qualified dividend income” includes dividends paid on shares of “qualified foreign corporations” if, among other things: (i) the shares of the foreign corporation are readily tradable on an established securities market in the United States, or (ii) the foreign corporation is eligible with respect to substantially all of its income for the benefits of a comprehensive income tax treaty with the United States which contains an exchange of information program.

We believe that we are a “qualified foreign corporation” because (i) the ADSs trade on the New York Stock Exchange and (ii) we are eligible for the benefits of the comprehensive income tax treaty between Mexico and the United States which includes an exchange of information program. Accordingly, we believe that any dividends we pay should constitute “qualified dividend income” for United States federal income tax purposes. However, we cannot assure you that we will continue to be considered a “qualified foreign corporation” and that our dividends will continue to be “qualified dividend income.”

Taxation of capital gains on disposition of CPOs or ADSs

The sale, exchange, redemption, or other disposition of CPOs or ADSs will result in the recognition of gain or loss by a U.S. Shareholder for United States federal income tax purposes in an amount equal to the difference between the amount realized on the disposition and the U.S. Shareholder’s tax basis in the CPOs or ADSs, as applicable. Such gain or loss will be long-term capital gain or loss if the U.S. Shareholder’s holding period for the CPOs or ADSs exceeds one year at the time of disposition. Long-term capital gain recognized by a U.S. Shareholder that is an individual (as well as certain trusts and estates) upon the sale or exchange of CPOs or ADSs is generally eligible for preferential United States federal income tax rates. The deduction of capital losses is subject to limitations. Gain from the disposition of CPOs or ADSs generally will be treated as United States source for foreign tax credit purposes; losses will generally be allocated against United States source income. Deposits and withdrawals of CPOs by U.S. Shareholders in exchange for ADSs will not result in the realization of gain or loss for United States federal income tax purposes.

United States backup withholding and information reporting

A U.S. Shareholder may, under certain circumstances, be subject to information reporting with respect to some payments to that U.S. Shareholder such as dividends or the proceeds of a sale or other disposition of the CPOs or ADSs. Backup withholding also may apply to amounts paid to such holder unless such holder (i) is a corporation or comes within certain exempt categories and demonstrates this fact when so required, or (ii) provides a correct taxpayer identification number and otherwise complies with applicable requirements of the backup withholding rules. Backup withholding is not an additional tax. Amounts withheld as backup withholding may be creditable against the U.S. Shareholder's federal income tax liability, and the U.S. Shareholder may obtain a refund of any excess amounts withheld under the backup withholding rules by filing the appropriate claim for refund with the IRS and timely furnishing any required information.

An individual U.S. Shareholder may be required to submit to the IRS certain information with respect to his or her beneficial ownership of CPOs or ADSs, unless such CPOs or ADSs are held on his or her behalf by a United States financial institution. The law also imposes penalties if an individual U.S. Shareholder is required to submit such information to the IRS and fails to do so. U.S. Shareholders should consult their tax advisors regarding the application of the new law in their particular circumstances.

Documents on Display

We are subject to the informational requirements of the Exchange Act and, in accordance with these requirements, file reports and information statements and other information with the SEC. These reports and information statements and other information filed by us with the SEC are available at the SEC's website www.sec.gov.

In reviewing the agreements included as exhibits to this annual report, please remember they are included to provide you with information regarding their terms and are not intended to provide any other factual or disclosure information about us or the other parties to the agreements.

The agreements may contain representations and warranties by each of the parties to the applicable agreement. These representations and warranties have been made solely for the benefit of the other parties to the applicable agreement and:

- should not in all instances be treated as categorical statements of fact, but rather as a way of allocating the risk to one of the parties if those statements prove to be inaccurate;
- have been qualified by disclosures that were made to the other party in connection with the negotiation of the applicable agreement, which disclosures are not necessarily reflected in the agreement;
- may apply standards of materiality in a way that is different from what may be viewed as material to you or other investors; and
- were made only as of the date of the applicable agreement or such other date or dates as may be specified in the agreement and are subject to more recent developments.

Accordingly, these representations and warranties may not describe the actual state of affairs as of the date they were made or at any other time.

Item 11—Quantitative and Qualitative Disclosures About Market Risk

See “Item 5—Operating and Financial Review and Prospects—Quantitative and Qualitative Market Disclosure—Our Derivative Financial Instruments.”

Item 12—Description of Securities Other than Equity Securities

Item 12A—Debt Securities

Not applicable.

Item 12B—Warrants and Rights

Not applicable.

Item 12C—Other Securities

Not applicable.

Item 12D—American Depositary Shares

Depository Fees and Charges

Under the terms of the Deposit Agreement for CEMEX, S.A.B. de C.V.’s ADSs, an ADS holder may have to pay the following service fees to the depository:

<u>Services</u>	<u>Fees</u>
Issuance of ADSs upon deposit of eligible securities	Up to 5¢ per ADS issued.
Surrender of ADSs for cancelation and withdrawal of deposited securities	Up to 5¢ per ADS surrendered.
Exercise of rights to purchase additional ADSs	Up to 5¢ per ADS issued.
Distribution of cash (i.e., upon sale of rights and other entitlements)	Up to 2¢ per ADS held.

An ADS holder also is responsible to pay fees and expenses incurred by the ADS depository and taxes and governmental charges including, but not limited to:

- transfer and registration fees charged by the registrar and transfer agent for eligible and deposited securities, such as upon deposit of eligible securities and withdrawal of deposited securities;
- expenses incurred for converting foreign currency into Dollars;
- expenses for cable, telex and fax transmissions and for delivery of securities;
- expenses incurred in connection with compliance with exchange control regulations and other applicable regulatory requirements;
- fees and expenses incurred in connection with the delivery of deposited securities; and
- taxes and duties upon the transfer of securities, such as when eligible securities are deposited or withdrawn from deposit.

We have agreed to pay some of the other charges and expenses of the ADS depository. Note that the fees and charges that a holder of ADSs is required to pay may vary over time and may be changed by us and by the ADS depository. ADS holders will receive notice of the changes. The fees described above may be amended from time to time.

Depository Payments for the Year Ended December 31, 2018

In 2018, we received approximately U.S.\$1.91 million (after applicable United States taxes and including payments to third parties) from our Depository Bank, Citibank, N.A., to reimburse us for contributions towards our investor relations activities (including but not limited to investor meetings, conferences and fees to investor relations service vendors) and other miscellaneous expenses related to the listing of our ADSs on the NYSE.

PART II

Item 13—Defaults, Dividend Arrearages and Delinquencies

None.

Item 14—Material Modifications to the Rights of Security Holders and Use of Proceeds

None.

Item 15—Controls and Procedures

Disclosure Controls and Procedures

Our management has evaluated, with the participation of CEMEX, S.A.B. de C.V.'s Chief Executive Officer (the "CEO") and Executive Vice President of Finance and Administration/Chief Financial Officer (the "CFO"), the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")) as of the end of the period covered by this annual report, and has concluded that our disclosure controls and procedures were effective as of December 31, 2018.

Management's Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act). Internal control over financial reporting refers to a process designed by, or under the supervision of, the CEO and CFO and effected by CEMEX, S.A.B. de C.V.'s board of directors and our management to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles and includes those policies and procedures that:

- pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of our assets;
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that our receipts and expenditures are being made only in accordance with authorizations of our management and members of CEMEX, S.A.B. de C.V.'s board of directors; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on our financial statements.

Under the supervision and with the participation of our management, including the CEO and CFO and principal financial and accounting officers, we conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2018, using the criteria established in "Internal Control—Integrated Framework (2013)" issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this evaluation, our management has concluded that our internal control over financial reporting was effective as of December 31, 2018.

Attestation Report of the Independent Registered Public Accounting Firm

The report of KPMG Cárdenas Dosal, S.C., the registered public accounting firm that audited our financial statements included elsewhere in this annual report, appears on page F-111 of this annual report.

Remediation Efforts to Address Material Weakness Identified as at December 31, 2016 and 2017

As first disclosed in our 2016 annual report on Form 20-F, during 2016, CEMEX received reports through its anonymous reporting line related to possible irregularities in the purchase process of land in connection with the Maceo Project. CEMEX initiated an investigation and internal audit in accordance with its corporate governance policies and its code of ethics, which confirmed the irregularities in the purchase process of land in connection with the Maceo Project.

As a result of this investigation and internal audit, on September 23, 2016, CEMEX Latam and CEMEX Colombia terminated the employment of the Vice President of Planning of CEMEX Latam, who was also CEMEX Colombia's Director of Planning, and the Legal Counsel of CEMEX Latam, who was also the General Counsel of CEMEX Colombia. In addition, effective September 23, 2016, the Chief Executive Officer of CEMEX Latam, who was also the President of CEMEX Colombia, resigned to facilitate the investigation and internal audit.

Since September 2016, we engaged legal counsel, forensic and other advisors to investigate and advise with regard to different matters regarding the Maceo Project, including our internal controls. We subsequently filed a criminal complaint against four former employees of CEMEX Colombia. We believe the implicated employees, allegedly acting in collusion, were able to intentionally circumvent the then-existing internal controls.

As a result of the internal audit procedures for the fiscal years ended December 31, 2016 and 2017, we disclosed the existence of a material weakness in the design and operating effectiveness of our internal control over financial reporting: We did not maintain an effective risk assessment process to identify, analyze and establish processes and controls to mitigate the risk of material misstatements resulting from apparent collusion or management override of controls in relation to significant unusual transactions. In addition, we did not design and operate effective monitoring controls to detect non-compliance with our policies related to the financial reporting of significant unusual transactions.

While the irregularities occurred in a number of periods prior to 2016, we performed a qualitative and quantitative evaluation of the resulting financial statement effects and concluded that none of them individually, or in aggregate, were material to any such periods. Accordingly, we have not restated any previously issued financial statements.

Changes in Internal Control Over Financial Reporting

During 2017 and 2018, based on the remediation plan approved by our audit committee, our management designed and implemented certain internal controls over financial reporting in relation to our risk assessment and monitoring of significant unusual transactions to address the material weakness described in Item 15 of our annual report on Form 20-F for the year ended December 31, 2016 and 2017, including, but not limited to, the following:

- the implementation of a new approval policy over significant unusual transactions that takes place at the operating subsidiary level,
- a corporate committee to oversee large investment projects,
- enhancements to our internal audit procedures, and
- improvements over our current monitoring controls.

As of December 31, 2018, our management concluded based on the results of its testing, that the internal controls implemented were operating effectively. The completion of these activities was subject to senior management review, including audit committee oversight.

Our management and our Board of Directors are committed to maintaining a strong and sustainable internal control over financial reporting environment.

Except for the internal controls implemented to address the prior years' material weakness, as described above, we have not identified changes in our internal controls during 2018 that have materially affected or are reasonably likely to materially affect our internal controls over financial reporting.

Item 16—RESERVED

Item 16A—Audit Committee Financial Expert

CEMEX, S.A.B. de C.V.'s board of directors has determined that it has at least one "audit committee financial expert" (as defined in Item 16A of Form 20-F) serving on its audit committee. Mr. Everardo Elizondo Almaguer meets the requisite qualifications.

Item 16B—Code of Ethics

We have adopted a written code of ethics that applies to all board members, employees, including our principal executive officer, principal financial officer and principal accounting officer, third parties (including but not limited to customers, suppliers, and contractors) and other stakeholders. All of our employees are expected to comply with this code in their daily interactions.

Our code of ethics provides the following main guidelines:

(i) Our purpose and scope: we look to act with integrity in our day-to-day work. This is important for CEMEX's sustained success and to create a workplace in which our people can thrive. Our code of ethics aims to provide guidance on what is expected from all of us as part of CEMEX;

(ii) Our people: we believe our people are our greatest assets. Therefore, we aim to provide a great place to work, we encourage an atmosphere of openness, courage, generosity and respect, so that all employees feel free to come forward with their questions, ideas, and concerns;

(iii) Health and safety in the workplace: we plan to prevent incidents and safeguard the health and safety of our workforce and are committed to carrying out our business activities in a safe and efficient manner to care for the well-being of all those on our sites and those who may be impacted by our activities;

(iv) Human rights: we look to support and respect the protection of internationally proclaimed human rights principles and we do not tolerate any violation of human rights in our business, our supply chain or partnerships;

(v) Harassment and workplace respect: we look to have an environment of mutual respect should always be fostered, and we should provide support and encouragement to each other;

(vi) Diversity and inclusion: we seek to support differences and provide an inclusive work environment for everyone. Recruitment, promotion, training, compensation and benefits should be based on ability, career experience and alignment with our values;

(vii) Customer relations: we work to be our customers' best option and aim to conduct our business dealings fairly, professionally and with integrity. We expect our customers to act with the same integrity;

(viii) Supplier relations: we look to manage our supplier relationships with honesty, respect and integrity, offering equal opportunities for all parties;

(ix) Government relations: our operations require a wide range of interactions with government agencies in many countries; these agencies may act as regulators, customers, suppliers, stockholders and/or promoters; we plan to always conduct our interactions with these agencies consistent with our values, with particular emphasis on integrity;

(x) Community relations: we are committed to promoting and contributing to the development of our communities by preserving the environment, fostering mutually beneficial relationships and maintaining open lines of communication. When considering CEMEX's participation in economic, social, and environmental programs, we should always comply with the law;

(xi) Environment: our business should be carried out in an environmentally responsible and sustainable manner, aiming to mitigate the environmental and social impacts of our business;

(xii) Antitrust compliance: we are committed to conducting all of our business activities in compliance with applicable laws. We operate in many countries and are subject to different antitrust laws and regulations. Therefore, our country managers seek that our business activities conform to local laws and regulations, and to our own policies;

(xiii) Anti-corruption: we forbid our personnel from promising or providing anything of value to government officials or any third parties to secure any undue advantage or unduly influence any decisions;

(xiv) Preventing money laundering: we prohibit money laundering, understood as the process of disguising the nature and source of money or other property connected with criminal activity, such as drug trafficking, terrorism, bribery or corruption, by integrating the illicit money or property into the stream of commerce so that it appears legitimate or its true source or owner cannot be identified;

(xv) Conflicts of interest and corporate opportunities: our employees, officers and directors have an obligation to conduct themselves in an honest and ethical manner and to act in our best interest. Our employees, officers and directors are expected to avoid situations that present or could present a potential or actual conflict between their interests and our interests;

(xvi) Gifts and hospitalities: we, our employees, officers and directors look to avoid accepting or giving courtesies of any kind that may influence, or appear to compromise, decision-making on current or future negotiations. We should never seek or structure a negotiation on the basis of any gift, service or courtesy from a customer, supplier, consultant, service provider or other third-party;

(xvii) Use of Company's assets: employees should never use CEMEX assets for their own benefit, and we look to ensure that company assets are not misused by others, stolen or damaged. When using company devices it is prohibited for employees to create, view, store, request or distribute anything of an offensive, illegal or inappropriate nature;

(xviii) Political activities: we acknowledge and respect the right of our employees to participate in activities external to the company, such as politics, provided that they are legal in their jurisdiction. We look to avoid conducting political activities at company facilities, use company resources for these activities or engage in these activities on company time. We can make political contributions as long as the contributions are allowed by local law and pre-approved internally;

(xix) Data privacy and protection: we plan to protect the confidentiality and integrity of personal data to foster trustworthy business relationships. We aim to process personal data fairly and lawfully and provide access to it within our organization only on a need-to-know basis;

(xx) Insider trading: we should never buy or sell the stock of CEMEX while in possession of non-public material information about the company. We should never “tip” others or share non-public material information even if we do not intend to profit for ourselves or others;

(xxi) Intellectual property: we look to ensure the protection of CEMEX’s intellectual property and capture innovation to ensure added value and freedom to operate. CEMEX recognizes and respects the intellectual property of third parties and intends to prevent and avoid consequences of potential infringement of third parties’ rights;

(xxii) Accurate records: we look to provide our stakeholders with correct and complete information in a timely manner; anyone responsible for financial records, or any other CEMEX records or reporting, must aim to ensure that those records accurately reflect our business activities, are supported by evidence, and are complete, accurate, and timely; and

(xxiii) Communication and use of social media: we should not make any statements outside of CEMEX about company performance, initiatives or any other internal matters. We look to keep all confidential matters safe.

We promote awareness and enforcement of our code of ethics through our ethics committees, training programs and secured internal communications channels. We periodically evaluate and update the provisions of our code of ethics.

You may view our code of ethics in the corporate governance section of our website (www.cemex.com), or you may request a copy of our code of ethics, at no cost, by writing to or telephoning us as follows:

CEMEX, S.A.B. de C.V.
Avenida Ricardo Margáin Zozaya #325
Colonia Valle del Campestre
San Pedro Garza García, Nuevo León, 66265, México
Attn: Luis Hernández
Telephone: +52 81 8888-8888

Item 16C—Principal Accountant Fees and Services

Audit Fees: KPMG Cárdenas Dosal, S.C. in Mexico and KPMG firms worldwide charged us Ps274 million in fiscal year 2018 in connection with the professional services rendered for the audit of our annual financial statements and services normally provided by them relating to statutory and regulatory filings or engagements. In fiscal year 2017, KPMG Cárdenas Dosal, S.C. in Mexico and KPMG firms worldwide charged us Ps272 million for these services.

Audit-Related Fees: KPMG Cárdenas Dosal, S.C. in Mexico and KPMG firms worldwide charged us Ps24 million in fiscal year 2018 for assurance and related services reasonably related to the performance of our audit. In fiscal year 2017, KPMG Cárdenas Dosal, S.C. in Mexico and KPMG firms worldwide charged us Ps38 million for audit-related services.

Tax Fees: KPMG Cárdenas Dosal, S.C. in Mexico and KPMG firms worldwide charged us Ps16 million in fiscal year 2018 for tax compliance, tax advice and tax planning. In fiscal year 2017, KPMG Cárdenas Dosal, S.C. in Mexico and KPMG firms worldwide charged us Ps22 million for tax-related services.

All Other Fees: KPMG Cárdenas Dosal, S.C. in Mexico and KPMG firms worldwide charged us Ps23 million in fiscal year 2018 for products and services other than those comprising audit fees, audit-related fees and tax fees. In fiscal year 2017, KPMG Cárdenas Dosal, S.C. in Mexico and KPMG firms worldwide charged us Ps16 million for products and services in this category. These fees relate mainly to services provided by KPMG to us with respect to our due diligence activities around the world.

Audit Committee Pre-Approval Policies and Procedures

Our audit committee is responsible for, among other things, the appointment, compensation and oversight of our external auditors. To assure the independence of our independent auditors, our audit committee pre-approves annually a catalog of specific audit and non-audit services in the categories Audit Services, Audit-Related Services, Tax-Related Services and Other Services that may be performed by our auditors, as well as the budgeted fee levels for each of these categories. All other permitted services must receive a specific approval from our audit committee. Our external auditor periodically provides a report to our audit committee in order for our audit committee to review the services that our external auditor is providing, as well as the status and cost of those services.

During 2018, there were no services provided to us by our external auditors that were performed pursuant to the de minimis exception.

Item 16D—Exemptions from the Listing Standards for Audit Committees

Not applicable.

Item 16E—Purchases of Equity Securities by the Issuer and Affiliated Purchasers

Not applicable.

Item 16F—Change in Registrant’s Certifying Accountant

Not applicable.

Item 16G—Corporate Governance

Section 303A.11 of the NYSE Listed Company Manual (“LCM”) requires that listed foreign private issuers, such as CEMEX, disclose any significant ways in which their corporate governance practices differ from those followed by United States companies under NYSE listing standards.

CEMEX’s corporate governance practices are governed by its by-laws, by the corporate governance provisions set forth in the Mexican Securities Market Law, the Mexican Regulation for Issuers (*Circular de Emisoras*) issued by the Mexican Banking and Securities Commission (*Comisión Nacional Bancaria y de Valores*) and the Mexican Stock Exchange Rules (*Reglamento Interior de la Bolsa Mexicana de Valores*) and by applicable United States securities laws. CEMEX is also subject to the rules of the NYSE to the extent they apply to foreign private issuers. Except for those specific rules, foreign private issuers are permitted to follow home country practice in lieu of the provisions of Section 303A of the LCM.

CEMEX, on a voluntary basis, also complies with the Mexican Code of Best Corporate Practices (*Código de Mejores Prácticas Corporativas*) which, as indicated below, was promulgated by a committee established by the Mexican Corporate Coordination Board (*Consejo Coordinador Empresarial*). The Mexican Corporate Coordination Board provides recommendations for better corporate governance practices for listed companies in Mexico, and the Mexican Code of Best Corporate Practices has been endorsed by the Mexican Banking and Securities Commission.

The following is a summary of significant ways in which our corporate governance practices differ from those required to be followed by United States domestic companies under the NYSE's listing standards.

NYSE LISTING STANDARDS

CEMEX CORPORATE GOVERNANCE PRACTICE

303A.01

Listed companies must have a majority of independent directors.

Pursuant to the Mexican Securities Market Law, CEMEX, S.A.B. de C.V. is required to have a board of directors with a maximum of 21 members, 25% of whom must be independent. Determination as to the independence of CEMEX, S.A.B. de C.V.'s directors is made upon their election by CEMEX, S.A.B. de C.V.'s shareholders at the corresponding meeting. As of December 31, 2018, CEMEX, S.A.B. de C.V.'s board of directors had 15 members, of which more than 50% are independent under the Mexican Securities Market Law.

The Mexican Securities Market Law sets forth, in article 26, the definition of "independence," which differs from the one set forth in Section 303A.02 of the LCM. Generally, under the Mexican Securities Market Law, a director is not independent if such director is an employee or officer of the company or its subsidiaries; an individual that has significant influence over the company or its subsidiaries; a shareholder that is part of a group that controls the company; or, if there exist certain relationships between a company and a director, entities with which the director is associated or family members of the director.

303A.03

Non-management directors must meet at regularly scheduled executive sessions without management.

Under CEMEX, S.A.B. de C.V.'s by-laws and Mexican laws and regulations, our non-management and independent directors are not required to meet in executive sessions. CEMEX, S.A.B. de C.V.'s board of directors must meet at least once every three months.

303A.04

Listed companies must have a nominating/corporate governance committee composed of independent directors.

Under CEMEX, S.A.B. de C.V.'s by-laws and Mexican laws and regulations, we are not required to have a nominating committee. We do not have such a committee.

Our corporate practices and finance committee operates pursuant to the provisions of the Mexican Securities Market Law and CEMEX, S.A.B. de C.V.'s by-laws. Our corporate practices and finance committee is composed of four independent directors.

Our corporate practices and finance committee is responsible for evaluating the performance of our executive officers; reviewing related party transactions; reviewing the compensation paid to executive officers; evaluating any waivers granted to directors or executive officers for their taking of corporate opportunities; and carrying out the activities described under Mexican law. Our corporate practices and finance committee meets as required by CEMEX, S.A.B. de C.V.'s by-laws and by Mexican laws and regulations.

303A.05

Listed companies must have a compensation committee composed of independent directors.

Compensation committee members must satisfy additional independence requirements specific to compensation committee membership.

Listed companies must have an audit committee that satisfies the requirements of Rule 10A-3 under the Exchange Act.

Under CEMEX, S.A.B. de C.V.'s by-laws and Mexican laws and regulations, we are not required to have a compensation committee. We do not have such a committee.

CEMEX, S.A.B. de C.V.'s audit committee operates pursuant to the provisions of the Mexican Securities Market Law and CEMEX, S.A.B. de C.V.'s by-laws.

CEMEX, S.A.B. de C.V.'s audit committee is composed of four members. According to CEMEX, S.A.B. de C.V.'s by-laws, all of the members must be independent.

CEMEX, S.A.B. de C.V.'s audit committee is responsible for evaluating the company's internal controls and procedures, identifying any material deficiencies it finds; following up with any corrective or preventive measures adopted with respect to the non-compliance with the operation and accounting guidelines and policies; evaluating the performance of the external auditors; describing and valuating those non-audit services rendered by the external auditor; reviewing the company's financial statements; assessing the effects of any modifications to the accounting policies approved during a fiscal year; overseeing measures adopted as result of any observations made by shareholders, directors, executive officers, employees or any third parties with respect to accounting, internal controls and internal and external audit, as well as any complaints regarding irregularities in management, including anonymous and confidential methods for addressing concerns raised by employees; and assuring the execution of resolutions adopted at shareholders' or board of directors' meetings.

CEMEX, S.A.B. de C.V.'s board of directors has determined that it has an "audit committee financial expert," for purposes of the Sarbanes-Oxley Act of 2002, serving on its audit committee.

CEMEX, S.A.B. de C.V.'s audit committee meets as required by CEMEX, S.A.B. de C.V.'s by-laws and by Mexican laws and regulations.

303A.09

Listed companies must adopt and disclose corporate governance guidelines.

Under CEMEX, S.A.B. de C.V.'s by-laws and Mexican laws and regulations, we are not required to adopt corporate governance guidelines, but, on an annual basis, we file a report with the Mexican Stock Exchange regarding our compliance with the Mexican Code of Best Corporate Practices.

303A.10

Listed companies must adopt and disclose a code of business conduct and ethics for directors, officers and employees, and promptly disclose any waivers of the code for directors or executive officers.

CEMEX, S.A.B. de C.V. has adopted a written code of ethics that applies to all of our employees, including our principal executive officer, principal financial officer and principal accounting officer.

Equity compensation plans

Equity compensation plans require shareholder approval under the Mexican Securities Market Law, subject to limited exemptions.

Shareholder approval is not expressly required under CEMEX, S.A.B. de C.V.'s by-laws for the adoption and amendment of an equity compensation plan. However, at our 2017 annual shareholders' meeting held on April 5, 2018, CEMEX, S.A.B. de C.V.'s shareholders resolved to extend our current stock program for our employees, officers and administrators until December 31, 2023.

Item 16H—Mine Safety Disclosure

The information concerning mine safety violations and other regulatory matters required by Section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act is included in Exhibit 15.1 to this annual report.

PART III

Item 17—Financial Statements

Not applicable.

Item 18—Financial Statements

See pages F-1 through F-6, incorporated herein by reference.

Item 19—Exhibits

- 1.1 Amended and Restated By-laws of CEMEX, S.A.B. de C.V.(m)
- 1.2 Extract of the Resolutions of the Extraordinary General Shareholders' Meeting of CEMEX, S.A.B. de C.V. held on March 28, 2019.(n)
- 2.1 Form of Certificate for shares of Series A Common Stock of CEMEX, S.A.B. de C.V.(k)
- 2.2 Form of Certificate for shares of Series B Common Stock of CEMEX, S.A.B. de C.V.(k)
- 2.3 English Translation of Amended and Restated Agreement to the Trust Agreement, dated as of November 27, 2014, between CEMEX, S.A.B. de C.V., as founder of the trust, and Banco Nacional de México, S.A. regarding the CPOs.(j)
- 2.4 Form of CPO Certificate.(l)
- 2.5 Form of Second Amended and Restated Deposit Agreement (Series A and Series B share CPOs), dated August 10, 1999, among CEMEX, S.A. de C.V., Citibank, N.A. and holders and beneficial owners of American Depositary Shares.(b)(p)
- 2.5.1 Amendment No. 1 to the Second Amended and Restated Deposit Agreement, dated as of July 1, 2005, by and among CEMEX, S.A. de C.V., Citibank, N.A., as Depositary, and all holders and beneficial owners from time to time of American Depositary Shares evidenced by American Depositary Receipts issued thereunder, including the form of ADR attached thereto.(d)
- 2.5.2 Amendment No. 2 to the Second Amended and Restated Deposit Agreement, dated as of February 11, 2015, by and among CEMEX, S.A.B. de C.V., Citibank, N.A., as Depositary, and all holders and beneficial owners from time to time of American Depositary Shares evidenced by American Depositary Receipts issued thereunder, including the form of ADR attached thereto.(k)
- 2.5.3 Letter Agreement, dated October 12, 2007, by and between CEMEX, S.A.B. de C.V. and Citibank, N.A., as Depositary, supplementing the Second Amended and Restated Deposit Agreement, as amended, to enable the Depositary to establish a direct registration system for the ADSs.(d)
- 2.5.4 Letter Agreement, dated March 30, 2010 by and between CEMEX, S.A.B. de C.V. and Citibank, N.A., as Depositary, supplementing the Second Amended and Restated Deposit Agreement, as amended, to set forth the terms upon which CEMEX, S.A.B. de C.V. is to establish a restricted ADS series.(i)
- 2.5.5 Letter Agreement, dated March 15, 2011 by and between CEMEX, S.A.B. de C.V. and Citibank, N.A., as Depositary, supplementing the Second Amended and Restated Deposit Agreement, as amended, to set forth the terms upon which CEMEX, S.A.B. de C.V. is to deposit CPOs upon conversion of the 3.75% Subordinated Convertible Notes due 2018, and the Depositary is to issue ADSs upon deposit of such CPOs.(i)
- 2.5.6 Letter Agreement, dated March 15, 2011 by and between CEMEX, S.A.B. de C.V. and Citibank, N.A., as Depositary, supplementing the Second Amended and Restated Deposit Agreement, as amended, to set forth the terms upon which CEMEX, S.A.B. de C.V. is to establish a restricted ADS series.(i)
- 2.6 Form of American Depositary Receipt evidencing American Depositary Shares.(k)

- 4.1 Note Indenture, dated as of December 18, 2006, by and among New Sunward Holding Financial Ventures B.V., as issuer, and CEMEX, S.A.B. de C.V., CEMEX México, S.A. de C.V., and New Sunward Holding B.V., as guarantors and the Bank of New York, as trustee, relating to New Sunward Holding Financial Ventures B.V.'s U.S.\$350,000,000 aggregate principal amount of Callable Perpetual Dual-Currency Notes.(d)
- 4.1.1 First Supplemental Note Indenture, dated as of August 10, 2009, by and among New Sunward Holding Financial Ventures B.V., as issuer, and CEMEX, S.A.B. de C.V., CEMEX México, S.A. de C.V., and New Sunward Holding B.V., as guarantors and the Bank of New York, as trustee, supplementing the Note Indenture, dated as of December 18, 2006, among New Sunward Holding Financial Ventures B.V., as issuer, CEMEX, S.A.B. de C.V., CEMEX México, S.A. de C.V. and New Sunward Holding B.V., as guarantors, and The Bank of New York Mellon, as trustee, relating to New Sunward Holding Financial Ventures B.V.'s U.S.\$350,000,000 aggregate principal amount of Callable Perpetual Dual-Currency Notes.(d)
- 4.1.2 Second Supplemental Note Indenture, dated as of May 12, 2010, by and among New Sunward Holding Financial Ventures B.V., as issuer, CEMEX, S.A.B. de C.V., CEMEX México, S.A. de C.V. and New Sunward Holding B.V., as guarantors, The Bank of New York Mellon, as trustee, Swap 5 Capital (SPV) Limited and C5 Capital (SPV) Limited., supplementing the Note Indenture, dated as of December 18, 2006, among New Sunward Holding Financial Ventures B.V., as issuer, CEMEX, S.A.B. de C.V., CEMEX México, S.A. de C.V. and New Sunward Holding B.V., as guarantors, and The Bank of New York Mellon, as trustee, relating to New Sunward Holding Financial Ventures B.V.'s U.S.\$350,000,000 aggregate principal amount of Callable Perpetual Dual-Currency Notes.(d)
- 4.2 Note Indenture, dated as of December 18, 2006, by and among New Sunward Holding Financial Ventures B.V., as issuer, and CEMEX, S.A.B. de C.V., CEMEX México, S.A. de C.V., and New Sunward Holding B.V., as guarantors and the Bank of New York, as trustee, relating to New Sunward Holding Financial Ventures B.V.'s U.S.\$900,000,000 aggregate principal amount of Callable Perpetual Dual-Currency Notes.(d)
- 4.2.1 First Supplemental Note Indenture, dated as of August 10, 2009, by and among New Sunward Holding Financial Ventures B.V., as issuer, and CEMEX, S.A.B. de C.V., CEMEX México, S.A. de C.V., and New Sunward Holding B.V., as guarantors and the Bank of New York, as trustee, supplementing the Note Indenture, dated as of December 18, 2006, among New Sunward Holding Financial Ventures B.V., as issuer, CEMEX, S.A.B. de C.V., CEMEX México, S.A. de C.V. and New Sunward Holding B.V., as guarantors, and The Bank of New York Mellon, as trustee, relating to New Sunward Holding Financial Ventures B.V.'s U.S.\$900,000,000 aggregate principal amount of Callable Perpetual Dual-Currency Notes.(d)
- 4.2.2 Second Supplemental Note Indenture, dated as of May 12, 2010, by and among New Sunward Holding Financial Ventures B.V., as issuer, CEMEX, S.A.B. de C.V., CEMEX México, S.A. de C.V. and New Sunward Holding B.V., as guarantors, The Bank of New York Mellon, as trustee, Swap 10 Capital (SPV) Limited and C10 Capital (SPV) Limited., supplementing the Note Indenture, dated as of December 18, 2006, among New Sunward Holding Financial Ventures B.V., as issuer, CEMEX, S.A.B. de C.V., CEMEX México, S.A. de C.V. and New Sunward Holding B.V., as guarantors, and The Bank of New York Mellon, as trustee, relating to New Sunward Holding Financial Ventures B.V.'s U.S.\$900,000,000 aggregate principal amount of Callable Perpetual Dual-Currency Notes.(d)
- 4.3 Note Indenture, dated as of February 12, 2007, by and among New Sunward Holding Financial Ventures B.V., as issuer, and CEMEX, S.A.B. de C.V., CEMEX México, S.A. de C.V., and New Sunward Holding B.V., as guarantors and the Bank of New York, as trustee, relating to New Sunward Holding Financial Ventures B.V.'s U.S.\$750,000,000 aggregate principal amount of Callable Perpetual Dual-Currency Notes.(d)

- 4.3.1 First Supplemental Note Indenture, dated as of August 10, 2009, by and among New Sunward Holding Financial Ventures B.V., as issuer, and CEMEX, S.A.B. de C.V., CEMEX México, S.A. de C.V., and New Sunward Holding B.V., as guarantors and the Bank of New York, as trustee, supplementing the Note Indenture, dated as of February 12, 2007, among New Sunward Holding Financial Ventures B.V., as issuer, CEMEX, S.A.B. de C.V., CEMEX México, S.A. de C.V. and New Sunward Holding B.V., as guarantors, and The Bank of New York Mellon, as trustee, relating to New Sunward Holding Financial Ventures B.V.'s U.S.\$750,000,000 aggregate principal amount of Callable Perpetual Dual-Currency Notes.(d)
- 4.3.2 Second Supplemental Note Indenture, dated as of May 12, 2010, by and among New Sunward Holding Financial Ventures B.V., as issuer, CEMEX, S.A.B. de C.V., CEMEX México, S.A. de C.V. and New Sunward Holding B.V., as guarantors, The Bank of New York Mellon, as trustee, Swap 8 Capital (SPV) Limited and 8 Capital (SPV) Limited., supplementing the Note Indenture, dated as of February 12, 2007, among New Sunward Holding Financial Ventures B.V., as issuer, CEMEX, S.A.B. de C.V., CEMEX México, S.A. de C.V. and New Sunward Holding B.V., as guarantors, and The Bank of New York Mellon, as trustee, relating to New Sunward Holding Financial Ventures B.V.'s U.S.\$750,000,000 aggregate principal amount of Callable Perpetual Dual-Currency Notes.(d)
- 4.4 Note Indenture, dated as of May 9, 2007, by and among New Sunward Holding Financial Ventures B.V., as issuer, and CEMEX, S.A.B. de C.V., CEMEX México, S.A. de C.V., and New Sunward Holding B.V., as guarantors and the Bank of New York, as trustee, relating to New Sunward Holding Financial Ventures B.V.'s U.S. €730,000,000 Callable Perpetual Dual-Currency Notes.(d)
- 4.4.1 First Supplemental Note Indenture, dated as of August 10, 2009, by and among New Sunward Holding Financial Ventures B.V., as issuer, and CEMEX, S.A.B. de C.V., CEMEX México, S.A. de C.V., and New Sunward Holding B.V., as guarantors and the Bank of New York, as trustee, supplementing the Note Indenture, dated as of May 9, 2007, among New Sunward Holding Financial Ventures B.V., as issuer, CEMEX, S.A.B. de C.V., CEMEX México, S.A. de C.V. and New Sunward Holding B.V., as guarantors, and The Bank of New York Mellon, as trustee, relating to New Sunward Holding Financial Ventures B.V.'s U.S. €730,000,000 Callable Perpetual Dual-Currency Notes.(d)
- 4.4.2 Second Supplemental Note Indenture, dated as of May 12, 2010, by and among New Sunward Holding Financial Ventures B.V., as issuer, CEMEX, S.A.B. de C.V., CEMEX México, S.A. de C.V. and New Sunward Holding B.V., as guarantors, The Bank of New York Mellon, as trustee, Swap C10-EUR Capital (SPV) Limited and C10-EUR Capital (SPV) Limited., supplementing the Note Indenture, dated as of February 12, 2007, among New Sunward Holding Financial Ventures B.V., as issuer, CEMEX, S.A.B. de C.V., CEMEX México, S.A. de C.V. and New Sunward Holding B.V., as guarantors, and The Bank of New York Mellon, as trustee, relating to New Sunward Holding Financial Ventures B.V.'s U.S. €730,000,000 Callable Perpetual Dual-Currency Notes.(d)
- 4.5 Indenture, dated as of December 10, 2009, by and among CEMEX, S.A.B. de C.V., as issuer, Banco Mercantil del Norte, Sociedad Anónima, Institución de Banca Múltiple, Grupo Financiero Banorte, as common representative and calculation agent, in connection with the issuance of Mandatory Convertible Bonds.(d)
- 4.6 Amendment and Restatement Deed, dated July 19, 2017, by and among CEMEX, S.A.B. de C.V. and certain of its subsidiaries, the Intra-Group Lenders (as named therein), Citibank Europe plc, UK Branch (formerly Citibank International Ltd), as Facilities Agent, and Wilmington Trust (London) Limited, as Security Agent, relating to the Intercreditor Agreement, dated September 17, 2012 and amended October 31, 2014, and July 23, 2015.(m)

- 4.7 Dutch law Share Pledge over the registered shares in New Sunward Holding B.V., dated September 17, 2012, between (i) CEMEX International Finance Company Ltd. (formerly CEMEX International Finance Company) which merged into New Sunward Holding B.V., (ii) Corporación Gouda S.A. de C.V. and Mexcement Holdings, S.A. de C.V., both which merged into Cemex Operaciones México, S.A. de C.V. and CEMEX TRADEMARKS HOLDING Ltd. (as Pledgors) and Wilmington Trust (London) Limited (as Pledgee).(g)
- 4.7.1 Dutch law Share Pledge over the registered shares in New Sunward Holding B.V., dated December 15, 2015, between Cemex Operaciones México, S.A. de C.V. (as Pledgor) and Wilmington Trust (London) Limited (as Pledgee).(k)
- 4.7.2 Security Confirmation Agreement of Dutch law Share Pledges over the registered shares in New Sunward Holding B.V., dated July 19, 2017, between Cemex Operaciones México, S.A. de C.V. and CEMEX TRADEMARKS HOLDING Ltd. (as Security Providers), New Sunward Holding B.V. and Wilmington Trust (London) Limited (as Security Agent).(m)
- 4.8 Swiss law Share Pledge over 1,938,958,014 shares in CEMEX TRADEMARKS HOLDING Ltd., dated September 17, 2012, between CEMEX, S.A.B. de C.V., CEMEX México, S.A. de C.V., Interamerican Investments Inc. and Empresas Tolteca de México, S.A. de C.V. (as Pledgors) and Wilmington Trust (London) Limited (as Pledgee).(g)
- 4.8.1 Security Confirmation Agreement of Swiss law Share Pledge over 1,938,958,014 shares in CEMEX TRADEMARKS HOLDING Ltd., dated July 23, 2015, between CEMEX, S.A.B. de C.V., CEMEX México, S.A. de C.V., Interamerican Investments Inc. and Empresas Tolteca de México, S.A. de C.V. (as Pledgors) and Wilmington Trust (London) Limited (as Pledgee).(k)
- 4.8.2 Security Confirmation Agreement of Swiss law Share Pledge over 1,938,958,014 shares in CEMEX TRADEMARKS HOLDING Ltd., dated July 19, 2017, between CEMEX, S.A.B. de C.V., CEMEX México, S.A. de C.V., Interamerican Investments Inc. and Empresas Tolteca de México, S.A. de C.V. (as Pledgors) and Wilmington Trust (London) Limited (as Pledgee).(m)
- 4.8.3 Swiss law Share Pledge over 8,424,037 shares in CEMEX TRADEMARKS HOLDING Ltd., dated July 19, 2017, between CEMEX, S.A.B. de C.V. (as Pledgor) and Wilmington Trust (London) Limited (as Security Agent).(m)
- 4.8.4 Security Confirmation Agreement of Swiss law Share Pledge over 1,947,382,051 s shares in CEMEX TRADEMARKS HOLDING Ltd., dated April 2, 2019, between CEMEX, S.A.B. de C.V., CEMEX México, S.A. de C.V., Interamerican Investments Inc. and Empresas Tolteca de México, S.A. de C.V. (as Pledgors) and Wilmington Trust (London) Limited (as Pledgee).(n)
- 4.9 Spanish law Share Pledge over the shares in CEMEX España, S.A., dated November 8, 2012, between New Sunward Holding B.V., CEMEX, S.A.B. de C.V., CEMEX España, S.A. and Wilmington Trust (London) Limited (as Security Agent).(g)
- 4.10 Extension Agreement to Spanish law Share Pledge over the shares in CEMEX España, S.A., dated July 19, 2017, between New Sunward Holding B.V., CEMEX, S.A.B. de C.V., CEMEX España, S.A., Wilmington Trust (London) Limited (as Security Agent), Banco Bilbao Vizcaya Argentaria, S.A. (as Custodian) and the Lenders (as named therein).(m)
- 4.11 English translation of the Second Amendment and Restatement Agreement of the Mexican law Security Trust Agreement, dated July 25, 2017, entered into by CEMEX, S.A.B. de C.V., Empresas Tolteca de Mexico, S.A. de C.V., CEMEX Central, S.A. de C.V., Interamerican Investments Inc., Cemex México, S.A. de C.V., and CEMEX Operaciones México, S.A. de C.V., regarding the shares that each of them owned in: CEMEX México, S.A. de C.V. and CEMEX Operaciones México, S.A. de C.V.(m)
- 4.12 Facilities Agreement, dated July 19, 2017, among CEMEX, S.A.B. de C.V. and certain of its subsidiaries, the financial institutions named therein, as Original Lenders, Citibank Europe PLC, UK Branch, as Agent, and Wilmington Trust (London) Limited, as Security Agent.(m)

- 4.13 Indenture, dated as of April 1, 2014, among CEMEX Finance LLC, as issuer, the Note Guarantors party thereto and The Bank of New York Mellon, as trustee, in connection with the issuance of U.S.\$1,000,000,000 aggregate principal amount of 6.000% U.S. Dollar-Denominated Senior Secured Notes due 2024.(h)
- 4.14 English Translation of Accession Deed, dated April 1, 2014, issued by The Bank of New York Mellon, as Trustee, and CEMEX España, S.A., concerning the shares of CEMEX España, S.A. relating to the issuance by CEMEX Finance LLC of U.S.\$1,000,000,000 aggregate principal amount of 6.000% U.S. Dollar-Denominated Senior Secured Notes due 2024.(h)
- 4.15 Indenture, dated as of September 11, 2014, among CEMEX, S.A.B. de C.V., as issuer, the Note Guarantors party thereto and The Bank of New York Mellon, as trustee, in connection with the issuance of U.S.\$1,100,000,000 aggregate principal amount of 5.700% U.S. Dollar-Denominated Senior Secured Notes due 2025.(j)
- 4.16 English Translation of Accession Deed, dated September 11, 2014, issued by The Bank of New York Mellon, as Trustee, and CEMEX España, S.A., concerning the shares of CEMEX España, S.A. relating to the issuance by CEMEX, S.A.B. de C.V. of U.S.\$1,100,000,000 aggregate principal amount of 5.700% U.S. Dollar-Denominated Senior Secured Notes due 2025.(j)
- 4.17 Indenture, dated as of March 5, 2015, among CEMEX, S.A.B. de C.V., as issuer, the Note Guarantors party thereto, The Bank of New York Mellon, as trustee and registrar, and The Bank of New York Mellon, London Branch, as paying agent and transfer agent, in connection with the issuance of €550,000,000 aggregate principal amount of 4.375% Euro-Denominated Senior Secured Notes due 2023.(j)
- 4.18 English Translation of Accession Deed, dated March 5, 2015, issued by The Bank of New York Mellon, as Trustee, and CEMEX España, S.A., concerning the shares of CEMEX España, S.A. relating to the issuance by CEMEX, S.A.B. de C.V. of €550,000,000 aggregate principal amount of 4.375% Euro-Denominated Senior Secured Notes due 2023.(j)
- 4.19 Indenture, dated as of March 13, 2015, among CEMEX, S.A.B. de C.V., as issuer, The Bank of New York Mellon, as trustee, CIBanco S.A., Institución de Banca Múltiple, as Mexican trustee, in connection with the issuance of \$200,000,000 aggregate principal amount of 3.72% Convertible Subordinated Notes due 2020.(j)
- 4.20 Indenture, dated as of May 28, 2015, among CEMEX, S.A.B. de C.V. as issuer, The Bank of New York Mellon, as trustee, and CIBanco S.A., Institución de Banca Múltiple, as Mexican trustee, with respect to the issuance of 3.72% Convertible Subordinated Notes due 2020.(k)
- 4.21 Note Indenture, dated as of March 16, 2016, among CEMEX, S.A.B. de C.V., the guarantors listed therein, and The Bank of New York Mellon, as trustee, with respect to the issuance of 7.750% Senior Secured Notes due 2026.(k)
- 4.22 English Translation of Accession Deed, dated March 16, 2016, issued by The Bank of New York Mellon, as Trustee, and CEMEX España, S.A., concerning the shares of CEMEX España, S.A. relating to the issuance by CEMEX, S.A.B. de C.V. of U.S.\$1,000,000,000 aggregate principal amount of 7.750% Senior Secured Notes due 2026.(k)
- 4.23 Indenture, dated as of June 14, 2016, among CEMEX Finance LLC, the guarantors listed therein, The Bank of New York Mellon, as trustee, and The Bank of New York Mellon, London Branch, as paying agent and transfer agent, with respect to the issuance of 4.625% Senior Secured Notes due 2024.(l)
- 4.24 Indenture, dated as of December 5, 2017, among CEMEX, S.A.B. de C.V., the guarantors listed therein, and The Bank of New York Mellon, as trustee, in connection with the issuance of €650,000,000 aggregate principal amount of 2.750% Euro-Denominated Senior Secured Notes due 2024.(m)

- 4.25 English Translation of Accession Deed, dated December 5, 2017, issued by The Bank of New York Mellon, as Trustee, and CEMEX España, S.A., concerning the shares of CEMEX España, S.A. relating to the issuance by CEMEX, S.A.B. de C.V. of €650,000,000 aggregate principal amount of 2.750% Euro-Denominated Senior Secured Notes due 2024.(m)
- 4.26 Indenture, dated as of March 19, 2019, among CEMEX, S.A.B. de C.V., the guarantors listed therein, and The Bank of New York Mellon, as trustee, in connection with the issuance of €400,000,000 aggregate principal amount of 3.125% Euro-Denominated Senior Secured Notes due 2026.(n)
- 4.27 English Translation of Accession Deed, dated March 19, 2019, issued by The Bank of New York Mellon, as Trustee, and CEMEX España, S.A., concerning the shares of CEMEX España, S.A. relating to the issuance by CEMEX, S.A.B. de C.V. of €400,000,000 aggregate principal amount of 3.125% Euro-Denominated Senior Secured Notes due 2026.(n)
- 4.28 Amendment and Restatement Agreement, dated as of April 2, 2019, by and among CEMEX S.A.B. de C.V. and certain of its subsidiaries, the financial institutions named therein as Original Lenders, Citibank Europe, plc, UK Branch, as Agent, and Wilmington Trust (London) Limited, as Security Agent, relating to the Facilities Agreement, dated July 19, 2017.(n)
- 8.1 List of subsidiaries of CEMEX, S.A.B. de C.V.(n)
- 12.1 Certification of the Principal Executive Officer of CEMEX, S.A.B. de C.V. pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.(n)
- 12.2 Certification of the Principal Financial Officer of CEMEX, S.A.B. de C.V. pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.(n)
- 13.1 Certification of the Principal Executive and Financial Officers of CEMEX, S.A.B. de C.V. pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.(n)
- 14.1 Consent of KPMG Cárdenas Dosal, S.C. to the incorporation by reference into the effective registration statements of CEMEX, S.A.B. de C.V. under the Securities Act of their report with respect to the consolidated financial statements of CEMEX, S.A.B. de C.V., which appears in this annual report.(n)
- 15.1 Mine safety and health administration safety data.(n)
101. INS XBRL Instance Document.(n)
101. SCH XBRL Taxonomy Extension Schema Document.(n)
101. CAL XBRL Taxonomy Extension Calculation Linkbase Document.(n)
101. LAB XBRL Taxonomy Extension Label Linkbase Document.(n)
101. PRE XBRL Taxonomy Extension Presentation Linkbase Document.(n)
101. DEF XBRL Taxonomy Extension Definition Document.(n)
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- (a) Incorporated by reference to Form 6-K of CEMEX, S.A.B. de C.V., filed with the SEC on March 27, 2015.
- (b) Incorporated by reference to the Registration Statement on Form F-4 of CEMEX, S.A.B. de C.V. (Registration No. 333-10682), filed with the SEC on August 10, 1999.
- (c) Incorporated by reference to the 2002 annual report on Form 20-F of CEMEX, S.A.B. de C.V. filed with the SEC on April 8, 2003.
- (d) Incorporated by reference to the 2009 annual report on Form 20-F of CEMEX, S.A.B. de C.V. filed with the SEC on June 30, 2010.
- (e) Incorporated by reference to the 2010 annual report on Form 20-F of CEMEX, S.A.B. de C.V. filed with the SEC on June 16, 2011.

- (f) Incorporated by reference to the 2011 annual report on Form 20-F of CEMEX, S.A.B. de C.V. filed with the SEC on April 30, 2012.
- (g) Incorporated by reference to the 2012 annual report on Form 20-F of CEMEX, S.A.B. de C.V. filed with the SEC on April 23, 2013.
- (h) Incorporated by reference to the 2013 annual report on Form 20-F of CEMEX, S.A.B. de C.V. filed with the SEC on April 28, 2014.
- (i) Incorporated by reference to the Registration Statement on Form F-6 of CEMEX, S.A.B. de C.V. (Registration No. 333-174743), filed with the SEC on June 6, 2011.
- (j) Incorporated by reference to the 2014 annual report on Form 20-F of CEMEX, S.A.B. de C.V. filed with the SEC on April 27, 2015.
- (k) Incorporated by reference to the 2015 annual report on Form 20-F of CEMEX, S.A.B. de C.V. filed with the SEC on April 22, 2016.
- (l) Incorporated by reference to the 2016 annual report on Form 20-F of CEMEX, S.A.B. de C.V. filed with the SEC on April 28, 2017.
- (m) Incorporated by referenced to the 2017 annual report on Form 20-F of CEMEX, S.A.B. de C. V. filed with the SEC on April 30, 2018.
- (n) Filed herewith.
- (p) This was a paper filing, and it is not available on the SEC website.

In reviewing the agreements included as exhibits to this annual report, please remember they are included to provide you with information regarding their terms and are not intended to provide any other factual or disclosure information about us or the other parties to the agreements.

The agreements may contain representations and warranties by each of the parties to the applicable agreement. These representations and warranties have been made solely for the benefit of the other parties to the applicable agreement and:

- should not in all instances be treated as categorical statements of fact, but rather as a way of allocating the risk to one of the parties if those statements prove to be inaccurate;
- have been qualified by disclosures that were made to the other party in connection with the negotiation of the applicable agreement, which disclosures are not necessarily reflected in the agreement;
- may apply standards of materiality in a way that is different from what may be viewed as material to you or other investors; and
- were made only as of the date of the applicable agreement or such other date or dates as may be specified in the agreement and are subject to more recent developments.

Accordingly, these representations and warranties may not describe the actual state of affairs as of the date they were made or at any other time.

SIGNATURES

CEMEX, S.A.B. de C.V. hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

CEMEX, S.A.B. de C.V.

By: /s/ Fernando Ángel González Oliveri

Name: Fernando Ángel González Oliveri

Title: Chief Executive Officer

Date: April 24, 2019

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CEMEX, S.A.B. DE C.V. AND SUBSIDIARIES
Consolidated Income Statements
(Millions of Mexican pesos, except for earnings per share)

	Notes	Years ended December 31,		
		2018	2017	2016
Revenues	3	Ps 276,855	257,437	249,477
Cost of sales	2.16	(182,965)	(168,858)	(159,946)
Gross profit		93,890	88,579	89,531
Operating expenses	2.16, 5	(60,694)	(55,967)	(53,913)
Operating earnings before other expenses, net	2.1	33,196	32,612	35,618
Other expenses, net	6	(5,837)	(3,815)	(1,670)
Operating earnings		27,359	28,797	33,948
Financial expense	16	(12,597)	(19,301)	(21,487)
Financial income and other items, net	7	96	3,616	4,467
Share of profit of equity accounted investees	13.1	653	588	688
Earnings before income tax		15,511	13,700	17,616
Income tax	19	(4,467)	(520)	(3,125)
Net income from continuing operations		11,044	13,180	14,491
Discontinued operations	4.2	212	3,461	713
CONSOLIDATED NET INCOME		11,256	16,641	15,204
Non-controlling interest net income		789	1,417	1,173
CONTROLLING INTEREST NET INCOME		Ps 10,467	15,224	14,031
Basic earnings per share	22	Ps 0.22	0.34	0.32
Basic earnings per share from continuing operations ...	22	Ps 0.22	0.26	0.30
Diluted earnings per share	22	Ps 0.22	0.34	0.32
Diluted earnings per share from continuing operations	22	Ps 0.22	0.26	0.30

The accompanying notes are part of these consolidated financial statements.

CEMEX, S.A.B. DE C.V. AND SUBSIDIARIES
Consolidated Statements of Comprehensive Income
(Millions of Mexican pesos)

	Notes	Years ended December 31,		
		2018	2017	2016
CONSOLIDATED NET INCOME		Ps11,256	16,641	15,204
Items that will not be reclassified subsequently to the income statement				
Net actuarial gains (losses) from remeasurements of defined benefit pension plans	18	3,404	3	(4,019)
Income tax recognized directly in other comprehensive income	19	(530)	(1)	788
		2,874	2	(3,231)
Items that are or may be reclassified subsequently to the income statement				
Effects from available-for-sale investments and derivative financial instruments designated as cash flow hedges	13.2, 16.4	(2,285)	275	36
Currency translation results of foreign subsidiaries	20.2	(1,700)	(9,519)	11,630
Income tax recognized directly in other comprehensive income	19	752	233	(696)
		(3,233)	(9,011)	10,970
Total items of other comprehensive income, net		(359)	(9,009)	7,739
TOTAL COMPREHENSIVE INCOME		10,897	7,632	22,943
Non-controlling interest comprehensive income		9	1,928	5,164
CONTROLLING INTEREST COMPREHENSIVE INCOME		Ps10,888	5,704	17,779

The accompanying notes are part of these consolidated financial statements.

CEMEX, S.A.B. DE C.V. AND SUBSIDIARIES
Consolidated Statements of Financial Position
(Millions of Mexican pesos)

		December 31,	
	Note	2018	2017
ASSETS			
CURRENT ASSETS			
Cash and cash equivalents	8	Ps 6,068	13,741
Trade accounts receivable, net	9	29,248	30,588
Other accounts receivable	10	6,149	4,970
Inventories, net	11	21,248	18,852
Assets held for sale	12.1	2,100	1,378
Other current assets	12.2	2,447	1,946
Total current assets		67,260	71,475
NON-CURRENT ASSETS			
Equity accounted investees	13.1	9,492	8,572
Other investments and non-current accounts receivable	13.2	5,271	5,758
Property, machinery and equipment, net	14	224,440	232,160
Goodwill and intangible assets, net	15	234,598	234,909
Deferred income tax assets	19.2	11,567	14,817
Total non-current assets		485,368	496,216
TOTAL ASSETS		Ps 552,628	567,691
LIABILITIES AND STOCKHOLDERS' EQUITY			
CURRENT LIABILITIES			
Short-term debt	16.1	Ps 883	16,973
Other financial obligations	16.2	12,739	19,362
Trade payables		49,846	46,428
Income tax payable		4,169	5,129
Other current liabilities	17	22,200	24,396
Liabilities directly related to assets held for sale	12.1	314	—
Total current liabilities		90,151	112,288
NON-CURRENT LIABILITIES			
Long-term debt	16.1	182,074	177,022
Other financial obligations	16.2	12,028	12,859
Employee benefits	18	18,937	23,653
Deferred income tax liabilities	19.2	14,900	15,801
Other non-current liabilities	17	15,005	15,649
Total non-current liabilities		242,944	244,984
TOTAL LIABILITIES		333,095	357,272
STOCKHOLDERS' EQUITY			
Controlling interest:			
Common stock and additional paid-in capital	20.1	145,322	144,654
Other equity reserves	20.2	11,869	13,483
Retained earnings	20.3	20,992	6,179
Net income		10,467	15,224
Total controlling interest		188,650	179,540
Non-controlling interest and perpetual debentures	20.4	30,883	30,879
TOTAL STOCKHOLDERS' EQUITY		219,533	210,419
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY		Ps 552,628	567,691

The accompanying notes are part of these consolidated financial statements.

CEMEX, S.A.B. DE C.V. AND SUBSIDIARIES
Consolidated Statements of Cash Flows
(Millions of Mexican pesos)

	Notes	Years ended December 31,		
		2018	2017	2016
OPERATING ACTIVITIES				
Consolidated net income		Ps 11,256	16,641	15,204
Discontinued operations		212	3,461	713
Net income from continuing operations		Ps 11,044	13,180	14,491
Non-cash items:				
Depreciation and amortization of assets	5	16,070	15,988	15,987
Impairment losses	6	1,188	2,936	2,518
Share of profit of equity accounted investees	13.1	(653)	(588)	(688)
Results on sale of subsidiaries, other disposal groups and others		(239)	(4,340)	(2,128)
Financial income and other items, net		12,501	15,685	17,020
Income taxes	19	4,467	520	3,125
Changes in working capital, excluding income taxes		(1,062)	8,039	11,017
Net cash flow provided by operating activities from continuing operations before financial expense, coupons on perpetual debentures and income taxes		43,316	51,420	61,342
Financial expense and coupons on perpetual debentures paid	20.4	(12,846)	(15,759)	(18,129)
Income taxes paid		(3,935)	(4,664)	(5,183)
Net cash flow provided by operating activities from continuing operations		26,535	30,997	38,030
Net cash flow provided by operating activities from discontinued operations		10	108	1,192
Net cash flows provided by operating activities		26,545	31,105	39,222
INVESTING ACTIVITIES				
Property, machinery and equipment, net	14	(11,631)	(10,753)	(4,563)
Acquisition and disposal of subsidiaries and other disposal groups, net	4.1, 13.1	(481)	23,841	1,424
Intangible assets and other deferred charges	15	(3,627)	(1,607)	(1,427)
Non-current assets and others, net		52	126	(914)
Net cash flows provided by (used in) investing activities from continuing operations		(15,687)	11,607	(5,480)
Net cash flows provided by (used in) investing activities from discontinued operations		—	—	1
Net cash flows provided by (used in) investing activities		(15,687)	11,607	(5,479)
FINANCING ACTIVITIES				
Sale of non-controlling interests in subsidiaries	20.4	—	(55)	9,777
Derivative instruments		392	246	399
Repayment of debt, net	16.1	(9,260)	(37,826)	(41,044)
Other financial obligations, net	16.2	(7,082)	(1,473)	(5,779)
Share repurchase program	20.1	(1,520)	—	—
Securitization of trade receivables		644	169	(999)
Non-current liabilities, net		(2,716)	(3,745)	(1,972)
Net cash flows used in financing activities		(19,542)	(42,684)	(39,618)
Decrease in cash and cash equivalents from continuing operations		(8,694)	(80)	(7,068)
Increase in cash and cash equivalents from discontinued operations		10	108	1,193
Cash conversion effect, net		1,011	2,097	2,169
Cash and cash equivalents at beginning of period		13,741	11,616	15,322
CASH AND CASH EQUIVALENTS AT END OF PERIOD	8	Ps 6,068	13,741	11,616
Changes in working capital, excluding income taxes:				
Trade receivables, net		Ps 207	1,489	(4,386)
Other accounts receivable and other assets		(1,670)	1,120	(286)
Inventories		(2,970)	526	(1,239)
Trade payables		4,680	3,635	13,729
Other accounts payable and accrued expenses		(1,309)	1,269	3,199
Changes in working capital, excluding income taxes		Ps (1,062)	8,039	11,017

The accompanying notes are part of these consolidated financial statements.

CEMEX, S.A.B. DE C.V. AND SUBSIDIARIES
Statements of Changes in Stockholders' Equity
(Millions of Mexican pesos)

	Notes	Common stock	Additional paid-in capital	Other equity reserves	Retained earnings	Total controlling interest	Non-controlling interest	Total stockholders' equity
Balance as of								
December 31, 2015	Ps	4,158	115,466	15,273	8,582	143,479	20,289	163,768
Net income		—	—	—	14,031	14,031	1,173	15,204
Total other items of comprehensive income	20.2	—	—	3,748	—	3,748	3,991	7,739
Capitalization of retained earnings	20.1	4	6,966	—	(6,970)	—	—	—
Share-based compensation	21	—	742	—	—	742	—	742
Effects of perpetual debentures	20.4	—	—	(507)	—	(507)	—	(507)
Changes in non-controlling interest	20.4	—	—	6,279	—	6,279	3,498	9,777
Balance as of								
December 31, 2016		4,162	123,174	24,793	15,643	167,772	28,951	196,723
Net income		—	—	—	15,224	15,224	1,417	16,641
Total other items of comprehensive income, net	20.2	—	—	(9,520)	—	(9,520)	511	(9,009)
Capitalization of retained earnings	20.1	5	9,459	—	(9,464)	—	—	—
Effects of early conversion of convertible subordinated notes	16.2	4	7,059	(1,334)	—	5,729	—	5,729
Share-based compensation	21	—	791	26	—	817	—	817
Effects of perpetual debentures	20.4	—	—	(482)	—	(482)	—	(482)
Balance as of								
December 31, 2017		4,171	140,483	13,483	21,403	179,540	30,879	210,419
Effects from adoption of IFRS 9 (note 2.1)		—	—	—	(411)	(411)	(5)	(416)
Balance as of								
January 1, 2018		4,171	140,483	13,483	20,992	179,129	30,874	210,003
Net income		—	—	—	10,467	10,467	789	11,256
Total other items of comprehensive income, net	20.2	—	—	421	—	421	(780)	(359)
Own shares purchased under share repurchase program	20.1	—	—	(1,520)	—	(1,520)	—	(1,520)
Share-based compensation	21	—	668	38	—	706	—	706
Effects of perpetual debentures	20.4	—	—	(553)	—	(553)	—	(553)
Balance as of								
December 31, 2018	Ps	4,171	141,151	11,869	31,459	188,650	30,883	219,533

The accompanying notes are part of these consolidated financial statements.

CEMEX, S.A.B. DE C.V. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements
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1) DESCRIPTION OF BUSINESS

CEMEX, S.A.B. de C.V., founded in 1906, is a public stock corporation with variable capital (S.A.B. de C.V.) organized under the laws of the United Mexican States, or Mexico, holding company (parent) of entities whose main activities are oriented to the construction industry, through the production, marketing, sale and distribution of cement, ready-mix concrete, aggregates and other construction materials and services. In addition, in order to facilitate the acquisition of financing and to run its operations in Mexico more efficiently, CEMEX, S.A.B. de C.V. carries out all businesses and operational activities of the cement, ready-mix concrete and aggregates sectors in Mexico.

The shares of CEMEX, S.A.B. de C.V. are listed on the Mexican Stock Exchange (“MSE”) as Ordinary Participation Certificates (“CPOs”) under the symbol “CEMEXCPO.” Each CPO represents two series “A” shares and one series “B” share of common stock of CEMEX, S.A.B. de C.V. In addition, CEMEX, S.A.B. de C.V.’s shares are listed on the New York Stock Exchange (“NYSE”) as *American Depositary Shares* (“ADSs”) under the symbol “CX.” Each ADS represents ten CPOs.

The terms “CEMEX, S.A.B. de C.V.” and/or the “Parent Company” used in these accompanying notes to the financial statements refer to CEMEX, S.A.B. de C.V. without its consolidated subsidiaries. The terms the “Company” or “CEMEX” refer to CEMEX, S.A.B. de C.V. together with its consolidated subsidiaries. The issuance of these consolidated financial statements was authorized by the Board of Directors of CEMEX, S.A.B. de C.V. on January 30, 2019 considering the favorable recommendation of its Audit Committee. These financial statements were authorized by the Annual General Ordinary Shareholders’ Meeting of the Parent Company on March 28, 2019.

2) SIGNIFICANT ACCOUNTING POLICIES

2.1) BASIS OF PRESENTATION AND DISCLOSURE

The consolidated financial statements as of December 31, 2018 and 2017 and for the years ended December 31, 2018, 2017 and 2016, were prepared in accordance with International Financial Reporting Standards (“IFRS”) as issued by the International Accounting Standards Board (“IASB”).

Presentation currency and definition of terms

During the reported periods, the presentation currency of the consolidated financial statements was the Mexican peso. When reference is made to “pesos” or “Ps” it means Mexican pesos. The amounts in the financial statements and the accompanying notes are stated in millions, except when references are made to earnings per share and/or prices per share. When reference is made to “US\$” or “dollars,” it means dollars of the United States of America (“United States”). When reference is made to “€” or “euros,” it means the currency in circulation in a significant number of European Union (“EU”) countries. When reference is made to “£” or “pounds,” it means British pounds sterling. When it is deemed relevant, certain amounts in foreign currency presented in the notes to the financial statements include between parentheses a convenience translation into dollars and/or into pesos, as applicable. Previously reported convenience translations of prior years are not restated unless the transaction is still outstanding, in which case those are restated using the closing exchange rates as of the reporting date. These translations should not be construed as representations that the amounts in pesos or dollars, as applicable, represent those peso or dollar amounts or could be converted into pesos or dollars at the rate indicated. As of December 31, 2018 and 2017, translations of pesos into dollars and dollars into pesos, were determined for statement of financial position amounts using the closing exchange rate of Ps19.65 for both

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Presentation currency and definition of terms — continued

years, and for statements of operations amounts, using the average exchange rates of Ps19.26, Ps18.88 and Ps18.72 pesos per dollar for 2018, 2017 and 2016, respectively. When the amounts between parentheses are the peso and the dollar, the amounts were determined by translating the euro amount into dollars using the closing exchange rates at year-end and then translating the dollars into pesos as previously described.

Amounts disclosed in the notes in connection with tax and/or legal proceedings (notes 19.4 and 24), which are originated in jurisdictions where currencies are different from the peso or the dollar, are presented in dollar equivalents as of the closing of the most recent year presented. Consequently, without any change in the original currency, such dollar amounts will fluctuate over time due to changes in exchange rates.

Newly issued IFRS adopted in 2018

IFRS 9, *Financial Instruments: classification and measurement* (“IFRS 9”) (note 2.6)

Effective beginning January 1, 2018, IFRS 9 sets forth the guidance relating to the classification and measurement of financial assets and financial liabilities, the accounting for expected credit losses of financial assets and commitments to extend credits, as well as the requirements for hedge accounting; and replaced IAS 39, *Financial Instruments: recognition and measurement* (“IAS 39”). CEMEX applied IFRS 9 prospectively. The accounting policies were changed to comply with IFRS 9. The changes required by IFRS 9 are described as follows:

Among other aspects, IFRS 9 changed the classification categories for financial assets under IAS 39 and replaced them with categories that more closely reflect the measurement method, the contractual cash flow characteristics and the entity’s business model for managing the financial asset:

- Cash and cash equivalents, trade and other accounts receivable and other financial assets, which were classified as “Loans and receivables” and measured at amortized cost under IAS 39, are now classified as “Held to collect” under IFRS 9 and continue to be measured at amortized cost.
- Investments and non-current accounts receivable that were classified as “Held to maturity” and measured at amortized cost under IAS 39, are now classified as “Held to collect” under IFRS 9 and continue to be measured at amortized cost.
- Investments that were classified as “Held for trading” and measured at fair value through profit or loss under IAS 39, are now classified as “Other investments” under IFRS 9 and are measured at fair value through profit or loss.
- Certain investments that were classified as “Held for sale” and measured at fair value through other comprehensive income under IAS 39, are now considered as strategic investments under IFRS 9 and continue to be measured at fair value through other comprehensive income.

Debt instruments and other financial obligations continue to be classified as “Loans” and measured at amortized cost under IFRS 9 and derivative financial instruments continue to be measured at fair value through profit or loss under IFRS 9.

CEMEX assessed which business models applied to its financial assets and liabilities as of the date of initial application of IFRS 9 and classified its financial instruments into the appropriate IFRS 9 categories. As of

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Newly issued IFRS adopted in 2018 — IFRS 9 — continued

January 1, 2018, the changes due to the classification and measurement requirements under IFRS 9 did not impact either the measurement or carrying amount of financial assets and liabilities and there was no effect on CEMEX's retained earnings.

In addition, under the new impairment model under IFRS 9 based on expected credit losses, impairment losses for the entire lifetime of financial assets, including trade accounts receivable, are recognized on initial recognition, and at each subsequent reporting period, even in the absence of a credit event or if a loss has not yet been incurred, considering for their measurement past events and current conditions, as well as reasonable and supportable forecasts affecting collectability. CEMEX developed an expected credit loss model applicable to its trade accounts receivable that considers the historical performance and economic environment, as well as the credit risk and expected developments for each group of customers and applied the simplified approach upon adoption of IFRS 9. The effects of the adoption of IFRS 9 on January 1, 2018 related to the expected credit loss model represented an increase in the allowance for expected credit losses of Ps570 recognized against retained earnings, net of a deferred income tax asset of Ps154. The balances of such allowance and deferred tax assets increased from the reported amounts as of December 31, 2017 of Ps2,145 and Ps14,817, respectively, to Ps2,715 and Ps14,971 as of January 1, 2018, respectively, after the adoption effects.

In connection with hedge accounting under IFRS 9, among other changes, there is a relief for entities in performing: a) the retrospective effectiveness test at inception of the hedging relationship; and b) the requirement to maintain a prospective effectiveness ratio between 0.8 and 1.25 at each reporting date for purposes of sustaining the hedging designation, both requirements of IAS 39. Under IFRS 9, a hedging relationship can be established to the extent the entity considers, based on the analysis of the overall characteristics of the hedging and hedged items, that the hedge will be highly effective in the future and the hedge relationship at inception is aligned with the entity's reported risk management strategy. IFRS 9 maintains the same hedge accounting categories of cash flow hedge, fair value hedge and hedge of a net investment established in IAS 39, as well as the requirement of recognizing the ineffective portion of a cash flow hedge immediately in the income statement. CEMEX performed an analysis of its derivative financial instruments upon adoption of IFRS 9 on January 1, 2018 and determined that the changes in hedge accounting described above did not impact either the measurement or carrying amount of the assets and liabilities related to its derivative financial instruments and there was no effect on CEMEX's retained earnings.

IFRS 15, *Revenues from contracts with customers* ("IFRS 15") (note 2.15)

Under IFRS 15, an entity recognizes revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services, following a five step model: Step 1: Identify the contract(s) with a customer (agreement that creates enforceable rights and obligations); Step 2: Identify the different performance obligations (promises) in the contract and account for those separately; Step 3: Determine the transaction price (amount of consideration to which an entity expects to be entitled in exchange for transferring promised goods or services); Step 4: Allocate the transaction price to each performance obligation based on the relative stand-alone selling prices of each distinct good or service; and Step 5: Recognize revenue when (or as) the entity satisfies a performance obligation by transferring control of a promised good or service to the customer. A performance obligation may be satisfied at a point in time (typically for the sale of goods) or over time (typically for the sale of services and construction contracts). IFRS 15 also includes disclosure requirements to provide comprehensive information about the nature, amount, timing and uncertainty of revenue and cash flows arising from the entity's contracts with

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Newly issued IFRS adopted in 2018 — IFRS 15 — continued

customers. IFRS 15 was effective on January 1, 2018 and supersedes all existing guidance on revenue recognition.

After an extensive analysis of its contracts with customers, business practices and operating systems for all the reported periods in all the countries in which the Company operates in order to review the different performance obligations and other promises (discounts, loyalty programs, rebates, etc.) included in such contracts, aimed to determine the differences in the accounting recognition of revenue with respect to prior IFRS, CEMEX adopted IFRS 15 on January 1, 2018 using the retrospective approach, without any significant effects on its operating results and financial situation, and restated the previously reported amounts of revenues for 2017 and 2016, resulting in an initial reclassification of other provisions to contract liabilities of Ps660 as of January 1, 2016, and a subsequent net decrease in revenue of Ps2 in 2016 and a net decrease in revenue of Ps8 in 2017 related to IFRS 15 (note 3). These changes in revenues refer to certain discounts and rebates included in certain contracts and were recognized against deferred revenue as contract liabilities in the statement of financial position after IFRS 15 effects (note 17). Changes in equity upon adoption were not significant.

Discontinued operations (note 4.2)

Considering the disposal of entire reportable operating segments, CEMEX's income statements present in the single line item of "Discontinued operations," the results of: a) its construction materials operations in Brazil sold on September 27, 2018 for the years 2016, 2017 and the period from January 1 to September 27, 2018; b) its Pacific Northwest Materials Business operations in the United States sold on June 30, 2017 for the year 2016 and the six-months ended June 30, 2017; c) its Concrete Pipe Business operations in the United States sold on January 31, 2017 for the year 2016 and the one-month ended January 31, 2017; and d) its operations in Bangladesh and Thailand sold on May 26, 2016 for the period from January 1 to May 26, 2016. Discontinued operations are presented net of income tax.

Income statements

CEMEX includes the line item titled "Operating earnings before other expenses, net" considering that it is a relevant operating measure for CEMEX's management. The line item "Other expenses, net" consists primarily of revenues and expenses not directly related to CEMEX's main activities, including impairment losses of long-lived assets, results on disposal of assets and restructuring costs, among others (note 6). Under IFRS, the inclusion of certain subtotals such as "Operating earnings before other expenses, net" and the display of the statement of operations vary significantly by industry and company according to specific needs.

Considering that it is an indicator of CEMEX's ability to internally fund capital expenditures and to measure its ability to service or incur debt under its financing agreements, for purposes of notes 4.4 and 16, CEMEX presents "Operating EBITDA" (operating earnings before other expenses, net, plus depreciation and amortization). This is not an indicator of CEMEX's financial performance, an alternative to cash flows, a measure of liquidity or comparable to other similarly titled measures of other companies. This indicator is used by CEMEX's management for decision-making purposes.

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Statements of cash flows

The statements of cash flows exclude the following transactions that did not represent sources or uses of cash:

Financing activities:

- In 2017 and 2016, in connection with the capitalization of retained earnings (note 20.1), the increases in common stock and additional paid-in capital associated against retained earnings for Ps9,464 and Ps6,970, respectively; and in connection with the CPOs issued as part of the executive share-based compensation programs (note 21), the total increases in equity for Ps706 in 2018, Ps817 in 2017 and Ps742 in 2016;
- In 2017, in connection with the early conversion of part of the 2018 optional convertible subordinated notes (note 16.2), the decrease in debt for Ps5,468, the net decrease in other equity reserves for Ps1,334, the increase in common stock for Ps4 and the increase in additional paid-in capital for Ps7,059; and
- In 2016, the increase in debt and in other current accounts receivable for Ps148, in connection with a structure pursuant to which CEMEX Colombia, S.A. (“CEMEX Colombia”) guarantees the debt of a trust committed to the development of housing projects in Colombia. CEMEX Colombia in turn holds a beneficial interest in the assets of such trust, which are comprised by titles to land (note 10).

Investing activities:

- In 2018, 2017 and 2016, in connection with the finance leases negotiated during the year, the increases in property, plant and equipment for Ps88, Ps2,096 and Ps7, respectively (note 14).

2.2) PRINCIPLES OF CONSOLIDATION

The consolidated financial statements include those of CEMEX, S.A.B. de C.V. and those of the entities in which the Parent Company exercises control, including structured entities (special purposes entities), by means of which the Parent Company is exposed, or has rights, to variable returns from its involvement with the investee, and has the ability to affect those returns through its power over the investee’s relevant activities. Balances and operations between related parties are eliminated in consolidation.

Investments are accounted for by the equity method when CEMEX has significant influence which is generally presumed with a minimum equity interest of 20%. The equity method reflects in the financial statements, the investee’s original cost and CEMEX’s share of the investee’s equity and earnings after acquisition. The financial statements of joint ventures, which relate to those arrangements in which CEMEX and other third-party investors have joint control and have rights to the net assets of the arrangements, are recognized under the equity method. During the reported periods, CEMEX did not have joint operations, referring to those cases in which the parties that have joint control of the arrangement have rights over specific assets and obligations for specific liabilities relating to the arrangements. The equity method is discontinued when the carrying amount of the investment, including any long-term interest in the investee or joint venture, is reduced to zero, unless CEMEX has incurred or guaranteed additional obligations of the investee or joint venture.

2.3) USE OF ESTIMATES AND CRITICAL ASSUMPTIONS

The preparation of financial statements in accordance with IFRS requires management to make estimates and assumptions that affect reported amounts of assets and liabilities, and the disclosure of contingent assets and

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Use of estimates and critical assumptions — continued

liabilities at the date of the financial statements; as well as the reported amounts of revenues and expenses during the period. These assumptions are reviewed on an ongoing basis using available information. Actual results could differ from these estimates. The items subject to significant estimates and assumptions by management include impairment tests of long-lived assets, recognition of deferred income tax assets, as well as the measurement of financial instruments at fair value, and the assets and liabilities related to employee benefits. Significant judgment is required by management to appropriately assess the amounts of these concepts.

2.4) FOREIGN CURRENCY TRANSACTIONS AND TRANSLATION OF FOREIGN CURRENCY FINANCIAL STATEMENTS

Transactions denominated in foreign currencies are recorded in the functional currency at the exchange rates prevailing on the dates of their execution. Monetary assets and liabilities denominated in foreign currencies are translated into the functional currency at the exchange rates prevailing at the statement of financial position date, and the resulting foreign exchange fluctuations are recognized in earnings, except for exchange fluctuations arising from: 1) foreign currency indebtedness associated with the acquisition of foreign entities; and 2) fluctuations associated with related parties' balances denominated in foreign currency, whose settlement is neither planned nor likely to occur in the foreseeable future and as a result, such balances are of a permanent investment nature. These fluctuations are recorded against "Other equity reserves," as part of the foreign currency translation adjustment (note 20.2) until the disposal of the foreign net investment, at which time, the accumulated amount is recycled through the statement of operations as part of the gain or loss on disposal.

The financial statements of foreign subsidiaries, as determined using their respective functional currency, are translated to pesos at the closing exchange rate for statement of financial position accounts and at the closing exchange rates of each month within the period for statements of operations accounts. The functional currency is that in which each consolidated entity primarily generates and expends cash. The corresponding translation effect is included within "Other equity reserves" and is presented in the statement of other comprehensive income for the period as part of the foreign currency translation adjustment (note 20.2) until the disposal of the net investment in the foreign subsidiary.

Considering its integrated activities, for purposes of functional currency, the Parent Company is considered to have two divisions, one related with its financial and holding company activities, in which the functional currency is the dollar for all assets, liabilities and transactions associated with these activities, and another division related with the Parent Company's operating activities in Mexico, in which the functional currency is the peso for all assets, liabilities and transactions associated with these activities.

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Foreign currency transactions and translation of foreign currency financial statements — continued

The most significant closing exchange rates and the approximate average exchange rates for statement of financial position accounts and statement of operations accounts as of December 31, 2018, 2017 and 2016, were as follows:

Currency	2018		2017		2016	
	Closing	Average	Closing	Average	Closing	Average
Dollar	19.6500	19.2583	19.6500	18.8800	20.7200	18.7200
Euro	22.5169	22.7036	23.5866	21.4122	21.7945	20.6564
British Pound Sterling	25.0557	25.6059	26.5361	24.4977	25.5361	25.0731
Colombian Peso	0.0060	0.0065	0.0066	0.0064	0.0069	0.0062
Egyptian Pound	1.0943	1.0806	1.1082	1.0620	1.1234	1.8261
Philippine Peso	0.3737	0.3655	0.3936	0.3747	0.4167	0.3927

The financial statements of foreign subsidiaries are initially translated from their functional currencies into dollars and subsequently into pesos. Therefore, the foreign exchange rates presented in the table above between the functional currency and the peso represent the implied exchange rates resulting from this methodology. The peso to U.S. dollar exchange rate used by CEMEX is an average of free market rates available to settle its foreign currency transactions. No significant differences exist, in any case, between the foreign exchange rates used by CEMEX and those exchange rates published by the Central Bank of Mexico.

2.5) CASH AND CASH EQUIVALENTS (note 8)

The balance in this caption is comprised of available amounts of cash and cash equivalents, mainly represented by highly-liquid short-term investments, which are readily convertible into known amounts of cash, and which are not subject to significant risks of changes in their values, including overnight investments, which yield fixed returns and have maturities of less than three months from the investment date. These fixed-income investments are recorded at cost plus accrued interest. Accrued interest is included in the income statement as part of “Financial income and other items, net.”

The amount of cash and cash equivalents in the statement of financial position includes restricted cash and investments, comprised of deposits in margin accounts that guarantee certain of CEMEX’s obligations, to the extent that the restriction will be lifted in less than three months from the statement of financial position reporting date. When the restriction period is greater than three months, such restricted cash and investments are not considered cash equivalents and are included within short-term or long-term “Other accounts receivable,” as appropriate. When contracts contain provisions for net settlement, these restricted amounts of cash and cash equivalents are offset against the liabilities that CEMEX has with its counterparties.

2.6) FINANCIAL INSTRUMENTS

As mentioned in note 2.1, IFRS 9 was adopted prospectively by CEMEX for the period starting January 1, 2018. The accounting policies under IFRS 9 are described as follows:

Classification and measurement of financial instruments

The financial assets that meet both of the following conditions and are not designated as at fair value through profit or loss: a) are held within a business model whose objective is to hold assets to collect contractual cash

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Classification and measurement of financial instruments — continued

flows; and b) its contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding, are classified as “Held to collect” and measured at amortized cost. Amortized cost represents the net present value (“NPV”) of the consideration receivable or payable as of the transaction date. This classification of financial assets comprises the following captions:

- Cash and cash equivalents (notes 2.5 and 8).
- Trade receivables, other current accounts receivable and other current assets (notes 9 and 10). Due to their short-term nature, CEMEX initially recognizes these assets at the original invoiced or transaction amount less expected credit losses, as explained below.
- Trade receivables sold under securitization programs, in which certain residual interest in the trade receivables sold in case of recovery failure and continued involvement in such assets is maintained, do not qualify for derecognition and are maintained in the statement of financial position (notes 9 and 16.2).
- Investments and non-current accounts receivable (note 13.2). Subsequent changes in effects from amortized cost are recognized in the income statement as part of “Financial income and other items, net.”

Certain strategic investments are measured at fair value through other comprehensive income within “Other equity reserves” (note 13.2). CEMEX does not maintain financial assets “Held to collect and sell” whose business model has the objective of collecting contractual cash flows and then selling those financial assets.

The financial assets that are not classified as “Held to collect” or that do not have strategic characteristics fall into the residual category of held at fair value through the income statement as part of “Financial income and other items, net” (note 13.2).

Debt instruments and other financial obligations are classified as “Loans” and measured at amortized cost (notes 16.1 and 16.2). Interest accrued on financial instruments is recognized within “Other accounts payable and accrued expenses” against financial expense. During the reported periods, CEMEX did not have financial liabilities voluntarily recognized at fair value or associated with fair value hedge strategies with derivative financial instruments.

Derivative financial instruments are recognized as assets or liabilities in the statement of financial position at their estimated fair values, and the changes in such fair values are recognized in the income statement within “Financial income and other items, net” for the period in which they occur, except in the case of hedging instruments as described below (note 16.4).

Impairment of financial assets

Impairment losses of financial assets, including trade accounts receivable, are recognized using the expected credit loss model for the entire lifetime of such financial assets on initial recognition, and at each subsequent reporting period, even in the absence of a credit event or if a loss has not yet been incurred, considering for their measurement past events and current conditions, as well as reasonable and supportable forecasts affecting collectability.

Costs incurred in the issuance of debt or borrowings

Direct costs incurred in debt issuances or borrowings, as well as debt refinancing or non-substantial modifications to debt agreements that did not represent an extinguishment of debt by considering that the holders

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Costs incurred in the issuance of debt or borrowings — continued

and the relevant economic terms of the new instrument are not substantially different to the replaced instrument, adjust the carrying amount of the related debt and are amortized as interest expense as part of the effective interest rate of each instrument over its maturity. These costs include commissions and professional fees. Costs incurred in the extinguishment of debt, as well as debt refinancing or modifications to debt agreements, when the new instrument is substantially different from the old instrument according to a qualitative and quantitative analysis, are recognized in the income statement as incurred.

Finance leases

Finance leases are recognized as financing liabilities against a corresponding fixed asset for the lesser of the market value of the leased asset and the NPV of future minimum lease payments, using the contract's implicit interest rate to the extent available, or the incremental borrowing cost. The main factors that determine a finance lease are: a) ownership title of the asset is transferred to CEMEX at the expiration of the contract; b) CEMEX has a bargain purchase option to acquire the asset at the end of the lease term; c) the lease term covers the majority of the useful life of the asset; and/or d) the NPV of minimum payments represents substantially all the fair value of the related asset at the beginning of the lease.

Financial instruments with components of both liabilities and equity (note 16.2)

Financial instruments that contain components of both liability and equity, such as notes convertible into a fixed number of the issuer's shares and denominated in its same functional currency, are accounted for by each component being recognized separately in the statement of financial position according to the specific characteristics of each transaction. In the case of instruments mandatorily convertible into shares of the issuer, the liability component represents the NPV of interest payments on the principal amount using a market interest rate, without assuming early conversion, and is recognized within "Other financial obligations," whereas the equity component represents the difference between the principal amount and the liability component, and is recognized within "Other equity reserves," net of commissions. In the case of instruments that are optionally convertible into a fixed number of shares, the liability component represents the difference between the principal amount and the fair value of the conversion option premium, which reflects the equity component (note 2.14). When the transaction is denominated in a currency different than the functional currency of the issuer, the conversion option is accounted for as a derivative financial instrument at fair value in the income statement.

Hedging instruments (note 16.4)

A hedging relationship is established to the extent the entity considers, based on the analysis of the overall characteristics of the hedging and hedged items, that the hedge will be highly effective in the future and the hedge relationship at inception is aligned with the entity's reported risk management strategy (note 16.5). The accounting categories of hedging instruments are: a) cash flow hedge, b) fair value hedge of an asset or forecasted transaction; and c) hedge of a net investment in a subsidiary.

In cash flow hedges, the effective portion of changes in fair value of derivative instruments are recognized in stockholders' equity within "Other equity reserves" and are reclassified to earnings as the interest expense of the related debt is accrued, in the case of interest rate swaps, or when the underlying products are consumed in the case of contracts on the price of raw materials and commodities. In hedges of the net investment in foreign subsidiaries, changes in fair value are recognized in stockholders' equity as part of the foreign currency

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Hedging instruments — continued

translation result within “Other equity reserves” (note 2.4), whose reversal to earnings would take place upon disposal of the foreign investment. During the reported periods, CEMEX did not have derivatives designated as fair value hedges. Derivative instruments are negotiated with institutions with significant financial capacity; therefore, CEMEX believes the risk of non-performance of the obligations agreed to by such counterparties to be minimal.

Embedded derivative financial instruments

CEMEX reviews its contracts to identify the existence of embedded derivatives. Identified embedded derivatives are analyzed to determine if they need to be separated from the host contract and recognized in the statement of financial position as assets or liabilities, applying the same valuation rules used for other derivative instruments.

Put options granted for the purchase of non-controlling interests and investees

Represent agreements by means of which a non-controlling interest has the right to sell, at a future date using a predefined price formula or at fair market value, its shares in a subsidiary of CEMEX. When the obligation should be settled in cash or through the delivery of another financial asset, CEMEX recognizes a liability for the NPV of the redemption amount as of the reporting date against the controlling interest within stockholders’ equity. A liability is not recognized under these agreements when the redemption amount is determined at fair market value at the exercise date and CEMEX has the election to settle using its own shares.

In respect of a put option granted for the purchase of an investee, CEMEX would recognize a liability against a loss in the statements of operations whenever the estimated purchase price exceeds the fair value of the net assets to be acquired by CEMEX, had the counterparty exercised its right to sell. As of December 31, 2018 and 2017, there were no written put options.

Fair value measurements (note 16.3)

Under IFRS, fair value represents an “Exit Value” which is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date, considering the counterparty’s credit risk in the valuation. The concept of Exit Value is premised on the existence of a market and market participants for the specific asset or liability. When there are no market and/or market participants willing to make a market, IFRS establishes a fair value hierarchy that gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to measurements involving significant unobservable inputs (Level 3 measurements).

The three levels of the fair value hierarchy are as follows:

- Level 1.— represent quoted prices (unadjusted) in active markets for identical assets or liabilities that CEMEX has the ability to access at the measurement date. A quoted price in an active market provides the most reliable evidence of fair value and is used without adjustment to measure fair value whenever available.
- Level 2.— are inputs other than quoted prices in active markets that are observable for the asset or liability, either directly or indirectly, and are used mainly to determine the fair value of securities, investments or loans that are not actively traded. Level 2 inputs included equity prices, certain interest rates and yield

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curves, implied volatility and credit spreads, among others, as well as inputs extrapolated from other observable inputs. In the absence of Level 1 inputs, CEMEX determined fair values by iteration of the applicable Level 2 inputs, the number of securities and/or the other relevant terms of the contract, as applicable.

- Level 3.— inputs are unobservable inputs for the asset or liability. CEMEX used unobservable inputs to determine fair values, to the extent there are no Level 1 or Level 2 inputs, in valuation models such as Black-Scholes, binomial, discounted cash flows or multiples of Operative EBITDA, including risk assumptions consistent with what market participants would use to arrive at fair value.

2.7) INVENTORIES (note 11)

Inventories are valued using the lower of cost or net realizable value. The cost of inventories includes expenditures incurred in acquiring the inventories, production or conversion costs and other costs incurred in bringing them to their existing location and condition. CEMEX analyzes its inventory balances to determine if, as a result of internal events, such as physical damage, or external events, such as technological changes or market conditions, certain portions of such balances have become obsolete or impaired. When an impairment situation arises, the inventory balance is adjusted to its net realizable value, whereas, if an obsolescence situation occurs, the inventory obsolescence reserve is increased. In both cases, these adjustments are recognized against the results of the period. Advances to suppliers of inventory are presented as part of other current assets.

2.8) PROPERTY, MACHINERY AND EQUIPMENT (note 14)

Property, machinery and equipment are recognized at their acquisition or construction cost, as applicable, less accumulated depreciation and accumulated impairment losses. Depreciation of fixed assets is recognized as part of cost and operating expenses (note 5) and is calculated using the straight-line method over the estimated useful lives of the assets, except for mineral reserves, which are depleted using the units-of-production method.

As of December 31, 2018, the average useful lives by category of fixed assets were as follows:

	<u>Years</u>
Administrative buildings	32
Industrial buildings	29
Machinery and equipment in plant	16
Ready-mix trucks and motor vehicles	8
Office equipment and other assets	<u>6</u>

CEMEX capitalizes, as part of the related cost of fixed assets, interest expense from existing debt during the construction or installation period of significant fixed assets, considering CEMEX’s corporate average interest rate and the average balance of investments in process for the period.

All waste removal costs or stripping costs incurred in the operative phase of a surface mine in order to access the mineral reserves are recognized as part of the carrying amount of the related quarries. The capitalized amounts are further amortized over the expected useful life of exposed ore body based on the units-of-production method.

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Property, machinery and equipment — continued

Costs incurred in respect of operating fixed assets that result in future economic benefits, such as an extension in their useful lives, an increase in their production capacity or in safety, as well as those costs incurred to mitigate or prevent environmental damage, are capitalized as part of the carrying amount of the related assets. The capitalized costs are depreciated over the remaining useful lives of such fixed assets. Periodic maintenance on fixed assets is expensed as incurred. Advances to suppliers of fixed assets are presented as part of other long-term accounts receivable.

The useful lives and residual values of property, machinery and equipment are reviewed at each reporting date and adjusted if appropriate.

2.9) BUSINESS COMBINATIONS, GOODWILL AND OTHER INTANGIBLE ASSETS (notes 4.1 and 15)

Business combinations are recognized using the acquisition method, by allocating the consideration transferred to assume control of the entity to all assets acquired and liabilities assumed, based on their estimated fair values as of the acquisition date. Intangible assets acquired are identified and recognized at fair value. Any unallocated portion of the purchase price represents goodwill, which is not amortized and is subject to periodic impairment tests (note 2.10). Goodwill may be adjusted for any correction to the preliminary assessment given to the assets acquired and/or liabilities assumed within the twelve-month period after purchase. Costs associated with the acquisition are expensed in the income statement as incurred.

CEMEX capitalizes intangible assets acquired, as well as costs incurred in the development of intangible assets, when probable future economic benefits associated are identified and there is evidence of control over such benefits. Intangible assets are recognized at their acquisition or development cost, as applicable. Indefinite life intangible assets are not amortized since the period in which the benefits associated with such intangibles will terminate cannot be accurately established. Definite life intangible assets are amortized on straight-line basis as part of operating costs and expenses (note 5).

Startup costs are recognized in the income statement as they are incurred. Costs associated with research and development activities (“R&D activities”), performed by CEMEX to create products and services, as well as to develop processes, equipment and methods to optimize operational efficiency and reduce costs are recognized in the operating results as incurred. Direct costs incurred in the development stage of computer software for internal use are capitalized and amortized through the operating results over the useful life of the software, which on average is approximately 5 years.

Costs incurred in exploration activities such as payments for rights to explore, topographical and geological studies, as well as trenching, among other items incurred to assess the technical and commercial feasibility of extracting a mineral resource, which are not significant to CEMEX, are capitalized when probable future economic benefits associated with such activities are identified. When extraction begins, these costs are amortized during the useful life of the quarry based on the estimated tons of material to be extracted. When future economic benefits are not achieved, any capitalized costs are subject to impairment.

CEMEX’s extraction rights have maximum useful lives that range from 30 to 100 years, depending on the sector and the expected life of the related reserves. As of December 31, 2018, except for extraction rights and/or as otherwise indicated, CEMEX’s intangible assets are amortized on a straight-line basis over their useful lives that range on average from 3 to 20 years.

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2.10) IMPAIRMENT OF LONG-LIVED ASSETS (notes 14 and 15)

Property, machinery and equipment, intangible assets of definite life and other investments

These assets are tested for impairment upon the occurrence of a significant adverse event, changes in CEMEX's operating business model or in technology that affect the asset, or expectations of lower operating results, to determine whether their carrying amounts may not be recovered. An impairment loss is recorded in the income statement for the period within "Other expenses, net" for the excess of the asset's carrying amount over its recoverable amount, corresponding to the higher of the fair value less costs to sell the asset, as determined by external appraiser, and the asset's value in use, the latter represented by the NPV of estimated cash flows related to the use and eventual disposal of the asset. The main assumptions utilized to develop estimates of NPV are a discount rate that reflects the risk of the cash flows associated with the assets and the estimations of generation of future income. Those assumptions are evaluated for reasonableness by comparing such discount rates to available market information and by comparing to third-party expectations of industry growth, such as governmental agencies or industry chambers.

When impairment indicators exist, for each intangible asset, CEMEX determines its projected revenue streams over the estimated useful life of the asset. To obtain discounted cash flows attributable to each intangible asset, such revenue is adjusted for operating expenses, changes in working capital and other expenditures, as applicable, and discounted to NPV using the risk adjusted discount rate of return. The most significant economic assumptions are: a) the useful life of the asset; b) the risk adjusted discount rate of return; c) royalty rates; and d) growth rates. Assumptions used for these cash flows are consistent with internal forecasts and industry practices. The fair values of these assets are significantly sensitive to changes in such relevant assumptions. Certain key assumptions are more subjective than others. In respect of trademarks, CEMEX considers that the most subjective key assumption is the royalty rate. In respect of extraction rights and customer relationships, the most subjective assumptions are revenue growth rates and estimated useful lives. CEMEX validates its assumptions through benchmarking with industry practices and the corroboration of third-party valuation advisors. Significant judgment by management is required to appropriately assess the fair values and values in use of the related assets, as well as to determine the appropriate valuation method and select the significant economic assumptions.

Impairment of long-lived assets — Goodwill

Goodwill is tested for impairment when required due to significant adverse changes or at least once a year, during the last quarter of such year. CEMEX determines the recoverable amount of the group of cash-generating units ("CGUs") to which goodwill balances were allocated, which consists of the higher of such group of CGUs fair value less cost to sell and its value in use, the latter represented by the NPV of estimated future cash flows to be generated by such CGUs to which goodwill was allocated, which are generally determined over periods of 5 years. However, in specific circumstances, when CEMEX considers that actual results for a CGU do not fairly reflect historical performance and most external economic variables provide confidence that a reasonably determinable improvement in the mid-term is expected in their operating results, CEMEX uses cash flow projections over a period of up to 10 years, to the point in which future expected average performance resembles the historical average performance, to the extent CEMEX has detailed, explicit and reliable financial forecasts and is confident and can demonstrate its ability, based on past experience, to forecast cash flows accurately over that longer period. If the value in use of a group of CGUs to which goodwill has been allocated is lower than its corresponding carrying amount, CEMEX determines the fair value of such group of CGUs using methodologies generally accepted in the market to determine the value of entities, such as multiples of Operating EBITDA and by reference to other market transactions. An impairment loss is recognized within "Other expenses, net," if the recoverable amount is lower than the net book value of the group of CGUs to which goodwill has been allocated. Impairment charges recognized on goodwill are not reversed in subsequent periods.

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Impairment of long-lived assets — Goodwill — continued

The reportable segments reported by CEMEX (note 4.4), represent CEMEX's groups of CGUs to which goodwill has been allocated for purposes of testing goodwill for impairment, considering: a) that after the acquisition, goodwill was allocated at the level of the reportable segment; b) that the operating components that comprise the reported segment have similar economic characteristics; c) that the reported segments are used by CEMEX to organize and evaluate its activities in its internal information system; d) the homogeneous nature of the items produced and traded in each operative component, which are all used by the construction industry; e) the vertical integration in the value chain of the products comprising each component; f) the type of clients, which are substantially similar in all components; g) the operative integration among components; and h) that the compensation system of a specific country is based on the consolidated results of the geographic segment and not on the particular results of the components. In addition, the country level represents the lowest level within CEMEX at which goodwill is monitored for internal management purposes.

Impairment tests are significantly sensitive to the estimation of future prices of CEMEX's products, the development of operating expenses, local and international economic trends in the construction industry, the long-term growth expectations in the different markets, as well as the discount rates and the growth rates in perpetuity applied. For purposes of estimating future prices, CEMEX uses, to the extent available, historical data plus the expected increase or decrease according to information issued by trusted external sources, such as national construction or cement producer chambers and/or in governmental economic expectations. Operating expenses are normally measured as a constant proportion of revenues, following experience. However, such operating expenses are also reviewed considering external information sources in respect of inputs that behave according to international prices, such as oil and gas. CEMEX uses specific pre-tax discount rates for each group of CGUs to which goodwill is allocated, which are applied to discount pre-tax cash flows. The amounts of estimated undiscounted cash flows are significantly sensitive to the growth rate in perpetuity applied. Likewise, the amounts of discounted estimated future cash flows are significantly sensitive to the weighted average cost of capital (discount rate) applied. The higher the growth rate in perpetuity applied, the higher the amount of undiscounted future cash flows by group of CGUs obtained. Conversely, the higher the discount rate applied, the lower the amount of discounted estimated future cash flows by group of CGUs obtained.

2.11) PROVISIONS

CEMEX recognizes provisions when it has a legal or constructive obligation resulting from past events, whose resolution would require cash outflows, or the delivery of other resources owned by the Company. As of December 31, 2018 and 2017, some significant proceedings that gave rise to a portion of the carrying amount of CEMEX's other current and non-current liabilities and provisions are detailed in note 24.1.

Considering guidance under IFRS, CEMEX recognizes provisions for levies imposed by governments until the obligating event or the activity that triggers the payment of the levy has occurred, as defined in the legislation.

Restructuring

CEMEX recognizes provisions for restructuring when the restructuring detailed plans have been properly finalized and authorized by management and have been communicated to the third parties involved and/or affected by the restructuring prior to the statement of financial position's date. These provisions may include costs not associated with CEMEX's ongoing activities.

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Asset retirement obligations (note 17)

Unavoidable obligations, legal or constructive, to restore operating sites upon retirement of long-lived assets at the end of their useful lives are measured at the NPV of estimated future cash flows to be incurred in the restoration process and are initially recognized against the related assets' book value. The increase to the assets' book value is depreciated during its remaining useful life. The increase in the liability related to adjustments to NPV by the passage of time is charged to the line item "Financial income and other items, net." Adjustments to the liability for changes in estimations are recognized against fixed assets, and depreciation is modified prospectively. These obligations are related mainly to future costs of demolition, cleaning and reforestation, so that quarries, maritime terminals and other production sites are left in acceptable condition at the end of their operation.

Costs related to remediation of the environment (notes 17 and 24)

Provisions associated with environmental damage represent the estimated future cost of remediation, which are recognized at their nominal value when the time schedule for the disbursement is not clear, or when the economic effect for the passage of time is not significant; otherwise, such provisions are recognized at their discounted values. Reimbursements from insurance companies are recognized as assets only when their recovery is practically certain. In that case, such reimbursement assets are not offset against the provision for remediation costs.

Contingencies and commitments (notes 23 and 24)

Obligations or losses related to contingencies are recognized as liabilities in the statement of financial position only when present obligations exist resulting from past events that are probable to result in an outflow of resources and the amount can be measured reliably. Otherwise, a qualitative disclosure is included in the notes to the financial statements. The effects of long-term commitments established with third parties, such as supply contracts with suppliers or customers, are recognized in the financial statements on an incurred or accrued basis, after taking into consideration the substance of the agreements. Relevant commitments are disclosed in the notes to the financial statements. The Company recognizes contingent revenues, income or assets only when their realization is virtually certain.

2.12) PENSIONS AND OTHER POST-EMPLOYMENT BENEFITS (note 18)

Defined contribution pension plans

The costs of defined contribution pension plans are recognized in the operating results as they are incurred. Liabilities arising from such plans are settled through cash transfers to the employees' retirement accounts, without generating future obligations.

Defined benefit pension plans and other post-employment benefits

The costs associated with employees' benefits for: a) defined benefit pension plans; and b) other post-employment benefits, basically comprised of health care benefits, life insurance and seniority premiums, granted by CEMEX and/or pursuant to applicable law, are recognized as services are rendered, based on actuarial estimations of the benefits' present value with the advice of external actuaries. For certain pension plans, CEMEX has created irrevocable trust funds to cover future benefit payments ("plan assets"). These plan assets are valued at their estimated fair value at the statement of financial position date. The actuarial assumptions and

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Defined benefit pension plans and other post-employment benefits — continued

accounting policy consider: a) the use of nominal rates; b) a single rate is used for the determination of the expected return on plan assets and the discount of the benefits obligation to present value; c) a net interest is recognized on the net defined benefit liability (liability minus plan assets); and d) all actuarial gains and losses for the period, related to differences between the projected and real actuarial assumptions at the end of the period, as well as the difference between the expected and real return on plan assets, are recognized as part of “Other items of comprehensive income, net” within stockholders’ equity.

The service cost, corresponding to the increase in the obligation for additional benefits earned by employees during the period, is recognized within operating costs and expenses. The net interest cost, resulting from the increase in obligations for changes in NPV and the change during the period in the estimated fair value of plan assets, is recognized within “Financial income and other items, net.”

The effects from modifications to the pension plans that affect the cost of past services are recognized within operating costs and expenses over the period in which such modifications become effective to the employees or without delay if changes are effective immediately. Likewise, the effects from curtailments and/or settlements of obligations occurring during the period, associated with events that significantly reduce the cost of future services and/or reduce significantly the population subject to pension benefits, respectively, are recognized within operating costs and expenses.

Termination benefits

Termination benefits, not associated with a restructuring event, which mainly represent severance payments by law, are recognized in the operating results for the period in which they are incurred.

2.13) INCOME TAXES (note 19)

The effects reflected in the income statement for income taxes include the amounts incurred during the period and the amounts of deferred income taxes, determined according to the income tax law applicable to each subsidiary. Consolidated deferred income taxes represent the addition of the amounts determined in each subsidiary by applying the enacted statutory income tax rate to the total temporary differences resulting from comparing the book and taxable values of assets and liabilities, considering tax assets such as loss carryforwards and other recoverable taxes, to the extent that it is probable that future taxable profits will be available against which they can be utilized. The measurement of deferred income taxes at the reporting period reflects the tax consequences that follow the way in which CEMEX expects to recover or settle the carrying amount of its assets and liabilities. Deferred income taxes for the period represent the difference between balances of deferred income taxes at the beginning and the end of the period. Deferred income tax assets and liabilities relating to different tax jurisdictions are not offset. According to IFRS, all items charged or credited directly in stockholders’ equity or as part of other comprehensive income or loss for the period are recognized net of their current and deferred income tax effects. The effect of a change in enacted statutory tax rates is recognized in the period in which the change is officially enacted.

Deferred tax assets are reviewed at each reporting date and are reduced when it is not deemed probable that the related tax benefit will be realized, considering the aggregate amount of self-determined tax loss carryforwards that CEMEX believes will not be rejected by the tax authorities based on available evidence and the likelihood of recovering them prior to their expiration through an analysis of estimated future taxable income. If it is probable

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that the tax authorities would reject a self-determined deferred tax asset, CEMEX would decrease such asset. When it is considered that a deferred tax asset will not be recovered before its expiration, CEMEX would not recognize such deferred tax asset. Both situations would result in additional income tax expense for the period in which such determination is made. In order to determine whether it is probable that deferred tax assets will ultimately be recovered, CEMEX takes into consideration all available positive and negative evidence, including factors such as market conditions, industry analysis, expansion plans, projected taxable income, carryforward periods, current tax structure, potential changes or adjustments in tax structure, tax planning strategies, future reversals of existing temporary differences. Likewise, CEMEX analyzes its actual results versus the Company's estimates, and adjusts, as necessary, its tax asset valuations. If actual results vary from CEMEX's estimates, the deferred tax asset and/or valuations may be affected, and necessary adjustments will be made based on relevant information in CEMEX's income statement for such period.

The income tax effects from an uncertain tax position are recognized when it is probable that the position will be sustained based on its technical merits and assuming that the tax authorities will examine each position and have full knowledge of all relevant information, and they are measured using a cumulative probability model. Each position has been considered on its own, regardless of its relation to any other broader tax settlement. The high probability threshold represents a positive assertion by management that CEMEX is entitled to the economic benefits of a tax position. If a tax position is considered not probable of being sustained, no benefits of the position are recognized. Interest and penalties related to unrecognized tax benefits are recorded as part of the income tax in the consolidated income statements.

The effective income tax rate is determined dividing the line item "Income Tax" by the line item "Earnings before income tax." This effective tax rate is further reconciled to CEMEX's statutory tax rate applicable in Mexico (note 19.3). A significant effect in CEMEX's effective tax rate and consequently in the reconciliation of CEMEX's effective tax rate, relates to the difference between the statutory income tax rate in Mexico of 30% against the applicable income tax rates of each country where CEMEX operates.

For the years ended December 31, 2018, 2017 and 2016, the statutory tax rates in CEMEX's main operations were as follows:

Country	2018	2017	2016
Mexico	30.0%	30.0%	30.0%
United States	21.0%	35.0%	35.0%
United Kingdom	19.3%	19.3%	20.0%
France	34.4%	34.4%	34.4%
Germany	28.2%	28.2%	28.2%
Spain	25.0%	25.0%	25.0%
Philippines	30.0%	30.0%	30.0%
Colombia	37.0%	40.0%	40.0%
Egypt	22.5%	22.5%	22.5%
Others	<u>7.8% – 39.0%</u>	<u>7.8% – 39.0%</u>	<u>7.8% – 39.0%</u>

CEMEX's current and deferred income tax amounts included in the income statement for the period are highly variable, and are subject, among other factors, to taxable income determined in each jurisdiction in which

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CEMEX operates. Such amounts of taxable income depend on factors such as sale volumes and prices, costs and expenses, exchange rates fluctuations and interest on debt, among others, as well as to the estimated tax assets at the end of the period due to the expected future generation of taxable gains in each jurisdiction.

2.14) STOCKHOLDERS' EQUITY

Common stock and additional paid-in capital (note 20.1)

These items represent the value of stockholders' contributions, and include increases related to the capitalization of retained earnings and the recognition of executive compensation programs in CEMEX, S.A.B. de C.V.'s CPOs as well as decreases associated with the restitution of retained earnings.

Other equity reserves (note 20.2)

Groups the cumulative effects of items and transactions that are, temporarily or permanently, recognized directly to stockholders' equity, and includes the comprehensive income, which reflects certain changes in stockholders' equity that do not result from investments by owners and distributions to owners. The most significant items within "Other equity reserves" during the reported periods are as follows:

Items of "Other equity reserves" included within other comprehensive income:

- Currency translation effects from the translation of foreign subsidiaries, net of: a) exchange results from foreign currency debt directly related to the acquisition of foreign subsidiaries; and b) exchange results from foreign currency related parties' balances that are of a non-current investment class (note 2.4);
- The effective portion of the valuation and liquidation effects from derivative instruments under cash flow hedging relationships, which are recorded temporarily in stockholders' equity (note 2.6);
- Changes in fair value of other investments in strategic securities (note 2.6); and
- Current and deferred income taxes during the period arising from items whose effects are directly recognized in stockholders' equity.

Items of "Other equity reserves" not included in comprehensive income:

- Effects related to controlling stockholders' equity for changes or transactions affecting non-controlling interest stockholders in CEMEX's consolidated subsidiaries;
- Effects attributable to controlling stockholders' equity for financial instruments issued by consolidated subsidiaries that qualify for accounting purposes as equity instruments, such as the interest expense paid on perpetual debentures;
- The equity component of securities which are mandatorily or optionally convertible into shares of the Parent Company (notes 2.6 and 16.2). Upon conversion, this amount will be reclassified to common stock and additional paid-in capital; and
- The cancellation of the Parent Company's shares held by consolidated entities.

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Retained earnings (note 20.3)

Retained earnings represent the cumulative net results of prior years, net of: a) dividends declared; b) capitalization of retained earnings; c) restitution of retained earnings when applicable; and d) cumulative effects from adoption of new IFRS.

Non-controlling interest and perpetual debentures (note 20.4)

This caption includes the share of non-controlling stockholders in the results and equity of consolidated subsidiaries. This caption also includes the nominal amounts of financial instruments (perpetual notes) issued by consolidated entities that qualify as equity instruments considering that there is: a) no contractual obligation to deliver cash or another financial asset; b) no predefined maturity date; and c) a unilateral option to defer interest payments or preferred dividends for indeterminate periods.

2.15) REVENUE RECOGNITION (note 3)

As mentioned in note 2.1, CEMEX adopted IFRS 15 on January 1, 2018 using the retrospective approach. CEMEX policies under IFRS 15 are as follows:

Revenue is recognized at a point in time or over time in the amount of the price, before tax on sales, expected to be received by CEMEX's subsidiaries for goods and services supplied as a result of their ordinary activities, as contractual performance obligations are fulfilled, and control of goods and services passes to the customer. Revenues are decreased by any trade discounts or volume rebates granted to customers. Transactions between related parties are eliminated in consolidation.

Variable consideration is recognized when it is highly probable that a significant reversal in the amount of cumulative revenue recognized for the contract will not occur and is measured using the expected value or the most likely amount method, whichever is expected to better predict the amount based on the terms and conditions of the contract.

Revenue and costs from trading activities, in which CEMEX acquires finished goods from a third party and subsequently sells the goods to another third-party, are recognized on a gross basis, considering that CEMEX assumes ownership risks on the goods purchased, not acting as agent or broker.

When revenue is earned over time as contractual performance obligations are satisfied, which is the case of construction contracts, CEMEX apply the stage of completion method to measure revenue, which represents: a) the proportion that contract costs incurred for work performed to date bear to the estimated total contract costs; b) the surveys of work performed; or c) the physical proportion of the contract work completed, whichever better reflects the percentage of completion under the specific circumstances. Revenue and costs related to such construction contracts are recognized in the period in which the work is performed by reference to the contract's stage of completion at the end of the period, considering that the following have been defined: a) each party's enforceable rights regarding the asset under construction; b) the consideration to be exchanged; c) the manner and terms of settlement; d) actual costs incurred and contract costs required to complete the asset are effectively controlled; and e) it is probable that the economic benefits associated with the contract will flow to the entity.

Progress payments and advances received from customers do not reflect the work performed and are recognized as a short-term or long-term advanced payments, as appropriate.

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2.16) COST OF SALES AND OPERATING EXPENSES (note 5)

Cost of sales represents the production cost of inventories at the moment of sale. Such cost of sales includes depreciation, amortization and depletion of assets involved in production, expenses related to storage in production plants and freight expenses of raw material in plants and delivery expenses of CEMEX's ready-mix concrete business.

Administrative expenses represent the expenses associated with personnel, services and equipment, including depreciation and amortization, related to managerial activities and back office for the Company's management.

Sales expenses represent the expenses associated with personnel, services and equipment, including depreciation and amortization, involved specifically in sales activities.

Distribution and logistics expenses refer to expenses of storage at points of sales, including depreciation and amortization, as well as freight expenses of finished products between plants and points of sale and freight expenses between points of sales and the customers' facilities.

2.17) EXECUTIVE SHARE-BASED COMPENSATION (note 21)

Share-based payments to executives are defined as equity instruments when services received from employees are settled by delivering shares of the Parent Company and/or a subsidiary; or as liability instruments when CEMEX commits to make cash payments to the executives on the exercise date of the awards based on changes in the Parent Company and/or subsidiary's own stock (intrinsic value). The cost of equity instruments represents their estimated fair value at the date of grant and is recognized in the income statement during the period in which the exercise rights of the employees become vested. In respect of liability instruments, these instruments are valued at their estimated fair value at each reporting date, recognizing the changes in fair value through the operating results.

2.18) EMISSION RIGHTS

In certain countries where CEMEX operates, such as EU countries, mechanisms aimed at reducing carbon dioxide emissions ("CO₂") have been established by means of which, the relevant environmental authorities have granted certain number of emission rights ("certificates") free of cost to the different industries releasing CO₂, which must submit to such environmental authorities at the end of a compliance period, certificates for a volume equivalent to the tons of CO₂ released. Companies must obtain additional certificates to meet deficits between actual CO₂ emissions during the compliance period and certificates received, or they can dispose of any surplus of certificates in the market. In addition, the United Nations Framework Convention on Climate Change ("UNFCCC") grants Certified Emission Reductions ("CERs") to qualified CO₂ emission reduction projects. CERs may be used in specified proportions to settle emission rights obligations in the EU. CEMEX actively participates in the development of projects aimed to reduce CO₂ emissions. Some of these projects have been awarded with CERs.

CEMEX does not maintain emission rights, CERs and/or enter into forward transactions with trading purposes. CEMEX accounts for the effects associated with CO₂ emission reduction mechanisms as follows:

- Certificates received for free are not recognized in the statement of financial position. Revenues from the sale of any surplus of certificates are recognized by decreasing cost of sales. In forward sale transactions, revenues are recognized upon physical delivery of the emission certificates.

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Emission rights — continued

- Certificates and/or CERs acquired to hedge current CO₂ emissions are recognized as intangible assets at cost and are further amortized to cost of sales during the compliance period. In the case of forward purchases, assets are recognized upon physical reception of the certificates.
- CEMEX accrues a provision against cost of sales when the estimated annual emissions of CO₂ are expected to exceed the number of emission rights, net of any benefit obtained through swap transactions of emission rights for CERs.
- CERs received from the UNFCCC are recognized as intangible assets at their development cost, which are attributable mainly to legal expenses incurred in the process of obtaining such CERs.

During 2018, 2017 and 2016, there were no sales of emission rights to third parties. In addition, in certain countries, the environmental authorities impose levies per ton of CO₂ or other greenhouse gases released. Such expenses are recognized as part of cost of sales as incurred.

2.19) CONCENTRATION OF CREDIT

CEMEX sells its products primarily to distributors in the construction industry, with no specific geographic concentration within the countries in which CEMEX operates. As of and for the years ended December 31, 2018, 2017 and 2016, no single customer individually accounted for a significant amount of the reported amounts of sales or in the balances of trade receivables. In addition, there is no significant concentration of a specific supplier relating to the purchase of raw materials.

2.20) NEWLY ISSUED IFRS NOT YET ADOPTED

IFRS issued as of the date of issuance of these financial statements which have not yet been adopted are described as follow:

IFRS 16, *Leases* (“IFRS 16”)

IFRS 16 defines leases as any contract or part of a contract that conveys to the lessee the right to use an asset for a period in exchange for consideration and the lessee directs the use of the identified asset throughout that period. IFRS 16 introduces a single lessee accounting model, and requires a lessee to recognize, for all leases, allowing exemptions in case of the leases with a term of less than 12 months or when the underlying asset is of low value, assets for the right-of-use the underlying asset against a corresponding financial liability, representing the NPV of estimated lease payments under the contract, with a single income statement model in which a lessee recognizes amortization of the right-of-use asset and interest on the lease liability. A lessee shall present either in the statement of financial position, or disclose in the notes, right-of-use assets separately from other assets, as well as, lease liabilities separately from other liabilities. IFRS 16 is effective beginning January 1, 2019 and will supersede all current standards and interpretations related to lease accounting.

As of December 31, 2018, by means of analyses of its outstanding lease contracts and other contracts that may have embedded the use of an asset and the assessment of the most relevant characteristics of such contracts (types of assets, committed payments, maturity dates, renewal clauses, etc.), CEMEX has substantially concluded the inventory and measurement of its leases for purposes of adopting IFRS 16 and is in its final review. Moreover, CEMEX has defined its accounting policy under IFRS 16 and will apply the recognition exception for

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Newly issued IFRS not yet adopted — IFRS 16 — continued

short-term leases and low-value assets, as well as the practical expedient to not separate the non-lease component from the lease component included in the same contract. CEMEX will adopt IFRS 16 using the full retrospective approach pursuant to which prior periods will be restated. Upon adoption of IFRS 16 beginning on January 1, 2019, CEMEX has estimated a range for its opening statement of financial position effects as of January 1, 2017, as follows:

	As of January 1, 2017	
	Low	High
Assets for the right-of-use	US\$ 920	942
Financial liabilities	(1,030)	(1,060)
Retained earnings ¹	US\$ (110)	(118)

- 1** The effect refers to a timing difference between depreciation expense of the assets calculated under the straight-line method and the interest expense from the liability determined under the effective interest rate method since the beginning of the contracts. This difference will reverse over the remaining life of the contracts.

In addition to IFRS 16, there are several amendments or new IFRS issued but not yet effective which are under analysis and the Company's management expects to adopt in their specific effective dates considering preliminarily without any significant effect in the Company's financial position or operating results, and which are summarized as follows:

Standard	Main topic	Effective date
Amendments to IFRS 9	Prepayment features with negative compensation do not automatically preclude amortized cost accounting.	January 1, 2019
IFRIC 23, <i>Uncertainty over income tax treatments</i>	When an entity concludes that it is not probable that a particular tax treatment is accepted, the decision should be based on which method provides better predictions of the resolution of the uncertainty.	January 1, 2019
Amendments to IAS 28, <i>Long-term interests in associates and joint ventures</i> ("IAS 28")	The amendment clarifies that IFRS 9, including its impairment requirements, applies to long-term interests.	January 1, 2019
Amendments to IAS 12, <i>Income taxes</i>	Clarify that an entity should recognize the income tax consequences of dividends in profit or loss, other comprehensive income or equity according to where the entity originally recognized the transactions that generated the distributable profits.	January 1, 2019
Amendments to IAS 23, <i>Borrowing costs</i>	Clarify that if any specific borrowing remains outstanding after the related asset is ready for its intended use or sale, that borrowing becomes part of the funds that an entity borrows generally when calculating the capitalization rate on general borrowings.	January 1, 2019

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Newly issued IFRS not yet adopted — IFRS 16 — continued

<u>Standard</u>	<u>Main topic</u>	<u>Effective date</u>
Amendments to IFRS 3, <i>Business combinations</i>	Clarify that when an entity obtains control of a business that is a joint operation, the entity applies the requirements for a business combination achieved in stages, including remeasuring its previously held interest in the joint operation at fair value.	January 1, 2019
Amendments to IAS 19, <i>Employee benefits</i>	Clarify that the past service cost (or of the gain or loss on settlement) is calculated by measuring the defined benefit liability (asset) using updated assumptions and comparing benefits offered and plan assets before and after the plan amendment (or curtailment or settlement) but ignoring the effect of the asset ceiling (that may arise when the defined benefit plan is in a surplus position).	January 1, 2019
Amendments to IFRS 10, <i>Consolidated financial statements</i> and IAS 28	Clarify the recognition of gains or losses in the Parent's financial statements for the sale or contribution of assets between an investor and its associate or joint venture	Has yet to be set
IFRS 17, <i>Insurance contracts</i>	The new Standard establishes the principles for the recognition, measurement, presentation and disclosure of insurance contracts and supersedes IFRS 4, <i>Insurance contracts</i> . The Standard outlines a General Model, which is modified for insurance contracts with direct participation features, described as the Variable Fee Approach. The General Model is simplified if certain criteria are met by measuring the liability for remaining coverage using the Premium Allocation Approach.	January 1, 2021

3) REVENUE AND CONSTRUCTION CONTRACTS

CEMEX's revenues are mainly originated from the sale and distribution of cement, ready-mix concrete, aggregates and other construction materials and services. CEMEX grants credit for terms ranging from 15 to 90 days depending of the type and risk of each customer. For the years ended December 31, 2018, 2017 and 2016, revenue, after eliminations between related parties resulting from consolidation, is as follows:

	<u>2018</u>	<u>2017</u>	<u>2016</u>
From the sale of goods associated to CEMEX's main activities ¹	Ps 265,584	246,135	239,230
From the sale of services ²	3,064	3,313	3,110
From the sale of other goods and services ³	8,207	7,989	7,137
	Ps <u>276,855</u>	<u>257,437</u>	<u>249,477</u>

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Revenue and construction contracts — continued

- 1 Includes in each period revenue generated under construction contracts that are presented in the table below.
- 2 Refers mainly to revenues generated by Neoris N.V. and its subsidiaries, involved in providing information technology solutions and services.
- 3 Refers mainly to revenues generated by subsidiaries not individually significant operating in different lines of business.

Information of revenues by reportable segment and line of business for the years 2018, 2017 and 2016 is presented in note 4.4.

As of December 31, 2018 and 2017, amounts receivable for progress billings to customers of construction contracts and/or advances received by CEMEX from these customers were not significant. For 2018, 2017 and 2016, revenues and costs related to construction contracts in progress were as follows:

	<u>Accrued¹</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>
Revenue from construction contracts included in consolidated revenues ²	Ps 1,063	1,383	992	1,033
Costs incurred in construction contracts included in consolidated cost of sales ³	(1,055)	(1,312)	(1,205)	(1,133)
Construction contracts gross operating profit (loss)	Ps <u>8</u>	<u>71</u>	<u>(213)</u>	<u>(100)</u>

- 1 Revenues and costs recognized from inception of the contracts until December 31, 2018 in connection with those projects still in progress.
- 2 Revenues from construction contracts during 2018, 2017 and 2016, were mainly obtained in Mexico and Colombia.
- 3 Refers to actual costs incurred during the periods.

Under IFRS 15, some commercial practices of CEMEX, in the form of certain promotions and/or discounts and rebates offered as part of the sale transaction, result in that a portion of the transaction price should be allocated to such commercial incentives as separate performance obligations, recognized as contract liabilities with customers, and deferred to the income statement during the period in which the incentive is exercised by the customer or until it expires. For the years ended December 31, 2018, 2017 and 2016 changes in the balance of contract liabilities with customers are as follows:

	<u>2018</u>	<u>2017</u>	<u>2016</u>
Opening balance of contract liabilities with customers	Ps 770	645	660
Increase during the period for new transactions	1,070	1,156	1,040
Decrease during the period for exercise or expiration of incentives	(890)	(1,148)	(1,038)
Currency translation effects	(175)	117	(17)
Closing balance of contract liabilities with customers	Ps <u>775</u>	<u>770</u>	<u>645</u>

For the years 2018, 2017 and 2016, CEMEX did not identify any costs required to be capitalized as contract fulfilment assets and released over the contract life according to IFRS 15.

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4) BUSINESS COMBINATIONS, DISCONTINUED OPERATIONS, SALE OF OTHER DISPOSAL GROUPS AND SELECTED FINANCIAL INFORMATION BY REPORTABLE SEGMENT AND LINE OF BUSINESS

4.1) BUSINESS COMBINATIONS

On December 5, 2016, through its subsidiary Sierra Trading (“Sierra”), CEMEX presented an offer and take-over bid, which was amended on January 9, 2017 (the “Offer”), to all shareholders of Trinidad Cement Limited (“TCL”), a company publicly listed in Trinidad and Tobago, to acquire up to 132,616,942 ordinary shares in TCL (equivalent to approximately 30.2% of TCL’s common stock). TCL’s main operations are in Trinidad and Tobago, Jamaica and Barbados. TCL shares deposited in response to the Offer together with Sierra’s then existing 39.5% shareholding in TCL represented approximately 69.8% of the outstanding shares of TCL. The total consideration paid by Sierra for the TCL shares under the Offer was US\$86 (Ps1,791). CEMEX started consolidating TCL on February 1, 2017. CEMEX determined a fair value of TCL’s assets as of February 1, 2017 of US\$531 (Ps11,061), which considered a price of TT\$5.07 per share for the percentage acquired in the Offer and TT\$4.15 per share, or the market price before the Offer, for the remaining shares, and US\$113 (Ps2,354) of debt assumed, among other effects. The purchase of TCL represented a step acquisition. As a result, the remeasurement of CEMEX’s previous held ownership interest in TCL of 39.5% generated a gain of US\$32 (Ps623) in 2017 as part of “Financial income and other items, net.” All convenience translations to pesos above consider an exchange rate of 20.83 pesos per dollar as of February 1, 2017.

After concluding in 2018 the allocation of TCL’s fair value to the assets acquired and liabilities assumed, the statement of financial position of TCL at the acquisition date of February 1, 2017 was as follows:

		<u>As of February 1, 2017</u>
Current assets	US\$	84
Property, machinery and equipment		331
Intangible assets and other non-current assets (include goodwill of US\$106)		<u>116</u>
Total assets		<u>531</u>
Current liabilities (includes debt of US\$47)		122
Non-current liabilities (includes debt of US\$97 and deferred tax liabilities of US\$19)		<u>160</u>
Total liabilities		<u>282</u>
Net assets	US\$	249
Non-controlling interest net assets		<u>70</u>
Controlling interest net assets	US\$	<u><u>179</u></u>

In addition, in August 2018, a subsidiary of CEMEX in the United Kingdom acquired all the shares of the ready-mix producer Procon Readymix Ltd (“Procon”) for an amount in pounds sterling equivalent to US\$22, considering the pound sterling to dollar exchange rate as of August 31, 2018. As of December 31, 2018, based on the preliminary valuation of the fair values of the assets acquired and liabilities assumed, the net assets of Procon amount to US\$10 (Ps196) and goodwill was determined in the amount of US\$12 (Ps244).

4.2) DISCONTINUED OPERATIONS

On September 27, 2018, CEMEX concluded the sale of its construction materials operations in Brazil (the “Brazilian Operations”) through the sale to Votorantim Cimentos N/NE S.A. of all the shares of CEMEX’s

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Discontinued operations — continued

Brazilian subsidiary Cimento Vencemos Do Amazonas Ltda, consisting of a fluvial cement distribution terminal located in Manaus, Amazonas province, as well as the operation license. The sale price was US\$31 (Ps580). CEMEX determined a net gain on sale of US\$12 (Ps234), including a withholding tax expense of US\$3 and the reclassification of a foreign currency translation loss accrued in equity of US\$7 (Ps140). CEMEX’s Brazilian Operations for the period from January 1 to September 27, 2018 and the years 2017 and 2016 were reclassified to the single line item “Discontinued Operations.”

On June 30, 2017, CEMEX concluded the sale of its Pacific Northwest Materials Business consisting of aggregate, asphalt and ready-mix concrete operations in Oregon and Washington to Cadman Materials, Inc., a subsidiary of HeidelbergCement Group, for US\$150. CEMEX determined a net gain on disposal of these assets of US\$22 (Ps399), which included a proportional allocation of goodwill of US\$73 (Ps1,324). Considering the disposal of its Pacific Northwest Materials Business, the operations of that business for the six-month period ending June 30, 2017 and for the year 2016 were reclassified to the single line item “Discontinued Operations.”

On January 31, 2017, CEMEX concluded the sale of its Concrete Reinforced Pipe Manufacturing Business (“Concrete Pipe Business”) in the United States to Quikrete Holdings, Inc. for US\$500 plus an additional US\$40 contingent consideration based on future performance. CEMEX determined a net gain on disposal of these assets for US\$148 (Ps3,083), which included a proportional allocation of goodwill of US\$260 (Ps5,369). Considering the disposal of the entire Concrete Pipe Business, its operations for the one-month period ending January 31, 2017 and the year 2016 were reclassified to the single line item “Discontinued Operations.”

On May 26, 2016, CEMEX closed the sale of its operations in Bangladesh and Thailand to Siam City Cement Public Company Ltd. for US\$70 (Ps1,450). CEMEX determined a gain on sale of US\$24 (Ps424) net of the reclassification of foreign currency translation gains accrued in equity of US\$7 (Ps122). The operations in Bangladesh and Thailand for the period from January 1 to May 26, 2016, included in CEMEX’s income statements, were reclassified to the single line item “Discontinued Operations.”

The following table presents condensed combined information of the statement of operations of CEMEX’s discontinued operations in Brazil for the period from January 1 to September 27, 2018 and for the years 2017 and 2016, in the Pacific Northwest Materials Business in the United States for the six-months period ended June 30, 2017 and for the year 2016; the Concrete Pipe Business operations in the United States for the one-month period ended January 31, 2017 and for the year 2016, and the operations in Bangladesh and Thailand for the period from January 1 to May 26, 2016:

	<u>2018</u>	<u>2017</u>	<u>2016</u>
Sales	Ps 503	2,235	9,445
Cost of sales and operating expenses	(495)	(2,257)	(8,983)
Other products (expenses), net	(1)	14	(3)
Financial expenses, net and others	(5)	—	(32)
Earnings before income tax	2	(8)	427
Income tax	(6)	(1)	(102)
Result of discontinued operations	(4)	(9)	325
Disposal result, withholding taxes and reclassification of currency translation effects	216	3,470	388
Net result of discontinued operations	Ps 212	3,461	713

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Discontinued operations — continued

As of December 31, 2017, the condensed information of the statement of financial position of the Brazilian Operations was as follows:

	2017
Current assets	Ps 148
Property, machinery and equipment, net and other non-current assets	140
Total assets	288
Current liabilities	66
Non-current liabilities	—
Total liabilities	66
Net assets	Ps 222

4.3) OTHER DISPOSAL GROUPS

As of December 31, 2018, CEMEX is in negotiations for the sale of its ready-mix and aggregates business in the central region of France. The transaction is subject to several customary authorizations and CEMEX expects to conclude this sale in the short-term. The assets and liabilities of this business are presented as assets held for sale and liabilities directly related in the statement of financial position as of December 31, 2018, including a proportional allocation of goodwill related to this reporting segment of US\$22 (Ps439).

On November 18, 2016, a subsidiary of CEMEX in the United States closed the sale to an affiliate of Grupo Cementos de Chihuahua, S.A.B. de C.V. (“GCC”) of certain assets consisting of CEMEX’s cement plant in Odessa, Texas, two cement terminals and the building materials business in El Paso, Texas and Las Cruces, New Mexico, for an amount of US\$306 (Ps6,340). The Odessa plant had an annual production capacity of approximately 537 thousand metric tons (unaudited). The transfer of control was effective on November 18, 2016. As a result of the sale of these assets, CEMEX recognized in 2016 a gain of US\$104 (Ps2,159) as part of “Other expenses, net” in the income statement of 2016, net of an expense for the proportional write-off of goodwill associated to CEMEX’s reporting segment in the United States based on their relative fair values for US\$161 (Ps3,340) and the reclassification of proportional foreign currency translation gains associated with these net assets accrued in equity until disposal for US\$65 (Ps1,347).

On September 12, 2016, CEMEX announced that one of its subsidiaries in the United States signed a definitive agreement for the sale of its Fairborn, Ohio cement plant and cement terminal in Columbus, Ohio to Eagle Materials Inc. (“Eagle Materials”) for US\$400 (Ps8,288). Fairborn plant had an annual production capacity of approximately 730 thousand metric tons (unaudited). On February 10, 2017, CEMEX closed the divestment of these assets, and recognized in 2017 a gain on disposal for US\$188 (Ps3,694) as part of “Other expenses, net” in the income statement, net of an expense for the proportional write-off of goodwill associated to CEMEX’s reporting segment in the United States based on their relative fair values for US\$211 (Ps4,365).

The operations of the net assets in the central region of France and those sold to GCC and Eagle Materials, mentioned above, did not represent discontinued operations and were consolidated by CEMEX line-by-line in the income statements for the year 2018, 2017 and 2016, until their disposal. In arriving at this conclusion, CEMEX evaluated: a) the Company’s ongoing operations in France and cement operations of its CGUs in Texas and the

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Other disposal groups — continued

Mid-West; and b) the relative size of the net assets sold and held for sale in respect to the Company's remaining overall ongoing operations in France and the United States. Moreover, as a reasonability check, CEMEX measured the materiality of such net assets as a percentage of consolidated net sales, operating earnings before other expenses, net, net income and total assets. The percentage was not material in any case.

For the year 2018, 2017 and 2016, selected combined income statement information of the net assets in the central region of France and those sold to GCC and Eagle Materials, until their disposal, was as follows:

		<u>2018</u>	<u>2017</u>	<u>2016</u>
Net sales	Ps	1,169	1,194	4,544
Operating costs and expenses		<u>(1,205)</u>	<u>(1,201)</u>	<u>(4,064)</u>
Operating earnings (losses) before other expenses, net	Ps	<u>(36)</u>	<u>(7)</u>	<u>480</u>

As of December 31, 2018, the condensed balance sheet of the net assets expected to be sold in the central region of France was as follows:

Current assets	Ps	<u>189</u>
Non-current assets		<u>763</u>
Total assets of the disposal group		<u>952</u>
Current liabilities		211
Non-current liabilities		<u>103</u>
Total liabilities directly related to disposal group		<u>314</u>
Total net assets of disposal group	Ps	<u><u>638</u></u>

In addition, on April 28, 2017, CEMEX concluded the sale of its assets and activities related to the ready-mix concrete pumping business in Mexico to Cementos Españoles de Bombeo, S. de R.L., subsidiary in Mexico of Pumping Team S.L.L. ("Pumping Team"), specialist in the supply of ready-mix concrete pumping services based in Spain, for an aggregate price of Ps1,649, which included the sale of fixed assets for Ps309, plus administrative and client and market development services, as well as the lease of facilities in Mexico that CEMEX will supply to Pumping Team over a period of ten years with the possibility to extend for three additional years, for an aggregate initial amount of Ps1,340, which are recognized each period as services are rendered. There is the possibility of a contingent revenue subject to results for up to Ps557 linked to annual metrics beginning in the first year and up to the fifth year of the agreement. For the first year of operation under the agreements from May 2017 to April 2018, CEMEX received Ps25 of this contingent revenue.

4.4) SELECTED FINANCIAL INFORMATION BY REPORTABLE SEGMENT AND LINE OF BUSINESS

Reportable segments represent the components of CEMEX that engage in business activities from which CEMEX may earn revenues and incur expenses, whose operating results are regularly reviewed by the entity's top management to make decisions about resources to be allocated to the segments and assess their performance, and for which discrete financial information is available. CEMEX operates geographically and by business on a

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Selected financial information by reportable segment and line of business — continued

regional basis. For the reported periods, the Company's operations were organized in five geographical regions, each under the supervision of a regional president, as follows: 1) Mexico, 2) United States, 3) Europe, 4) South, Central America and the Caribbean ("SCA&C"), and 5) Asia, Middle East and Africa ("AMEA"). The accounting policies applied to determine the financial information by reportable segment are consistent with those described in note 2.

Considering similar regional and economic characteristics and/or materiality, certain countries have been aggregated and presented as single line items as follows: a) "Rest of Europe" refers mainly to CEMEX's operations and activities in Croatia, Latvia, Scandinavia and Finland; b) "Rest of South, Central America and the Caribbean" refers mainly to CEMEX's operations and activities in Puerto Rico, Nicaragua, Jamaica, the Caribbean, Guatemala and El Salvador, excluding the acquired operations of TCL; c) "Caribbean TCL" refers to TCL's operations mainly in Trinidad and Tobago, Jamaica, Guyana and Barbados; and d) "Rest of Asia, Middle East and Africa" refers mainly to CEMEX's operations in the United Arab Emirates. The segment "Others" refers to: 1) cement trade maritime operations, 2) Neoris N.V., CEMEX's subsidiary involved in the business of information technology solutions, 3) the Parent Company, other corporate entities and finance subsidiaries, and 4) other minor subsidiaries with different lines of business.

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Selected financial information by reportable segment and line of business — continued

Selected information of the consolidated income statements by reportable segment for the years 2018, 2017 and 2016, excluding the share of profits of equity accounted investees by reportable segment that is included in the note 13.1, was as follows:

2018	Revenues (including intragroup transactions)	Less: Intragroup transactions	Revenues	Operating EBITDA	Less: Depreciation and amortization	Operating earnings before other expenses, net	Other expenses, net	Financial expense	Other financing items, net
Mexico	Ps 63,543	(1,759)	61,784	22,204	2,198	20,006	(626)	(469)	(29)
United States	72,345	—	72,345	12,069	5,917	6,152	(362)	(571)	(217)
Europe									
United Kingdom	20,431	—	20,431	2,071	1,064	1,007	133	(67)	(406)
France	18,308	—	18,308	1,272	577	695	(959)	(62)	(3)
Germany	10,836	(1,450)	9,386	748	531	217	(152)	(14)	(79)
Spain	7,627	(898)	6,729	220	662	(442)	(303)	(43)	58
Poland	6,989	(80)	6,909	783	390	393	8	(4)	7
Czech Republic	3,796	(31)	3,765	867	300	567	16	(2)	(36)
Rest of Europe	6,365	(869)	5,496	747	375	372	(447)	(10)	(10)
SCA&C									
Colombia ¹	10,088	—	10,088	1,845	533	1,312	(251)	(132)	(483)
Panama ¹	4,490	(226)	4,264	1,234	313	921	(52)	(4)	3
Costa Rica ¹	2,674	(274)	2,400	873	91	782	(5)	(2)	148
Caribbean TCL ³	4,893	(99)	4,794	1,080	375	705	(316)	(48)	(28)
Dominican Republic	4,218	(310)	3,908	1,153	180	973	(17)	(7)	(64)
Rest of SCA&C ¹	7,781	(393)	7,388	1,427	170	1,257	(128)	(15)	70
AMEA									
Philippines ²	8,612	—	8,612	1,183	523	660	54	(20)	(50)
Egypt	4,586	—	4,586	529	303	226	(176)	(29)	(70)
Israel	12,128	—	12,128	1,548	292	1,256	8	(36)	(8)
Rest of AMEA	2,263	—	2,263	352	88	264	(4)	(3)	(5)
Others	<u>24,667</u>	<u>(13,396)</u>	<u>11,271</u>	<u>(2,939)</u>	<u>1,188</u>	<u>(4,127)</u>	<u>(2,258)</u>	<u>(11,059)</u>	<u>1,298</u>
Continuing operations	296,640	(19,785)	276,855	49,266	16,070	33,196	(5,837)	(12,597)	96
Discontinued operations	503	—	503	11	3	8	(1)	—	(5)
Total	Ps <u>297,143</u>	<u>(19,785)</u>	<u>277,358</u>	<u>49,277</u>	<u>16,073</u>	<u>33,204</u>	<u>(5,838)</u>	<u>(12,597)</u>	<u>91</u>

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	Revenues (including intragroup transactions)	Less: Intragroup transactions	Revenues	Operating EBITDA	Less: Depreciation and amortization	Operating earnings before other expenses, net	Other expenses, net	Financial expense	Other financing items, net
2017									
Mexico Ps	58,442	(1,075)	57,367	21,215	2,246	18,969	(687)	(409)	(534)
United States	65,536	—	65,536	10,652	6,200	4,452	3,202	(631)	(177)
Europe									
United Kingdom	20,179	—	20,179	2,763	997	1,766	450	(77)	(397)
France	16,162	—	16,162	855	549	306	(129)	(61)	18
Germany	10,056	(1,339)	8,717	743	509	234	(11)	(14)	(63)
Spain	6,870	(990)	5,880	344	638	(294)	(711)	(34)	12
Poland	5,552	(74)	5,478	647	361	286	(140)	(30)	(8)
Czech Republic	3,450	(33)	3,417	815	333	482	37	44	53
Rest of Europe	5,989	(831)	5,158	648	355	293	(168)	(68)	18
SCA&C									
Colombia ¹	10,685	—	10,685	2,166	507	1,659	(642)	(129)	(36)
Panama ¹	5,112	(98)	5,014	2,007	319	1,688	(20)	(5)	7
Costa Rica ¹	2,805	(379)	2,426	1,000	99	901	—	(5)	29
Caribbean TCL ³	4,332	(49)	4,283	1,059	610	449	(139)	(215)	(25)
Dominican Republic	3,913	(339)	3,574	1,073	191	882	(23)	(10)	(5)
Rest of SCA&C ¹	7,803	(533)	7,270	1,529	258	1,271	(1,046)	(13)	(7)
AMEA									
Philippines ²	8,296	—	8,296	1,394	528	866	89	(3)	(24)
Egypt	3,862	—	3,862	594	299	295	(210)	(60)	574
Israel	11,377	—	11,377	1,469	287	1,182	(15)	3	21
Rest of AMEA	2,139	—	2,139	386	76	310	(159)	(31)	(9)
Others	21,820	(11,203)	10,617	(2,759)	626	(3,385)	(3,493)	(17,553)	4,169
Continuing operations	274,380	(16,943)	257,437	48,600	15,988	32,612	(3,815)	(19,301)	3,616
Discontinued operations	2,235	—	2,235	39	61	(22)	14	—	—
Total Ps	<u>276,615</u>	<u>(16,943)</u>	<u>259,672</u>	<u>48,639</u>	<u>16,049</u>	<u>32,590</u>	<u>(3,801)</u>	<u>(19,301)</u>	<u>3,616</u>

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2016	Revenues (including intragroup transactions)	Less: Intragroup transactions	Revenues	Operating EBITDA	Less: Depreciation and amortization	Operating earnings before other expenses, net	Other expenses, net	Financial expense	Other financing items, net
Mexico	Ps 53,579	(848)	52,731	19,256	2,390	16,866	(608)	(339)	2,695
United States	66,554	—	66,554	10,973	6,400	4,573	2,919	(487)	(212)
Europe									
United Kingdom	21,153	—	21,153	3,606	1,047	2,559	711	(63)	(393)
France	14,535	—	14,535	669	484	185	(110)	(53)	2
Germany	9,572	(1,385)	8,187	553	464	89	(64)	(15)	(85)
Spain	6,563	(841)	5,722	814	663	151	(112)	(37)	(9)
Poland	4,799	(88)	4,711	579	330	249	6	(11)	123
Czech Republic	3,027	(30)	2,997	622	328	294	(117)	(4)	2
Rest of Europe	4,908	(511)	4,397	519	332	187	14	(29)	75
SCA&C									
Colombia ¹	12,415	(1)	12,414	3,975	489	3,486	(575)	46	38
Panama ¹	4,906	(124)	4,782	2,170	340	1,830	(7)	(27)	5
Costa Rica ¹	2,818	(351)	2,467	1,127	116	1,011	(23)	(11)	27
Dominican Republic	4,223	(525)	3,698	1,210	199	1,011	(67)	(6)	34
Rest of SCA&C ¹	7,155	(253)	6,902	1,665	238	1,427	(1,159)	(22)	(216)
AMEA									
Philippines ²	9,655	—	9,655	2,687	530	2,157	21	(1)	(24)
Egypt	6,950	(5)	6,945	2,454	539	1,915	(213)	(78)	(253)
Israel	9,650	—	9,650	1,346	232	1,114	5	(24)	6
Rest of AMEA	2,208	(12)	2,196	271	67	204	(117)	(3)	21
Others	<u>18,381</u>	<u>(8,600)</u>	<u>9,781</u>	<u>(2,891)</u>	<u>799</u>	<u>(3,690)</u>	<u>(2,174)</u>	<u>(20,323)</u>	<u>2,631</u>
Continuing operations	263,051	(13,574)	249,477	51,605	15,987	35,618	(1,670)	(21,487)	4,467
Discontinued operations	<u>9,652</u>	<u>(207)</u>	<u>9,445</u>	<u>1,159</u>	<u>697</u>	<u>462</u>	<u>(3)</u>	<u>(10)</u>	<u>(22)</u>
Total Ps	<u><u>272,703</u></u>	<u><u>(13,781)</u></u>	<u><u>258,922</u></u>	<u><u>52,764</u></u>	<u><u>16,684</u></u>	<u><u>36,080</u></u>	<u><u>(1,673)</u></u>	<u><u>(21,497)</u></u>	<u><u>4,445</u></u>

- 1 CEMEX Latam Holdings, S.A. (“CLH”), a company incorporated in Spain, trades its ordinary shares on the Colombian Stock Exchange. CLH is the indirect holding company of CEMEX’s operations in Colombia, Panama, Costa Rica, Guatemala, Nicaragua and El Salvador. At year end 2018 and 2017, there is a non-controlling interest in CLH of approximately 26.75% and 26.72%, respectively, of its ordinary shares, excluding shares held in CLH’s treasury (note 20.4).
- 2 CEMEX’s operations in the Philippines are mainly conducted through CEMEX Holdings Philippines, Inc. (“CHP”), a Philippine company whose shares trade on the Philippines Stock Exchange. As of December 31, 2018 and 2017, there is a non-controlling interest in CHP of 45.0% of its ordinary shares (note 20.4).
- 3 As mentioned in note 4.1, in February 2017, CEMEX’s acquired a controlling interest in TCL, whose shares trade on the Trinidad and Tobago Stock Exchange. As of December 31, 2018 and 2017, there is a non-controlling interest in TCL of approximately 30.2% of its ordinary shares in both years (note 20.4).

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Debt by reportable segment is included in note 16. As of December 31, 2018 and 2017, selected statement of financial position information by reportable segment was as follows:

2018	Equity accounted investees	Other segment assets	Total assets	Total liabilities	Net assets by segment	Additions to fixed assets¹
Mexico	Ps —	68,449	68,449	17,906	50,543	2,285
United States	2,485	267,011	269,496	33,756	235,740	4,611
Europe						
United Kingdom	118	32,248	32,366	19,220	13,146	908
France	927	16,316	17,243	7,111	10,132	441
Germany	85	8,350	8,435	6,546	1,889	314
Spain	6	25,134	25,140	2,957	22,183	499
Poland	8	5,523	5,531	2,605	2,926	564
Czech Republic	157	4,195	4,352	1,224	3,128	169
Rest of Europe	—	11,299	11,299	2,250	9,049	226
South, Central America and the Caribbean						
Colombia	—	24,514	24,514	8,721	15,793	428
Panama	—	7,156	7,156	1,187	5,969	231
Costa Rica	—	1,640	1,640	580	1,060	61
Caribbean TCL	—	11,230	11,230	4,954	6,276	535
Dominican Republic	—	4,010	4,010	1,182	2,828	150
Rest of South, Central America and the Caribbean	29	6,430	6,459	2,621	3,838	183
Asia, Middle East and Africa						
Philippines	6	12,235	12,241	2,929	9,312	544
Egypt	1	4,795	4,796	1,906	2,890	176
Israel	—	9,592	9,592	6,712	2,880	412
Rest of Asia, Middle East and Africa	—	3,991	3,991	1,451	2,540	103
Others	<u>5,670</u>	<u>16,918</u>	<u>22,588</u>	<u>206,963</u>	<u>(184,375)</u>	<u>129</u>
Continuing operations	9,492	541,036	550,528	332,781	217,747	12,969
Assets held for sale and related liabilities (note 12.1)						
	<u>29</u>	<u>2,071</u>	<u>2,100</u>	<u>314</u>	<u>1,786</u>	<u>—</u>
Total	Ps <u>9,521</u>	<u>543,107</u>	<u>552,628</u>	<u>333,095</u>	<u>219,533</u>	<u>12,969</u>

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Selected financial information by reportable segment and line of business — continued

2017		Equity accounted investees	Other segment assets	Total assets	Total liabilities	Net assets by segment	Additions to fixed assets¹
Mexico	Ps	241	71,280	71,521	23,574	47,947	2,133
United States		1,573	266,769	268,342	32,366	235,976	3,498
Europe							
United Kingdom		107	34,774	34,881	24,160	10,721	1,010
France		1,055	18,481	19,536	7,360	12,176	372
Germany		85	9,010	9,095	6,848	2,247	441
Spain		—	25,731	25,731	3,543	22,188	553
Poland		9	5,477	5,486	3,086	2,400	230
Czech Republic		149	4,867	5,016	1,338	3,678	157
Rest of Europe		9	11,256	11,265	2,289	8,976	164
South, Central America and the Caribbean							
Colombia		—	24,406	24,406	11,307	13,099	1,178
Panama		—	7,232	7,232	1,029	6,203	152
Costa Rica		—	1,869	1,869	646	1,223	42
Caribbean TCL		—	11,004	11,004	4,917	6,087	584
Dominican Republic		—	4,362	4,362	1,132	3,230	172
Rest of South, Central America and the Caribbean		31	6,936	6,967	3,234	3,733	185
Asia, Middle East and Africa							
Philippines		6	11,548	11,554	2,617	8,937	518
Egypt		1	4,602	4,603	1,776	2,827	418
Israel		—	9,760	9,760	6,838	2,922	391
Rest of Asia, Middle East and Africa		—	3,911	3,911	1,189	2,722	58
Others		<u>5,306</u>	<u>24,466</u>	<u>29,772</u>	<u>218,023</u>	<u>(188,251)</u>	<u>163</u>
Continuing operations		8,572	557,741	566,313	357,272	209,041	12,419
Assets held for sale and related liabilities (note 12.1)							
		—	1,378	1,378	—	1,378	—
Total	Ps	<u>8,572</u>	<u>559,119</u>	<u>567,691</u>	<u>357,272</u>	<u>210,419</u>	<u>12,419</u>

1 In 2018 and 2017, the column “Additions to fixed assets” includes capital expenditures of Ps12,141 and Ps9,514, respectively (note 14).

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Selected financial information by reportable segment and line of business — continued

Revenues by line of business and reportable segment for the years ended December 31, 2018, 2017 and 2016 were as follows:

2018		<u>Cement</u>	<u>Concrete</u>	<u>Aggregates</u>	<u>Others</u>	<u>Eliminations</u>	<u>Revenues</u>
Mexico	Ps	44,295	17,277	4,051	12,358	(16,197)	61,784
United States		30,518	40,249	16,393	7,581	(22,396)	72,345
Europe							
United Kingdom		4,837	7,441	8,139	8,102	(8,088)	20,431
France		—	15,092	7,321	176	(4,281)	18,308
Germany		3,608	4,841	2,353	2,732	(4,148)	9,386
Spain		6,010	1,365	377	609	(1,632)	6,729
Poland		3,864	3,066	960	299	(1,280)	6,909
Czech Republic		1,555	2,377	835	362	(1,364)	3,765
Rest of Europe		5,263	565	221	24	(577)	5,496
South, Central America and the Caribbean							
Colombia		6,792	3,631	1,065	1,769	(3,169)	10,088
Panama		3,285	1,368	445	355	(1,189)	4,264
Costa Rica		2,126	427	120	114	(387)	2,400
Caribbean TCL		4,712	199	91	1,716	(1,924)	4,794
Dominican Republic		3,441	526	171	470	(700)	3,908
Rest of South, Central America and the Caribbean		7,668	782	150	122	(1,334)	7,388
Asia, Middle East and Africa							
Philippines		8,549	4	59	43	(43)	8,612
Egypt		3,993	511	14	225	(157)	4,586
Israel		—	10,026	3,061	2,127	(3,086)	12,128
Rest of Asia, Middle East and Africa		943	1,763	—	—	(443)	2,263
Others		—	—	—	24,667	(13,396)	11,271
Continuing operations		141,459	111,510	45,826	63,851	(85,791)	276,855
Discontinued operations		503	—	—	—	—	503
Total	Ps	<u>141,962</u>	<u>111,510</u>	<u>45,826</u>	<u>63,851</u>	<u>(85,791)</u>	<u>277,358</u>

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2017		<u>Cement</u>	<u>Concrete</u>	<u>Aggregates</u>	<u>Others</u>	<u>Eliminations</u>	<u>Revenues</u>
Mexico	Ps	42,195	14,672	3,416	11,211	(14,127)	57,367
United States		27,804	35,400	14,436	6,235	(18,339)	65,536
Europe							
United Kingdom		4,879	7,459	7,758	8,067	(7,984)	20,179
France		—	13,367	6,373	205	(3,783)	16,162
Germany		3,595	4,668	2,134	2,335	(4,015)	8,717
Spain		5,499	944	259	676	(1,498)	5,880
Poland		3,230	2,532	701	226	(1,211)	5,478
Czech Republic		1,287	2,148	880	334	(1,232)	3,417
Rest of Europe		4,949	567	175	128	(661)	5,158
South, Central America and the Caribbean							
Colombia		7,043	4,024	1,224	1,960	(3,566)	10,685
Panama		3,876	1,725	452	180	(1,219)	5,014
Costa Rica		2,095	386	122	120	(297)	2,426
Caribbean TCL		4,097	29	19	215	(77)	4,283
Dominican Republic		3,193	564	191	117	(491)	3,574
Rest of South, Central America and the Caribbean		7,534	744	77	190	(1,960)	6,585
Asia, Middle East and Africa							
Philippines		8,093	67	159	52	(75)	8,296
Egypt		3,347	479	16	173	(153)	3,862
Israel		—	9,400	2,875	2,146	(3,045)	11,376
Rest of Asia, Middle East and Africa		928	1,678	—	2	(468)	2,140
Others		—	—	—	22,505	(11,203)	11,302
Continuing operations		133,644	100,853	41,267	57,077	(75,404)	257,437
Discontinued operations		686	525	340	687	(3)	2,235
Total	Ps	<u>134,330</u>	<u>101,378</u>	<u>41,607</u>	<u>57,764</u>	<u>(75,407)</u>	<u>259,672</u>

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2016		<u>Cement</u>	<u>Concrete</u>	<u>Aggregates</u>	<u>Others</u>	<u>Eliminations</u>	<u>Revenues</u>
Mexico	Ps	37,647	13,664	3,156	11,773	(13,509)	52,731
United States		28,585	35,843	14,565	7,107	(19,546)	66,554
Europe							
United Kingdom		5,267	7,830	8,195	7,889	(8,028)	21,153
France		—	11,883	5,640	278	(3,266)	14,535
Germany		3,416	4,539	2,112	2,262	(4,142)	8,187
Spain		5,478	823	196	472	(1,247)	5,722
Poland		2,811	2,237	579	219	(1,135)	4,711
Czech Republic		1,118	1,871	796	336	(1,124)	2,997
Rest of Europe		4,168	383	115	2	(271)	4,397
South, Central America and the Caribbean							
Colombia		8,814	4,522	1,364	1,761	(4,047)	12,414
Panama		3,794	1,577	413	139	(1,141)	4,782
Costa Rica		2,144	390	179	126	(372)	2,467
Dominican Republic		3,255	620	210	124	(511)	3,698
Rest of South, Central America and the Caribbean		7,276	906	112	174	(2,032)	6,436
Asia, Middle East and Africa							
Philippines		9,405	143	164	70	(127)	9,655
Egypt		6,076	943	26	217	(317)	6,945
Israel		—	8,016	2,519	1,372	(2,258)	9,649
Rest of Asia, Middle East and Africa		961	1,519	—	7	(290)	2,197
Others		—	—	—	18,849	(8,602)	10,247
Continuing operations		130,215	97,709	40,341	53,177	(71,965)	249,477
Discontinued operations		889	1,366	785	6,665	(260)	9,445
Total	Ps	<u>131,104</u>	<u>99,075</u>	<u>41,126</u>	<u>59,842</u>	<u>(72,225)</u>	<u>258,922</u>

5) OPERATING EXPENSES, DEPRECIATION AND AMORTIZATION

Consolidated operating expenses during 2018, 2017 and 2016 by function are as follows:

		<u>2018</u>	<u>2017</u>	<u>2016</u>
Administrative expenses ¹	Ps	22,387	21,053	20,733
Selling expenses		6,315	6,429	6,945
Distribution and logistics expenses		31,992	28,485	26,235
	Ps	<u>60,694</u>	<u>55,967</u>	<u>53,913</u>

- 1** All significant R&D activities are executed by several internal areas as part of their daily activities. In 2018, 2017 and 2016, total combined expenses of these departments recognized within administrative expenses were Ps758 (US\$38), Ps754 (US\$38) and Ps712 (US\$38), respectively.

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Operating expenses, depreciation and amortization — continued

Depreciation and amortization recognized during 2018, 2017 and 2016 are detailed as follows:

	<u>2018</u>	<u>2017</u>	<u>2016</u>
Included in cost of sales	Ps 14,181	14,143	14,177
Included in administrative, selling and distribution and logistics expenses	1,889	1,845	1,810
	<u>Ps 16,070</u>	<u>15,988</u>	<u>15,987</u>

6) OTHER EXPENSES, NET

The detail of the line item “Other expenses, net” in 2018, 2017 and 2016 was as follows:

	<u>2018</u>	<u>2017</u>	<u>2016</u>
Results from the sale of assets and others, net ¹	Ps (2,994)	91	1,719
Restructuring costs ²	(1,382)	(843)	(778)
Impairment losses ³	(1,188)	(2,936)	(2,518)
Remeasurement of pension liabilities ⁴	(168)	—	—
Charitable contributions	(105)	(127)	(93)
	<u>Ps (5,837)</u>	<u>(3,815)</u>	<u>(1,670)</u>

- 1 In 2018, includes Ps1,080 in connection with property damages and natural disasters. In 2017, includes an expense of Ps491 (US\$25) related to a penalty in connection with a market investigation in Colombia (note 24.2).
- 2 In 2018, 2017 and 2016, restructuring costs mainly refer to severance payments and the definite closing of operating sites.
- 3 In 2018, 2017 and 2016, among others, includes impairment losses of fixed assets for Ps445, Ps984 and Ps1,899, respectively, as well in 2018 losses in the valuation of assets held for sale of Ps439 and impairment losses of goodwill in 2017 of Ps1,920 (notes 13.2, 14 and 15).
- 4 Refers to a remeasurement of the employee benefits liability in connection with CEMEX’s defined benefit plan in the United Kingdom determined in 2018 as a result of a recently enacted gender parity law.

7) FINANCIAL INCOME AND OTHER ITEMS, NET

The detail of financial income and other items, net in 2018, 2017 and 2016 was as follows:

	<u>2018</u>	<u>2017</u>	<u>2016</u>
Results in the sale of associates and remeasurement of previously held interest before change in control of associates (notes 4.1 and 13.1)	Ps (204)	4,164	—
Financial income	355	338	402
Results from financial instruments, net (notes 13.2 and 16.4)	692	161	113
Foreign exchange results	341	(26)	4,982
Effects of amortized cost on assets and liabilities and others, net	<u>(1,088)</u>	<u>(1,021)</u>	<u>(1,030)</u>
	<u>Ps 96</u>	<u>3,616</u>	<u>4,467</u>

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8) CASH AND CASH EQUIVALENTS

As of December 31, 2018 and 2017, consolidated cash and cash equivalents consisted of:

		<u>2018</u>	<u>2017</u>
Cash and bank accounts	Ps	5,071	9,292
Fixed-income securities and other cash equivalents		<u>997</u>	<u>4,449</u>
	Ps	<u>6,068</u>	<u>13,741</u>

Based on net settlement agreements, the balance of cash and cash equivalents excludes deposits in margin accounts that guarantee several obligations of CEMEX of Ps234 in 2018 and Ps196 in 2017, which were offset against the corresponding obligations of CEMEX with the counterparties, considering CEMEX's right, ability and intention to settle the amounts on a net basis.

9) TRADE ACCOUNTS RECEIVABLE, NET

As of December 31, 2018 and 2017, consolidated trade accounts receivable consisted of:

		<u>2018</u>	<u>2017</u>
Trade accounts receivable	Ps	31,584	32,733
Allowances for expected credit losses		<u>(2,336)</u>	<u>(2,145)</u>
	Ps	<u>29,248</u>	<u>30,588</u>

As of December 31, 2018 and 2017, trade accounts receivable include receivables of Ps13,048 (US\$664) and Ps12,713 (US\$647), respectively, sold under outstanding trade receivables securitization programs and/or factoring programs with recourse, established in Mexico, the United States, France and the United Kingdom, in which CEMEX effectively surrenders control associated with the trade accounts receivable sold and there is no guarantee or obligation to reacquire the assets; nonetheless, in such programs, CEMEX retains certain residual interest in the programs and/or maintains continuing involvement with the accounts receivable. Therefore, the trade accounts receivable sold were not removed from the statement of financial position and the funded amounts to CEMEX of Ps11,770 (US\$599) in 2018 and Ps11,313 (US\$576) in 2017, were recognized within the line item of "Other financial obligations," the difference in each year against the trade receivables sold was maintained as reserves. Trade accounts receivable qualifying for sale exclude amounts over certain days past due or concentrations over certain limits to any one customer, according to the terms of the programs. The discount granted to the acquirers of the trade accounts receivable is recorded as financial expense and amounted to Ps446 in 2018, Ps308 in 2017 and Ps258 in 2016. CEMEX's securitization programs are negotiated for periods of one to two years and are usually renewed at their maturity.

Allowances for doubtful accounts were established until December 31, 2017 based on incurred loss analyses over delinquent accounts considering aging of balances, the credit history and risk profile of each customer and legal processes to recover accounts receivable. Beginning in 2018 such allowances are determined and recognized upon origination of the trade accounts receivable based on a model that calculates the expected credit loss ("ECL") of the trade accounts receivable (note 2.1).

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Trade accounts receivable, net — continued

Under this ECL model, CEMEX segments its accounts receivable in a matrix by country, type of client or homogeneous credit risk and days past due and determines for each segment an average rate of ECL, considering actual credit loss experience over the last 24 months and analyses of future delinquency, that is applied to the balance of the accounts receivable. The average ECL rate increases in each segment of days past due until the rate is 100% for the segment of 365 days or more past due.

As of December 31, 2018, the balances of trade accounts receivable and the allowance for ECL were as follows:

	<u>Accounts receivable</u>	<u>ECL allowance</u>	<u>ECL average rate</u>
Mexico	Ps 5,185	717	13.8%
United States	8,432	78	0.9%
Europe	9,087	618	6.8%
South, Central America and the Caribbean	2,817	550	19.5%
Asia, Middle East and Africa	5,327	272	5.1%
Others	736	101	13.7%
	<u>Ps 31,584</u>	<u>2,336</u>	

Changes in the allowance for expected credit losses in 2018, 2017 and 2016, were as follows:

	<u>2018</u>	<u>2017</u>	<u>2016</u>
Allowances for expected credit losses at beginning of period	Ps 2,145	2,196	2,152
Adoption effects of IFRS 9 charged to retained earnings (note 2.1)	570	—	—
Charged to selling expenses	156	252	556
Additions through business combinations	—	141	—
Deductions	(385)	(449)	(867)
Foreign currency translation effects	(150)	5	355
Allowances for expected credit losses at end of period	<u>Ps 2,336</u>	<u>2,145</u>	<u>2,196</u>

10) OTHER ACCOUNTS RECEIVABLE

As of December 31, 2018 and 2017, consolidated other accounts receivable consisted of:

	<u>2018</u>	<u>2017</u>
Non-trade accounts receivable ¹	Ps 2,712	1,918
Interest and notes receivable ²	895	1,125
Current portion of valuation of derivative financial instruments	8	1,056
Loans to employees and others	243	233
Refundable taxes	2,291	638
	<u>Ps 6,149</u>	<u>4,970</u>

1 Non-trade accounts receivable are mainly attributable to the sale of assets.

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Other accounts receivable — continued

- 2 In 2018 and 2017, includes CEMEX Colombia’s residual interest in a trust oriented to promote housing projects, which its only asset is land in the municipality of Zipaquirá, Colombia and its only liability is a bank credit for Ps129 and Ps141, respectively, obtained to purchase the land, guaranteed by CEMEX Colombia. The estimated realizable value of the land as determined by external appraiser covers the amount of the loan. Related to this structure, on December 17, 2018, CEMEX Colombia and the other partner in the project accepted the binding offer of a local construction firm, pending of execution, whom, pursuant to the agreements, will join the trust as beneficiary and joint obligor of the debt and will acquire the project through the full repayment of the trust’s debt by means of a repayment of approximately 50% during 2019 and the remaining portion in November 2020. Once the respective agreements are formalized in 2019, the construction firm will sign promissory notes to CEMEX Colombia securing its obligations and additionally the firm and the other partner will pledge their beneficial interest in the trust in favor of CEMEX Colombia.

11) INVENTORIES, NET

As of December 31, 2018 and 2017, the consolidated balance of inventories was summarized as follows:

	<u>2018</u>	<u>2017</u>
Finished goods	Ps 6,777	5,933
Work-in-process	3,818	3,814
Raw materials	3,813	3,237
Materials and spare parts	5,964	4,996
Inventory in transit	876	872
	<u>Ps 21,248</u>	<u>18,852</u>

For the years ended December 31, 2018, 2017 and 2016, CEMEX recognized within “Cost of sales” in the income statement, inventory impairment losses of Ps114, Ps23 and Ps52, respectively.

12) ASSETS HELD FOR SALE AND OTHER CURRENT ASSETS

12.1) ASSETS HELD FOR SALE

As of December 31, 2018 and 2017, assets held for sale, which are measured at the lower of their estimated realizable value, less costs to sell, and their carrying amounts, as well as liabilities directly related with such assets are detailed as follows:

	<u>2018</u>			<u>2017</u>		
	<u>Assets</u>	<u>Liabilities</u>	<u>Net assets</u>	<u>Assets</u>	<u>Liabilities</u>	<u>Net assets</u>
Assets in the central region of France (note 4.3)	Ps 952	314	638	Ps —	—	—
Idle assets in Spain ¹	—	—	—	580	—	580
Other assets held for sale	1,148	—	1,148	798	—	798
	<u>Ps 2,100</u>	<u>314</u>	<u>1,786</u>	<u>Ps 1,378</u>	<u>—</u>	<u>1,378</u>

- 1 During December 2018, considering the withdrawal of potential buyers and the absence of new offers, CEMEX reclassified these assets to fixed assets.

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12.2) OTHER CURRENT ASSETS

As of December 31, 2018 and 2017, other current assets are mainly comprised of advance payments.

In addition, as of December 31, 2018, the balance of other current assets includes cash for US\$12 (Ps236) of CEMEX Colombia subject to a temporary restriction on its availability due to a seizure order issued by a civil court in Colombia within an executory proceeding initiated by a supplier in connection with a commercial dispute over an amount being claimed of approximately US\$2 (Ps39). CEMEX Colombia considers that such seizure order was excessive in relation to the amount claimed, and as of the reporting date, because of the nature of the proceeding, CEMEX Colombia's defense arguments that were put forth in its negotiations with the supplier have not yet been evaluated. As of the issuance date of these consolidated financial statements, CEMEX Colombia is following required legal procedures in the civil court and considers probable that the cash amounts will be released in 2019.

13) EQUITY ACCOUNTED INVESTEEES, OTHER INVESTMENTS AND NON-CURRENT ACCOUNTS RECEIVABLE

13.1) EQUITY ACCOUNTED INVESTEEES

As of December 31, 2018 and 2017, the investments in common shares of associates were as follows:

	<u>Activity</u>	<u>Country</u>	<u>%</u>		<u>2018</u>	<u>2017</u>
Camcem, S.A. de C.V.	Cement	Mexico	40.1	Ps	4,087	3,618
Concrete Supply Co. LLC	Concrete	United States	40.0		1,306	1,192
Lehigh White Cement Company	Cement	United States	36.8		1,172	375
Akmenes Cementas AB	Cement	Lithuania	37.8		527	585
ABC Capital, S.A. Institución de Banca Múltiple	Financing	Mexico	—		—	228
Société Méridionale de Carrières	Aggregates	France	33.3		318	367
Société d'Exploitation de Carrières	Aggregates	France	50.0		306	318
Cemento Interoceánico S.A.	Cement	Panama	25.0		160	168
Other companies	—	—	—		1,616	1,721
					Ps <u>9,492</u>	<u>8,572</u>
Out of which:						
Book value at acquisition date				Ps	7,218	6,957
Changes in stockholders' equity				Ps	<u>2,274</u>	<u>1,615</u>

In April 2018, CEMEX entered into an agreement for the sale of its 33.9% equity interest to the controlling shareholders of ABC Capital, S.A. Institución de Banca Múltiple for Ps105, recognizing a loss of Ps157 as part of "Financial income and other items, net." The transaction is pending for authorization from the Mexican authorities. As of December 31, 2018, the investment is presented within assets held for sale in the statement of financial position (note 12.1).

During 2018, a subsidiary of CEMEX in the United States invested a total of US\$36 (Ps707) and increased the Company's ownership over the Lehigh White Cement Company investee from 24.5% to 36.8%. This deal also includes an agreement in which the Company contributed all of its rights, title and interest in the white cement business in Florida to the investee and entered into an agreement in which a Company's terminal will receive and pack white cement for Lehigh White Cement Company to sell and distribute in the Florida market.

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Equity accounted investees — continued

On January 25, 2017, in a public offering to investors in Mexico conducted through the BMV and in a concurrent private placement to eligible investors outside of Mexico, the Parent Company and Grupo Cementos de Chihuahua, S.A.B. de C.V. (“GCC”) announced the offering of up to 76,483,332 shares (then all the shares of GCC owned by CEMEX). During 2017, after conclusion of the public offering and the private placement, CEMEX sold 45 million shares, 13.53% of the common stock of GCC, at a price of 95.00 pesos per share receiving Ps4,094 after deducting commissions and offering expenses and recognized a gain on sale in 2017 of Ps1,859 as part of “Financial income and other items, net” in the income statement.

In addition, on September 28, 2017, CEMEX announced the definitive sale to two financial institutions of the remaining 31,483,332 shares of GCC, which represented approximately 9.47% of the equity capital of GCC. Proceeds from the sale were Ps3,012 and generated a gain on sale of Ps1,682 in 2017 recognized as part of “Financial income and other items, net” in the income statement. CEMEX continues to have an approximate 20% indirect interest in GCC through Camcem, S.A. de C.V., GCC’s parent company.

Combined condensed statement of financial position information of CEMEX’s associates as of December 31, 2018 and 2017 is set forth below:

	<u>2018</u>	<u>2017</u>
Current assets	Ps 16,677	21,527
Non-current assets	32,901	32,071
Total assets	<u>49,578</u>	<u>53,598</u>
Current liabilities	5,685	10,863
Non-current liabilities	17,272	17,730
Total liabilities	<u>22,957</u>	<u>28,593</u>
Total net assets	Ps <u>26,621</u>	<u>25,005</u>

Combined selected information of the statements of operations of CEMEX’s associates in 2018, 2017 and 2016 is set forth below:

	<u>2018</u>	<u>2017</u>	<u>2016</u>
Sales	Ps 28,487	28,158	29,791
Operating earnings	4,401	4,458	4,730
Income before income tax	2,182	2,451	3,111
Net income	<u>1,711</u>	<u>1,891</u>	<u>1,860</u>

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Equity accounted investees — continued

The share of equity accounted investees by reportable segment in the income statements for 2018, 2017 and 2016 is detailed as follows:

	<u>2018</u>	<u>2017</u>	<u>2016</u>
Mexico	Ps 254	269	452
United States	297	266	253
Europe	134	108	54
Corporate and others	(32)	(55)	(71)
	Ps <u>653</u>	<u>588</u>	<u>688</u>

13.2) OTHER INVESTMENTS AND NON-CURRENT ACCOUNTS RECEIVABLE

As of December 31, 2018 and 2017, consolidated other investments and non-current accounts receivable were summarized as follows:

	<u>2018</u>	<u>2017</u>
Non-current accounts receivable ¹	Ps 4,329	4,248
Investments at fair value through the income statement ²	428	441
Non-current portion of valuation of derivative financial instruments (note 16.4)	297	794
Investments in strategic equity securities ³	217	275
	Ps <u>5,271</u>	<u>5,758</u>

- 1** Includes, among other items: a) accounts receivable from investees and joint ventures of Ps1,273 in 2018 and Ps1,301 in 2017; b) advances to suppliers of fixed assets of Ps886 in 2018 and Ps55 in 2017; c) employee prepaid compensation of Ps114 in 2018 and Ps112 in 2017; d) refundable taxes of Ps263 in 2018 and Ps261 in 2017; and e) warranty deposits of Ps246 in 2018 and Ps240 in 2017.
- 2** Refers to investments in private funds and investments related to employee' savings funds. In 2018 and 2017, no contributions were made to such private funds.
- 3** This line item refers mainly to a strategic investment in CPOs of Axtel, S.A.B. de C.V. ("Axtel"). This investment is recognized at fair value through other comprehensive income.

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14) PROPERTY, MACHINERY AND EQUIPMENT, NET

As of December 31, 2018 and 2017, consolidated property, machinery and equipment, net and the changes in such line item during 2018, 2017 and 2016, were as follows:

		2018				Total
		Land and mineral reserves ¹	Building ¹	Machinery and equipment ²	Construction in progress	
Cost at beginning of period	Ps	95,495	53,927	242,636	19,457	411,515
Accumulated depreciation and depletion		(16,842)	(26,225)	(136,288)	—	(179,355)
Net book value at beginning of period		78,653	27,702	106,348	19,457	232,160
Capital expenditures		525	578	11,038	—	12,141
Additions through capital leases		—	—	88	—	88
Stripping costs		740	—	—	—	740
Total capital expenditures		1,265	578	11,126	—	12,969
Disposals ⁴		(258)	(116)	(597)	—	(971)
Reclassifications ⁵		(353)	(45)	(81)	580	101
Business combinations		83	—	133	—	216
Depreciation and depletion for the period		(3,618)	(2,001)	(8,400)	—	(14,019)
Impairment losses		(121)	(33)	(291)	—	(445)
Foreign currency translation effects		210	(349)	(5,733)	301	(5,571)
Cost at end of period		94,692	53,292	242,740	20,338	411,062
Accumulated depreciation and depletion		(18,831)	(27,556)	(140,235)	—	(186,622)
Net book value at end of period	Ps	75,861	25,736	102,505	20,338	224,440

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Property, machinery and equipment, net — continued

		2017				Total	2016 ³
		Land and mineral reserves ¹	Building ¹	Machinery and equipment ²	Construction in progress		
Cost at beginning of period	Ps	97,218	51,740	229,717	17,247	395,922	360,089
Accumulated depreciation and depletion		(16,301)	(24,224)	(125,263)	—	(165,788)	(143,395)
Net book value at beginning of period		80,917	27,516	104,454	17,247	230,134	216,694
Capital expenditures		547	802	8,165	—	9,514	12,676
Additions through capital leases		—	—	2,096	—	2,096	7
Capitalization of financial expense		—	—	—	—	—	175
Stripping costs		809	—	—	—	809	421
Total capital expenditures		1,356	802	10,261	—	12,419	13,279
Disposals ⁴		(347)	(223)	(1,274)	—	(1,844)	(1,841)
Reclassifications ⁵		(784)	(82)	(768)	—	(1,634)	(4,549)
Business combinations		2,179	749	3,136	428	6,492	—
Depreciation and depletion for the period		(2,571)	(1,967)	(9,413)	—	(13,951)	(14,037)
Impairment losses		(202)	(1)	(763)	(18)	(984)	(1,899)
Foreign currency translation effects		(1,895)	908	715	1,800	1,528	22,487
Cost at end of period		95,495	53,927	242,636	19,457	411,515	395,922
Accumulated depreciation and depletion		(16,842)	(26,225)	(136,288)	—	(179,355)	(165,788)
Net book value at end of period	Ps	<u>78,653</u>	<u>27,702</u>	<u>106,348</u>	<u>19,457</u>	<u>232,160</u>	<u>230,134</u>

- 1 Includes corporate buildings and related land sold to financial institutions in previous years, which were leased back. The aggregate carrying amount of these assets as of December 31, 2018 and 2017 was Ps1,602 and Ps1,690, respectively.
- 2 Includes assets, mainly mobile equipment, acquired through finance leases, which carrying amount as of December 31, 2018 and 2017 was Ps88 and Ps2,096, respectively.
- 3 In 2016, CEMEX Colombia concluded the construction of a cement plant in the municipality of Maceo in the Antioquia department in Colombia with an annual capacity of approximately 1.1 million tons. The plant has not initiated commercial operations. As of the reporting date, the works related to the access road to the plant remain suspended and the beginning of commercial operations is subject to the successful conclusion of several ongoing processes related to certain operating permits and other legal proceedings (note 24.1). As a result internal audits of the project, in 2016, CEMEX Colombia reduced construction in progress for Ps483 (US\$23), of which, Ps295 (US\$14) were recognized as impairment losses against “Other expenses, net” in connection with the write off of certain advances for the purchase of land through a representative have low probability for their recoverability due to deficiencies in the legal processes, and Ps188 (US\$9) were decreased against “Other accounts payable” in connection with the cancellation of the portion payable of such assets (note 24.1). As of December 31, 2018, the carrying amount of the plant, net of adjustments, is for an amount in Colombian pesos equivalent to US\$280 (Ps5,502).

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Property, machinery and equipment, net — continued

- 4** In 2018, includes sales of non-strategic fixed assets in the United States, Spain and Mexico for Ps371, Ps158 and Ps125, respectively. In 2017, includes sales of non-strategic fixed assets in Mexico, the United States and Spain for Ps343, Ps223 and Ps220, respectively. In 2016, includes sales of non-strategic fixed assets in the United States, Mexico, and France for Ps317, Ps281 and Ps165, respectively.
- 5** In 2018, refers mainly to the reclassification of the assets in Spain for Ps580 (note 12.1). In 2017, refers mainly to those assets of the Pacific Northwest Materials Business in the United States for Ps1,634 (note 4.2). In 2016, refers mainly to those assets of the Concrete Pipe Business in the United States for Ps2,747, as well as other disposal groups in the United States reclassified to assets available for sale for Ps1,386.

As a result of impairment tests conducted on several CGUs considering certain triggering events, mainly: a) the closing and/or reduction of operations of cement and ready-mix concrete plants resulting from adjusting the supply to current demand conditions, such as the situation in Puerto Rico in the last quarter of 2016 due to the adverse outlook and the overall uncertain economic conditions in such country; b) the transferring of installed capacity to more efficient plants, such as the change in operating model of a cement mill to distribution center in Colombia; as well as c) the recoverability of certain investments in Colombia as described above, for the years ended December 31, 2018, 2017 and 2016, CEMEX adjusted the related fixed assets to their estimated value in use in those circumstances in which the assets would continue in operation based on estimated cash flows during the remaining useful life, or to their realizable value, in case of permanent shut down, and recognized impairment losses within the line item of “Other expenses, net” (notes 2.10 and 6).

During the years ended December 31, 2018, 2017 and 2016 impairment losses of fixed assets by country are as follows:

	<u>2018</u>	<u>2017</u>	<u>2016</u>
United States	Ps 252	153	277
Poland	94	—	—
Colombia	37	—	454
Spain	35	452	—
Mexico	25	45	46
Czech Republic	—	157	—
Panama	—	56	—
France	—	50	—
Latvia	—	46	—
Puerto Rico	—	—	1,087
Others	2	25	35
	Ps <u>445</u>	<u>984</u>	<u>1,899</u>

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15) GOODWILL AND INTANGIBLE ASSETS, NET

15.1) BALANCES AND CHANGES DURING THE PERIOD

As of December 31, 2018 and 2017, consolidated goodwill, intangible assets and deferred charges were summarized as follows:

	2018			2017		
	Cost	Accumulated amortization	Carrying amount	Cost	Accumulated amortization	Carrying amount
Intangible assets of indefinite useful life:						
Goodwill	Ps 194,779	—	194,779	Ps 195,474	—	195,474
Intangible assets of definite useful life:						
Extraction rights	38,881	(7,017)	31,864	39,603	(6,480)	33,123
Industrial property and trademarks	864	(397)	467	929	(364)	565
Customer relationships	3,859	(3,859)	—	3,859	(3,852)	7
Mining projects	834	(107)	727	797	(96)	701
Others intangible assets	18,048	(11,287)	6,761	14,941	(9,902)	5,039
	Ps <u>257,265</u>	<u>(22,667)</u>	<u>234,598</u>	Ps <u>255,603</u>	<u>(20,694)</u>	<u>234,909</u>

The amortization of intangible assets of definite useful life was Ps2,051 in 2018, Ps2,037 in 2017 and Ps1,950 in 2016, and was recognized within operating costs and expenses.

Goodwill

Changes in consolidated goodwill in 2018, 2017 and 2016, were as follows:

	2018	2017	2016
Balance at beginning of period	Ps 195,474	206,319	184,156
Business combinations	309	1,965	—
Disposals, net (note 4.3)	—	—	(3,340)
Reclassification to assets held for sale and other current assets (notes 4.2, 4.3 and 12)	(439)	(1,804)	(9,734)
Impairment losses	—	(1,920)	—
Foreign currency translation effects	(565)	(9,086)	35,237
Balance at end of period	Ps <u>194,779</u>	<u>195,474</u>	<u>206,319</u>

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Intangible assets of definite life

Changes in intangible assets of definite life in 2018, 2017 and 2016, were as follows:

		2018					
		Extraction rights	Industrial property and trademarks	Customer relations	Mining projects	Others ¹	Total
Balance at beginning of period	Ps	33,123	565	7	701	5,039	39,435
Additions (disposals), net ¹		(219)	(32)	—	120	2,913	2,782
Reclassifications (notes 4.1, 4.2 and 12)		(223)	—	—	—	6	(217)
Amortization for the period		(626)	(93)	(7)	(12)	(1,313)	(2,051)
Impairment losses		(186)	—	—	—	—	(186)
Foreign currency translation effects		(5)	27	—	(82)	116	56
Balance at the end of period	Ps	<u>31,864</u>	<u>467</u>	<u>—</u>	<u>727</u>	<u>6,761</u>	<u>39,819</u>

		2017						
		Extraction rights	Industrial property and trademarks	Customer relations	Mining projects	Others ¹	Total	2016
Balance at beginning of period	Ps	35,047	357	259	877	4,648	41,188	36,566
Additions (disposals), net ¹		278	(783)	—	(148)	424	(229)	(598)
Business combinations (note 4.1)		—	—	—	4	72	76	—
Reclassifications (notes 4.1, 4.2 and 12)		—	—	(27)	—	—	(27)	—
Amortization for the period		(716)	(110)	(225)	(12)	(974)	(2,037)	(1,950)
Impairment losses		(38)	—	—	—	(12)	(50)	(25)
Foreign currency translation effects		(1,448)	1,101	—	(20)	881	514	7,195
Balance at the end of period	Ps	<u>33,123</u>	<u>565</u>	<u>7</u>	<u>701</u>	<u>5,039</u>	<u>39,435</u>	<u>41,188</u>

- 1** As of December 31, 2018 and 2017, “Others” includes the carrying amount of internal-use software of Ps4,459 and Ps2,981, respectively. Capitalized direct costs incurred in the development stage of internal-use software, such as professional fees, direct labor and related travel expenses, amounted to Ps2,583 in 2018, Ps1,422 in 2017 and Ps769 in 2016.

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15.2) ANALYSIS OF GOODWILL IMPAIRMENT

As of December 31, 2018 and 2017, goodwill balances allocated by operating segment were as follows:

	<u>2018</u>	<u>2017</u>
Mexico	Ps 7,371	7,371
United States	152,486	152,486
Europe		
Spain	10,270	10,000
United Kingdom	6,367	6,335
France	4,154	4,796
Czech Republic	589	709
South, Central America and the Caribbean		
Colombia	5,874	6,146
Dominican Republic	264	279
Caribbean TCL	2,042	2,027
Others South, Central America and the Caribbean ¹	972	985
Asia, Middle East and Africa		
Philippines	1,751	1,817
United Arab Emirates	1,885	1,769
Egypt	232	232
Others		
Other reporting segments ²	<u>522</u>	<u>522</u>
	Ps <u>194,779</u>	<u>195,474</u>

- 1 This caption refers to the operating segments in the Caribbean, Costa Rica and Panama.
- 2 This caption is primarily associated with Neoris N.V., CEMEX's subsidiary involved in the sale of information technology and services.

For purposes of goodwill impairment tests, all cash-generating units within a country are aggregated, as goodwill is allocated at that level. Considering materiality for disclosure purposes, certain balances of goodwill were presented for Others of South, Central America and the Caribbean, but this does not represent that goodwill was tested at a higher level than for operations in an individual country.

During the last quarter of each year, CEMEX performs its annual goodwill impairment test. Based on these analyses, during 2017, in connection with the operating segment in Spain, considering the uncertainty over the improvement indicators affecting the country's construction industry, and consequently in the expected consumption of cement, ready-mix and aggregates, partially a result of the then country's complex prevailing political environment, which had limited expenditure in infrastructure projects, as well as the uncertainty in the expected price recovery and the effects of increased competition and imports, CEMEX's management determined that the net book value of such operating segment in Spain, exceeded in Ps1,920 (US\$98) the amount of the net present value of projected cash flows. As a result, CEMEX recognized an impairment loss of goodwill for such amount as part of "Other expenses, net" in the income statement on 2017 against the related goodwill balance.

During 2018 and 2016, CEMEX did not determine impairment losses of goodwill.

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Analysis of goodwill impairment — continued

Impairment tests are significantly sensitive to, among other factors, the estimation of future prices of CEMEX's products, the development of operating expenses, local and international economic trends in the construction industry, the long-term growth expectations in the different markets, as well as the discount rates and the long-term growth rates applied. CEMEX's cash flow projections to determine the value in use of its CGUs to which goodwill has been allocated considering the use of long-term economic assumptions. CEMEX believes that its discounted cash flow projections and the discount rates used reasonably reflect current economic conditions at the time of the calculations, considering, among other factors that: a) the cost of capital reflects current risks and volatility in the markets; and b) the cost of debt represents the average of industry specific interest rates observed in recent transactions. Other key assumptions used to determine CEMEX's discounted cash flows are volume and price increases or decreases by main product during the projected periods. Volume increases or decreases generally reflect forecasts issued by trustworthy external sources, occasionally adjusted based on CEMEX's actual backlog, experience and judgment considering its concentration in certain sectors, while price changes normally reflect the expected inflation in the respective country. Operating costs and expenses during all periods are maintained as a fixed percent of revenues considering historic performance.

CEMEX's pre-tax discount rates and long-term growth rates used to determine the discounted cash flows in the group of CGUs with the main goodwill balances were as follows:

Groups of CGUs	Discount rates			Growth rates		
	2018	2017	2016	2018	2017	2016
United States	8.5%	8.8%	8.6%	2.5%	2.5%	2.5%
Spain	8.8%	9.5%	9.5%	1.7%	1.7%	1.6%
Mexico	9.4%	10.2%	9.8%	3.0%	2.7%	2.9%
Colombia	9.5%	10.5%	10.0%	3.6%	3.7%	4.0%
France	8.4%	9.0%	9.1%	1.6%	1.8%	1.8%
United Arab Emirates	11.0%	10.4%	10.2%	2.9%	3.1%	3.4%
United Kingdom	8.4%	9.0%	8.8%	1.6%	1.7%	1.9%
Egypt	10.8%	11.8%	11.4%	6.0%	6.0%	6.0%
Range of rates in other countries	<u>8.5% - 13.3%</u>	<u>9.1% - 11.7%</u>	<u>9.1% - 12.8%</u>	<u>2.5% - 6.9%</u>	<u>2.3% - 6.8%</u>	<u>2.2% - 7.0%</u>

As of December 31, 2018, the discount rates used by CEMEX in its cash flows projections in the countries with the most significant goodwill balances decreased slightly in most cases in a range of 0.3% up to 1 percentage point, except for United Arab Emirates and the Caribbean, as compared to the values determined in 2017. This reduction was mainly attributable to a decrease in the Parent Company's stock volatility (beta) and general decreases in the country specific sovereign yields in the majority of the countries where CEMEX operates and the weighing of debt in the calculation, effects that were partially offset for increases during 2018 in the funding cost observed in the industry that changed from 6.1% in 2017 to 7.3% in 2018 and the risk free rate associated with CEMEX which increased from 2.8% in 2017 to 2.9% in 2018. As of December 31, 2017, the discount rates increased slightly in most cases as compared to the values determined in 2016. Among other factors, the funding cost observed in industry decreased from 6.2% in 2016 to 6.1% in 2017 and the risk-free rate increased from approximately 2.7% in 2016 to 2.8% in 2017. Nonetheless, these decreases were offset by increases in 2017 in the country specific sovereign yields in most of the countries where CEMEX operates. As of December 31, 2016, the discount rates remained almost flat in most cases as compared to the values determined in the previous year.

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Analysis of goodwill impairment — continued

With respect to long-term growth rates, following general practice under IFRS, CEMEX uses country specific rates, which are mainly obtained from Consensus Economics, a compilation of analysts' forecasts worldwide, or from the International Monetary Fund when the former is not available for a specific country.

In connection with the assumptions included in the table above, CEMEX performed sensitivity analyses to changes in assumptions, affecting the value in use of all groups of CGUs with an independent reasonably possible increase of 1% in the pre-tax discount rate, and an independent possible decrease of 1% in the long-term growth rate. In addition, CEMEX performed cross-check analyses for reasonableness of its results using multiples of Operating EBITDA. To arrive at these multiples, which represent a reasonableness check of the discounted cash flow models, CEMEX determined a weighted average multiple of Operating EBITDA to enterprise value observed in the industry and/or in recent mergers and acquisitions in the industry. The average multiple was then applied to a stabilized amount of Operating EBITDA and the result was compared to the corresponding carrying amount for each group of CGUs to which goodwill has been allocated. CEMEX considered an industry weighted average Operating EBITDA multiple of 11.1 times in 2018 and multiple of 9.0 times in 2017 and 2016. The lowest multiple observed in CEMEX's benchmark was 6.7 times in 2018, 6.5 times in 2017 and 5.9 times in 2016, and the highest being 14.9 times in 2018, 18.9 times in 2017 and 18.3 times in 2016.

As of December 31, 2018, 2017 and 2016, except for the operating segment in Spain described above, in which CEMEX determined an impairment loss of goodwill in 2017, none of the other CEMEX's sensitivity analyses resulted in a potential impairment risk in CEMEX's operating segments. CEMEX continually monitors the evolution of the specific CGUs to which goodwill has been allocated that have presented relative goodwill impairment risk in any of the reported periods and, in the event that the relevant economic variables and the related cash flows projections would be negatively affected, it may result in a goodwill impairment loss in the future.

As of December 31, 2018 and 2017, goodwill allocated to the United States accounted in both years for approximately 78%, of CEMEX's total amount of consolidated goodwill. In connection with CEMEX's determination of value in use relative to its groups of CGUs in the United States in the reported periods, CEMEX has considered several factors, such as the historical performance of such operating segment, including the operating results in recent years, the long-term nature of CEMEX's investment, the signs of recovery in the construction industry over the last years, the significant economic barriers for new potential competitors considering the high investment required, and the lack of susceptibility of the industry to technology improvements or alternate construction products, among other factors. CEMEX has also considered recent developments in its operations in the United States, such as the decrease in ready-mix concrete volumes of approximately 1% in 2017, affected by the hurricanes occurred in Texas and Florida during the year, and the increase of 1% in 2016, and the increases in ready-mix concrete prices of approximately 2% in 2018, 1% in 2017 and 1% in 2016, which are key drivers for cement consumption and CEMEX's profitability, and which trends are expected to continue over the next few years, as anticipated in CEMEX's cash flow projections.

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16) FINANCIAL INSTRUMENTS

16.1) SHORT-TERM AND LONG-TERM DEBT

As of December 31, 2018 and 2017, CEMEX's consolidated debt summarized by interest rates and currencies, was as follows:

	2018			2017		
	Short-term	Long-term	Total	Short-term	Long-term	Total
Floating rate debt	Ps 262	66,819	67,081	Ps 7,282	53,389	60,671
Fixed rate debt	621	115,255	115,876	9,691	123,633	133,324
	Ps 883	182,074	182,957	Ps 16,973	177,022	193,995
Effective rate¹						
Floating rate	7.8%	3.6%		6.1%	3.0%	
Fixed rate	4.2%	5.6%		4.8%	5.7%	

Currency	2018				2017			
	Short-term	Long-term	Total	Effective rate ¹	Short-term	Long-term	Total	Effective rate ¹
Dollars	589	114,696	115,285	5.8%	6,206	107,508	113,714	5.9%
Euros	12	52,368	52,380	3.3%	9,705	54,906	64,611	3.5%
Pounds	—	8,631	8,631	2.9%	—	9,141	9,141	2.6%
Philippine pesos	52	5,041	5,093	4.6%	—	5,408	5,408	4.6%
Other currencies	230	1,338	1,568	5.9%	1,062	59	1,121	6.2%
	883	182,074	182,957		16,973	177,022	193,995	

¹ In 2018 and 2017, represents the weighted-average nominal interest rate of the related debt agreements.

As of December 31, 2018 and 2017, CEMEX's consolidated debt summarized by type of instrument, was as follow:

2018	Short-term	Long-term	2017	Short-term	Long-term
Bank loans			Bank loans		
Loans in foreign countries, 2019 to 2024	Ps 614	6,436	Loans in foreign countries, 2018 to 2022	Ps 910	5,439
Syndicated loans, 2020 to 2022	—	62,460	Syndicated loans, 2018 to 2022	—	50,132
	614	68,896		910	55,571
Notes payable			Notes payable		
Medium-term notes, 2023 to 2026	—	110,157	Medium-term notes, 2018 to 2026	224	133,949
Other notes payable, 2019 to 2025	140	3,150	Other notes payable, 2018 to 2025	154	3,187
	140	113,307		378	137,136
Total bank loans and notes payable	754	182,203	Total bank loans and notes payable	1,288	192,707
Current maturities	129	(129)	Current maturities	15,685	(15,685)
	Ps 883	182,074		Ps 16,973	177,022

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Short-term and long-term debt — continued

As of December 31, 2018 and 2017, discounts, fees and other direct costs incurred in the issuance of CEMEX's outstanding notes payable and bank loans for US\$65 and US\$84, respectively, reduce the balance of notes payable and are amortized to financing expense over the maturity of the related debt instruments under the amortized cost method.

As of December 31, 2018 and 2017, from total debt of Ps182,957 and Ps193,995, respectively, approximately 79% in 2018 and 80% in 2017 was held in the Parent Company, 15% in 2018 and 15% in 2017 was in finance subsidiaries in the Netherlands and the United States, and 6% in 2018 and 5% in 2017 was in other countries.

Changes in consolidated debt for the years ended December 31, 2018, 2017 and 2016 were as follows:

		<u>2018</u>	<u>2017</u>	<u>2016</u>
Debt at beginning of year	Ps	193,995	236,238	229,343
Proceeds from new debt instruments		43,765	93,620	48,748
Debt repayments		(53,025)	(131,446)	(89,792)
Foreign currency translation and accretion effects		(1,778)	(4,417)	47,939
Debt at end of year	Ps	<u>182,957</u>	<u>193,995</u>	<u>236,238</u>

As of December 31, 2018 and 2017, as presented in the table above of debt by type of instrument, approximately 38% and 29%, respectively, of CEMEX's total indebtedness, was represented by bank loans, of which the most significant portion corresponded to those balances under CEMEX's facilities agreement entered into with 20 financial institutions on July 19, 2017 for an amount in different currencies equivalent to approximately US\$4,050 at the origination date (the "2017 Credit Agreement"), as described elsewhere in this note.

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Short-term and long-term debt — continued

As of December 31, 2018 and 2017, non-current notes payable for Ps113,307 and Ps137,136, respectively, was detailed as follows:

Description	Date of issuance	Issuer ^{1,2}	Currency	Principal amount	Rate ¹	Maturity Date	Repurchased amount US\$	Outstanding amount ³ US\$	2018	2017
April 2026 Notes ⁸	16/Mar/16	CEMEX, S.A.B. de C.V.	Dollar	1,000	7.75%	16/Apr/26	—	1,000	Ps19,575	19,568
July 2025										
Notes	02/Apr/03	CEMEX Materials LLC	Dollar	150	7.70%	21/Jul/25	—	150	3,042	3,061
March 2025										
Notes	03/Mar/15	CEMEX, S.A.B. de C.V.	Dollar	750	6.125%	05/May/25	—	750	14,696	14,691
January 2025										
Notes	11/Sep/14	CEMEX, S.A.B. de C.V.	Dollar	1,100	5.70%	11/Jan/25	(29)	1,071	20,994	20,988
December 2024										
Notes ⁷	05/Dec/17	CEMEX, S.A.B. de C.V.	Euro	650	2.75%	05/Dec/24	—	745	14,572	15,257
June 2024										
Notes ⁸	14/Jun/16	CEMEX Finance LLC	Euro	400	4.625%	15/Jun/24	—	458	8,968	9,390
April 2024										
Notes	01/Apr/14	CEMEX Finance LLC	Dollar	1,000	6.00%	01/Apr/24	(10)	990	18,995	18,924
March 2023										
Notes	03/Mar/15	CEMEX, S.A.B. de C.V.	Euro	550	4.375%	05/Mar/23	—	630	12,356	12,938
October 2022										
Notes ⁶	12/Oct/12	CEMEX Finance LLC	Dollar	1,500	9.375%	12/Oct/22	(1,500)	—	—	—
January 2022										
Notes ⁴	11/Sep/14	CEMEX, S.A.B. de C.V.	Euro	400	4.75%	11/Jan/22	(480)	—	—	9,434
April 2021										
Notes ⁸	01/Apr/14	CEMEX Finance LLC	Euro	400	5.25%	01/Apr/21	(480)	—	—	—
January 2021										
Notes ^{5,8}	02/Oct/13	CEMEX, S.A.B. de C.V.	Dollar	1,000	7.25%	15/Jan/21	(1,000)	—	—	6,606
December 2019										
Notes ^{6,8}	12/Aug/13	CEMEX, S.A.B. de C.V.	Dollar	1,000	6.50%	10/Dec/19	(1,000)	—	—	—
October 2018										
Variable										
Notes ^{5,8}	02/Oct/13	CEMEX, S.A.B. de C.V.	Dollar	500	L+475bps	15/Oct/18	(500)	—	—	6,154
Other notes payable									109	125
									<u>Ps 113,307</u>	<u>137,136</u>

- 1 The letter “L” included above refers to LIBOR, which represents the London Inter-Bank Offered Rate, variable rate used in international markets for debt denominated in U.S. dollars. As of December 31, 2018 and 2017, 3-Month LIBOR rate was 2.8076% and 1.6943%, respectively. The contraction “bps” means basis points. One hundred basis points equal 1%.
- 2 Unless otherwise indicated, all issuances are fully and unconditionally guaranteed by CEMEX, S.A.B. de C.V., CEMEX México, S.A. de C.V., CEMEX Concretos, S.A. de C.V., Empresas Tolteca de México, S.A. de C.V., New Sunward Holding B.V., CEMEX España, S.A., CEMEX Asia B.V., CEMEX Corp., CEMEX Africa & Middle East Investments B.V., CEMEX Finance LLC, CEMEX France Gestion, (S.A.S.), CEMEX Research Group AG and CEMEX UK. In March 2018, CEMEX Egyptian Investments B.V. changed its legal name to CEMEX Africa & Middle East Investments B.V.
- 3 Presented net of all outstanding notes repurchased and held by CEMEX’s subsidiaries.

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Short-term and long-term debt — continued

- 4 On January 10, 2018, CEMEX completed the purchase of the outstanding amount of the January 2022 Notes for an aggregate principal amount of €400 using available funds from the issuance of the December 2024 Notes by means of an offer communicated on November 28, 2017.
- 5 In March 2018, CEMEX early redeemed the outstanding amount of the October 2018 Variable Notes and the January 2021 Notes for US\$313 and US\$341, respectively.
- 6 In December 2017, CEMEX repurchased the outstanding amount of the December 2019 Notes for an aggregate principal amount of US\$611. During September and October 2017, CEMEX repurchased US\$1,044 aggregate principal amount of the October 2022 Notes that remained outstanding.
- 7 On December 5, 2017, CEMEX issued €650 of 2.75% senior secured notes due December 5, 2024 (the “December 2024 Notes”). The proceeds were used to repay other indebtedness.
- 8 In May 2017, CEMEX redeemed the remaining €400 of aggregate principal amount of the April 2021 Notes. Moreover, in February 2017, CEMEX repurchased US\$385 aggregate principal amount of the January 2021 Notes and US\$90 of the December 2019 Notes. In addition, during 2016, using available funds from the issuance of the April 2026 Notes, the June 2024 Notes, the sale of assets and cash flows provided by operating activities, CEMEX completed the purchase of US\$178 principal amount of the October 2018 Variable Notes and US\$242 principal amount of the January 2021 Notes, among other debt repurchases incurred that year with those resources.

During 2018, 2017 and 2016, as a result of the debt transactions incurred including exchange offers and tender offers to replace and/or repurchase existing debt instruments, CEMEX paid premiums, fees and issuance costs for a combined amount of US\$51 (Ps1,006), US\$251 (Ps4,930) and US\$196 (Ps4,061), respectively, of which US\$51 (Ps1,006) in 2018, US\$212 (Ps4,160) in 2017 and US\$151 (Ps3,129) in 2016, associated with the extinguished portion of the exchanged or repurchased notes, were recognized in the income statement in each year within “Financial expense”. In addition, US\$39 (Ps770) in 2017 and US\$45 (Ps932) in 2016, corresponding to issuance costs of new debt and/or the portion of the combined premiums, fees and issuance costs treated as a refinancing of the old instruments, adjusted the carrying amount of the new debt instruments, and are amortized over the remaining term of each instrument. Moreover, proportional fees and issuance costs related to the extinguished debt instruments for US\$4 (Ps87) in 2018, US\$16 (Ps310) in 2017 and US\$37 (Ps767) in 2016 that were pending for amortization were recognized in the income statement of each year as part of “Financial expense.”

The maturities of consolidated long-term debt as of December 31, 2018, were as follows:

		2018
2020	Ps	11,523
2021		23,603
2022		30,175
2023		15,342
2024 and thereafter		101,431
	Ps	182,074

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Short-term and long-term debt — continued

As of December 31, 2018, CEMEX had the following lines of credit, of which, the only committed portion refers to the revolving credit facility, at annual interest rates ranging between 0.75% and 8.50%, depending on the negotiated currency:

		<u>Lines of credit</u>	<u>Available</u>
Other lines of credit in foreign subsidiaries	Ps	9,440	7,286
Other lines of credit from banks		11,294	8,956
Revolving credit facility		<u>22,303</u>	<u>16,211</u>
	Ps	<u>43,037</u>	<u>32,453</u>

2017 Credit Agreement and 2014 Credit Agreement

On July 19, 2017, the Parent Company and certain subsidiaries entered into the 2017 Credit Agreement with 20 financial institutions for an amount in different currencies equivalent to US\$4,050 at the origination date, the proceeds from which were used to refinance in full the US\$3,680 then outstanding under the 2014 Credit Agreement and other debt repayments, allowing CEMEX to increase the average life of its syndicated bank debt with a final maturity in July 2022. All tranches under the 2017 Credit Agreement have substantially the same terms, including an applicable margin over the benchmark interest rate of between 125 to 350 basis points, depending on CEMEX’s consolidated debt Leverage Ratio; and the tranches share the same guarantors and collateral package as the original tranches under the 2014 Credit Agreement and other secured debt obligations of CEMEX. As of December 31, 2018 and 2017, total commitments under the 2017 Credit Agreement included US\$2,746, €741 and £344, in both years, out of which about US\$1,135 in both years were in a revolving credit facility. All tranches under the 2017 Credit Agreement amortize in five equal semi-annual payments beginning in July 2020, except for the commitments under the revolving credit which have a five-year maturity.

All tranches under the 2017 Credit Agreement have substantially the same terms, including an applicable margin over LIBOR or EURIBOR, as applicable, of between 125 to 350 basis points, depending on the Leverage Ratio (as defined below) of CEMEX, as follows:

<u>Consolidated Leverage Ratio</u>	<u>Applicable margin</u>
> = 5.50x	350 bps
< 5.00x > 4.50x	300 bps
< 4.50x > 4.00x	250 bps
< 4.00x > 3.50x	212.5 bps
< 3.50x > 3.00x	175 bps
< 3.00x > 2.50x	150 bps
< 2.50x	125 bps

The 2017 Credit Agreement also modified the consolidated Leverage Ratio and consolidated Coverage Ratio limits as described below in the financial covenants section.

The balance of debt under the 2017 Credit Agreement and previously under the 2014 Credit Agreement is guaranteed by CEMEX México, S.A. de C.V., CEMEX Concretos, S.A. de C.V., Empresas Tolteca de México, S.A. de C.V., New Sunward Holding B.V., CEMEX España, S.A., CEMEX Asia B.V., CEMEX Corp., CEMEX

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2017 Credit Agreement and 2014 Credit Agreement — continued

Africa & Middle East Investments B.V., CEMEX Finance LLC, CEMEX France Gestion, (S.A.S.), CEMEX Research Group AG and CEMEX UK. In addition, the debt under these agreements (together with all other senior capital markets debt issued or guaranteed by CEMEX, and certain other preceding facilities) is also secured by a first-priority security interest in: (a) substantially all the shares of CEMEX México, S.A. de C.V., CEMEX Operaciones México, S.A. de C.V, New Sunward Holding B.V., CEMEX Trademarks Holding Ltd. and CEMEX España, S.A. (the “Collateral”); and (b) all proceeds of such Collateral.

For the years ended December 31, 2018, 2017 and 2016, under both the 2017 Credit Agreement and the 2014 Credit Agreement, CEMEX was required to comply with the following thresholds: (a) the aggregate amount allowed for capital expenditures cannot exceed US\$1,000 per year excluding certain capital expenditures, and, joint venture investments and acquisitions by CHP and its subsidiaries and CLH and its subsidiaries, which capital expenditures, joint venture investments and acquisitions at any time then incurred are subject to a separate aggregate limit for each of CHP and CLH of US\$500 (or its equivalent); and (b) the amounts allowed for permitted acquisitions and investments in joint ventures cannot exceed US\$400 per year. Nonetheless, such limitations do not apply if capital expenditures or acquisitions do not exceed free cash flow generation or are funded with proceeds from equity issuances or asset disposals.

In addition to the restrictions mentioned above, and subject in each case to the permitted negotiated amounts and other exceptions, CEMEX is also subject to a number of negative covenants that, among other things, restrict or limit its ability to: (i) create liens; (ii) incur additional debt; (iii) change CEMEX’s business or the business of any obligor or material subsidiary (in each case, as defined in the 2017 Credit Agreement); (iv) enter into mergers; (v) enter into agreements that restrict its subsidiaries’ ability to pay dividends or repay intercompany debt; (vi) acquire assets; (vii) enter into or invest in joint venture agreements; (viii) dispose of certain assets; (ix) grant additional guarantees or indemnities; (x) declare or pay cash dividends or make share redemptions while the Leverage Ratio remains above 4.0 times; and (xi) enter into speculative derivatives transactions. The 2017 Credit Agreement contains several affirmative covenants that, among other things, require CEMEX to provide periodic financial information to its lenders. However, a number of those covenants and restrictions will automatically cease to apply or become less restrictive if CEMEX so elects when: (i) CEMEX’s Leverage Ratio (as defined hereinafter) for the two most recently completed quarterly testing periods is less than or equal to 3.75 times; and (ii) no default under the 2017 Credit Agreement is continuing. At that point the Leverage Ratio must not exceed 3.75 times. Restrictions that will cease to apply when CEMEX satisfies such conditions include the capital expenditure limitations mentioned above and several negative covenants, including limitations on CEMEX’s ability to declare or pay cash dividends and distributions to shareholders, limitations on CEMEX’s ability to repay existing financial indebtedness, certain asset sale restrictions, and restrictions on exercising call options in relation to any perpetual bonds CEMEX issues. At such time, several baskets and caps relating to negative covenants will also increase, including permitted financial indebtedness, permitted guarantees and limitations on liens. However, CEMEX cannot assure that it will be able to meet the conditions for these restrictions to cease to apply prior to the final maturity date under the 2017 Credit Agreement.

In addition, the 2017 Credit Agreement, and previously the 2014 Credit Agreement, contains events of default, some of which may occur and are outside of CEMEX’s control such as expropriation, sequestration and availability of foreign exchange. As of December 31, 2018 and 2017, CEMEX was not aware of any event of default. CEMEX cannot assure that in the future it will be able to comply with the restrictive covenants and limitations contained in the 2017 Credit Agreement. CEMEX’s failure to comply with such covenants and

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2017 Credit Agreement and 2014 Credit Agreement — continued

limitations could result in an event of default, which could materially and adversely affect CEMEX’s business and financial condition.

Financial Covenants

The 2017 Credit Agreement and previously the 2014 Credit Agreement requires CEMEX to comply with financial ratios, which mainly include: a) the consolidated ratio of debt to Operating EBITDA (the “Leverage Ratio”); and b) the consolidated ratio of Operating EBITDA to interest expense (the “Coverage Ratio”). These financial ratios are calculated according to the formulas established in the debt contracts using the consolidated amounts under IFRS.

As of December 31, 2018, CEMEX must comply with a Coverage Ratio and a Leverage Ratio for each period of four consecutive fiscal quarters as follows:

<u>Period</u>	<u>Coverage Ratio</u>	<u>Period</u>	<u>Leverage Ratio</u>
For the period ending on December 31, 2018 up to and including the period ending on March 31, 2020	> = 2.50	For the period ending on December 31, 2018 up to and including the period ending on March 31, 2019	< = 4.75
		For the period ending on June 30, 2019 up to and including the period ending on March 31, 2020	< = 4.50
For the period ending on June 30, 2020 and each subsequent reference period	> = 2.75	For the period ending on June 30, 2020 and each subsequent reference period	< = 4.25

CEMEX’s ability to comply with these ratios may be affected by economic conditions and volatility in foreign exchange rates, as well as by overall conditions in the financial and capital markets. For the compliance periods ended as of December 31, 2018, 2017 and 2016, under the 2017 Credit Agreement and the 2014 Credit Agreement, as applicable, the main consolidated financial ratios were as follows:

		<u>Consolidated financial ratios</u>		
		<u>2018</u>	<u>2017</u>	<u>2016</u>
Leverage Ratio ^{1,2}	Limit	< = 4.75	< = 5.25	< = 6.00
	Calculation	<u>3.84</u>	<u>3.85</u>	<u>4.22</u>
Coverage Ratio ³	Limit	> = 2.50	> = 2.50	> = 1.85
	Calculation	<u>4.41</u>	<u>3.46</u>	<u>3.18</u>

1 The Leverage Ratio is calculated in pesos by dividing “Funded debt” by pro forma Operating EBITDA for the last twelve months as of the calculation date. Funded debt equals debt, as reported in the statement of financial position, excluding finance leases, components of liability of convertible subordinated notes, plus perpetual debentures and guarantees, plus or minus the fair value of derivative financial instruments, as applicable, among other adjustments.

2 Pro forma Operating EBITDA represents, all calculated in pesos, Operating EBITDA for the last twelve months as of the calculation date, plus the portion of Operating EBITDA referring to such twelve-month period of any significant acquisition made in the period before its consolidation in CEMEX, minus Operating EBITDA referring to such twelve-month period of any significant disposal that had already been liquidated.

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Financial Covenants — continued

- 3 The Coverage Ratio is calculated in pesos using the amounts from the financial statements, by dividing the pro forma Operating EBITDA by the financial expense for the last twelve months as of the calculation date. Financial expense includes interest accrued on the perpetual debentures.

CEMEX will classify all of its outstanding debt as current debt in its statement of financial position if: 1) as of any measurement date CEMEX fails to comply with the aforementioned financial ratios; or 2) the cross default clause that is part of the 2017 Credit Agreement is triggered by the provisions contained therein; 3) as of any date prior to a subsequent measurement date CEMEX expects not to be in compliance with such financial ratios in the absence of: a) amendments and/or waivers covering the next succeeding 12 months; b) high probability that the violation will be cured during any agreed upon remediation period and be sustained for the next succeeding 12 months; and/or c) a signed refinancing agreement to refinance the relevant debt on a long-term basis. Moreover, concurrent with such classification of debt as short-term, the noncompliance of CEMEX with the financial ratios agreed upon pursuant to the 2017 Credit Agreement or, in such event, the absence of a waiver of compliance or a negotiation thereof, after certain procedures upon CEMEX's lenders' request, they would call for the acceleration of payments due under the 2017 Credit Agreement. That scenario would have a material adverse effect on CEMEX's operating results, liquidity or financial position.

16.2) OTHER FINANCIAL OBLIGATIONS

As of December 31, 2018 and 2017, other financial obligations in the consolidated statement of financial position are detailed as follows:

	2018			2017		
	Short-term	Long-term	Total	Short-term	Long-term	Total
I. Convertible subordinated notes due 2020 . . .	Ps —	10,097	10,097	Ps —	9,985	9,985
II. Convertible subordinated notes due 2018 . . .	—	—	—	7,115	—	7,115
III. Mandatorily convertible securities due						
2019	374	—	374	323	371	694
IV. Liabilities secured with accounts						
receivable	11,770	—	11,770	11,313	—	11,313
V. Finance leases	595	1,931	2,526	611	2,503	3,114
	Ps			Ps		
	<u>12,739</u>	<u>12,028</u>	<u>24,767</u>	<u>19,362</u>	<u>12,859</u>	<u>32,221</u>

Financial instruments convertible into CEMEX's shares contain components of liability and equity, which are recognized differently depending upon the currency in which the instrument is denominated and the functional currency of the issuer (note 2.6).

I. Optional convertible subordinated notes due 2020

During 2015, the Parent Company issued US\$521 aggregate principal amount of 3.72% convertible subordinated notes due in March 2020 (the "2020 Convertible Notes") as a result of exchanges or settlements of other convertible notes. The 2020 Convertible Notes, which are subordinated to all of CEMEX's liabilities and commitments, are convertible into a fixed number of the Parent Company's ADSs at any time at the holder's election and are subject to antidilution adjustments. The aggregate fair value of the conversion option as of the

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Optional convertible subordinated notes due 2020 — continued

issuance dates which amounted to Ps199 was recognized in “Other equity reserves.” As of December 31, 2018 and 2017, the conversion price per ADS for the 2020 Convertible Notes was approximately 11.01 dollars in both years. After antidilution adjustments, the conversion rate for the 2020 Convertible Notes as of December 31, 2018 and 2017 was 90.8592 ADS per each 1 thousand dollars principal amount of such notes in both years.

II. Optional convertible subordinated notes due in 2018

On March 15, 2011, the Parent Company closed the offering of US\$690 principal amount of 3.75% convertible subordinated notes due in 2018 (the “2018 Convertible Notes”). The notes were subordinated to all of CEMEX’s liabilities and commitments. The notes were convertible into a fixed number of the Parent Company ADSs and are subject to antidilution adjustments. On June 19, 2017, the Parent Company agreed with certain institutional holders on the early conversion of US\$325 of the 2018 Convertible Notes in exchange for the issuance of approximately 43 million ADSs, which included the number of additional ADSs issued to the holders as non-cash inducement premiums. As a result of the early conversion, the liability component of the converted notes of Ps5,468 was reclassified from other financial obligations to other equity reserves. In addition, the Parent Company increased common stock for Ps4 and additional paid-in capital for Ps7,059 against other equity reserves, and recognized expense for the inducement premiums paid in shares of Ps769, recognized within “Financial income and other items, net” in the income statement for 2017. After the early conversion of notes described above, the US\$365 of the 2018 Convertible Notes that remained outstanding, were repaid in cash at their maturity on March 15, 2018. Concurrent with the offering of the 2018 Convertible Notes, a portion of the net proceeds from this transaction was used to fund the purchase of capped call options, which, when purchased, were generally expected to reduce the potential dilution cost to CEMEX upon the potential conversion of such notes (note 16.4).

III. Mandatorily convertible securities due in 2019

In December 2009, the Parent Company exchanged debt into US\$315 principal amount of 10% mandatorily convertible securities in pesos with maturity in 2019 (the “2019 Mandatorily Convertible Securities”). Reflecting antidilution adjustments, the notes will be converted at maturity or earlier if the price of the CPO reaches Ps26.22 into approximately 236 million CPOs at a conversion price of Ps17.48 per CPO. Holders have an option to voluntarily convert their securities on any interest payment date into CPOs. The conversion option embedded in these securities is treated as a stand-alone derivative liability at fair value through the statement of operations (note 16.4).

IV. Liabilities secured with accounts receivable

As mentioned in note 9, as of December 31, 2018 and 2017, in connection with CEMEX’s sale of trade accounts receivable under securitization programs and/or factoring programs with recourse, the funded amounts of such receivables sold are recognized in “Other financial obligations” in the statement of financial position.

V. Finance leases

CEMEX has several operating and administrative assets, including buildings and mobile equipment, under finance lease contracts. Future payments associated with these contracts are presented in note 23.5.

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16.3) FAIR VALUE OF FINANCIAL INSTRUMENTS

Financial assets and liabilities

The carrying amounts of cash, trade accounts receivable, other accounts receivable, trade accounts payable, other accounts payable and accrued expenses, as well as short-term debt, approximate their corresponding estimated fair values due to the short-term maturity and revolving nature of these financial assets and liabilities.

The estimated fair value of CEMEX's long-term debt is level 2 and is either based on estimated market prices for such or similar instruments, considering interest rates currently available for CEMEX to negotiate debt with the same maturities, or determined by discounting future cash flows using market-based interest rates currently available to CEMEX.

The fair values determined by CEMEX for its derivative financial instruments are level 2. There is no direct measure for the risk of CEMEX or its counterparties in connection with the derivative instruments. Therefore, the risk factors applied for CEMEX's assets and liabilities originated by the valuation of such derivatives were extrapolated from publicly available risk discounts for other public debt instruments of CEMEX and its counterparties.

The estimated fair value of derivative instruments fluctuates over time and is determined by measuring the effect of future relevant economic variables according to the yield curves shown in the market as of the reporting date. These values should be analyzed in relation to the fair values of the underlying transactions and as part of CEMEX's overall exposure attributable to fluctuations in interest rates and foreign exchange rates. The notional amounts of derivative instruments do not represent amounts of cash exchanged by the parties, and consequently, there is no direct measure of CEMEX's exposure to the use of these derivatives. The amounts exchanged are determined on the basis of the notional amounts and other terms included in the derivative instruments.

As of December 31, 2018 and 2017, the carrying amounts of financial assets and liabilities and their respective fair values were as follows:

	<u>2018</u>		<u>2017</u>	
	<u>Carrying amount</u>	<u>Fair value</u>	<u>Carrying amount</u>	<u>Fair value</u>
Financial assets				
Derivative instruments (notes 13.2 and 16.4)	Ps 297	297	Ps 794	794
Other investments and non-current accounts receivable (note 13.2)	<u>4,974</u>	<u>4,974</u>	<u>4,964</u>	<u>4,964</u>
	<u>Ps 5,271</u>	<u>5,271</u>	<u>Ps 5,758</u>	<u>5,758</u>
Financial liabilities				
Long-term debt (note 16.1)	Ps 182,074	179,740	Ps 177,022	184,220
Other financial obligations (note 16.2)	12,028	11,924	12,859	13,381
Derivative instruments (notes 16.4 and 17)	<u>406</u>	<u>406</u>	<u>402</u>	<u>402</u>
	<u>Ps 194,508</u>	<u>192,070</u>	<u>Ps 190,283</u>	<u>198,003</u>

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Fair Value Hierarchy

As of December 31, 2018 and 2017, assets and liabilities carried at fair value in the consolidated statements of financial position are included in the following fair value hierarchy categories:

2018		<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Total</u>
Assets measured at fair value					
Derivative instruments (notes 13.2 and 16.4)	Ps	—	297	—	297
Investments in strategic equity securities (note 13.2)		217	—	—	217
Other investments at fair value through earnings (note 13.2)		—	428	—	428
	Ps	<u>217</u>	<u>725</u>	<u>—</u>	<u>942</u>
Liabilities measured at fair value					
Derivative instruments (notes 16.4 and 17)	Ps	<u>—</u>	<u>406</u>	<u>—</u>	<u>406</u>
2017		<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Total</u>
Assets measured at fair value					
Derivative instruments (notes 13.2 and 16.4)	Ps	—	794	—	794
Investments in strategic equity securities (note 13.2)		275	—	—	275
Other investments at fair value through earnings (note 13.2)		—	441	—	441
	Ps	<u>275</u>	<u>1,235</u>	<u>—</u>	<u>1,510</u>
Liabilities measured at fair value					
Derivative instruments (notes 16.4 and 17)	Ps	<u>—</u>	<u>402</u>	<u>—</u>	<u>402</u>

16.4) DERIVATIVE FINANCIAL INSTRUMENTS

During the reported periods, in compliance with the guidelines established by its Risk Management Committee, the restrictions set forth by its debt agreements and its hedging strategy (note 16.5), CEMEX held derivative instruments, with the objectives of, as the case may be of: a) changing the risk profile or fixed the price of fuels and electric energy; b) foreign exchange hedging; c) hedge of forecasted transactions; and d) other corporate purposes.

As of December 31, 2018 and 2017, the notional amounts and fair values of CEMEX's derivative instruments were as follows:

	<u>2018</u>		<u>2017</u>	
	Notional amount	Fair value	Notional amount	Fair value
I. Net investment hedge	US\$ 1,249	2	1,160	47
II. Foreign exchange forwards related to forecasted transactions	—	—	381	3
III. Equity forwards on third party shares	111	2	168	7
IV. Interest rate swaps	1,126	(8)	137	16
V. Fuel price hedging	122	(14)	72	20
VI. 2019 Mandatorily Convertible Securities	—	(1)	—	(20)
	<u>US\$ 2,608</u>	<u>(19)</u>	<u>1,918</u>	<u>73</u>

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Derivative financial instruments — continued

The caption “Financial income and other items, net” includes gains and losses related to the recognition of changes in fair values of the derivative instruments during the applicable period and that represented net gains of US\$38 (Ps692) in 2018, net gains of US\$9 (Ps161) in 2017 and net gains of US\$17 (Ps317) in 2016.

I. Net investment hedge

As of December 31, 2018 and 2017, there are US\$/MXP foreign exchange forward contracts under a program planned to be up to US\$1,250, with monthly revolving settlement dates from 1 to 24 months. The average life of these contracts is approximately one year. For accounting purposes under IFRS, CEMEX has designated this program as a hedge of CEMEX’s net investment in Mexican pesos, pursuant to which changes in fair market value of these instruments are recognized as part of other comprehensive income in equity. For the years 2018 and 2017, these contracts generated losses of US\$59 (Ps1,157) and gains of US\$6 (Ps110), respectively.

II. Foreign exchange forwards related to forecasted transactions

As of December 31, 2017, CEMEX held US\$/Euro foreign exchange forward contracts maturing on January 10, 2018, negotiated to maintain the euro value of a portion of proceeds from debt issuances maintained in U.S. dollars that were used to repurchase debt denominated in euros (note 16.1). In addition, in February 2017 CEMEX settled US\$/MXP foreign exchange forward contracts negotiated to hedge the U.S. dollar value of the proceeds from the expected sale of pumping assets in Mexico (note 4.3). For the years 2018, 2017 and 2016, the aggregate results of these instruments, including the effects resulting from positions entered and settled during the year, generated losses of US\$1 (Ps21) in 2018, losses of US\$17 (Ps337) in 2017 and gains of US\$10 (Ps186) in 2016, recognized within “Financial income and other items, net” in the income statement.

III. Equity forwards on third party shares

As of December 31, 2018 and 2017, CEMEX maintained equity forward contracts with cash settlement in March 2020 and March 2019, respectively, over the price of 20.9 million shares of GCC in 2018 and 31.5 million in 2017, in connection with the sale of CEMEX’s remaining GCC shares in September 2017 (note 13.1). During 2018, CEMEX early settled a portion of these contracts for 10.6 million shares. Changes in the fair value of these instruments and early settlement effects generated gains of US\$25 (Ps436) in 2018 and losses of US\$24 (Ps463) in 2017 recognized within “Financial income and other items, net” in the income statement.

In addition, until October 2016, CEMEX maintained a forward contract over the price of 59.5 million CPOs of Axtel in connection with the Company’s investment at fair value through the income statement (note 13.2). Changes in the fair value of this instrument generated a loss of US\$2 (Ps30) in 2016 recognized within “Financial income and other items, net” in the income statement.

IV. Interest rate swap contracts

As of December 31, 2018, CEMEX held interest rate swaps for a notional amount of US\$1,000 the fair value of which represented a liability of US\$19 (Ps373), negotiated in June 2018 to fix interest payments of existing bank loans bearing floating rates. The contracts mature in June 2023. For accounting purposes under IFRS, CEMEX designated these contracts as cash flow hedges, pursuant to which, changes in fair value are initially recognized as part of other comprehensive income in equity and are subsequently recycled through financial expense as interest expense on the related bank loans is accrued. For the year 2018, changes in fair value of these contracts generated losses of US\$19 (Ps364) in the income statement.

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As of December 31, 2018 and 2017, CEMEX had an interest rate swap for a notional amount of US\$126 and US\$137, respectively, maturing in September 2022 associated with an agreement entered by CEMEX for the acquisition of electric energy in Mexico, the fair value of which represented assets of US\$11 (Ps216) and US\$16 (Ps314), respectively. Pursuant to this instrument, during the tenure of the swap and based on its notional amount, CEMEX receives fixed rate of 5.4% and pays LIBOR. Changes in the fair value of this interest rate swap generated losses of US\$6 (Ps114) in 2018, US\$6 (Ps114) in 2017 and US\$6 (Ps112) in 2016, recognized in the income statement for each period.

V. Fuel price hedging

As of December 31, 2018 and 2017, CEMEX maintained forward contracts negotiated to hedge the price of certain fuels, including diesel, gas and coal, as solid fuel, in several operations for aggregate notional amounts of US\$122 (Ps2,398) and US\$72 (Ps1,415), respectively, with an estimated aggregate fair value representing liabilities of US\$14 (Ps275) in 2018 and assets of US\$20 (Ps394) in 2017. By means of these contracts, for its own consumption only, CEMEX fixed the price of these fuels over certain volumes representing a portion of the estimated consumption of such fuels in several operations. These contracts have been designated as cash flow hedges of diesel, gas or coal consumption, and as such, changes in fair value are recognized temporarily through other comprehensive income and are recycled to operating expenses as the related fuel volumes are consumed. For the years 2018, 2017 and 2016, changes in fair value of these contracts recognized in other comprehensive income represented losses of US\$35 (Ps697), gains of US\$4 (Ps76) and gains of US\$15 (Ps311), respectively.

VI. 2019 Mandatorily Convertible Securities and options on the Parent Company's own shares

In connection with the 2019 Mandatorily Convertible Securities (note 16.2); considering that the securities are denominated in pesos and the functional currency of the Parent Company's division that issued the securities is the dollar (note 2.4), CEMEX separated the conversion option embedded in such instruments and recognized it at fair value through the income statement, which as of December 31, 2018 and 2017, resulted in a liability of US\$1 (Ps20) and US\$20 (Ps393), respectively. Changes in fair value generated a gain of US\$20 (Ps391) in 2018, a gain of US\$19 (Ps359) in 2017 and a loss of US\$29 (Ps545) in 2016.

In addition, on March 15, 2011, the Parent Company entered into a capped calls, considering antidilution adjustments, over 80 million CEMEX's ADSs maturing in March 2018 in connection with the 2018 Convertible Notes, by means of which, at maturity of the notes, originally CEMEX would receive in cash the excess between the market price and the strike price of approximately 8.57 dollars per ADS, with a maximum appreciation per ADS of 5.27 dollars. CEMEX paid aggregate premiums of US\$104. During August 2016, CEMEX amended 58.3% of the total notional amount of the capped calls to lower the exercise price in exchange for reducing the number of underlying options. As a result, CEMEX retained capped calls over 71 million ADSs. Changes in the fair value of these instruments generated gains of US\$37 (Ps725) in 2017 and gains of US\$44 (Ps818) in 2016, recognized within "Financial income and other items, net" in the income statement. During 2017, CEMEX unwound and settled all its capped calls receiving in exchange US\$103 in cash.

16.5) RISK MANAGEMENT

Enterprise risks may arise from any of the following situations: i) the potential change in the value of assets owned or reasonably anticipated to be owned, ii) the potential change in value of liabilities incurred or

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Risk management — continued

reasonably anticipated to be incurred, iii) the potential change in value of services provided, purchase or reasonably anticipated to be provided or purchased in the ordinary course of business, iv) the potential change in the value of assets, services, inputs, products or commodities owned, produced, manufactured, processed, merchandised, leased or sell or reasonably anticipated to be owned, produced, manufactured, processed, merchandising, leasing or selling in the ordinary course of business, or v) any potential change in the value arising from interest rate or foreign exchange rate exposures arising from current or anticipated assets or liabilities.

In the ordinary course of business, CEMEX is exposed to commodities risk, including the exposure from inputs such as fuel, coal, petcoke, fly-ash, gypsum and other industrial materials which are commonly used by CEMEX in the production process, and expose CEMEX to variations in prices of the underlying commodities. To manage this and other risks, such as credit risk, interest rate risk, foreign exchange risk, equity risk and liquidity risk, considering the guidelines set forth by the Parent Company's Board of Directors, which represent CEMEX's risk management framework and that are supervised by several Committees, CEMEX's management establishes specific policies that determine strategies oriented to obtain natural hedges to the extent possible, such as avoiding customer concentration on a determined market or aligning the currencies portfolio in which CEMEX incurred its debt, with those in which CEMEX generates its cash flows.

As of December 31, 2018 and 2017, these strategies are sometimes complemented with the use of derivative financial instruments as mentioned in note 16.4, such as the commodity forward contracts on fuels negotiated to fix the price of these underlying commodities.

The main risk categories are mentioned below:

Credit risk

Credit risk is the risk of financial loss faced by CEMEX if a customer or counterparty to a financial instrument does not meet its contractual obligations and originates mainly from trade accounts receivable. As of December 31, 2018 and 2017, the maximum exposure to credit risk is represented by the balance of financial assets. Management has developed policies for the authorization of credit to customers. Exposure to credit risk is monitored constantly according to the payment behavior of debtors. Credit is assigned on a customer-by-customer basis and is subject to assessments which consider the customers' payment capacity, as well as past behavior regarding due dates, balances past due and delinquent accounts. In cases deemed necessary, CEMEX's management requires guarantees from its customers and financial counterparties with regard to financial assets.

The Company's management has established a policy of low risk tolerance which analyzes the creditworthiness of each new client individually before offering the general conditions of payment terms and delivery. The review includes external ratings, when references are available, and in some cases bank references. Thresholds of purchase limits are established for each client, which represent the maximum purchase amounts that require different levels of approval. Customers that do not meet the levels of solvency requirements imposed by CEMEX can only carry out transactions by paying cash in advance. As of December 31, 2018, considering CEMEX's best estimate of potential expected losses based on the ECL model developed by CEMEX (note 9), the allowance for expected credit losses was Ps2,336.

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Interest rate risk

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates, which only affects CEMEX's results if the fixed-rate long-term debt is measured at fair value. All of CEMEX's fixed-rate long-term debt is carried at amortized cost and therefore is not subject to interest rate risk. CEMEX's accounting exposure to the risk of changes in market interest rates relates primarily to its long-term debt obligations with floating interest rates, which, if such rates were to increase, may adversely affect its financing cost and the results for the period.

Nonetheless, it is not economically efficient to concentrate on fixed rates at a high point when the interest rates market expects a downward trend. That is, there is an opportunity cost for continuing to pay a determined fixed interest rate when the market rates have decreased and the entity may obtain improved interest rate conditions in a new loan or debt issuance. CEMEX manages its interest rate risk by balancing its exposure to fixed and variable rates while attempting to reduce its interest costs. In addition, when the interest rate of a debt instrument has turned relatively high as compared to current market rates, CEMEX intends to renegotiate the conditions or repurchase the debt, to the extent the net present value of the expected future benefits from the interest rate reduction would exceed the cost and commissions that would have to be paid in such renegotiation or repurchase of debt.

As of December 31, 2018 and 2017, approximately 37% and 31%, respectively, of CEMEX's long-term debt was denominated in floating rates at a weighted-average interest rate of LIBOR plus 241 basis points in 2018 and 268 basis points in 2017. As of December 31, 2018 and 2017, if interest rates at that date had been 0.5% higher, with all other variables held constant, CEMEX's net income for 2018 and 2017 would have reduced by US\$19 (Ps366) and US\$18 (Ps353), respectively, as a result of higher interest expense on variable rate denominated debt. This analysis does not include the effect of interest rate swaps held by CEMEX during 2018 and 2017.

Foreign currency risk

Foreign currency risk is the risk that the fair value of future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates. CEMEX's exposure to the risk of changes in foreign exchange rates relates primarily to its operating activities. Due to its geographic diversification, CEMEX's revenues and costs are generated and settled in various countries and in different currencies. For the year ended December 31, 2018, approximately 22% of CEMEX's net sales, before eliminations resulting from consolidation, were generated in Mexico, 26% in the United States, 8% in the United Kingdom, 6% in France, 4% in Germany, 2% in Spain, 2% in Poland, 2% in the Rest of Europe region, 4% in Colombia, 2% in Panama, 1% in Costa Rica, 1% Caribbean TCL, 2% in the Rest of South, Central America and the Caribbean region, 2% in Philippines, 1% in Egypt, 1% in the Rest of Asia, Middle East and Africa and 7% in CEMEX's other operations.

Foreign exchange gains and losses occur through monetary assets or liabilities in a currency different from its functional currency, and are recorded in the consolidated income statements, except for exchange fluctuations associated with foreign currency indebtedness directly related to the acquisition of foreign entities and exchange fluctuations in related parties' long-term balances denominated in foreign currency that are not expected to be settled in the foreseeable future, which are reported in the statement of other comprehensive income. As of December 31, 2018 and 2017, excluding from the sensitivity analysis the impact of translating the net assets of foreign operations into CEMEX's reporting currency, considering a hypothetical 10% strengthening of the dollar against the Mexican peso, with all other variables held constant, CEMEX's net income for 2018 and 2017 would have decreased by US\$63 (Ps1,240) and US\$119 (Ps2,343), respectively, as a result of higher foreign exchange

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losses on CEMEX's dollar-denominated net monetary liabilities held in consolidated entities with other functional currencies. Conversely, a hypothetical 10% weakening of the U.S. dollar against the Mexican peso would have the opposite effect.

As of December 31, 2018, approximately 63% of CEMEX's financial debt was Dollar-denominated, 29% was Euro-denominated, 5% was Pound-denominated and 3% was Philippine peso-denominated. Therefore, CEMEX had a foreign currency exposure arising mainly from the Dollar-denominated and Euro-denominated financial debt versus the several currencies in which CEMEX's revenues are settled in most countries in which it operates. The amounts of Pound-denominated financial debt and Philippine peso-denominated financial debt outstanding as of December 31, 2018, are closely related to the amount of revenues generated in such currencies and/or, in the case of the Euro-denominated financial debt, the amount of CEMEX's net assets denominated in such currencies; therefore, CEMEX considers that the foreign currency risk related to these amounts of debt is low. Nonetheless, CEMEX cannot guarantee that it will generate sufficient revenues in Dollars, Euros, Pounds and Philippine pesos from its operations to service these obligations. As of December 31, 2018 and 2017, CEMEX had not implemented any derivative financing hedging strategy to address this foreign currency risk. Nonetheless, CEMEX may enter into derivative financing hedging strategies in the future if either of its debt portfolio currency mix, interest rate mix, market conditions and/or expectations changes.

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As of December 31, 2018 and 2017, CEMEX's consolidated net monetary assets (liabilities) by currency are as follows:

		2018						
		Mexico	United States	Europe	South, Central America and the Caribbean	Asia, Middle East and Africa	Others ¹	Total
Monetary assets	Ps	8,400	9,961	13,163	6,046	10,216	2,997	50,783
Monetary liabilities		19,798	33,464	40,153	10,841	12,223	200,731	317,210
Net monetary assets (liabilities) ²	Ps	<u>(11,398)</u>	<u>(23,503)</u>	<u>(26,990)</u>	<u>(4,795)</u>	<u>(2,007)</u>	<u>(197,734)</u>	<u>(266,427)</u>
Out of which:								
Dollars	Ps	(560)	(23,507)	153	(947)	22	(117,677)	(142,516)
Pesos		(10,838)	4	—	(6)	—	(5,469)	(16,309)
Euros		—	—	(10,571)	13	40	(52,942)	(63,460)
Pounds		—	—	(18,241)	—	—	(8,609)	(26,850)
Other currencies		—	—	1,669	(3,855)	(2,069)	(13,037)	(17,292)
	Ps	<u>(11,398)</u>	<u>(23,503)</u>	<u>(26,990)</u>	<u>(4,795)</u>	<u>(2,007)</u>	<u>(197,734)</u>	<u>(266,427)</u>

		2017						
		Mexico	United States	Europe	South, Central America and the Caribbean	Asia, Middle East and Africa	Others ¹	Total
Monetary assets	Ps	11,798	9,453	14,182	7,347	9,780	5,163	57,723
Monetary liabilities		17,505	32,158	45,675	12,016	11,522	221,579	340,455
Net monetary assets (liabilities) ²	Ps	<u>(5,707)</u>	<u>(22,705)</u>	<u>(31,493)</u>	<u>(4,669)</u>	<u>(1,742)</u>	<u>(216,416)</u>	<u>(282,732)</u>
Out of which:								
Dollars	Ps	(1,097)	(22,710)	39	(126)	221	(133,530)	(157,203)
Pesos		(4,610)	4	24	—	—	(7,745)	(12,327)
Euros		—	—	(10,155)	2	—	(58,452)	(68,605)
Pounds		—	—	(19,358)	—	—	(9,119)	(28,477)
Other currencies		—	1	(2,043)	(4,545)	(1,963)	(7,570)	(16,120)
	Ps	<u>(5,707)</u>	<u>(22,705)</u>	<u>(31,493)</u>	<u>(4,669)</u>	<u>(1,742)</u>	<u>(216,416)</u>	<u>(282,732)</u>

- 1 Includes the Parent Company, CEMEX's financing subsidiaries, as well as Neoris N.V., among other entities.
- 2 Includes assets held for sale and liabilities directly related with these assets considering that such items will be realized in the short term.

In addition, considering that the Parent Company's functional currency for all assets, liabilities and transactions associated with its financial and holding company activities is the dollar (note 2.4), there is foreign currency risk associated with the translation of subsidiaries' net assets denominated in different currencies (peso, euro, pounds

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and other currencies) into dollars. When the dollar appreciates, the value of CEMEX's net assets denominated in other currencies decreases in terms of dollars, generating negative foreign currency translation and reducing stockholders' equity. Conversely, when the dollar depreciates, the value of CEMEX's net assets denominated in other currencies would increase in terms of dollars generating the opposite effect. As mentioned in note 16.4, CEMEX has implemented a long-term program for up to US\$1,250 to hedge foreign currency translation in connection with its net assets denominated in pesos.

Equity risk

Equity risk is the risk that the fair value of future cash flows of a financial instrument will fluctuate because of changes in the market price of CEMEX, S.A.B. de C.V.'s and/or third party's shares. As described in note 16.4, considering specific objectives, CEMEX has entered into equity forward contracts on third-party shares, as well as capped calls based on the price of CEMEX, S.A.B. de C.V.'s own ADSs. Under these equity derivative instruments, there is a direct relationship from the change in the fair value of the derivative with the change in price of the underlying share. All changes in fair value of such derivative instruments are recognized in the income statement as part of "Financial income and other items, net." During 2017, all outstanding capped calls based on the price of CEMEX, S.A.B. de C.V.'s own ADSs were early settled.

As of December 31, 2018 and 2017, the potential change in the fair value of CEMEX's forward contracts in GCC shares that would result from a hypothetical, instantaneous decrease of 10% in the market price of GCC shares in dollars, with all other variables held constant, CEMEX's net income would have reduced by US\$11 (Ps210) in 2018 and US\$14 (Ps283) in 2017, as a result of additional negative changes in fair value associated with these forward contracts. A 10% hypothetical increase in the price of GCC shares would have generated approximately the opposite effect.

In addition, even though the changes in fair value of CEMEX's embedded conversion option in the Mandatorily Convertible Notes 2019 denominated in a currency other than the functional issuer's currency affect the income statement, this do not imply any risk or variability in cash flows, considering that through their exercise, CEMEX will settle a fixed amount of debt with a fixed number of shares. As of December 31, 2018 and 2017, the potential change in the fair value of the embedded conversion options in the Mandatorily Convertible Notes 2019 that would result from a hypothetical, instantaneous increase of 10% in the market price of CEMEX's CPOs, with all other variables held constant, would have decreased CEMEX's net income by US\$1 (Ps16) in 2018 and decreased by US\$9 (Ps180) in 2017 as a result of additional negative changes in fair value associated with this option. A 10% hypothetical decrease in the CEMEX CPO price would generate approximately the opposite effect.

Liquidity risk

Liquidity risk is the risk that CEMEX will not have sufficient funds available to meet its obligations. In addition to cash flows provided by its operating activities, in order to meet CEMEX's overall liquidity needs for operations, servicing debt and funding capital expenditures and acquisitions, CEMEX relies on cost-cutting and operating improvements to optimize capacity utilization and maximize profitability, as well as borrowing under credit facilities, proceeds of debt and equity offerings, and proceeds from asset sales. CEMEX is exposed to risks from changes in foreign currency exchange rates, prices and currency controls, interest rates, inflation, governmental spending, social instability and other political, economic and/or social developments in the

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countries in which it operates, any one of which may materially affect CEMEX's results and reduce cash from operations. The maturities of CEMEX's contractual obligations are included in note 23.5.

As of December 31, 2018, current liabilities, which included Ps13,622 of current maturities of debt and other financial obligations, exceed current assets by Ps22,891. For the year ended December 31, 2018, CEMEX generated net cash flows provided by operating activities from continuing operations of Ps26,545, after payments of interest and income taxes. The Company's management considers that CEMEX will generate sufficient cash flows from operations. In addition, as of December 31, 2018, CEMEX has committed available lines of credit under its 2017 Credit Agreement, which includes the revolving credit facility and an undrawn tranche for a combined amount of Ps16,211 (US\$825), as well as CEMEX's proven capacity to continually refinance and replace its short-term obligations, will enable CEMEX to meet any liquidity risk in the short term.

As of December 31, 2018 and 2017, the potential requirement for additional margin calls under our different commitments is not significant.

17) OTHER CURRENT AND NON-CURRENT LIABILITIES

As of December 31, 2018 and 2017, consolidated other current liabilities were as follows:

	<u>2018</u>	<u>2017</u>
Provisions ¹	Ps 10,509	12,121
Interest payable	1,856	2,496
Advances from customers	3,838	3,886
Other accounts payable and accrued expenses ²	5,222	5,123
Contract liabilities with customers (note 3)	775	770
	<u>Ps 22,200</u>	<u>24,396</u>

- 1 Current provisions primarily consist of accrued employee benefits, insurance payments, accruals for legal assessments and others. These amounts are revolving in nature and are expected to be settled and replaced by similar amounts within the next 12 months.
- 2 In 2017, includes an account payable in Colombian pesos equivalent to Ps491 (US\$25) settled on January 5, 2018 related to a penalty imposed by the Commerce and Industry Superintendence in Colombia in connection with a market investigation (note 24.2).

As of December 31, 2018 and 2017, consolidated other non-current liabilities were as follows:

	<u>2018</u>	<u>2017</u>
Asset retirement obligations ¹	Ps 8,013	7,906
Accruals for legal assessments and other responsibilities ²	879	1,599
Non-current liabilities for valuation of derivative instruments	406	402
Environmental liabilities ³	573	991
Other non-current liabilities and provisions ⁴	5,134	4,751
	<u>Ps 15,005</u>	<u>15,649</u>

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Other current and non-current liabilities — continued

- 1 Provisions for asset retirement include future estimated costs for demolition, cleaning and reforestation of production sites at the end of their operation, which are initially recognized against the related assets and are depreciated over their estimated useful life.
- 2 Provisions for legal claims and other responsibilities include items related to tax contingencies.
- 3 Environmental liabilities include future estimated costs arising from legal or constructive obligations, related to cleaning, reforestation and other remedial actions to remediate damage caused to the environment. The expected average period to settle these obligations is greater than 15 years.
- 4 As of December 31, 2018 and 2017, includes Ps981 and Ps1,498, respectively, of the non-current portion of taxes payable in Mexico recognized in connection with the termination of the tax consolidation regime in 2014. As of December 31, 2018 and 2017, Ps590 and Ps958, respectively, were included within current taxes payable.

Changes in consolidated other current and non-current liabilities for the years ended December 31, 2018 and 2017, were as follows:

	2018						2017
	Asset retirement obligations	Environmental liabilities	Accruals for legal proceedings	Valuation of derivative instruments	Other liabilities and provisions	Total	
Balance at beginning of period	Ps 7,906	991	1,599	421	17,623	28,540	28,937
Business combinations . . .	—	—	—	—	—	—	345
Additions or increase in estimates	1,355	11	136	275	25,379	27,156	41,137
Releases or decrease in estimates	(916)	(4)	(807)	—	(26,841)	(28,568)	(41,700)
Reclassifications	(22)	(384)	—	(96)	124	(378)	(1,148)
Accretion expense	(186)	—	—	—	(902)	(1,088)	(1,021)
Foreign currency translation	(124)	(41)	(49)	78	763	627	1,990
Balance at end of period	Ps <u>8,013</u>	<u>573</u>	<u>879</u>	<u>678</u>	<u>16,146</u>	<u>26,289</u>	<u>28,540</u>
Out of which:							
Current provisions	Ps <u>297</u>	<u>—</u>	<u>—</u>	<u>272</u>	<u>10,715</u>	<u>11,284</u>	<u>12,891</u>

18) PENSIONS AND POST-EMPLOYMENT BENEFITS

Defined contribution pension plans

The consolidated costs of defined contribution plans for the years ended December 31, 2018, 2017 and 2016 were Ps863, Ps922 and Ps865, respectively. CEMEX contributes periodically the amounts offered by the pension plan to the employee's individual accounts, not retaining any remaining liability as of the financial statements' date.

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Defined benefit pension plans

Most of CEMEX's defined benefit plans have been closed to new participants for several years. Actuarial results related to pension and other post-retirement benefits are recognized in earnings and/or in "Other comprehensive income" for the period in which they are generated, as appropriate. For the years ended December 31, 2018, 2017 and 2016, the effects of pension plans and other post-employment benefits are summarized as follows:

	Pensions			Other benefits			Total		
	2018	2017	2016	2018	2017	2016	2018	2017	2016
Net period cost (income):									
Recorded in operating costs and expenses									
Service cost	Ps 193	221	151	35	33	25	228	254	176
Past service cost	168	(55)	8	—	—	—	168	(55)	8
	<u>361</u>	<u>166</u>	<u>159</u>	<u>35</u>	<u>33</u>	<u>25</u>	<u>396</u>	<u>199</u>	<u>184</u>
Recorded in other financial expenses									
Net interest cost	691	693	711	84	74	57	775	767	768
Recorded in other comprehensive income									
Actuarial (gains) losses for the period . . .	(3,415)	20	3,985	11	(23)	34	(3,404)	(3)	4,019
	Ps (2,363)	879	4,855	130	84	116	(2,233)	963	4,971

For the years 2018, 2017 and 2016, actuarial (gains) losses for the period were generated by the following main factors as follows:

	2018	2017	2016
Actuarial (gains) losses due to experience	Ps (1,110)	121	(511)
Actuarial (gains) losses due to demographic assumptions	(1,104)	(46)	(231)
Actuarial (gains) losses due financial assumptions	(1,190)	(78)	4,761
	Ps (3,404)	(3)	4,019

In 2018, net actuarial gains due to financial assumptions were mainly generated by a general increase in the discounts rates applied for the calculation of the pension benefit obligations in the United Kingdom, Germany, United States and Mexico, among others, resulting from the increase in market interest rates after several years in which such rates reached historically low levels. In 2017, net actuarial gains due to financial assumptions were mainly driven by an increase in the discount rates applicable to the benefits' obligations in Germany and Mexico and by actual returns higher than estimated in the United States, partially offset by a decrease in the discount rate in the United Kingdom. Net actuarial losses due to financial assumptions during 2016 were mainly generated by a significant reduction in the discount rates applicable to the benefit obligations in the United Kingdom, Germany and other European countries, considering macroeconomic and political uncertainty prevailing at that time, partially offset by an increase in the discount rate in Mexico. These actuarial losses originated by the reduction in the discount rates in 2016 were also partially offset by actual returns higher than estimated in some of the plan assets related to CEMEX's defined benefit plans.

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As of December 31, 2018 and 2017, the reconciliation of the actuarial benefits' obligations and pension plan assets, are presented as follows:

	<u>Pensions</u>		<u>Other benefits</u>		<u>Total</u>	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Change in benefits obligation:						
Projected benefit obligation at beginning of the period	Ps 54,910	51,055	1,436	1,164	56,346	52,219
Service cost	193	221	35	33	228	254
Interest cost	1,608	1,625	87	76	1,695	1,701
Actuarial (gains) losses	(5,126)	727	8	(24)	(5,118)	703
Additions through business combinations	—	2,801	111	271	111	3,072
Reduction from disposal of assets	(9)	—	—	—	(9)	—
Plan amendments	168	(55)	—	—	168	(55)
Benefits paid	(2,807)	(2,920)	(102)	(81)	(2,909)	(3,001)
Foreign currency translation	(2,226)	1,456	(30)	(3)	(2,256)	1,453
Projected benefit obligation at end of the period	<u>46,711</u>	<u>54,910</u>	<u>1,545</u>	<u>1,436</u>	<u>48,256</u>	<u>56,346</u>
Change in plan assets:						
Fair value of plan assets at beginning of the period	32,665	28,828	28	26	32,693	28,854
Return on plan assets	917	932	3	2	920	934
Actuarial (gains) losses	(1,711)	707	(3)	(1)	(1,714)	706
Employer contributions	1,562	1,494	102	81	1,664	1,575
Additions through business combinations	—	2,841	—	—	—	2,841
Reduction for disposal of assets	—	(4)	—	—	—	(4)
Benefits paid	(2,807)	(2,920)	(102)	(81)	(2,909)	(3,001)
Foreign currency translation	(1,335)	787	—	1	(1,335)	788
Fair value of plan assets at end of the period	<u>29,291</u>	<u>32,665</u>	<u>28</u>	<u>28</u>	<u>29,319</u>	<u>32,693</u>
Net projected liability in the statement of financial position	Ps <u>17,420</u>	<u>22,245</u>	<u>1,517</u>	<u>1,408</u>	<u>18,937</u>	<u>23,653</u>

As of December 31, 2018 and 2017, based on the hierarchy of fair values, plan assets are detailed as follows:

	<u>2018</u>				<u>2017</u>			
	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Total</u>	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Total</u>
Cash	Ps 701	—	—	701	Ps 579	—	—	579
Investments in corporate bonds	131	6,720	—	6,851	144	6,067	1	6,212
Investments in government bonds	1,649	6,786	—	8,435	1,701	9,407	—	11,108
Total fixed-income securities	<u>2,481</u>	<u>13,506</u>	<u>—</u>	<u>15,987</u>	<u>2,424</u>	<u>15,474</u>	<u>1</u>	<u>17,899</u>
Investment in marketable securities	5,089	1,557	—	6,646	6,212	1,735	—	7,947
Other investments and private funds	973	4,172	1,541	6,686	991	3,279	2,577	6,847
Total variable-income securities	<u>6,062</u>	<u>5,729</u>	<u>1,541</u>	<u>13,332</u>	<u>7,203</u>	<u>5,014</u>	<u>2,577</u>	<u>14,794</u>
Total plan assets	Ps <u>8,543</u>	<u>19,235</u>	<u>1,541</u>	<u>29,319</u>	Ps <u>9,627</u>	<u>20,488</u>	<u>2,578</u>	<u>32,693</u>

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The most significant assumptions used in the determination of the benefit obligation were as follows:

	2018				2017			
	Mexico	United States	United Kingdom	Range of rates in other countries	Mexico	United States	United Kingdom	Rates ranges in other countries
Discount rates	10.8%	4.5%	2.9%	1.3% – 7.5%	9.3%	3.9%	2.4%	1.3% – 6.3%
Rate of return on plan assets	10.8%	4.5%	2.9%	1.3% – 7.5%	9.3%	3.9%	2.4%	1.3% – 6.3%
Rate of salary increases	4.0%	—	3.3%	2.3% – 6.0%	4.0%	—	3.2%	1.5% – 6.0%

As of December 31, 2018, estimated payments for pensions and other post-employment benefits over the next 10 years were as follows:

	<u>2018</u>
2019	Ps 2,904
2020	2,663
2021	2,641
2022	2,662
2023 – 2028	<u>15,714</u>

As of December 31, 2018 and 2017, the aggregate projected benefit obligation (“PBO”) for pension plans and other post-employment benefits and the plan assets by country were as follows:

		2018			2017			
		PBO	Assets	Deficit	PBO	Assets	Deficit	
Mexico	Ps	3,300	582	2,718	Ps	3,213	840	2,373
United States		5,619	3,428	2,191		6,378	4,031	2,347
United Kingdom ¹		28,771	20,775	7,996		35,602	23,145	12,457
Germany		3,973	195	3,778		4,362	213	4,149
Other countries		6,593	4,339	2,254		6,791	4,464	2,327
	Ps	<u>48,256</u>	<u>29,319</u>	<u>18,937</u>	Ps	<u>56,346</u>	<u>32,693</u>	<u>23,653</u>

1 Applicable regulation in the United Kingdom requires to maintain plan assets at a level similar to that of the obligations. Beginning in 2012, the pension fund receives annual dividends of approximately US\$20, increasing at a 5% rate per year, from a limited partnership (the “Partnership”), whose assets transferred by CEMEX UK of an approximate value of US\$553, are leased back to CEMEX UK. The Partnership is owned, controlled and consolidated by CEMEX UK. In 2037, on expiry of the arrangement, the Partnership will be terminated and under the terms of the agreement, the remaining assets will be distributed to CEMEX UK. Distributions from the Partnership to the pension fund are considered as employer contributions to plan assets in the period in which they occur.

In some countries, CEMEX has established health care benefits for retired personnel limited to a certain number of years after retirement. As of December 31, 2018 and 2017, the projected benefits obligation related to these benefits was Ps1,133 and Ps1,080, respectively. The medical inflation rates used to determine the projected benefits obligation of these benefits in 2018 and 2017 for Mexico were 7.0% in both years, for Puerto Rico 6.2%

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and 6.9%, respectively, and for the United Kingdom were 6.8% and 6.7%, respectively. In connection with the acquisition of TCL (note 4.1), CEMEX integrated TCL's consolidated health care benefits into its operations. For 2018 and 2017, the medical inflation rate used to determine the projected benefits obligation was 5.0% in both years.

Significant events related to employees' pension benefits and other post-employment benefits during the reported periods

During 2017, CEMEX in Spain removed certain increases in pension benefits which resulted in an adjustment to past service cost generating gains of Ps99 (US\$5) in 2017, recognized in the income statement for the year. In addition, due to the acquisition of TCL (note 4.1), CEMEX integrated its consolidated pensions plans, which were fully funded, as well as TCL's consolidated health care benefits which represented an increase in the net projected liability of Ps271 (US\$14) in 2017 and Ps111 (US\$6) in 2018 upon conclusion of the purchase price allocation.

Sensitivity analysis of pension and other post-employment benefits

For the year ended December 31, 2018, CEMEX performed sensitivity analyses on the most significant assumptions that affect the PBO, considering reasonable independent changes of plus or minus 50 basis points in each of these assumptions. The increase (decrease) that would have resulted in the PBO of pensions and other post-employment benefits as of December 31, 2018 are shown below:

	<u>Pensions</u>		<u>Other benefits</u>		<u>Total</u>	
	<u>+50 bps</u>	<u>-50 bps</u>	<u>+50 bps</u>	<u>-50 bps</u>	<u>+50 bps</u>	<u>-50 bps</u>
Assumptions:						
Discount Rate Sensitivity	Ps (3,074)	3,303	(71)	83	(3,145)	3,386
Salary Increase Rate Sensitivity	205	(177)	46	(37)	251	(214)
Pension Increase Rate Sensitivity	1,902	(1,698)	—	—	1,902	(1,698)

19) INCOME TAXES

19.1) INCOME TAXES FOR THE PERIOD

The amounts of income tax expense in the statements of operations for 2018, 2017 and 2016 are summarized as follows:

	<u>2018</u>	<u>2017</u>	<u>2016</u>
Current income taxes	Ps (1,898)	(3,458)	(3,456)
Deferred income tax revenue (expense)	(2,569)	2,938	331
	Ps <u>(4,467)</u>	<u>(520)</u>	<u>(3,125)</u>

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19.2) DEFERRED INCOME TAXES

As of December 31, 2018 and 2017, the main temporary differences that generated the consolidated deferred income tax assets and liabilities are presented below:

	<u>2018</u>	<u>2017</u>
Deferred tax assets:		
Tax loss carryforwards and other tax credits	Ps 13,796	15,900
Accounts payable and accrued expenses	6,638	7,083
Intangible assets and deferred charges, net	<u>2,794</u>	<u>4,175</u>
Total deferred tax assets, gross	23,228	27,158
Presentation offset regarding same legal entity	<u>(11,661)</u>	<u>(12,341)</u>
Total deferred tax assets, net in the statement of financial position	<u>11,567</u>	<u>14,817</u>
Deferred tax liabilities:		
Property, machinery and equipment	(25,972)	(27,268)
Investments and other assets	<u>(589)</u>	<u>(874)</u>
Total deferred tax liabilities, gross	(26,561)	(28,142)
Presentation offset regarding same legal entity	<u>11,661</u>	<u>12,341</u>
Total deferred tax liabilities, net in the statement of financial position	<u>(14,900)</u>	<u>(15,801)</u>
Net deferred tax liabilities	Ps <u>(3,333)</u>	<u>(984)</u>
Out of which:		
Net deferred tax liability in Mexican entities ¹	Ps (4,414)	(3,978)
Net deferred tax asset in Foreign entities ²	<u>1,081</u>	<u>2,994</u>
Net deferred tax liabilities	Ps <u>(3,333)</u>	<u>(984)</u>

- 1 Net deferred tax liabilities in Mexico mainly refer to a temporary difference resulting when comparing at the reporting date the carrying amount of property, machinery and equipment, as per IFRS, and their corresponding tax values (remaining tax-deductible amount), partially offset by certain deferred tax assets from tax loss carryforwards that are expected to be recovered in the future against taxable income. When the book value is greater than the related tax value results in a deferred tax liability. In 2011, upon transition to IFRS, CEMEX elected to measure its fixed assets at fair value, which resulted in a significant increase in book value, mainly associated with the revaluation of mineral reserves. Such restated amounts are depleted to the income statement in a period over 35 years, generating accounting expense that is not tax-deductible; hence the temporary difference will gradually reverse over time but does not represent a payment obligation to the tax authority at the reporting date.
- 2 Net deferred tax assets in foreign entities are mainly related to tax loss carryforwards recognized in recent years, mainly in the United States, that are expected to be recovered in the future against taxable income.

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Deferred income taxes — continued

As of December 31, 2018 and 2017, balances of the deferred tax assets and liabilities included in the statement of financial position are located in the following entities:

	<u>2018</u>			<u>2017</u>		
	<u>Asset</u>	<u>Liability</u>	<u>Net</u>	<u>Asset</u>	<u>Liability</u>	<u>Net</u>
Mexican entities	Ps 3,079	(7,493)	(4,414)	Ps 3,212	(7,190)	(3,978)
Foreign entities	8,488	(7,407)	1,081	11,605	(8,611)	2,994
	<u>Ps 11,567</u>	<u>(14,900)</u>	<u>(3,333)</u>	<u>Ps 14,817</u>	<u>(15,801)</u>	<u>(984)</u>

The breakdown of changes in consolidated deferred income taxes during 2018, 2017 and 2016 was as follows:

	<u>2018</u>	<u>2017</u>	<u>2016</u>
Deferred income tax (charged) credited to the income statement ¹	Ps (2,569)	2,938	331
Deferred income tax (charged) credited to stockholders' equity ²	193	200	514
Reclassification to other captions in the statement of financial position and in the income statement ³	27	(560)	531
Change in deferred income tax during the period	<u>Ps (2,349)</u>	<u>2,578</u>	<u>1,376</u>

- 1 In 2017, includes net income tax revenue related to the recognition of deferred income tax assets in CEMEX's operations in the United States (note 19.4).
- 2 In 2018, includes a deferred income tax revenue of Ps154 in connection with the adoption of IFRS 9 on January 1, 2018.
- 3 In 2018, 2017 and 2016, includes the effects of business combinations (note 4.2).

Current and/or deferred income tax relative to items of other comprehensive income during 2018, 2017 and 2016 were as follows:

	<u>2018</u>	<u>2017</u>	<u>2016</u>
Tax effects relative to foreign exchange fluctuations from debt (note 20.2)	Ps —	—	(410)
Tax effects relative to foreign exchange fluctuations from intercompany balances (note 20.2)	29	32	(12)
Tax effects relative to actuarial (gains) and losses (note 20.2)	(530)	(1)	788
Foreign currency translation and other effects	<u>723</u>	<u>201</u>	<u>(274)</u>
	<u>Ps 222</u>	<u>232</u>	<u>92</u>

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Deferred income taxes — continued

As of December 31, 2018, consolidated tax loss and tax credits carryforwards expire as follows:

		<u>Amount of carryforwards</u>	<u>Amount of unrecognized carryforwards</u>	<u>Amount of recognized carryforwards</u>
2019	Ps	1,809	1,636	173
2020		8,749	8,483	266
2021		3,984	3,170	814
2022		6,576	6,389	187
2023 and thereafter		<u>276,089</u>	<u>222,179</u>	<u>53,910</u>
	Ps	<u>297,207</u>	<u>241,857</u>	<u>55,350</u>

As of December 31, 2018, in connection with CEMEX's deferred tax loss carryforwards presented in the table above, in order to realize the benefits associated with such deferred tax assets that have not been reserved, before their expiration, CEMEX would need to generate Ps55,350 in consolidated pre-tax income in future periods. Based on the same forecasts of future cash flows and operating results used by CEMEX's management to allocate resources and evaluate performance in the countries in which CEMEX operates, along with the implementation of feasible tax strategies, CEMEX believes that it will recover the balance of its tax loss carryforwards that have been recognized before their expiration. In addition, CEMEX concluded that, the deferred tax liabilities that were considered in the analysis of recoverability of its deferred tax assets will reverse in the same period and tax jurisdiction of the related recognized deferred tax assets. Moreover, a certain amount of CEMEX's deferred tax assets refers to operating segments and tax jurisdictions in which CEMEX is currently generating taxable income or in which, according to CEMEX's management cash flow projections, will generate taxable income in the relevant periods before the expiration of the deferred tax assets.

The Parent Company does not recognize a deferred income tax liability related to its investments in subsidiaries considering that CEMEX controls the reversal of the temporary differences arising from these investments and management is satisfied that such temporary differences will not be reversed in the foreseeable future.

19.3) RECONCILIATION OF EFFECTIVE INCOME TAX RATE

For the years ended December 31, 2018, 2017 and 2016, the effective consolidated income tax rates were as follows:

		<u>2018</u>	<u>2017</u>	<u>2016</u>
Income before income tax	Ps	15,511	13,700	17,616
Income tax expense		<u>(4,467)</u>	<u>(520)</u>	<u>(3,125)</u>
Effective consolidated income tax rate ¹		<u>(28.8)%</u>	<u>(3.8)%</u>	<u>(17.7)%</u>

- 1** The average effective tax rate equals the net amount of income tax revenue or expense divided by income or loss before income taxes, as these line items are reported in the income statement.

Differences between the financial reporting and the corresponding tax basis of assets and liabilities and the different income tax rates and laws applicable to CEMEX, among other factors, give rise to permanent

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Reconciliation of effective income tax rate — continued

differences between the statutory tax rate applicable in Mexico, and the effective tax rate presented in the consolidated statements of operations, which in 2018, 2017 and 2016 were as follows:

	2018		2017		2016	
	%	Ps	%	Ps	%	Ps
Mexican statutory tax rate	(30.0)	(4,653)	(30.0)	(4,110)	(30.0)	(5,285)
Non-taxable dividend income	0.8	124	0.1	14	0.2	32
Difference between accounting and tax expenses, net	(15.4)	(2,394)	(20.8)	(2,855)	82.3	14,507
Unrecognized effects during the year related to applicable tax consolidation regimes	(0.7)	(109)	0.9	123	(3.6)	(632)
Non-taxable sale of equity securities and fixed assets	4.6	713	15.0	2,049	3.7	650
Difference between book and tax inflation	(19.5)	(3,024)	(31.1)	(4,261)	(11.0)	(1,932)
Differences in the income tax rates in the countries where CEMEX operates ¹	16.0	2,482	21.8	2,991	11.0	1,932
Changes in deferred tax assets ²	14.7	2,286	39.6	5,433	(69.9)	(12,320)
Changes in provisions for uncertain tax positions	1.8	279	(0.4)	(55)	0.7	123
Others	(1.1)	(171)	1.1	151	(1.1)	(200)
Effective consolidated tax rate	<u>(28.8)</u>	<u>(4,467)</u>	<u>(3.8)</u>	<u>(520)</u>	<u>(17.7)</u>	<u>(3,125)</u>

- 1 Refers mainly to the effects of the differences between the statutory income tax rate in Mexico of 30% against the applicable income tax rates of each country where CEMEX operates. In 2018 and 2017, includes the effect related to the change in statutory tax rate in Colombia and the United States, respectively (note 19.4).
- 2 Refers to the effects in the effective income tax rate associated with changes during the period in the amount of deferred income tax assets related to CEMEX's tax loss carryforwards.

The following table compares variations between the line item "Changes in deferred tax assets" as presented in the table above against the changes in deferred tax assets in the statement of financial position for the years ended December 31, 2018 and 2017:

	2018		2017	
	Changes in the statement of financial position	Amounts in reconciliation	Changes in the statement of financial position	Amounts in reconciliation
Tax loss carryforwards generated and not recognized during the year Ps	—	2,676	—	6,092
Derecognition related to tax loss carryforwards recognized in prior years	(1,770)	(56)	(5,221)	(5,221)
Recognition related to unrecognized tax loss carryforwards	98	98	9,694	9,694
Foreign currency translation and other effects	(432)	(432)	(6,087)	(5,132)
Changes in deferred tax assets Ps	<u>(2,104)</u>	<u>2,286</u>	<u>(1,614)</u>	<u>5,433</u>

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19.4) UNCERTAIN TAX POSITIONS AND SIGNIFICANT TAX PROCEEDINGS

Uncertain tax positions

As of December 31, 2018 and 2017, as part of short-term and long-term provisions and other liabilities (note 17), CEMEX has recognized provisions related to unrecognized tax benefits in connection with uncertain tax positions taken, in which it is deemed probable that the tax authority would differ from the position adopted by CEMEX. As of December 31, 2018, the tax returns submitted by some subsidiaries of CEMEX located in several countries are under review by the respective tax authorities in the ordinary course of business. CEMEX cannot anticipate if such reviews will result in new tax assessments, which would, should any arise, be appropriately disclosed and/or recognized in the financial statements.

A summary of the beginning and ending amount of unrecognized tax benefits for the years ended December 31, 2018, 2017 and 2016, excluding interest and penalties, is as follows:

		<u>2018</u>	<u>2017</u>	<u>2016</u>
Balance of tax positions at beginning of the period	Ps	1,571	1,132	1,190
Additions for tax positions of prior periods		119	663	200
Additions for tax positions of current period		15	16	90
Reductions for tax positions related to prior periods and other items		(44)	(32)	(131)
Settlements and reclassifications		(129)	(119)	(163)
Expiration of the statute of limitations		(624)	(138)	(126)
Foreign currency translation effects		(49)	49	72
Balance of tax positions at end of the period	Ps	<u>859</u>	<u>1,571</u>	<u>1,132</u>

During 2017, considering recoverability analyses and cash flow projections, CEMEX recognized deferred income tax assets related to its operations in the United States for US\$700 considering the then applicable income tax rate of 35%. However, regarding the Tax Cuts and Jobs Act (the “Act”) enacted on December 22, 2017, the U.S. statutory federal tax rate was reduced from 35% to 21%. For this reason, CEMEX reduced its net deferred tax assets by US\$124. The reduction in the U.S. statutory federal tax rate is expected to positively impact CEMEX’s future after-tax earnings in the United States.

Tax examinations can involve complex issues, and the resolution of issues may span multiple years, particularly if subject to negotiation or litigation. Although CEMEX believes its estimates of the total unrecognized tax benefits are reasonable, uncertainties regarding the final determination of income tax audit settlements and any related litigation could affect the amount of total unrecognized tax benefits in future periods. It is difficult to estimate the timing and range of possible changes related to uncertain tax positions, as finalizing audits with the income tax authorities may involve formal administrative and legal proceedings. Accordingly, it is not possible to reasonably estimate the expected changes to the total unrecognized tax benefits over the next 12 months, although any settlements or statute of limitations expirations may result in a significant increase or decrease in the total unrecognized tax benefits, including those positions related to tax examinations being currently conducted.

Significant tax proceedings

As of December 31, 2018, the Company’s most significant tax proceedings are as follows:

- As part of an audit process, the tax authorities in Spain have challenged part of the tax loss carryforwards reported by CEMEX España covering the tax years from and including 2006 to 2009. During 2014, the tax

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authorities in Spain notified CEMEX España of fines in the aggregate amount of US\$547 (Ps10,755). CEMEX España filed appeals against such resolution. On September 20, 2017, CEMEX España was notified about an adverse resolution to such appeals. CEMEX España challenged this decision and applied for the suspension of the payment before the National Court (*Audiencia Nacional*) until the case is finally resolved. On November 6, 2018 CEMEX España obtained a favorable resolution to this request from the National Court through the pledge of certain fixed assets. As of December 31, 2018, CEMEX believes an adverse resolution in this proceeding is not probable and no accruals have been created in connection with this proceeding. Nonetheless, as of December 31, 2018, is difficult to assess with certainty the likelihood of an adverse result, and the appeals that CEMEX España has filed could take an extended amount of time to be resolved, but if adversely resolved, this proceeding could have a material adverse impact on CEMEX's results of operations, liquidity or financial position.

- On April 6, 2018, CEMEX Colombia received a special proceeding from the Colombian Tax Authority (the "Tax Authority"), where certain deductions included in the 2012 income tax return were rejected. The Tax Authority assessed an increase in the income tax payable by CEMEX Colombia and imposed an inaccuracy penalty for amounts in Colombian pesos equivalent to approximately US\$38 (Ps747) of income tax and US\$38 (Ps747) of penalty. On June 22, 2018, CEMEX Colombia filed a response to the special proceeding within the legal term. On December 28, 2018, CEMEX Colombia received an official review settlement ratifying the rejected deductible items and amounts. CEMEX Colombia will file a reconsideration request within the next two months. If the proceeding would be adversely resolved in the final stage, CEMEX Colombia must pay the amounts determined in the official settlement plus interest accrued on the amount of the income tax adjustment until the payment date. As of December 31, 2018, in this stage of the proceeding, CEMEX believes an adverse resolution in this proceeding after conclusion of all available defense procedures is not probable, however, it is difficult to assess with certainty the likelihood of an adverse result in the proceeding; but if adversely resolved, CEMEX believes this proceeding should not have a material adverse impact on the operating results, liquidity or financial position of CEMEX.
- In September 2012, the Tax Authority requested CEMEX Colombia to amend its income tax return for the year 2011 in connection with several deductible expenses including the amortization of goodwill. CEMEX Colombia rejected the arguments of the ordinary request and filed a motion requesting the case to be closed. The 2011 income tax return was under audit of the Tax Authority from August 2013 until September 5, 2018, when CEMEX Colombia was notified of a special requirement in which the Tax Authority rejects certain deductions included in such income tax return of the year 2011 and determined an increase in the income tax payable and imposed a penalty for amounts in Colombian pesos equivalent to approximately US\$26 (Ps511) of income tax and US\$26 (Ps511) of penalty. CEMEX Colombia filed a response to the special requirement on November 30, 2018. If the proceeding would be adversely resolved in its final stage, CEMEX Colombia would have to pay the amounts determined in the official settlement plus interest accrued on the amount of the income tax adjustment until the date of payment. As of December 31, 2018, in this stage of the proceeding, CEMEX believes an adverse resolution in this proceeding after conclusion of all available defense procedures is not probable, however, it is difficult to assess with certainty the likelihood of an adverse result in the proceeding; but if adversely resolved, CEMEX believes this proceeding should not have a material adverse impact on the operating results, liquidity or financial position of CEMEX.
- In April 2011, the Tax Authority notified CEMEX Colombia of a special proceeding rejecting certain deductions taken by CEMEX Colombia in its 2009 tax return considering they are not linked to direct

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revenues recorded in the same fiscal year, and assessed an increase in taxes to be paid by CEMEX Colombia and imposed a penalty for amounts in Colombian pesos equivalent to US\$28 (Ps550) of income tax and US\$28 (Ps550) of penalty, considering changes in law that reduced the original penalty. After several appeals of CEMEX Colombia to the Colombian Tax Authority’s special proceeding in the applicable courts in which CEMEX Colombia obtained negative resolutions in each case over the years, in July 2014, CEMEX Colombia filed an appeal against this resolution before the Colombian State Council (*Consejo de Estado*). If the proceeding would be adversely resolved in the final stage, CEMEX Colombia must pay the amounts determined in the official settlement plus interest accrued on the amount of the income tax adjustment until the payment date. As of December 31, 2018, in this stage of the proceeding, CEMEX believes an adverse resolution in this proceeding after conclusion of all available defense procedures is not probable, however, it is difficult to assess with certainty the likelihood of an adverse result in the proceeding; but if adversely resolved, CEMEX believes this proceeding should not have a material adverse impact on the operating results, liquidity or financial position of CEMEX.

20) STOCKHOLDERS’ EQUITY

As of December 31, 2018 and 2017, stockholders’ equity excludes investments in CPOs of the Parent Company held by subsidiaries of Ps194 (20,541,277 CPOs) and Ps301 (20,541,277 CPOs), respectively, which were eliminated within “Other equity reserves.”

20.1) COMMON STOCK AND ADDITIONAL PAID-IN CAPITAL

As of December 31, 2018 and 2017, the breakdown of common stock and additional paid-in capital was as follows:

		<u>2018</u>	<u>2017</u>
Common stock	Ps	4,171	4,171
Additional paid-in capital		<u>141,151</u>	<u>140,483</u>
	Ps	<u>145,322</u>	<u>144,654</u>

As of December 31, 2018 and 2017, the common stock of CEMEX, S.A.B. de C.V. was presented as follows:

<u>Shares¹</u>	<u>2018</u>		<u>2017</u>	
	Series A ²	Series B ²	Series A ²	Series B ²
Subscribed and paid shares	30,002,628,318	15,001,314,159	30,214,469,912	15,107,234,956
Unissued shares authorized for executives’ stock compensation programs	936,375,524	468,187,762	531,739,616	265,869,808
Repurchased shares ³	307,207,506	153,603,753	—	—
Shares that guarantee the issuance of convertible securities ⁴	4,529,603,200	2,264,801,600	4,529,605,020	2,264,802,510
Shares authorized for the issuance of stock or convertible securities ⁵	<u>302,144,720</u>	<u>151,072,360</u>	<u>—</u>	<u>—</u>
	<u>36,077,959,268</u>	<u>18,038,979,634</u>	<u>35,275,814,548</u>	<u>17,637,907,274</u>

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Common stock and additional paid-in capital — continued

- 1 As of December 31, 2018 and 2017, 13,068,000,000 shares correspond to the fixed portion, and 41,048,938,902 shares in 2018 and 39,845,721,822 shares in 2017, correspond to the variable portion.
- 2 Series “A” or Mexican shares must represent at least 64% of CEMEX’s capital stock; meanwhile, Series “B” or free subscription shares must represent at most 36% of CEMEX’s capital stock.
- 3 Shares repurchased under the share repurchase program authorized by the Company’s shareholders (note 20.2).
- 4 Refers to those shares that guarantee the conversion of both the outstanding voluntary and mandatorily convertible securities and new securities issues (note 16.2).
- 5 Shares authorized for issuance in a public offer or private placement and/or by issuance of new convertible securities.

On April 5, 2018, stockholders at the annual ordinary shareholders’ meeting approved: (i) a resolution to increase the variable common stock by issuing up to 750 million shares (250 million CPOs), which will be kept in the Parent Company’s treasury and used to be subscribed and paid pursuant to the terms and conditions of CEMEX’s long-term compensation stock program, and (ii) the amount of a reserve of up to US\$500 or its equivalent in pesos for the year ending December 31, 2018 and until the next ordinary shareholders meeting to be held in 2019 for purposes of a Parent Company’s share repurchase program. On April 5, 2018, stockholders at the extraordinary shareholders’ meeting approved a resolution to increase the variable common stock by issuing up to 453 million shares (151 million CPOs), which will be kept in the Parent Company’s treasury for their subscription by means of issuance in a public offer or private placement and/or by issuance of new convertible securities. This authorization expires on April 4, 2023.

On March 30, 2017, stockholders at the annual ordinary shareholders’ meeting approved resolutions to: (i) increase the variable common stock through the capitalization of retained earnings by issuing up to 1,687 million shares (562 million CPOs), which shares were issued, representing an increase in common stock of Ps5, considering a nominal value of Ps0.00833 per CPO, and additional paid-in capital of Ps9,459; and (ii) increase the variable common stock by issuing up to 258 million shares (86 million CPOs), which will be kept in the Parent Company’s treasury to be used to preserve the anti-dilutive rights of note holders pursuant CEMEX’s convertible securities (note 16.2).

On March 31, 2016, stockholders at the annual ordinary shareholders’ meeting approved resolutions to: (i) increase the variable common stock through the capitalization of retained earnings by issuing up to 1,616 million shares (539 million CPOs), which shares were issued, representing an increase in common stock of Ps4, considering a nominal value of Ps0.00833 per CPO, and additional paid-in capital of Ps6,966; and (ii) increase the variable common stock by issuing up to 297 million shares (99 million CPOs), which will be kept in the Parent Company’s treasury to be used to preserve the anti-dilutive rights of note holders pursuant CEMEX’s convertible securities (note 16.2).

In connection with the long-term executive share-based compensation programs (note 21), in 2018, 2017 and 2016, CEMEX issued approximately 49.3 million CPOs, 53.2 million CPOs and 53.9 million CPOs, respectively, generating an additional paid-in capital of Ps706 in 2018, Ps817 in 2017 and Ps742 in 2016 associated with the fair value of the compensation received by executives.

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20.2) OTHER EQUITY RESERVES

As of December 31, 2018 and 2017, other equity reserves are summarized as follows:

	<u>2018</u>	<u>2017</u>
Cumulative translation effect, net of effects from perpetual debentures and deferred income taxes recognized directly in equity (notes 19.2 and 20.4)	Ps 17,683	21,288
Cumulative actuarial losses	(7,527)	(10,931)
Treasury shares repurchased under share repurchase program (note 20.1)	(1,520)	—
Effects associated with the Parent Company's convertible securities ¹	3,427	3,427
Treasury shares held by subsidiaries	(194)	(301)
	<u>Ps 11,869</u>	<u>13,483</u>

- 1** Represents the equity component upon the issuance of CEMEX, S.A.B. de C.V.'s convertible securities described in note 16.2, as well as the effects associated with such securities in connection with the change in the Parent Company's functional currency (note 2.4). Upon conversion of these securities, the balances have been correspondingly reclassified to common stock and/or additional paid-in capital (note 16.1).

For the years ended December 31, 2018, 2017 and 2016, the translation effects of foreign subsidiaries included in the statements of comprehensive income were as follows:

	<u>2018</u>	<u>2017</u>	<u>2016</u>
Foreign currency translation result ¹	Ps (3,713)	(3,116)	20,648
Foreign exchange fluctuations from debt ²	2,438	(4,160)	1,367
Foreign exchange fluctuations from intercompany balances ³	(425)	(2,243)	(10,385)
	<u>Ps (1,700)</u>	<u>(9,519)</u>	<u>11,630</u>

- 1** These effects refer to the result from the translation of the financial statements of foreign subsidiaries and include the changes in fair value of foreign exchange forward contracts designated as hedge of a net investment (note 16.4).
- 2** Generated by foreign exchange fluctuations over a notional amount of debt in CEMEX, S.A.B. de C.V., associated with the acquisition of foreign subsidiaries and designated as a hedge of the net investment in foreign subsidiaries (note 2.4).
- 3** Refers to foreign exchange fluctuations arising from balances with related parties in foreign currencies that are of a long-term investment nature considering that their liquidation is not anticipated in the foreseeable future and foreign exchange fluctuations over a notional amount of debt of a subsidiary of CEMEX España identified and designated as a hedge of the net investment in foreign subsidiaries.

20.3) RETAINED EARNINGS

The Parent Company's net income for the year is subject to a 5% allocation toward a legal reserve until such reserve equals one fifth of the common stock. As of December 31, 2018, the legal reserve amounted to Ps1,804.

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20.4) NON-CONTROLLING INTEREST AND PERPETUAL DEBENTURES

Non-controlling interest

Non-controlling interest represents the share of non-controlling stockholders in the equity and results of consolidated subsidiaries. As of December 31, 2018 and 2017, non-controlling interest in equity amounted to Ps22,154 and Ps22,095, respectively. In addition, in 2018, 2017 and 2016, non-controlling interests in consolidated net income were Ps789, Ps1,417 and Ps1,173, respectively. These non-controlling interests arise mainly from the following CEMEX's subsidiaries:

- In February 2017, as described in note 4.1, CEMEX acquired a controlling interest in TCL, whose shares trade in the Trinidad and Tobago Stock Exchange. As of December 31, 2018 and 2017, there is a non-controlling interest in TCL of approximately 30.2% of its common shares (see note 4.4 for certain relevant condensed financial information).
- In July 2016, CHP, an indirect wholly-owned subsidiary of CEMEX España, S.A., closed its initial offering of 2,337,927,954 new common shares, or 45% of CHP's common shares, at a price of 10.75 Philippine pesos per common share. The net proceeds from the offering of US\$507 (considering an exchange rate of 46.932 Philippine pesos per U.S. dollar on June 30, 2016), after deducting commissions and other offering expenses, were used by CEMEX for general corporate purposes, including the repayment of existing debt. CHP's assets consist primarily of CEMEX's cement manufacturing assets in the Philippines. As of December 31, 2018 and 2017, there is a non-controlling interest in CHP of approximately 45% of its common shares in both years (see note 4.4 for certain relevant condensed financial information).
- In November 2012, pursuant to a public offering in Colombia and an international private placement, CLH, a direct subsidiary of CEMEX España, S.A., concluded its initial offering of common shares. CLH's assets include substantially all of CEMEX's assets in Colombia, Panama, Costa Rica, Brazil, Guatemala and El Salvador. The Brazilian Operations were sold in 2018. As of December 31, 2018 and 2017, there is a non-controlling interest in CLH of approximately 26.75% and 26.72%, respectively, of CLH's outstanding common shares, excluding shares held in treasury (see note 4.4 for certain relevant condensed financial information).

Perpetual debentures

As of December 31, 2018 and 2017, the balances of the non-controlling interest included US\$444 (Ps8,729) and US\$447 (Ps8,784), respectively, representing the notional amounts of perpetual debentures, which exclude any perpetual debentures held by subsidiaries.

Interest expense on the perpetual debentures, was included within "Other equity reserves" and amounted to Ps553 in 2018, Ps482 in 2017 and Ps507 in 2016, excluding in all the periods the amount of interest accrued by perpetual debentures held by subsidiaries.

CEMEX's perpetual debentures have no fixed maturity date and there are no contractual obligations for CEMEX to exchange any series of its outstanding perpetual debentures for financial assets or financial liabilities. As a result, these debentures, issued entirely by Special Purpose Vehicles ("SPVs"), qualify as equity instruments and are classified within non-controlling interest, as they were issued by consolidated entities. In addition, subject to certain conditions, CEMEX has the unilateral right to defer indefinitely the payment of interest due on the debentures. The classification of the debentures as equity instruments was made under applicable IFRS. The different SPVs were established solely for purposes of issuing the perpetual debentures and were included in CEMEX's consolidated financial statements.

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Perpetual debentures — continued

As of December 31, 2018 and 2017, the detail of CEMEX’s perpetual debentures, excluding the perpetual debentures held by subsidiaries, was as follows:

Issuer	Issuance date	2018	2017	Repurchase option	Interest rate
		Nominal amount	Nominal amount		
C10-EUR Capital (SPV)					
Ltd	May 2007	€ 64	€ 64	Tenth anniversary	EURIBOR+4.79%
C8 Capital (SPV) Ltd	February 2007	US\$135	US\$135	Eighth anniversary	LIBOR+4.40%
C5 Capital (SPV) Ltd ¹ . . .	December 2006	US\$ 61	US\$ 61	Fifth anniversary	LIBOR+4.277%
C10 Capital (SPV) Ltd . . .	December 2006	US\$175	US\$175	Tenth anniversary	LIBOR+4.71%

1 Under the 2017 Credit Agreement, and previously under the 2014 Credit Agreement, CEMEX is not permitted to call these debentures.

21) EXECUTIVE SHARE-BASED COMPENSATION

CEMEX has long-term restricted share-based compensation programs providing for the grant of the Parent Company’s CPOs to a group of eligible executives, pursuant to which, new CPOs are issued under each annual program over a service period of four years (the “ordinary program”). The Parent Company’s CPOs of the annual grant (25% of each annual ordinary program) are placed at the beginning of the service period in the executives’ accounts to comply with a one-year restriction on sale. Under the ordinary programs, the Parent Company issued new shares for approximately 49.3 million CPOs in 2018, 53.2 million CPOs in 2017 and 53.9 million CPOs in 2016, that were subscribed and pending for payment in the Parent Company’s treasury. As of December 31, 2018, there are approximately 69.5 million CPOs associated with these annual programs that are potentially expected to be issued in the following years as the executives render services.

Beginning in 2017, with the approval of the Parent Company’s Board of Directors, for a group of key executives, the conditions of the program were modified for new awards by reducing the service period from four to three years and implementing tri-annual internal and external performance metrics, which depending on their weighted achievement, may result in a final payment of the Parent Company’s CPOs at the end of the third year between 0% and 200% of the target for each annual program (the “key executives program”). During 2018 and 2017, no CPOs of the Parent Company were issued under the key executives’ program.

Beginning January 1, 2013, those eligible executives belonging to the operations of CLH and subsidiaries ceased to receive Parent Company’s CPOs and instead started receiving shares of CLH, sharing significantly the same conditions of CEMEX’s plan also over a service period of four years. During 2018, 2017 and 2016, CLH physically delivered 258,511 shares, 172,981 shares and 271,461 shares, respectively, corresponding to the vested portion of prior years’ grants, which were subscribed and held in CLH’s treasury. As of December 31, 2018, there are 1,162,186 shares of CLH associated with these annual programs that are expected to be delivered in the following years as the executives render services.

In addition, beginning in 2018, those eligible executives belonging to the operations of CHP and subsidiaries ceased to receive Parent Company’s CPOs and instead started receiving shares of CHP, sharing significantly the same conditions of CEMEX’s plan. During 2018, CHP did not issue shares in connection with this program, for this year, CHP purchased 871,189 of its own shares in the market on behalf of and for delivery to the eligible executives.

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Executive share-based compensation — continued

The combined compensation expense related to the programs described above as determined considering the fair value of the awards at the date of grant in 2018, 2017 and 2016, was recognized in the operating results against “Other equity reserves” and amounted to Ps706, Ps817 and Ps742, respectively, including in 2018 the cost of the CHP’s shares acquired in the market. The weighted-average price per Parent Company CPO granted during the period was approximately 13.61 pesos in 2018, 14.28 pesos in 2017 and 13.79 pesos in 2016. Moreover, the weighted-average price per CLH share granted during the period was 12,347 Colombian pesos in 2018, 13,077 Colombian pesos in 2017 and 13,423 Colombian pesos in 2016. As of December 31, 2018 and 2017, there were no options or commitments to make payments in cash to the executives based on changes in the market price of the Parent Company’s CPO or CLH’s shares.

22) EARNINGS PER SHARE

Basic earnings per share is calculated by dividing net income attributable to ordinary equity holders of the Parent Company (the numerator) by the weighted-average number of shares outstanding (the denominator) during the period. Shares that would be issued depending only on the passage of time should be included in the determination of the basic weighted-average number of shares outstanding. Diluted earnings per share should reflect in both the numerator and denominator the assumption that convertible instruments are converted, that options or warrants are exercised, or that ordinary shares are issued upon the satisfaction of specified conditions, to the extent that such assumption would lead to a reduction in basic earnings per share or an increase in basic loss per share. Otherwise, the effects of potential shares are not considered because they generate antidilution.

The amounts considered for calculations of earnings per share in 2018, 2017 and 2016, were as follows:

	<u>2018</u>	<u>2017</u>	<u>2016</u>
Denominator (thousands of shares)			
Weighted-average number of shares outstanding ¹	45,569,180	43,107,457	42,211,409
Capitalization of retained earnings ²	—	1,687,295	1,687,295
Effect of dilutive instruments — mandatorily convertible securities (note 16.2) ³	<u>708,153</u>	<u>708,153</u>	<u>708,153</u>
Weighted-average number of shares — basic	46,277,333	45,502,905	44,606,857
Effect of dilutive instruments — share-based compensation (note 21) ³	316,970	237,102	226,972
Effect of potentially dilutive instruments — optionally convertible securities (note 16.2) ³	<u>1,420,437</u>	<u>2,698,600</u>	<u>3,834,458</u>
Weighted-average number of shares — diluted	<u><u>48,014,740</u></u>	<u><u>48,438,607</u></u>	<u><u>48,668,287</u></u>
Numerator			
Net income from continuing operations	Ps 11,044	13,180	14,491
Less: non-controlling interest net income	<u>789</u>	<u>1,417</u>	<u>1,173</u>
Controlling interest net income from continuing operations	10,255	11,763	13,318
Plus: after tax interest expense on mandatorily convertible securities	<u>61</u>	<u>91</u>	<u>119</u>

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Earnings per share — continued

	<u>2018</u>	<u>2017</u>	<u>2016</u>
Controlling interest net income from continuing operations —			
for basic earnings per share calculations	10,316	11,854	13,437
Plus: after tax interest expense on optionally convertible securities . . .	436	903	1,079
Controlling interest net income from continuing operations —			
for diluted earnings per share calculations	Ps 10,752	12,757	14,516
Net income from discontinued operations	Ps 212	3,461	713
Basic earnings per share			
Controlling interest basic earnings per share	Ps 0.22	0.34	0.32
Controlling interest basic earnings per share from continuing operations	0.22	0.26	0.30
Controlling interest basic earnings per share from discontinued operations	0.00	0.08	0.02
Diluted earnings per share⁴			
Controlling interest diluted earnings per share	Ps 0.22	0.34	0.32
Controlling interest diluted earnings per share from continuing operations	0.22	0.26	0.30
Controlling interest diluted earnings per share from discontinued operations	0.00	0.08	0.02

- 1 The weighted-average number of shares outstanding in 2017 and 2016 reflects the shares issued as a result of the capitalization of retained earnings declared in March 2017 and March 2016, as applicable (note 20.1).
- 2 According to resolution of the Parent Company's shareholders' meeting on April 5, 2018. There was no capitalization of retained earnings in 2018.
- 3 The number of Parent Company's CPOs to be issued under the executive share-based compensation programs, as well as the total amount of Parent Company's CPOs committed for issuance in the future under the mandatorily and optionally convertible securities, are computed from the beginning of the reporting period. The number of shares resulting from the executives' stock option programs is determined under the inverse treasury method.
- 4 For 2018, 2017 and 2016, the effects on the denominator and numerator of potential dilutive shares generate antidilution; therefore, there is no change between the reported basic earnings per share and diluted earnings per share.

23) COMMITMENTS

23.1) GUARANTEES

As of December 31, 2018 and 2017, CEMEX, S.A.B. de C.V., had guaranteed loans of certain subsidiaries for US\$1,493 (Ps29,331) and US\$1,506 (Ps29,601), respectively.

23.2) PLEDGED ASSETS

CEMEX transferred to a guarantee trust the shares of its main subsidiaries, including, among others, CEMEX México, S.A. de C.V., New Sunward Holding B.V. and CEMEX España, S.A., and entered into pledge

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agreements in order to secure payment obligations under the 2017 Credit Agreement (formerly under the 2014 Credit Agreement and the Facilities Agreement) and other debt instruments entered into prior and after the date of these agreements (note 16.1).

As of December 31, 2018 and 2017, there are no liabilities secured by property, machinery and equipment.

23.3) OTHER COMMITMENTS

As of December 31, 2018 and 2017, CEMEX was party to other commitments for several purposes, including the purchase of fuel and energy, the estimated future cash flows over maturity of which are presented in note 23.5. A description of the most significant contracts is as follows:

- Beginning in April 2016, in connection with the Ventika, S.A.P.I. de C.V. and the Ventika II, S.A.P.I. de C.V. wind farms (jointly “Ventikas”) located in the Mexican state of Nuevo Leon with a combined generation capacity of 252 Megawatts (“MW”), CEMEX agreed to acquire a portion of the energy generated by Ventikas for its overall electricity needs in Mexico for a period of 20 years. The estimated annual cost of this agreement is US\$25 (unaudited) assuming that CEMEX receives all its energy allocation. Nonetheless, energy supply from wind is variable in nature and final amounts are determined considering the final MW per hour (“MWh”) effectively received at the agreed prices per unit.
- On July 27, 2012, CEMEX signed a 10-year strategic agreement with International Business Machines Corporation (“IBM”) pursuant to which IBM provides, among others, data processing services (back office) in finance, accounting and human resources; as well as Information Technology (“IT”) infrastructure services, support and maintenance of IT applications in the countries in which CEMEX operates.
- Beginning in February 2010, for its overall electricity needs in Mexico CEMEX agreed with EURUS the purchase a portion of the electric energy generated for a period of no less than 20 years. EURUS is a wind farm with an installed capacity of 250 MW operated by ACCIONA in the Mexican state of Oaxaca. The estimated annual cost of this agreement is US\$71 (unaudited) assuming that CEMEX receives all its energy allocation. Nonetheless, energy supply from wind source is variable in nature and final amounts will be determined considering the final MWh effectively received at the agreed prices per unit.
- CEMEX maintains a commitment initiated in April 2004 to purchase the energy generated by Termoeléctrica del Golfo (“TEG”) until 2027 for its overall electricity needs in Mexico. The estimated annual cost of this agreement is US\$132 (unaudited) assuming that CEMEX receives all its energy allocation. Nonetheless, final amounts will be determined considering the final MWh effectively received at the agreed prices per unit.
- In regards with the above, CEMEX also committed to supply TEG and another third-party electrical energy generating plant adjacent to TEG all fuel necessary for their operations until the year 2027, equivalent to approximately 1.2 million tons of petroleum coke per year. CEMEX covers its commitments under this agreement acquiring the aforementioned volume of fuel from sources in the international markets and Mexico.
- CEMEX OstZement GmbH (“COZ”), CEMEX’s subsidiary in Germany, held a long-term energy supply contract until 2023 with STEAG—Industriekraftwerk Rüdersdorf GmbH (“SIKW”) in connection with the overall electricity needs of CEMEX’s Rüdersdorf plant. Based on the contract, each year COZ has the option to fix in advance the volume of energy in terms of MW that it will acquire from SIKW, with the option to adjust the purchase amount one time on a monthly and quarterly basis. The estimated annual cost of this agreement is approximately US\$15 (unaudited) assuming that CEMEX receives all its energy allocation.

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23.4) COMMITMENTS FROM EMPLOYEE BENEFITS

In some countries, CEMEX has self-insured health care benefits plans for its active employees, which are managed on cost plus fee arrangements with major insurance companies or provided through health maintenance organizations. As of December 31, 2018, in certain plans, CEMEX has established stop-loss limits for continued medical assistance derived from a specific cause (e.g., an automobile accident, illness, etc.) ranging from 23 thousand dollars to 400 thousand dollars. In other plans, CEMEX has established stop-loss limits per employee regardless of the number of events ranging from 100 thousand dollars to 2.5 million dollars. The contingency for CEMEX if all employees qualifying for health care benefits required medical services simultaneously is significantly. However, CEMEX believes this scenario is remote. The amount expensed through self-insured health care benefits was US\$62 in 2018, US\$64 in 2017 and US\$69 in 2016.

23.5) CONTRACTUAL OBLIGATIONS

As of December 31, 2018, CEMEX had the following contractual obligations:

Obligations	2018				
	Less than 1 year	1-3 years	3-5 years	More than 5 years	Total
Long-term debt	US\$ 7	1,788	2,347	5,197	9,339
Finance lease obligations ¹	36	87	19	1	143
Convertible notes ²	19	514	—	—	533
Total debt and other financial obligations ³	62	2,389	2,366	5,198	10,015
Operating leases ⁴	186	351	231	439	1,207
Interest payments on debt ⁵	508	960	777	535	2,780
Pension plans and other benefits ⁶	148	270	270	664	1,352
Acquisition of property, plant and equipment ⁷	87	43	—	—	130
Purchases of raw materials, fuel and energy ⁸	702	955	1,230	2,270	5,157
Total contractual obligations	US\$ 1,693	4,968	4,874	9,106	20,641
	Ps 33,267	97,621	95,774	178,933	405,595

- 1 Represent nominal cash flows. As of December 31, 2018, the NPV of future payments under such leases was US\$122 (Ps2,396), of which, US\$74 (Ps1,450) refers to payments from 1 to 3 years and US\$14 (Ps276) refer to payments from 3 to 5 years. Beginning January 1, 2019, IFRS 16 eliminates the classifications of finance and operating leases. This elimination has no effect in the reported amounts of cash flows considering the contracts outstanding as of December 31, 2018 (note 2.20).
- 2 Refers to the components of liability of the convertible notes described in note 16.2 and assumes repayment at maturity and no conversion of the notes.
- 3 The schedule of debt payments, which includes current maturities, does not consider the effect of any refinancing of debt that may occur during the following years. In the past, CEMEX has replaced its long-term obligations for others of a similar nature.
- 4 The amounts represent nominal cash flows. CEMEX has operating leases, primarily for operating facilities, cement storage and distribution facilities and certain transportation and other equipment, under which annual rental payments are required plus the payment of certain operating expenses. Rental expense was US\$185 (Ps3,493) in 2018, US\$115 (Ps2,252) in 2017 and US\$121 (Ps2,507) in 2016. Beginning January 1, 2019, IFRS 16 eliminates the classifications of finance and operating leases. This elimination has no effect in the reported amounts of cash flows considering the contracts outstanding as of December 31, 2018 (note 2.20).

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- 5 Estimated cash flows on floating rate denominated debt were determined using the floating interest rates in effect as of December 31, 2018.
- 6 Represents estimated annual payments under these benefits for the next 10 years (note 18), including the estimate of new retirees during such future years.
- 7 Refers mainly to the expansion of a cement-production line in the Philippines.
- 8 Future payments for the purchase of raw materials are presented on the basis of contractual nominal cash flows. Future nominal payments for energy were estimated for all contractual commitments on the basis of an aggregate average expected consumption per year using the future prices of energy established in the contracts for each period. Future payments also include CEMEX's commitments for the purchase of fuel.

24) LEGAL PROCEEDINGS

24.1) PROVISIONS RESULTING FROM LEGAL PROCEEDINGS

CEMEX is involved in various significant legal proceedings, the resolutions of which are deemed probable and imply the incurrence of losses and/or cash outflows or the delivery of other resources owned by CEMEX. As a result, certain provisions or losses have been recognized in the financial statements, representing the best estimate of the amounts payable or the amount of impaired assets. Therefore, CEMEX believes that it will not make significant expenditure or incur significant losses in excess of the amounts recorded. As of December 31, 2018, the details of the most significant events giving effect to provisions or losses are as follows:

- In connection with the construction of the cement plant in the municipality of Maceo in Colombia (note 13), in August 2012, CEMEX Colombia signed a memorandum of understanding (“MOU”) with the representative of CI Calizas y Minerales, S.A. (“CI Calizas”), for the acquisition of assets consisting of land, the mining concession and environmental permit, the shares of Zona Franca Especial Cementera del Magdalena Medio, S.A.S. (“Zomam”) (holder of the free trade zone concession) and the rights to develop the cement plant. After the signing of the MOU, a former shareholder of CI Calizas, who presumptively transferred its shares of CI Calizas two years before the signing of the MOU, was linked to a process of expiration of property initiated by Colombia’s Attorney General (the “Attorney General”). Amongst other measures, the Attorney General ordered the seizure and consequent suspension of the right to dispose the assets subject to the MOU, including the shares of Zomam acquired by CEMEX Colombia before the beginning of such process. As a third party acting in good faith and free of guilt, CEMEX Colombia joined the expiration of property process and fully cooperates with the Attorney General. As of December 31, 2018, it is estimated that it may take between five and ten years for a final resolution to be issued on the aforementioned process, which is in the investigatory stage, waiting for the legal counsels of the defendants appointed by the Attorney General to assume functions, which opens the evidentiary stage.

In July 2013, CEMEX Colombia signed with the provisional depository appointed by the Drugs National Department (*Dirección Nacional de Estupefacientes* or the “DNE”) (then depository of the affected assets), which functions after its liquidation were assumed by the Administration of Special Assets (*Sociedad de Activos Especiales, S.A.S.* or the “SAE”), a lease contract for a period of five years, by means of which CEMEX Colombia was duly authorized to build and operate the plant (the “Lease Contract”). Moreover, in 2014, the provisional depository granted a mandate to CEMEX Colombia for the same purposes.

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On July 15, 2018, the initial term of the Lease Contract signed by CEMEX Colombia with the DNE expired. Notwithstanding the expiry, CEMEX Colombia is entitled to continue to build and use the plant pursuant to the terms of an accompanying mandate until the conclusion of the expiration of property proceeding. As of December 31, 2018, CEMEX Colombia maintains negotiations with the SAE in order to enter into a new long term lease contract that would replace precedent agreements and would allow CEMEX Colombia to continue the construction and operation of the plant during a term of 21 years from the signing date with a potential extension of 10 additional years.

In addition, in 2012, CEMEX Colombia also engaged the same representative of CI Calizas to represent in the name and on behalf of CEMEX Colombia in the acquisition of land adjacent to the plant, signing a new memorandum of understanding (the “Land MOU”).

During 2016, through an investigation and internal audit in accordance with the corporate governance policies and code of ethics of CEMEX and CLH considering reports of deficiencies in the purchasing process received in CEMEX’s anonymous reporting line, and after confirming the irregularities, in September 2016, CLH and CEMEX Colombia terminated the employment relationship with the Vice President of Planning of CLH and CEMEX Colombia; with the Vice President of Legal Counsel of CLH and CEMEX Colombia; and accepted the resignation of the Chief Executive Officer of CLH and President of CEMEX Colombia. In order to strengthen the levels of leadership, management and best practices of corporate governance, in October 2016, the Parent Company’s Board of Directors separated the roles of Chairman of the Board of Directors, Chief Executive Officer of CLH and President of CEMEX Colombia, and made the corresponding appointments. Moreover, the Parent Company’s Audit Committee and CLH’s Audit Commission performed an independent investigation of the Maceo project through experts in forensic audit. Additionally, the management of CEMEX Colombia and CLH engaged legal advisors for the required collaboration with the Attorney General and other purposes.

The investigation and internal audit initiated during 2016 found that under the MDE and the Land MDE, CEMEX Colombia made deposits in the representative’s bank account for advances and paid interests, settled in kind following its instructions, for amounts in Colombian pesos equivalent to approximately US\$13.4 and US\$1.2, respectively, considering the exchange rate as of December 31, 2016. These payments were made in breach of CEMEX’s and CLH’s policies. As a result, both, CLH and CEMEX Colombia reported these facts to the Attorney General, providing the findings on hand. In December 2016, CEMEX Colombia filed a claim in the civil courts aiming that all property rights of the land acquired under de Land MOU, some of which were assigned to the representative, would be transferred to CEMEX Colombia. As of September 30, 2018, due to the process of expiration of property of the assets under the MDE and the deficient formalization of the acquisitions under the Land MDE, CEMEX Colombia is not the rightful owner of the aforementioned assets.

As a result, considering the legal opinions available and low probability of recovering such advances, in December 2016, the Company reduced investments in process for a net amount in Colombian pesos equivalent to approximately US\$14.1 (Ps264), which included: a) a reduction of US\$14.3 (Ps295) for impairment of assets against “Other expenses, net,” including approximately US\$2.3 (Ps43) of impairment losses not related with the MOU or the Land MOU; b) a reduction of US\$9.1 (Ps188) against “Other accounts payable” for the cancellation of the remaining account payable to CI Calizas under the MOU; and c) an increase in investments in process for US\$9.2 (Ps191) recognized against VAT accounts payable related with certain purchases of equipment installed outside the polygon of the free zone that were not exempted from this tax. All these amounts considering the exchange rate as of December 31, 2016. During

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2017, CEMEX Colombia further determined an adjustment and payment of additional VAT in the free zone for approximately US\$5.

Moreover, there is an ongoing criminal investigation by the Attorney General which is in its second investigatory stage. The hearing for indictments was held between June 12 and 29, 2018, whereas charges were brought against two of the former executives of CEMEX Colombia and the representative of CI Calizas, and pretrial detention of the defendants was determined. CEMEX cannot predict the actions that the General Attorney could implement or the possibility and degree in which any of these actions could have a material adverse effect on CEMEX's results of operation, liquidity or financial position. Under the presumption that CEMEX Colombia acted in good faith, CEMEX considers that it will retain ownership of the plant (note 14) and that the rest of its investments are protected by Colombian law, under which, if a person builds on the property of a third party, with full knowledge of such third party, this third party may: a) take ownership of the plant paying indemnity to CEMEX Colombia, or otherwise, b) oblige CEMEX Colombia to purchase the land. Nonetheless, had this not be the case, CEMEX Colombia would take all necessary actions to safeguard the project in Maceo. At this respect, in the event that the expiration of property over the assets subject to the MOU is ordered in favor of the State, the SAE may decide not to sell the assets to CEMEX Colombia, or, the SAE may elect to maintain ownership of the assets and not extend the Lease Contract. In both cases, under Colombian law, CEMEX Colombia would be entitled to an indemnity for the amount of its incurred investments. Nonetheless, although as of December 31, 2018, CEMEX Latam cannot estimate if the expiration of property of the assets subject to the MDE would be declared in favor of the State, or as the case may be, if the SAE would determine to sell or not those assets to CEMEX Colombia or if a new Lease Contract would be negotiated or not, CEMEX Colombia does not consider probable that any of these adverse results may occur, but would any of these adverse results occur upon which an adverse resolution is received, such adverse resolution could have a material adverse effect on CEMEX's results of operations, liquidity or financial condition.

As of December 31, 2018, the start-up of the Maceo plant and the construction of the access road remain suspended, mainly considering certain permits required to finalize the access road, as well as ongoing requests and procedures with the relevant authorities oriented to: a) resolve any overlap of the project with an Integrated Management District ("IMD"), b) modify the land use where the project is located to harmonize it with industrial and mining use, c) modify the environmental license to increase the permitted production up to 950 thousand tons per year, d) obtain the extension of the free zone to cover the entire plant, and e) resolve the ownership of the environmental license and the mining title which transfer to a subsidiary of CEMEX Colombia was revoked by the regional environmental authority; until progress is achieved in these processes. CEMEX Colombia continues working to address these issues as soon as possible. In October 2017, CEMEX Colombia presented the initial request for the partial subtraction of the Maceo project from the IMD to test the feasibility of achieving the proposed expansion of the activity in the project and comments were received in May 2018. In this regard, on October 11, 2018, CEMEX Colombia submitted a response to the latest request for information in connection with such subtraction process. This process of partial subtraction of the Maceo project, would allow the removal of the cement operation productive area from the IMD. This request requires evidence of the viability to develop the proposed activity of the cement project in said area. Meanwhile, CEMEX Colombia will limit its activities to those on which it has the relevant authorizations.

- On December 11, 2017, in the context of a market investigation opened in 2013 against five cement companies and 14 executives of those companies, including two former executives of CEMEX Colombia

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for purported practices that limited free competition, and after several processes over the years, the Colombian Superintendence of Industry and Commerce (*Superintendencia de Industria y Comercio* or the “SIC”) imposed a final fine to CEMEX Colombia for an amount equivalent to US\$25 (Ps491). As a result, CEMEX Colombia recognized a provision for this amount against “Other expenses, net” in 2017. This fine was paid on January 5, 2018. On June 7, 2018, CEMEX Colombia filed an annulment and reestablishment of right claim before the Administrative Court seeking for the annulment of the charges brought forth by the SIC and the restitution of the fine paid, with any adjustments provided by Colombian Law. This claim could take up to six years to be resolved. As of December 31, 2018, CEMEX is not able to assess the likelihood for the recovery of the fine imposed by the SIC.

- In January 2007, the Polish Competition and Consumers Protection Office (the “Protection Office”) initiated an antitrust proceeding against all cement producers in the country, including CEMEX Polska Sp. Z.o.o. (“CEMEX Polska”) and another subsidiary in Poland, arguing that there was an agreement between all cement producers in Poland regarding prices, market quotas and other sales conditions; and that the producers exchanged information, all of which limited competition in the Polish cement market. In December 2009, the Protection Office issued a resolution imposing fines on a number of Polish cement producers, including CEMEX Polska for the period of 1998 to 2006. The original fine imposed on CEMEX Polska was for an amount in Polish Zloty equivalent to US\$31 (Ps609). After a resolution of December 2013 to an appeal filed against the Protection Office’s fine before the Polish Court of Competition and Consumer Protection (the “First Instance Court”) that reduced the fine and a resolution of March 2018 to an appeal of CEMEX Polska filed before the Appeals Courts in Warsaw against the resolution of the First Instance Court, the fine was further reduced to a final amount in Polish Zloty equivalent to US\$18 (Ps354). This final amount was paid in 2018. On November 19, 2018, CEMEX Polska filed before the Polish Supreme Court an appeal against the Appeal Court’s judgment seeking the reduction of the imposed fine. As of December 31, 2018, CEMEX Polska expects that, during the first half of 2019, the Polish Supreme Court will issue a decision regarding acceptance of the cassation appeal for its study.
- As of December 31, 2018, CEMEX had accrued environmental remediation liabilities in the United Kingdom pertaining to closed and current landfill sites for the confinement of waste, representing the NPV of such obligations for an amount in pounds sterling equivalent to US\$167 (Ps3,282). Expenditure was assessed and quantified over the period in which the sites have the potential to cause environmental harm, which was accepted by the regulator as being up to 60 years from the date of closure. The assessed expenditure included the costs of monitoring the sites and the installation, repair and renewal of environmental infrastructure.
- As of December 31, 2018, CEMEX had accrued environmental remediation liabilities in the United States for US\$33 (Ps648), related to: a) the disposal of various materials in accordance with past industry practice, which might currently be categorized as hazardous substances or wastes, and b) the cleanup of sites used or operated by CEMEX, including discontinued operations, regarding the disposal of hazardous substances or waste, either individually or jointly with other parties. Most of the proceedings are in the preliminary stages and a final resolution might take several years. CEMEX does not believe that it will be required to spend significant sums on these matters in excess of the amounts previously recorded. The ultimate cost that may be incurred to resolve these environmental issues cannot be assured until all environmental studies, investigations, remediation work and negotiations with, or litigation against, potential sources of recovery have been completed.

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24.2) OTHER CONTINGENCIES FROM LEGAL PROCEEDINGS

CEMEX is involved in various legal proceedings, which have not required the recognition of accruals, considering that the probability of loss is less than probable or remote. In certain cases, a negative resolution may represent a decrease in future revenues, an increase in operating costs or a loss. Nonetheless, until all stages in the procedures are exhausted in each proceeding, CEMEX cannot assure the achievement of a final favorable resolution. As of December 31, 2018, the most significant events with a quantification of the potential loss, when it is determinable and would not impair the outcome of the relevant proceeding, were as follows:

- On September 20, 2018, triggered by heavy rainfall, a landslide causing damages and fatalities (the “Landslide”) occurred in a site located within an area covered by mining rights of APO Land & Quarry Corporation (“ALQC”) in Naga City, Cebu, Philippines. ALQC is a principal raw material supplier of APO Cement Corporation (“APO”), a wholly-owned subsidiary of CHP. CEMEX indirectly owns a minority 40% stake in ALQC. On November 19, 2018, CHP and APO were served summons concerning an environmental class action lawsuit filed by 40 individuals and one legal entity (on behalf of 8,000 individuals allegedly affected by the Landslide) at the Regional Trial Court of Talisay, Cebu, against CHP, ALQC, APO, the Mines and Geosciences Bureau of the Department of Environment and Natural Resources, the City Government of Naga, and the Province of Cebu. In the complaint, (i) among other allegations, plaintiffs claim that the Landslide occurred as a result of the defendants’ gross negligence; and (ii) seek, among other relief, (a) monetary damages for an amount in Philippine Pesos equivalent to US\$82 (Ps1,611), (b) the establishment of a rehabilitation fund for an amount in Philippine Pesos equivalent to US\$10 (Ps197), and (c) the issuance of a Temporary Environment Protection Order against ALQC aiming to prevent ALQC from performing further quarrying activities while the case is still pending. As of December 31, 2018, CHP, APO and ALQC (collectively, the “Private Defendants”) hold and will defend its position that the Landslide occurred due to natural causes and deny any liability. In the event a final adverse resolution is issued in this matter, plaintiffs will have the option to proceed against any one of ALQC, APO or CHP for satisfaction of the entirety of the potential judgement award, without the need to proceed against any other Private Defendant beforehand. Thus, ALQC’s, APO’s or CHP’s assets alone could be exposed to execution proceedings. As of December 31, 2018, CEMEX is not able to assess the likelihood of an adverse result to this lawsuit; and, because of its current status and its preliminary nature, CEMEX is neither able to assess if a final adverse result in this lawsuit would have a material adverse impact on its results of operations, liquidity and financial position.
- On June 12, 2018, the Authority for Consumer Protection and Competition Defense of Panama (the “Panama Authority”) carried out an administrative investigation against CEMEX and other competitors for the alleged commission of monopolistic practices in relation to the gray cement and the ready-mix concrete markets. From the administrative investigation, the Panama Authority considered there were elements that serve as a basis to consider the possible existence of monopolistic or anticompetitive practices consisting of: (i) price fixing and/or production restriction of gray cement sold to ready-mix concrete producers in Panama; and (ii) unilateral and/or joint predatory acts and/or cross subsidies in the ready-mix concrete market. On October 16, 2018, the Panama Authority notified CEMEX of a new information request in order to continue their investigation. The Panama Authority is gathering facts necessary to make an informed decision about whether violations of Panamanian law have occurred. CEMEX is cooperating with the Panama Authority. As of December 31, 2018, given the status of the investigation, CEMEX is not able to assess if this investigation will lead to any fines, penalties or remedies, or if such fines, penalties or remedies, if any, would have a material adverse effect on the Company’s results of operations, liquidity or financial position.

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- Certain of CEMEX’s subsidiaries in the United States were notified of a grand jury subpoena dated March 29, 2018 issued by the United States Department of Justice (“DOJ”) related to an investigation of possible antitrust law violations in connection with CEMEX’s sales (and related sales practices) of gray Portland cement and slag in the United States and its territories. The objective of this subpoena is to gather facts necessary to make an informed decision about whether violations of U.S. law have occurred. CEMEX has been cooperating with the DOJ and is complying with the subpoena. As of December 31, 2018, given the status of the investigation, CEMEX is not able to assess if this investigation will lead to any fines, penalties or remedies, or if such fines, penalties or remedies, if any, would have a material adverse effect on the Company’s results of operations, liquidity or financial position.
- On March 16, 2018, a putative securities class action complaint was filed against CEMEX and one of its members of the board of directors (CEO) and certain of its officers (CEO and CFO) in the U.S. District Court for the Southern District of New York, on behalf of investors who purchased or otherwise acquired securities of CEMEX between August 14, 2014 to March 13, 2018, inclusive. The complaint alleges that CEMEX purportedly issued press releases and SEC filings that included materially false and misleading statements in connection with alleged misconduct relating to the Maceo Project and the potential regulatory or criminal actions that might arise as a result. On September 14, 2018, CEMEX filed a motion to dismiss this lawsuit. During the fourth quarter of 2018, plaintiffs filed an opposition brief to this motion to dismiss. CEMEX denies liability and intends to vigorously defend the case. As of December 31, 2018, given the status of the lawsuit, CEMEX is not able to assess the likelihood of an adverse result to this lawsuit, and for the same reasons, CEMEX is not able to assess if a final adverse result in this lawsuit would have a material adverse impact on its results of operations, liquidity and financial position.
- In December 2016, the Parent Company received subpoenas from the United States Securities and Exchange Commission (“SEC”) seeking information to determine whether there have been any violations of the U.S. Foreign Corrupt Practices Act stemming from the Maceo project. These subpoenas do not mean that the SEC has concluded that the Parent Company or any of its affiliates violated the law. The Parent Company has been cooperating with the SEC and intends to continue cooperating fully with the SEC. The DOJ also opened an investigation into this matter. In this regard, on March 12, 2018, the DOJ issued a grand jury subpoena to the Parent Company relating to its operations in Colombia and other jurisdictions. The Parent Company intends to cooperate fully with the SEC, the DOJ and any other investigatory entity. As of December 31, 2018, the Parent Company is unable to predict the duration, scope, or outcome of either the SEC investigation or the DOJ investigation, or any other investigation that may arise, or, because of the current status of the SEC investigation and the preliminary nature of the DOJ investigation, the potential sanctions which could be borne by the Parent Company, or if such sanctions, if any, would have a material adverse impact on CEMEX results of operations, liquidity or financial position.
- In September 2016, CEMEX España Operaciones, S.L.U. (“CEMEX España Operaciones”), a subsidiary of CEMEX in Spain, in the context of a market investigation initiated in 2014 for alleged anticompetitive practices in 2009 for the cement market and the years 2008, 2009, 2012, 2013 and 2014 for the ready-mix market, was notified of a resolution by the National Markets and Competition Commission (*Comisión Nacional de los Mercados y la Competencia* or the “CNMC”) requiring the payment of a fine for €6 (US\$7 or Ps138). CEMEX España Operaciones appealed the fine and requested the suspension of payment before the National Court (*Audiencia Nacional*), which granted the requested suspension; subject to issuance of a bank guarantee for the principal amount of the sanction. The CNMC was notified. As of December 31,

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2018, CEMEX does not expect that an adverse resolution to this matter would have a material adverse impact on our results of operations, liquidity and financial condition.

- In February 2014, the Egyptian Tax Authority requested Assiut Cement Company (“ACC”), a subsidiary of CEMEX in Egypt, the payment of a development levy on clay used in the Egyptian cement industry in amounts equivalent as of December 31, 2018 to US\$18 (Ps354) for the period from May 5, 2008 to November 30, 2011. In March 2014, ACC appealed the levy and obtained a favorable resolution from the Ministerial Committee for Resolution of Investment Disputes, which instructed the Egyptian Tax Authority to cease claiming from ACC the aforementioned payment of the levy on clay. It was further decided that the levy on clay should not be imposed on imported clinker. Nonetheless, in May 2016, the Egyptian Tax Authority challenged ACC’s right to cancel the levy on clay before the North Cairo Court, which referred the cases to Cairo’s Administrative Judiciary Court. These cases have been adjourned by the Commissioners of the Cairo Administrative Judiciary Court to February 4, 2019 for submission of documents by the attorney for the State pertaining to this dispute. CEMEX does not expect that such referral will prejudice ACC’s favorable legal position in this dispute. As of December 31, 2018, CEMEX does not expect a material adverse impact due to this matter in its results of operations, liquidity or financial position.
- In September 2012, in connection with a lawsuit submitted to a first instance court in Assiut, Egypt in 2011, the first instance court of Assiut issued a resolution in order to nullify the Share Purchase Agreement (the “SPA”) pursuant to which CEMEX acquired in 1999 a controlling interest in Assiut Cement Company (“ACC”). In addition, during 2011 and 2012, lawsuits seeking, among other things, the annulment of the SPA were filed by different plaintiffs, including 25 former employees of ACC, before Cairo’s State Council. After several appeals, hearings and resolutions over the years, the cases are held in Cairo’s 7th Circuit State Council Administrative Judiciary Court awaiting the High Constitutional Court to pronounce in regard to the challenges against the constitutionality of Law 32/2014 filed by the plaintiffs, which protects CEMEX’s investments in Egypt. These matters are complex and take several years to be resolved. As of December 31, 2018, CEMEX is not able to assess the likelihood of an adverse resolution regarding these lawsuits nor is able to assess if the Constitutional Court will dismiss Law 32/2014, but, regarding the lawsuits, if adversely resolved, CEMEX does not believe the resolutions in the first instance would have an immediate material adverse impact on CEMEX’s operations, liquidity and financial condition. However, if CEMEX exhausts all legal recourses available, a final adverse resolution of these lawsuits, or if the Constitutional Court dismisses Law 32/2014, this could adversely impact the ongoing matters regarding the SPA, which could have a material adverse impact on CEMEX’s operations, liquidity and financial condition.
- In 2012, in connection with a contract entered into in 1990 (the “Quarry Contract”) by CEMEX Granulats Rhône Méditerranée (“CEMEX GRM”), one of CEMEX’s subsidiaries in France, with SCI La Quinoniere (“SCI”) pursuant to which CEMEX GRM has drilling rights in order to extract reserves and do quarry remediation at a quarry in the Rhône region of France, SCI filed a claim against CEMEX GRM for breach of the Quarry Contract, requesting the rescission of such contract and damages plus interest for a revised amount in euros equivalent to US\$77 (Ps1,513), arguing that CEMEX GRM partially filled the quarry allegedly in breach of the terms of the Quarry Contract. After many hearings, resolutions and appeals over the years, on March 13, 2018, the court of appeals issued an enforceable resolution ordering the rescission of the Quarry Contract and designated a judicial expert to: a) determine the volume of both excavated and backfilling materials, and b) give his opinion on the potential damages suffered by SCI. CEMEX GRM appealed this resolution with the court of cassation, which will advance in parallel to the judicial expert’s process. As of December 31, 2018, as the likelihood of an adverse final resolution cannot be assured with

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certainly, CEMEX believes that an adverse resolution upon conclusion of all defense instances is not probable. However, in case of an adverse resolution, CEMEX considers that it should not have a material adverse impact on CEMEX's results of operations, liquidity and financial condition.

- In June 2012, one of CEMEX's subsidiaries in Israel and three other companies were notified about a class action suit filed by a homeowner who built his house with concrete supplied by the defendants in October 2010. The class action argues that the concrete supplied to him did not meet with the Israeli ready-mix strength standard requirements and that as a result CEMEX acted unlawfully toward all of its customers who received concrete that did not comply with such standard requirements, causing financial and non-financial damages to those customers, including the plaintiff. CEMEX presumes that the class action would represent the claim of all the clients who purchased the alleged non-conforming concrete from its subsidiary in Israel during the past 7 years, the limitation period according to applicable laws in Israel. The damages that could be sought are equivalent to US\$74 (Ps1,454). After several hearings to present evidence from all parties over the years and the resolution of the court to join together all claims against all four companies in order to simplify and shorten court proceedings. An abandonment of action has been submitted to the court with regards to two of the four defendant companies, but CEMEX's subsidiary and another company remain as defendants. All parties have finished presenting their positions. There are pending resolutions regarding the class action and the abandonment of action of the two defendants. As of December 31, 2018, CEMEX's subsidiary in Israel is not able to assess the likelihood of the class action application being approved or, if approved, of an adverse result, such as an award for damages in the full amount that could be sought, but if adversely resolved CEMEX considers that an adverse resolution on this matter would not have a material adverse impact on its results of operations, liquidity or financial condition.
- In June 2010, the District of Bogota's Environmental Secretary (the "District Secretary"), ordered the suspension of CEMEX Colombia's mining activities at El Tunjuelo quarry, located in Bogota, sealed off the mine to machinery and prohibited the removal of aggregates inventory, as well as those of other aggregates producers in the same area. The Environmental Secretary alleged that during the past 60 years at that time, CEMEX Colombia and the other companies illegally changed the course of the Tunjuelo River, have used the percolating waters without permission and improperly used the edge of the river for mining activities. CEMEX Colombia requested from the beginning the revocation of the order considering that its mining activities at El Tunjuelo quarry were supported by the authorizations required by the applicable environmental laws and that its environmental impact studies were reviewed and authorized by the Ministry of Environment and Sustainable Development. Since June 2010 the local authorities closed the quarry and prohibited the removal of aggregates inventory. On July 11, 2018, considering that CEMEX Colombia incurred in risk of having provoked affectation or harm in the use of the underground waters in the Tunjuelo River's middle basin without the corresponding permit issued by the environmental authority, the District Secretary imposed a penalty for an amount in Colombian pesos equivalent to US\$0.4 as of August 1, 2018, the date it was settled. CEMEX Colombia was exonerated of incurring negligent or willful misconduct. With this penalty, all procedures and possible claims against CEMEX Colombia related to this matter were finalized.

In connection with the legal proceedings presented in notes 24.1 and 24.2, the exchange rates as of December 31, 2018 used by CEMEX to convert the amounts in local currency to their equivalents in dollars were the official closing exchange rates of 3.75 Polish zloty per dollar, 0.87 Euro per dollar, 0.78 British pounds sterling per dollar, 3,250 Colombian pesos per dollar and 3.75 Israelite shekel per dollar.

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In addition to the legal proceedings described above in notes 24.1 and 24.2, as of December 31, 2018, CEMEX is involved in various legal proceedings of minor impact that have arisen in the ordinary course of business. These proceedings involve: 1) product warranty claims; 2) claims for environmental damages; 3) indemnification claims relating to acquisitions or divestitures; 4) claims to revoke permits and/or concessions; and 5) other diverse civil, administrative, commercial and lawless actions. CEMEX considers that in those instances in which obligations have been incurred, CEMEX has accrued adequate provisions to cover the related risks. CEMEX believes these matters will be resolved without any significant effect on its business, financial position or results of operations. In addition, in relation to certain ongoing legal proceedings, CEMEX is sometimes able to make and disclose reasonable estimates of the expected loss or range of possible loss, as well as disclose any provision accrued for such loss, but for a limited number of ongoing legal proceedings, CEMEX may not be able to make a reasonable estimate of the expected loss or range of possible loss or may be able to do so but believes that disclosure of such information on a case-by-case basis would seriously prejudice CEMEX's position in the ongoing legal proceedings or in any related settlement discussions. Accordingly, in these cases, CEMEX has disclosed qualitative information with respect to the nature and characteristics of the contingency but has not disclosed the estimate of the range of potential loss.

25) RELATED PARTIES

All significant balances and transactions between the entities that constitute the CEMEX group have been eliminated in the preparation of the consolidated financial statements. These balances with related parties resulted primarily from: (i) the sale and purchase of goods between group entities; (ii) the sale and/or acquisition of subsidiaries' shares within the CEMEX group; (iii) the invoicing of administrative services, rentals, trademarks and commercial name rights, royalties and other services rendered between group entities; and (iv) loans between related parties. Transactions between group entities are conducted on arm's length terms based on market prices and conditions. When market prices and/or market conditions are not readily available, CEMEX conducts transfer pricing studies in the countries in which it operates to assure compliance with regulations applicable to transactions between related parties.

The definition of related parties includes entities or individuals outside the CEMEX group, which, due to their relationship with CEMEX, may take advantage of being in a privileged situation. Likewise, this applies to cases in which CEMEX may take advantage of such relationships and obtain benefits in its financial position or operating results. CEMEX's transactions with related parties are executed under market conditions.

For the years ended December 31, 2018, 2017 and 2016, in ordinary course of business, CEMEX has entered into transactions with related parties for the sale and/or purchase of products, sale and/or purchase of services or the lease of assets, all of which are not significant for CEMEX and to the best of CEMEX's knowledge are not significant to the related party, are incurred for non-significant amounts for CEMEX and are executed under market terms and conditions following the same commercial principles and authorizations applied to other third parties. These identified transactions, as applicable, are approved at least annually by the Parent Company's Board of Directors. For CEMEX, none of these transactions are material to be disclosed separately.

In addition, for the years ended December 31, 2018, 2017 and 2016, the aggregate amount of compensation of CEMEX, S.A.B. de C.V. board of directors, including alternate directors, and CEMEX's top management executives was US\$38 (Ps732), US\$47 (Ps887) and US\$43 (Ps802), respectively. Of these amounts, US\$29 (Ps559) in 2018, US\$35 (Ps661) in 2017, US\$32 (Ps595) in 2016, was paid as base compensation plus

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performance bonuses, including pension and post-employment benefits. In addition, US\$9 (Ps173) in 2018, US\$12 (Ps227) in 2017 and US\$11 (Ps207) in 2016 of the aggregate amounts in each year, corresponded to allocations of Parent Company CPOs under CEMEX's executive share-based compensation programs.

26) MAIN SUBSIDIARIES

As mentioned in note 4.4 and 20.4, as of December 31, 2018 and 2017, there are non-controlling interests on certain consolidated entities that are in turn holding companies of relevant operations. The main subsidiaries as of December 31, 2018 and 2017, which ownership interest is presented according to the interest maintained by their direct holding company, were as follows:

<u>Subsidiary</u>	<u>Country</u>	<u>% Interest</u>	
		<u>2018</u>	<u>2017</u>
CEMEX México, S. A. de C.V. ¹	Mexico	100.0	100.0
CEMEX España, S.A. ²	Spain	99.9	99.9
CEMEX, Inc.	United States of America	100.0	100.0
CEMEX Latam Holdings, S.A. ³	Spain	73.2	73.2
CEMEX (Costa Rica), S.A.	Costa Rica	99.1	99.1
CEMEX Nicaragua, S.A.	Nicaragua	100.0	100.0
Assiut Cement Company	Egypt	95.8	95.8
CEMEX Colombia, S.A. ⁴	Colombia	99.9	99.9
Cemento Bayano, S.A. ⁵	Panama	100.0	100.0
CEMEX Dominicana, S.A.	Dominican Republic	100.0	100.0
Trinidad Cement Limited	Trinidad and Tobago	69.8	69.8
Caribbean Cement Company Limited ⁶	Jamaica	79.0	79.0
CEMEX de Puerto Rico Inc.	Puerto Rico	100.0	100.0
CEMEX France Gestion (S.A.S.)	France	100.0	100.0
CEMEX Holdings Philippines, Inc. ⁷	Philippines	55.0	55.0
Solid Cement Corporation ⁷	Philippines	100.0	100.0
APO Cement Corporation ⁷	Philippines	100.0	100.0
CEMEX U.K.	United Kingdom	100.0	100.0
CEMEX Deutschland, AG.	Germany	100.0	100.0
CEMEX Czech Republic, s.r.o.	Czech Republic	100.0	100.0
CEMEX Polska sp. Z.o.o.	Poland	100.0	100.0
CEMEX Holdings (Israel) Ltd.	Israel	100.0	100.0
CEMEX SIA	Latvia	100.0	100.0
CEMEX Topmix LLC, CEMEX Supermix LLC and CEMEX Falcon LLC ⁸	United Arab Emirates	100.0	100.0
Neoris N.V. ⁹	The Netherlands	99.8	99.8
CEMEX International Trading LLC ¹⁰	United States of America	100.0	100.0
Transenergy, Inc. ¹¹	United States of America	100.0	100.0

- 1** CEMEX México, S.A. de C.V. is the indirect holding company of CEMEX España, S.A. and subsidiaries.
2 CEMEX España, S.A is the indirect holding company of most of CEMEX's international operations.

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- 3 The interest reported excludes own shares held in CLH's treasury. CLH, entity incorporated in Spain, trades its ordinary shares in the Colombian Stock Exchange under the symbol CLH, and is the indirect holding company of CEMEX's operations in Colombia, Panama, Costa Rica, Guatemala, Nicaragua, El Salvador and Brazil (note 20.4).
- 4 Represents our 99.7% and 98.9% interest in ordinary and preferred shares, respectively.
- 5 Includes a 0.515% interest held in Cemento Bayano's treasury.
- 6 The aggregate ownership interest of CEMEX in this entity of 79.04% includes TCL's direct and indirect 74.08% interest and the Parent Company's indirect 4.96% interest.
- 7 Represents CHP direct and indirect interest. CEMEX's operations in the Philippines are conducted through CHP, subsidiary incorporated in the Philippines which since July 2016 trades its ordinary shares on the Philippines Stock Exchange under the symbol CHP (note 20.4).
- 8 CEMEX owns a 49% equity interest in each of these entities and holds the remaining 51% of the economic benefits, through agreements with other shareholders.
- 9 Neoris N.V. is the holding company of the entities involved in the sale of information technology solutions and services.
- 10 CEMEX International Trading, LLC is involved in the international trading of CEMEX's products.
- 11 Formerly named Gulf Coast Portland Cement Co., it is engaged in the procurement and trading of fuels, such as coal and petroleum coke, used in certain operations of CEMEX.

27) SUBSEQUENT EVENTS

On February 20, 2019, CEMEX announced that it has signed an agreement for the sale of assets in the Baltics and Nordics to the German building materials group SCHWENK, for €340. The Baltic assets divested consist of one cement production plant in Broceni, four aggregates quarries, two cement quarries, six ready-mix concrete plants, one marine terminal and one land distribution terminal in Latvia. The assets divested also include CEMEX's 38% indirect interest in one cement production plant in Akmene in Lithuania. In addition, the exports business to Estonia is also included as part of the divestment. The Nordic assets divested consist of three import terminals in Finland, four import terminals in Norway and four import terminals in Sweden. The proceeds obtained from this divestment will be used mainly for debt reduction and for general corporate purposes.

On March 12, 2019, CEMEX announced the pricing of €400 of its 3.125% Senior Secured Notes due 2026 denominated in Euros. These notes will bear interest at an annual rate of 3.125% and mature on March 19, 2026. The Notes were issued at a price of 100% of face value and will become callable commencing on March 19, 2022. The closing of the offering was on March 19, 2019, once CEMEX complied with the satisfaction of customary closing conditions. CEMEX intends to use the net proceeds from the offering of the Notes for general corporate purposes, including to repay other indebtedness, all in accordance with CEMEX's facilities agreement, dated as of July 19, 2017 (the "2017 Credit Agreement"), entered into with several financial institutions. The Notes will share in the collateral pledged for the benefit of the lenders under the 2017 Credit Agreement and other secured obligations having the benefit of such collateral, and are guaranteed by CEMEX México, S.A. de C.V., CEMEX Concretos, S.A. de C.V., Empresas Tolteca de México, S.A. de C.V., New Sunward Holding B.V., CEMEX España, S.A., Cemex Asia B.V., CEMEX Corp., CEMEX Finance LLC, Cemex Africa & Middle East Investments B.V., CEMEX France Gestion (S.A.S.), Cemex Research Group AG and CEMEX UK.

On March 14, 2019, CEMEX informed the Mexican Stock Exchange (*Bolsa Mexicana de Valores*) that it informed the Irish Stock Exchange that it has issued a notice of partial redemption with respect to 4.375% Senior

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Secured Notes due March 2023 (“March 2023 Notes”). The aggregate principal amount of the Notes to be partially redeemed was €400 of the €550 aggregate principal amount of Notes outstanding. These notes will be redeemed on a pro rata basis and will trade on a pool factor basis following the redemption. The notes were partially redeemed in full on April 15, 2019. On March 29, 2019, CEMEX issued a notice of full redemption of the remaining €150 aggregate principal amount of the March 2023 Notes outstanding on April 30, 2019.

On March 19, 2019, CEMEX, announced that it has reached a binding agreement to sell its aggregates and ready-mix assets in the North and North-West regions of Germany to GP Günter Papenburg AG for €87. CEMEX currently expects to sign a final agreement for the sale of assets during May 2019 and close this divestment during the second quarter of 2019. The assets in Germany being divested consist of 4 aggregates quarries and 4 ready-mix facilities in North Germany, and 9 aggregates quarries and 14 ready-mix facilities in North-West Germany. The proceeds expected to be obtained from this divestment will be used mainly for debt reduction and for general corporate purposes. The closing of this transaction is subject to the satisfaction of standard conditions for this type of transactions, which includes authorization by regulators.

On March 29, 2019, CEMEX announced that it had reached a binding agreement with Çimsa Çimento Sanayi Ve Ticaret A.S., to divest CEMEX’s white cement business, including its Buñol cement plant in Spain, for US\$180. The proposed divestment does not include CEMEX’s white cement business in Mexico as well as the investment in Lehigh White Cement Company in the United States. CEMEX currently expects it could sign the final agreement during April 2019 and close this divestment during the second half of 2019.

On March 29, 2019, CEMEX informed that it had successfully closed the previously announced divestment of its assets in the Baltics and Nordics to the German building materials group SCHWENK for €340.

On April 2, 2019, CEMEX announced that it had successfully closed the amendment process under its facilities agreement, dated as of July 19, 2017 the 2017 Credit Agreement, entered into with several financial institutions. As part of this amendment process, CEMEX is extending U.S.\$1.1 billion of maturities by 3 years, representing on aggregate 92% of the July 2020 and January 2021 maturities under the 2017 Credit Agreement. With this extension, CEMEX currently does not have any relevant debt maturities until July 2021, aside from its 3.72% subordinated convertible notes maturing on March 2020 with a principal amount of U.S.\$521 million. As part of the amendments to the 2017 Credit Agreement, CEMEX is making certain adjustments for the implementation of IFRS 16 – Leases, and the neutralization of any potential effect from such adoption on its consolidated financial leverage ratio. In addition, CEMEX is delaying the scheduled tightening of the consolidated financial leverage ratio limit by one year. Furthermore, CEMEX’s consolidated financial leverage ratio will now be calculated on a net debt basis.

On April 12, 2019, in connection with the Lease Agreement with respect to the Affected Assets (note 24.1), CEMEX Colombia reached a conciliatory agreement with the Attorney General’s Office allowing CEMEX Colombia to operate its Maceo cement plant in the region of Antioquia (the “Maceo Plant”), pursuant to which the signing of a mining operation, the provision of manufacturing services and dispatch and leasing of real estate for cement production (the “New Lease Agreement”) was endorsed. CEMEX Colombia, under the terms of the New Lease Agreement, will lease the land portion of the Affected Assets for a duration of 21 years, which can be extended by another 10 years. The New Lease Agreement will remain in full force and effect regardless of the outcome following the expiration of the property proceeding over the Affected Assets unless the criminal judge grants CEMEX Colombia (and of one of its subsidiaries) the ownership rights related to the Affected Assets. In

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such case, the New Lease Agreement will be terminated given that CEMEX Colombia and its subsidiary would be the owners of the Affected Assets and the New Lease Agreement would no longer be required to operate and manage them. CEMEX expects that the Maceo Plant will begin operating when the following applications and procedures that are being processed with the competent authorities are positively resolved: (i) the partial discharge of the Maceo Plant from the Integrated Management District (*Distrito de Manejo Integrado*) of the Alicante River Canyon (Cañón de Río Alicante), (ii) the amendment to the environmental license that allows the production of at least 950,000 metric tons of cement per year, (iii) the land usage amendment to allow for industrial and mining use and (iv) obtaining permits to complete the construction of several sections of the access road to the Maceo Plant. Once these permits are obtained, we expect to complete construction of the access road to the Maceo Plant.

On April 15, 2019, CEMEX redeemed €400 aggregate principal amount of the March 2023 Notes using mainly the proceeds from the issuance of the March 2026 Euro Notes.

As of the date of this annual report on Form 20-F, the Chief Executive Officer of CEMEX, S.A.B. de C.V. has authorized the inclusion of these consolidated financial statements, which were originally approved at CEMEX, S.A.B. de C.V.'s 2018 general ordinary shareholders' meeting held on March 28, 2019, hereby updated for subsequent events, to be filed with the United States Securities and Exchange Commission.

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors

CEMEX, S.A.B. de C.V.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated statements of financial position of CEMEX, S.A.B. de C.V. and subsidiaries (the Company) as of December 31, 2018 and 2017, the related consolidated statements of income, comprehensive income, changes in stockholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2018, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2018, in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated April 24, 2019 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ KPMG Cardenas Dosal, S.C.

We have not been able to determine the specific year that we began serving as the Company's auditor, however we are aware that we have served as the Company's auditor since at least 1998.

Monterrey, N.L. Mexico
April 24, 2019

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INTERNAL CONTROL REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors

CEMEX, S.A.B. de C.V.:

Opinion on Internal Control Over Financial Reporting

We have audited CEMEX, S.A.B. de C.V. and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated statements of financial position of the Company as of December 31, 2018 and 2017, the related consolidated statements of income, comprehensive income, changes in stockholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2018, and the related notes (collectively, the consolidated financial statements), and our report dated April 24, 2019 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control Over Financial Reporting as of December 31, 2018. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable

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assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ KPMG Cardenas Dosal, S.C.

Monterrey, N.L. Mexico
April 24, 2019