



# building a better future

2011 SUSTAINABLE  
DEVELOPMENT REPORT





Our cover: Supreme Tribunal Library in Puerto Rico, 4,200 m<sup>3</sup> of ready-mix concrete.

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Bay Bridge in San Francisco. 199,000 m<sup>3</sup> of ready-mix concrete.

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# about CEMEX

Founded in Mexico in 1906, CEMEX, S.A.B. de C.V. is the world's leading supplier of ready-mix concrete, a leading cement and aggregates producer, one of the world's largest producers of White Portland Cement, and one of the top cement and clinker traders in the world. CEMEX is an established brand that represents our entire organization as well as the bulk aggregates, ready-mix concrete, and cement we distribute. In many markets, we also have individual brands for our local bagged cement and some of our special concrete products. Our customers range from governments to global construction firms to individuals building their own homes.

## quick facts

as of December 31, 2011

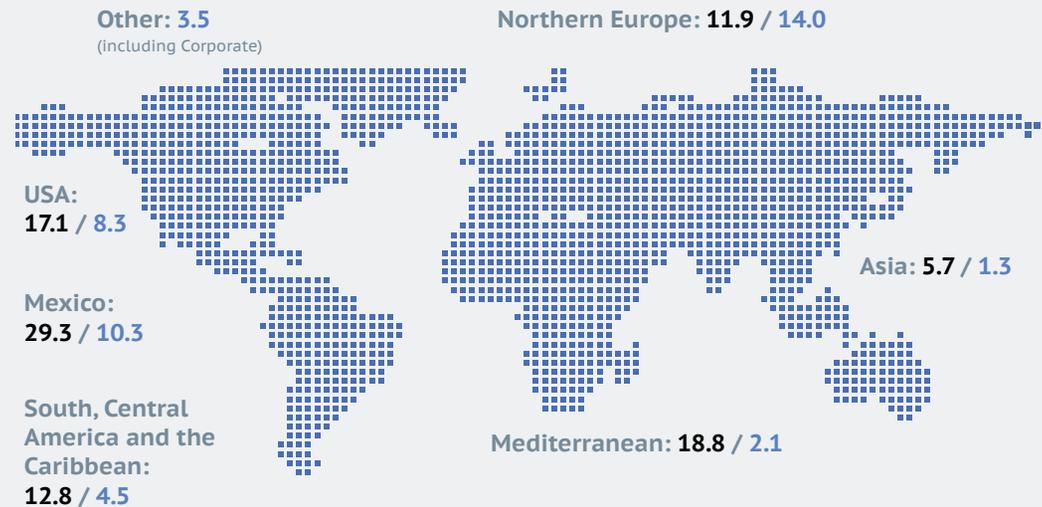
- CEMEX, S.A.B. de C.V. (NYSE: CX / BMV: CEMEX), a holding company, is a public stock corporation with variable capital (S.A.B. de C.V.) organized under the laws of Mexico.
- Presence in more than 50 countries and trade relationships in approximately 100.
- 44,104 employees worldwide.
- Annual production capacity of 95.6 million tons of cement.
- Annual production levels of approximately 55 million cubic meters of ready-mix concrete and more than 160 million tons of aggregates.
- 59 cement plants, 1,921 ready-mix concrete facilities, and minority participation in 12 cement plants.
- 377 aggregate quarries, 226 land-distribution centers, and 70 marine terminals.

# 50+

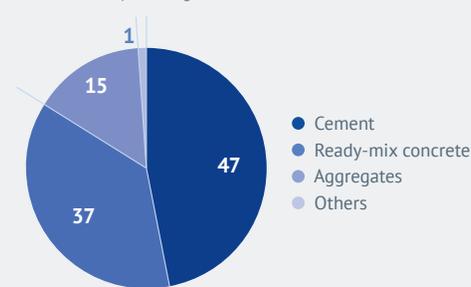
countries in our operations network

## 2011 global operations

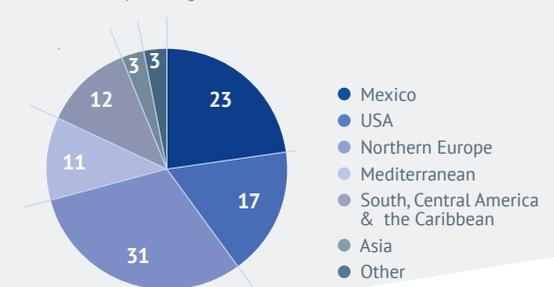
- cement production capacity (million metric tons/year)
- employees (thousand)



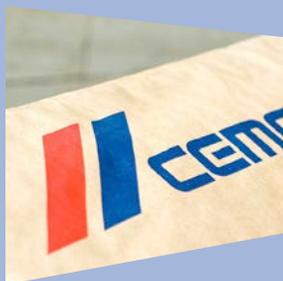
SALES DISTRIBUTION BY PRODUCT  
percentage



NET SALES GEOGRAPHIC DISTRIBUTION  
percentage



## our products and services



### Cement

The main ingredient in ready-mix concrete. CEMEX offers a portfolio of high-quality branded cement products, including Gray Ordinary Portland Cement, White Portland Cement, Masonry or Mortar, Oil-well Cement, and Blended Cement.



### Aggregates

Materials such as stone, sand, and gravel are the primary ingredients in ready-mix concrete, asphalt, and mortar.



### Ready-mix concrete

Made from a mixture of cement, aggregates, water, and admixtures, concrete is an extremely durable building material that can be casted into many different shapes.



### Services

We are increasingly positioning our company as a provider of value-added services to assist our customers in identifying and addressing trends that affect their industry and in maximizing the sustainability attributes of our products. Among these services are bioclimatic architecture and engineering, modeling of energy performance of buildings, LEED certification, and development of customized sustainable building solutions.

 For more information about our company, brands, and financial performance, please visit our corporate website at [www.cemex.com](http://www.cemex.com)

## 2011 performance summary

(in millions of US dollars<sup>1</sup>, except per-ADS data)

Financial highlights	2010	2011	%
Net sales	14,069	15,139	8
Operating income	856	960	12
Operating EBITDA	2,314	2,332	1
Controlling interest net income (loss)	(1,304)	(1,533)	(18)
Earnings (loss) per ADS <sup>2</sup>	(1.30)	(1.47)	(13)
Free cash flow after maintenance capital expenditures	512	386	(25)
Total assets	41,675	39,276	(6)
Total debt plus perpetual notes	17,729	18,067	2
Total controlling stockholders' equity	15,710	13,683	(13)

<sup>1</sup> For the reader's convenience figures are presented in US dollars. For statements of operations accounts, these figures result from translating the local currency amounts into US dollars at the average exchange rate for the year, which approximates a convenience translation of the Mexican peso results for 2011 and 2010 using the average exchange rates of the year of 12.48 MXN/US\$ and 12.67 MXN/US\$, respectively. For balance sheet accounts, US dollar figures result from translating the local currency amounts into US dollars at the closing exchange rate for the year, which approximates a convenience translation of the Mexican peso amounts at the end of each year using the end-of-year exchange rate of 13.96 MXN/US\$ and 12.36 MXN/US\$, respectively.

<sup>2</sup> Based on an average of 1,042.2 and 999.2 million American Depositary Shares (ADSs) for 2011 and 2010, respectively.

Direct economic impacts	2009	2010	2011
Customers: Net sales <sup>1</sup>	14,544	14,069	15,139
Suppliers: Cost of sales and operating expenses <sup>2</sup>	9,309	9,240	10,283
Employees and their families: Wages and benefits <sup>3</sup>	2,605	2,516	2,524
Investments: CAPEX <sup>4</sup> plus working capital	862	601	485
Creditors: Net financial expense	914	1,118	1,278
Governments: Taxes	291	335	287
Communities: Donations <sup>5</sup>	19	29	11
Communities donations as % of pre-tax income	(5.57%)	(3.02%)	(0.85%)
Shareholders: Dividends <sup>6</sup>	0	0	0
Others	(261)	(156)	34
Free cash flow	805	387	237
Net income (loss) before taxes	(341)	(946)	(1,271)

<sup>1</sup> Excludes sale of assets. <sup>2</sup> Excludes depreciation and amortization. <sup>3</sup> Wages reported in 2009 were non-operational and operational employees. <sup>4</sup> Capital Expenditure for Maintenance and Expansion. <sup>5</sup> 5.57% of loss before taxes. <sup>6</sup> Dividends paid in cash.

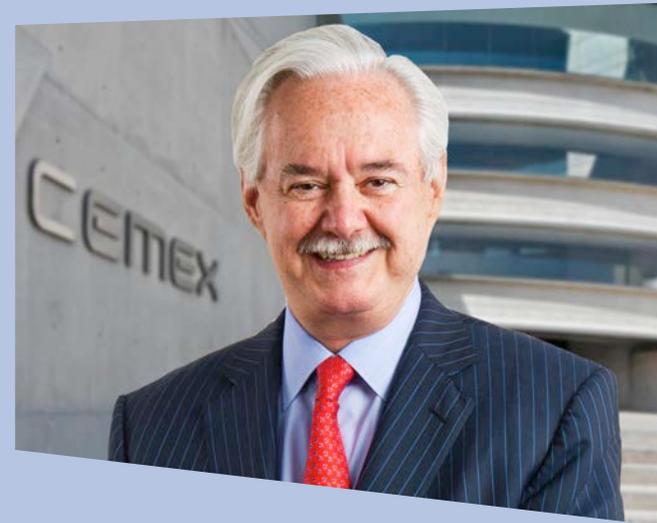
# to our stakeholders:

**Sustainability is central to CEMEX. It is core to our business strategy, as well as key to our growth. In a world characterized by expanding population, increasing urbanization, growing demand for natural resources, and changing climate, the only future CEMEX can possibly aim for is a sustainable one.**

A sustainable business model is clearly in the best interests of all our stakeholders. It is the surest way to produce economic value for our shareholders, to contribute to a cleaner environment for our employees and their communities, and to reduce the carbon footprint of our production and logistics activities. It is both good business and good for the planet.

Moreover, as the largest concrete producer in the world, we have a special obligation to play a creative role in defining and supporting a truly sustainable construction industry.

Meeting this obligation takes many different forms. For example, through our partnership with the Urban Infrastructure Initiative in the World Business Council for Sustainable Development we focus on developing urban transit infrastructure that minimizes greenhouse gas emissions on new streets and highways. Through our participation in the MIT Concrete Sustainability Hub we are increasing the understanding of the performance characteristics of concrete and its main applications from a life cycle perspective. And, working with partners in a number of countries, we continue to develop financing schemes that allow for more families who are in the bottom of the socio-economic pyramid to gain access to resilient and dignified housing. Last year alone, this effort financed homes for approximately 3,200 families.



Lorenzo H. Zambrano  
Chairman of the Board and  
Chief Executive Officer

AS THE LARGEST CONCRETE  
PRODUCER OF THE  
WORLD WE HAVE AN  
OBLIGATION TO DEFINE AND  
SUPPORT A SUSTAINABLE  
CONSTRUCTION INDUSTRY

RECESSIONS COME AND  
GO, BUT RELATIONSHIPS,  
PROPERLY NURTURED,  
CONTINUE TO CREATE  
STAKEHOLDER VALUE YEAR  
AFTER YEAR

Indeed, there are many ways to measure CEMEX's sustainability impacts.

Perhaps most importantly, in 2011 we increased the rate of substitution of alternative fuels in our cement kilns to 25 percent. We also adopted the most ambitious target rate among the global competitors in our industry, 35 percent, which we expect to achieve by 2015. The overall result of our carbon reduction strategy—which also includes reduction in clinker factor in our production processes, investment in clean development mechanism projects, and increased use of renewable energy from initiatives like our Eurus wind farm in Mexico—has been to reduce our specific net CO<sub>2</sub> emissions per ton of cement by almost 23 percent from 1990 levels. That is the equivalent of the emissions generated by 900 thousand homes per year.

As a leading producer of aggregates, we maintain a network of quarries and other mining facilities around the world. We aim to manage those facilities, both during and after their productive lives, to the highest environmental standards, including biodiversity. Last year, in partnership with BirdLife International, we developed our own Biodiversity Action Plan (BAP) Standard to guide our biodiversity management. This standard is the first of its kind in our industry. Our plan is to introduce a BAP on at least one site in each of the six CEMEX regions worldwide during 2012, and we expect to implement BAPs for all our priority sites by 2015.

An integral part of our sustainability commitment is our continuing, company-wide effort to improve workplace and community safety. Nevertheless, it is with great sadness and regret that we report that in 2011, 44 employees, contractors, and third parties died in connection with CEMEX's activities.

Such losses are deeply distressing to the entire CEMEX community. We have redoubled our safety efforts—especially regarding transport activities and contract drivers, which accounted for a majority of fatal incidents—and we will not rest until we can report that no lives were lost in CEMEX's worldwide operations.

I want to stress that our goal is not only zero fatal accidents, but zero accidents, period. That is ambitious, but aiming for anything less would be unfair to our employees and to the communities in which we operate.

I am pleased that we are heading in the right direction: our lost-time injury rate for employees (per million hours worked) decreased significantly to 2.3. Our 2015 goal is 0.5, and I am confident we will get there—and beyond.

In addition, I want to underline our steadfast devotion to corporate social responsibility (CSR). Our CSR commitment is based on a simple, powerful idea: empowerment and the creation of self-employment opportunities, rather than charity, are the most durable form of community support and development.

There are many examples of how this idea gets translated into practice. For example, during 2011, we incorporated 45,545 additional Latin American families into our "Patrimonio Hoy" program. This brings the cumulative total participants to more than 350,000 families and 2.5 million square meters of built surface. Another initiative is the "Centros Productivos de Autoempleo" (Productive Centers of Self-employment) program: small factories where people are self employed manufacturing concrete blocks. During 2011, CEMEX established 16 new centers, bringing the total number to 38 and benefiting more than 44,000 families.

Finally, our relationships with our key stakeholders—customers, employees, shareholders, civil society organizations, suppliers, communities, and governments—are fundamental to the success of our business over the long term. Recessions come and go, but relationships, properly nurtured, continue to create stakeholder value year after year. That is part of the reason that we have subscribed to the United Nations Global Compact since 2004, joining like-minded companies and organizations in subscribing to ten universally accepted human rights, labor, environment and anti-corruption principles.

This report is itself a vital component of our ongoing dialogue with stakeholders. We are grateful to the members of our Sustainable Development Advisory Panel for their valuable input into our ongoing efforts to report more transparently on our challenges as well as our successes; to the many organizations and communities with which we interact each day; and to you, whose thoughts and feedback we welcome.

We look forward to working with you not only in 2012, but for many years to come as we work together to build a more sustainable future for us all.

Sincerely,



**Lorenzo H. Zambrano**  
Chairman of the Board and Chief Executive Officer

# CEMEX sustainability vision and model

Given the importance of the sustainability-related challenges that society and business face, CEMEX has integrated sustainability into its business strategy. With the help of our Sustainability Model, we are incorporating sustainability practices into substantially all of our day-to-day operations and decision-making processes worldwide. Our model ensures that we concentrate our efforts and resources on the issues of highest relevance to our business and greatest concern to our stakeholders.



## CEMEX's sustainability model

We have three main sustainability objectives:

**Enhance Our Value Creation:** CEMEX aims to deliver the innovative, high-performing products, services, and solutions that our resource-constrained society requires in order to create a growing and profitable low-carbon economy. By fulfilling the needs of the construction sector in its efforts to adopt more sustainable operating practices, we aim to create long-lasting competitive advantages.

**Manage Our Footprint:** CEMEX strives to minimize the ecological impacts of its operations on the communities in which we operate. Such impacts are carefully identified and measured so that we can continuously reduce our footprint to the lowest level that is both technically and economically feasible. We also have a robust pipeline of projects that provide carbon offsets to further reduce our net impact.

**Engage Our Stakeholders:** CEMEX fosters positive, long-term relationships with key stakeholders to address the pressing needs and concerns of society. With a highly committed and empowered employee base, CEMEX closely collaborates with a broad variety of institutions that allow us to complement our core competencies and enable us to generate social benefits that contribute to strengthening local communities.

## our seven priorities

We have identified seven priorities in our Sustainability Model. The definition of these priorities has followed a structured process of both internal and external consultations where we have measured the impact that the main sustainability issues have on our stakeholders and on CEMEX operations. For this matter, in 2010 we performed a Materiality Analysis that we consider to remain valid as we are addressing the main concerns of our stakeholders.

Our seven priorities aligned to each of our three objectives are the focus of our 2011 Sustainable Development Report:

### Enhance our Value Creation:

- Lead in Sustainable Construction
- Affordable Housing & Infrastructure

### Manage our Footprint:

- Enhance Our Carbon Strategy
- Excellence in Environmental & Biodiversity Management

### Engage our Stakeholders:

- High Priority to Health & Safety
- Strengthen Local Communities
- Partnership with Key Stakeholders

## CEMEX's key stakeholder groups

A deep knowledge of our stakeholders allows us to better understand their needs and concerns.

### Our People

We aim to be the employer of choice in our markets. We seek to provide the most attractive opportunities for employees' personal and professional development.

### Our Neighbors

We are a good neighbor. We participate with communities openly and directly in order to build trust and address their concerns.

### Our Business Partners

We work to be the business partner of choice. We seek to help our suppliers and customers build their businesses and to create enduring value for our shareholders.

### Our World

We are a responsible global citizen. As a global company, we work to contribute to international efforts to address some of the world's most complex challenges, including climate change, access to housing and community infrastructure, and the conservation of biodiversity.

# progress towards our targets

	2009	2010	2011	Target 2015	Progress	Assurance
<b>Lead in Sustainable Construction</b>						
Production covered with CEMEX CO <sub>2</sub> Footprint Tool (%) <sup>1</sup>	NA	60	87	100	●	
Cement	NA	100	100	100	▲	
Aggregates	NA	50	83	100	●	
Ready Mix <sup>1</sup>	NA	41	83	100	●	
<b>Enhance our Carbon Strategy</b>						
Specific net CO <sub>2</sub> emissions (kg CO <sub>2</sub> /metric ton of cementitious product) <sup>2</sup>	627	629	612	594	●	✓
Reduction in CO <sub>2</sub> emissions per ton of cementitious product from 1990 baseline (%)	20.7	20.5	22.7	25	●	
Alternative fuels rate (%)	16.4	20.3	24.7	35	●	✓
<b>Excellence in Environmental and Biodiversity Management</b>						
Clinker produced with continuous monitoring of major emissions: Dust, NO <sub>x</sub> and SO <sub>x</sub> (%)	60	74	80	100	●	✓
Specific dust emissions (g/ton clinker) <sup>2</sup>	106	89	101	120	▲	✓
Specific NO <sub>x</sub> emissions (g/tons clinker) <sup>2</sup>	1,063	1,134	1,094	1,600	▲	✓
Specific SO <sub>x</sub> emissions (g/ton clinker)	410	334	335	520	▲	✓
Active sites with quarry rehabilitation plans (%)	82	85	89	100	●	
Active sites with high biodiversity value where biodiversity action plans are actively implemented (%)	29	38	38	100	■	
Operations with an Environmental Management System implemented (%)	50	76	86	100	●	
<b>High priority to Health and Safety</b>						
Lost-time injury (LTI) frequency rate, employees (per million hours worked)	3.2	2.6	2.3	0.5	■	✓
Compliance with CSI Driving Safety Recommended Practices (%)	NA	64	79	100	●	
Compliance with CSI Contractor Safety Recommended Practices (%)	NA	63	82	100	●	
Operations with a Safety Management System implemented (%)	98	98	99	100	●	
Operations with a Health Management System implemented (%)	76	79	82	100	●	

▲ Fully achieved target   ● On track to achieve target   ■ Extra effort required to achieve target

1. Data recalculated taking into consideration the scope set: fixed and managed plants
2. Target restated setting a more challenging goal

# lead in sustainable construction

Through stakeholder collaboration and companywide commitment, CEMEX is uniquely positioned to proactively contribute to the transformation of the construction sector.

WE ARE LEVERAGING  
OUR STRENGTHS AS A  
HIGHLY INNOVATIVE  
AND COLLABORATIVE  
BUILDING MATERIALS  
COMPANY

## performance highlights

- We have expanded coverage of the CEMEX CO<sub>2</sub> Footprint Tool to 88 percent of our total cement, ready mix, and aggregates facilities.
- CEMEX expanded its portfolio of innovative concrete technologies with the release of three new products: Promptis®, Hidratium®, and Fortium.
- CEMEX's participation in the WBCSD Urban Infrastructure Initiative (UII) has yielded sustainable infrastructure and building solutions Action Plans for three cities.

Ponce Musuem in Puerto Rico. CEMEX provided tailor-made products and services

## our approach

We are collaborating internally across our company to develop innovative products and solutions that address some of our customers' most salient environmental issues. We are working to understand the environmental impact of our concrete products and to promote their sustainability attributes over their life cycle. Our industry's collaborative research with the Massachusetts Institute of Technology (MIT) and our annual CEMEX Building Awards advance these efforts.

In addition, we are developing tools that enable us to transparently communicate to our clients the environmental impact of our products. We initiated this effort by launching our CO<sub>2</sub> Footprint Tool in 2010.

In 2011, CEMEX began positioning itself as a consultant to its customers in the construction of sustainable buildings. In doing so, we are moving beyond supplying building materials to providing advisory services, solutions, and technologies that help customers develop their own capabilities in sustainable construction. We will continue to develop our skills and expertise in this area.

Strategic and selective external collaborations are key to CEMEX success. Our ongoing participation in the WBCSD's Urban Infrastructure Initiative (UII), for example, has allowed us to become more deeply involved in city planning and infrastructure projects. As a result, we are gaining a deeper understanding of how our products and solutions contribute to solving the challenges of growing urbanization and increased urban density.

## building blocks of the future: the advantages of concrete

As a building material, concrete has a number of fundamental attributes—its durability, thermal mass, versatility, and cost-effectiveness—that, together, underscore its importance in sustainable construction and development. Among its other advantages, concrete contains no VOCs<sup>1</sup>, may be recycled for use as aggregate material, and can often be locally sourced. To better understand and fully utilize these traits, CEMEX stays closely abreast of current research such as that conducted at

*(continues on next page)*

1 Volatile organic compounds

## applying MIT research findings across our business

Through its work with clients, collaboration with organizations such as the UII, and research and development efforts, CEMEX is working to promote the sustainability attributes of concrete, confirmed by MIT's 2011 Concrete Sustainability Hub (CSH) research.

### Concrete in commercial and residential buildings

Concrete building materials offer significantly greater efficiency than light-frame wood construction—particularly in terms of heating and cooling. The research indicates that homes built with insulated concrete forms can see life-cycle energy savings of 5–8 percent compared with their wood-frame counterparts. These benefits derive from concrete's higher thermal mass, which reduces the effects of outdoor temperature fluctuations on building interiors—thus reducing the energy requirements of HVAC units and other electrical components.

In addition, the CSH research confirms that 88 to 98 percent of CO<sub>2</sub> emissions associated with concrete construction are produced in the usage phase of buildings—meaning during a building's usable life—and that only a small percentage of life-cycle emissions come from the concrete manufacturing process.

### Concrete roadways

Among the preliminary CSH findings with respect to concrete highways are that the majority of emissions from highways come from their use rather than their construction. The research indicates that the smoother, stiffer characteristics of concrete roadways (compared with those constructed of asphalt) may result in improved vehicle fuel efficiencies and lower GHG emissions. It is also widely understood that the



**Based on historical data, MIT calculates that over a 50-year time frame, the mean “real price” of asphalt can be expected to increase by 95 percent while the mean “real price” of concrete would decrease by 20 percent.**

higher albedo (light reflectivity) of concrete pavement helps keep road surfaces cooler and therefore reduces warming at both local (urban heat island effect) and global (climate change) scales.

The research identified options for reducing emissions through building and maintaining concrete roadways, and stressed the importance of good roadway design.

### Life-cycle cost of concrete

While concrete building materials may require higher upfront investments than steel, wood, or asphalt, MIT's research indicates that, due to concrete's superior durability and thermal efficiency, the full life-cycle costs of operating concrete buildings and roadways are actually lower than with the alternatives. Findings also note that the relative price stability of concrete offers long-term project costing benefits.

### Continuous improvement

Although the MIT work shows that GHG emissions related to the production of concrete construction materials are dwarfed by those in the use phase, it also highlights a number of ways in which concrete producers can help reduce the life-cycle impact of buildings and structures. These include innovative design features and increased use of clinker substitutes such as fly ash.

Using these strategies, CEMEX can significantly reduce the life-cycle GHG emissions of its concrete building materials, while helping customers cut down on their own operating expenses, maintenance, and environmental impacts.

## challenges ahead:

As CEMEX introduces sustainable building products and services to the market, a balance must be struck between offerings that satisfy short-term market demands, and those that will address important issues over the long term. We work to stay closely abreast of the sustainability challenges our customers face—issues such as energy efficiency and emissions reduction—to help align our products and services with foreseeable market demands.

Supporting designers and developers in the first phases of project execution is another long term challenge for CEMEX. As we begin to offer a broader spectrum of building solutions and services—in addition to supplying building materials—our value propositions and customer relationships are evolving. Embracing these new business opportunities requires that we stay open minded in the development of integral construction solutions, while maintaining a focus on our company's core mission and principles.

Some features of sustainable buildings imply a higher initial investment in return for savings that can be obtained over the complete life cycle of the building. Developers and construction companies are often concerned that they will not be able to command a price premium that reflects the benefit of a higher initial investment in sustainable building solutions. Therefore, CEMEX must contribute to better communicate to end users the long-term benefits of sustainable buildings.



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the Massachusetts Institute of Technology (MIT) Concrete Sustainability Hub (CSH). Through a partnership with the Portland Cement Association and the National Ready Mixed Concrete Association in the USA, the CSH explores the life-cycle impacts of concrete when used in commercial and residential buildings, roadway paving, and other infrastructure projects.

## a focus on life-cycle sustainability

While the concept of “sustainable construction” is relatively new to the building industry, CEMEX is aggressively pursuing a leadership role in the development of products and building solutions that reduce the environmental impacts of construction projects while fostering social and economic growth. We work toward this goal by addressing the sustainability of our products from a life-cycle perspective. Our efforts fall into three main categories:

- 1. Responsible manufacturing** practices that reduce our environmental impacts and waste generation during the building materials production process.
- 2. Developing high-performance products** and technologies that address key construction challenges for buildings and infrastructure projects, such as GHG emissions, energy consumption, and water use.
- 3. Early and ongoing collaboration** with customers and urban planners to help them better manage the life-cycle impacts of construction projects.

### Responsible manufacturing

Over the years, CEMEX has made powerful and consistent improvements to its cement and aggregates manufacturing processes, including:

- Reduced use of clinker in our cement production
- Alternative fuel substitution at most of our manufacturing plants
- Development of renewable energy sources to power our operations
- Waste minimization efforts through our industrial ecology initiative
- Development of CO<sub>2</sub> measurement tools

🔗 See the full details of these initiatives at [www.cemex.com/SustainableDevelopment/CarbonStrategy.aspx](http://www.cemex.com/SustainableDevelopment/CarbonStrategy.aspx)



### Spotlight on the CEMEX CO<sub>2</sub> Footprint Tool

In December 2010, during COP16 in Cancun, Mexico, CEMEX unveiled the first CO<sub>2</sub> Footprint Tool in the building-materials sector and began measuring direct and indirect CO<sub>2</sub> emissions at 29 percent of our manufacturing facilities. Within a single year, we expanded the tool's implementation to 88 percent of our facilities, with the ability to estimate CO<sub>2</sub> emissions at the plant, regional, or national level or companywide. On the road to a 100 percent coverage (our 2015 target), we hope to more fully account for our direct and indirect CO<sub>2</sub> emissions while also enabling clients to better estimate the CO<sub>2</sub> embedded in their own construction projects. This approach addresses a widespread need for accountability and transparency in the construction industry around CO<sub>2</sub> emissions, and CEMEX remains committed to providing the best available data and guidance in this effort.

### Spotlight on the CEMEX Industrial Ecology Initiative

The goal of industrial ecology is to create closed life-cycle loops so that waste products from one industrial activity become feedstock for another—thus reducing net waste generation and demand for virgin natural resources without compromising economic activity.

We already use waste products from other industries in our cement manufacturing process. For example, we use materials like fly ash and blast furnace slag, which serve as effective clinker alternatives, helping us to lower our overall CO<sub>2</sub> emissions.

To further our progress in this area, CEMEX is actively engaged in the testing of industrial ecology principles through a pilot study at its Beckum plant in Germany. Through a thorough analysis of the cement value chain and life cycle, we are investigating ways that our Beckum plant can coordinate with other industrial players to maximize CEMEX's role in the recycling of building materials, with particular attention to aggregates recycling. We expect to share identified best practices with other cement manufacturing plants.

Products & solutions	Integral solutions
Promptis®	
StormCeptor	
Pervious Concrete	
Cement produced with low energy consumption	
Cement with low clinker factor	
Hidratium®	 
Self Compacting Concrete with low CO <sub>2</sub> footprint	
Fortium/ICF	
Concrete Pavement	



Land use



Water management



Energy & emissions



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### Developing high-performance products

As the world's largest concrete producer, CEMEX has a powerful opportunity to influence the evolution of the construction industry. From our Global Center for Technology and Innovation in Switzerland, we develop products and solutions that address the diverse needs of our customers while promoting environmental responsibility, social cohesion, and economic inclusiveness.

We offer a range of cement and concrete solutions that help reduce the energy consumption, GHG emissions, and water consumption of building projects during their construction, useful lives, and demolition.

### Product launches in 2011

We seek to continually expand the range of applications and sustainability benefits that our products support. In 2011, CEMEX released globally the following three new concrete products:

- **Fortium** fiber-reinforced concrete for structural walls
- **Hidratium®** self-curing ready mix concrete
- **Promptis®** rapid hardening/high early strength concrete

## SOME OF THE CEMEX PRODUCT PORTFOLIO WITH OUTSTANDING SUSTAINABILITY BENEFITS



- **Promptis®.** CEMEX's first global ready-mix concrete brand. A rapid hardening/high early strength development concrete designed for fast formwork removal. Unique characteristic: workability retention upto at least 90 minutes.



- **Stormceptor.** A concrete-based system to collect rainwater and treating it to remove sediment and hydrocarbons. Treated water is then re-used in the development.



- **Pervious Concrete.** Combining alternative mix design approaches and admixtures to develop pervious concrete that is very effective in reducing storm water and runoff drainage.



- **Cement produced with low energy consumption.** Cements produced with low temperature clinkers, thereby reducing CO<sub>2</sub> footprint and fuel usage. Increased reactivity of the clinker, can lead to reductions in clinker factor.



- **Cement with low clinker factor.** Production of cements with increasingly low clinker factor through the effective application of processing technology coupled with chemistry.



- **Hidratium®.** Technology that renders concrete tolerant to poor curing practices and conditions. The need for external curing is eliminated. Ease of application and important savings in labor costs - proprietary admixtures are introduced directly to concrete during batching.



- **Self compacting concrete with low CO<sub>2</sub> footprint.** A concrete that offers all the advantages of conventional SCC, but with lower CO<sub>2</sub> footprint (-40%). A combination of special admixtures designed by CEMEX researchers and a unique mix design approach.



- **Fortium/ICF.** Concrete technology for reinforced structural wall. A special fiber-reinforced concrete technology that reduces/replaces reinforced structures in vertical applications (walls).



- **Concrete pavement.** Higher durability and lower maintenance requirements make concrete pavement a sustainable and economical solution.

WE SEEK TO  
CONTINUALLY EXPAND  
THE RANGE OF  
APPLICATIONS AND  
BENEFITS THAT OUR  
PRODUCTS SUPPORT

## collaboration efforts to promote sustainable buildings and improve urban planning

While independently CEMEX is a diligent supporter of sustainable construction and development, our company's efforts are greatly magnified through close collaboration with governments, nonprofit organizations, and our customers. Our guidance—in the earliest stages of urban planning—can drastically improve the ultimate infrastructural efficiency and quality of life in cities and buildings, while providing ongoing business opportunities for CEMEX.

### Partnership with the WBCSD's Urban Infrastructure Initiative

Among our most significant long-term partners is the World Business Council for Sustainable Development (WBCSD). Since 2006, CEMEX has collaborated with the WBCSD on a number of projects, including the Energy Efficiency in Buildings (EEB) initiative—exploring efficiency standards and best practices for commercial buildings—and, most recently, the Urban Infrastructure Initiative (UII).

The goal of the UII is to develop sustainable, cost-effective solutions to address the basic infrastructural needs of growing cities. The UII draws upon the expertise of a diverse membership base, including companies in the building materials, energy, transportation, and engineering sectors, among others. In 2011, the UII launched pilot studies in a number of European cities to determine “issue landscapes” of urban areas in need of infrastructural updates. The trends identified in the study include growing and aging urban populations with rising expectations for personal mobility, more local deliveries associated with internet shopping, and increasing consciousness of energy use and climate change.

In each of the engaged cities, company experts, city officials, and representatives of local businesses took part in workshops to identify practical solutions such as traffic management and building control systems. The workshops demonstrated the value of providing early business input into city planning and set the stage for ongoing work.

In 2012, additional assessments will be conducted in Latin America to determine how sustainable infrastructure action plans might take shape in cities such as Puebla and Guadalajara in Mexico, and Panama City, in Panama.

### Sustainable Construction Consulting

To meet the increasing demand for sustainability expertise in construction markets, CEMEX has taken the first steps to position itself as consultant to its clients in the construction of sustainable buildings. As an example, the new San Bernabé Community Center in Monterrey, Mexico, will be built with the advice and counsel of CEMEX regarding the latest sustainable design and technology elements. These will include the use of key concrete products that allow for more efficient use of energy. The San Bernabé project is part of a comprehensive



## THE CITY OF THE FUTURE



public initiative to improve skills training and social cohesiveness in fragile communities. With the support of CEMEX, San Bernabé will combine environmental, social, and economic best practices to provide a truly sustainable community institution. As part of this initiative, CEMEX is partnering with various players in the construction value chain to provide the full set of skills and solutions required to design and implement sustainable solutions for buildings.

### Envisioning the City of the Future

As CEMEX engages with others in developing the solutions required to fulfill the current and future demands from society, we have created a vision of what we think are going to be some of the most relevant challenges faced by cities as they grow and the ways in which we expect concrete and concrete-based solutions will respond to those challenges. This vision allows us to have a better understanding of the initiatives we need to implement in the short term to prepare the capabilities that our organization will need to have in the future.

To learn more about the advantages of concrete, as well as the solutions and technologies we envision for tomorrow's low-carbon society, see our City of the Future interactive web application at [www.cemex.com/SustainableDevelopment/CityOfTheFuture.aspx](http://www.cemex.com/SustainableDevelopment/CityOfTheFuture.aspx)

Concrete's Solutions for:

**Mobility** - provides a durable wearing surface for transport systems.

**Energy efficient buildings** - Reduces energy consumption for heating and cooling through thermal mass.

**Urban Design** - widely used in major urban infrastructure projects in issues such as water management, renewable energy generation, landfills, among others.

### CEMEX Building Awards 2011

Each year, CEMEX gives recognition to building projects that make positive impacts through superior innovation.

The CEMEX Building Awards is an annual contest that seeks to distinguish the best in construction in Mexico and around the world. Throughout the course of each contest, CEMEX encourages a culture of innovation in construction, acknowledging the talent of those whose building projects are most creative and influential. In addition to the regular award categories, a special Sustainable Building category was created in 2002, reflecting our company's commitment to the minimization of environmental impacts and maximization of social benefits in the construction process. The 2011 first-place winners in the sustainable construction category were the Julio Mario Santodomingo Library in Bogotá, Colombia, and the rest areas built along the Atlacomulco-Maravatío Highway in Mexico.

### Additional resources

- > MIT Concrete Sustainability Hub (CSH)
- > WBCSD Urban Infrastructure Initiative (UII)
- > WBCSD Energy Efficiency in Buildings project (EEB)

## 2011 Building Awards - Sustainable Buildings

### Julio Mario Santo Domingo Library

This project, located in Colombia's capital, is an example of a large-scale public cultural project that factors in bioclimatic architectural principles for enhanced user comfort, environmental soundness, and resource conservation.

The project features a natural ventilation system that draws air from the concrete basement to cool other parts of the building, preventing the need for air-conditioning equipment and significantly reducing electricity requirements. The entire building enjoys natural lighting thanks to various architectural solutions that provide the correct amount and intensity of light for each activity. In spaces requiring artificial lighting, motion sensors reduce unnecessary energy use.

### Atlacomulco-Maravatío highway rest areas

Located on the Mexico-Morelia highway, these elegantly simple modules boast a comprehensive sustainable design. This low-cost, high-quality solution provides effective and dignified public services to the highway. Each module contains two groups of restrooms, an information way, and a convenience store—all under a single roof, and with minimal use of walls.

From the highway, the entire facility can be easily identified, night or day, due to its distinctive physical and landscape design characteristics.

For more information about the CEMEX Building awards and winning projects in 2011, please visit [www.cemex.com/MediaCenter/BuildingAward.aspx](http://www.cemex.com/MediaCenter/BuildingAward.aspx)

# affordable housing and infrastructure

CEMEX is expanding the scope of its project portfolio with comprehensive building solutions tailored to the needs of developing economies

## performance highlights

- The Affordable Housing Program assisted in building more than 3,200 homes for families in the bottom of the pyramid segment.
- CEMEX's affordable housing solutions were made available in five new countries—Costa Rica, Nicaragua, Panama, Guatemala, and Haiti.
- We completed 188 infrastructure projects, representing more than 8 million square meters of concrete pavement for highways, mass transit projects, airport runways, and city streets.
- CEMEX has expanded its portfolio of Bus Rapid Transit (BRT) projects, securing additional contracts in four important Mexican cities.

**WE HAVE MADE  
SIGNIFICANT  
PROGRESS IN MEETING  
THE NEED FOR  
AFFORDABLE HOUSING  
IN OUR MARKETS**

Baluarte Bridge in Sinaloa and Durango, Mexico. One of the tallest bridges in the world with a height of 390 meters



CEMEX helps promote sustainable and equitable transportation through BRTs, “a high-quality bus-based system that delivers fast, comfortable, and cost-effective urban mobility” Institute for Transportation and Development Policy

## our approach

CEMEX is a leading provider of affordable housing and high-scale infrastructure and a strong partner in the socio-economic development of emerging markets throughout the world. We anticipate that, in the coming years, the sustainable growth of cities and communities will hinge upon increased population density and strategic urban planning. To this end, our early involvement and close collaboration with a variety of stakeholders—from microfinance lenders and community-development NGOs to governments and developers—is critical to our success in addressing housing and infrastructure needs in these markets. We believe that the social and economic empowerment of low-income communities represents a significant opportunity for our company to develop productive, diversified business relationships and establish natural project feedback loops to fuel our business as cities mature.

We have made significant progress in meeting the need for affordable housing in our markets. In 2011 alone, we contributed to the construction of approximately 3,200 affordable homes. We will accelerate this growth in 2012 by engaging directly with potential homeowners to provide

## challenges ahead:

- ▶ In 2012, we expect additional expansion of our affordable housing initiative to Bangladesh, Colombia, the Dominican Republic, Egypt, Malaysia, the Philippines, and Thailand.
- ▶ We also plan to develop new BRT projects throughout Mexico, and we will continue to improve our internal skills to face the growing needs for infrastructure projects as cities in our key markets expand.



Developing prototypes for affordable housing

them with the engineering, technology, and construction techniques needed to build their own homes.

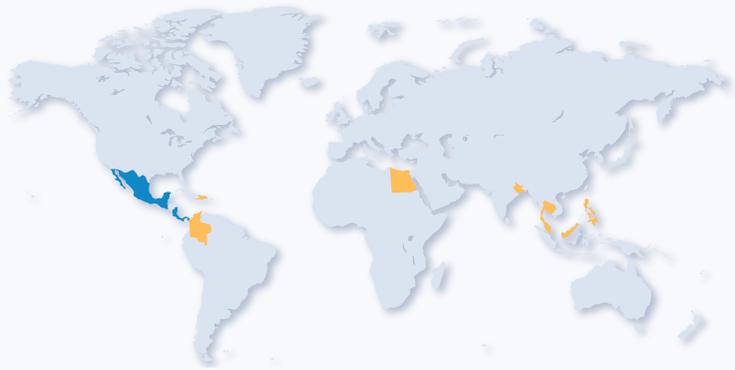
CEMEX has also continued to pursue public-private partnerships for the development of infrastructure projects that use concrete, a sustainable building material. Our paving and mass-transit solutions are essential to the flow of urban and suburban commerce and are designed to reduce the greenhouse gas emissions typically associated with city transit.

Our overarching strategy for affordable housing and infrastructure projects reflects a broadening approach to stakeholder engagement and deeper vertical integration of our building solution services. Ultimately, we expect our work in emerging markets to foster community connectedness and accelerate economic development.

## growing need for affordable housing and infrastructure

In a recent study of global development trends, the United Nations Human Settlement Programme (UN-HABITAT) noted that, for the first time, the world’s urban population has come to exceed the world’s rural population. With urbanism becoming a global norm, the creative and effective management of population density will be essential to the sustainable growth of cities and communities.

To aid in the cultivation of healthy urban density, CEMEX focuses on the development of affordable housing and infrastructure—two areas that are closely interrelated and that critically influence the cohesiveness and scalability of growing economic centers.



- Affordable housing program in place
- Intended area of expansion for CEMEX housing solutions

Our affordable housing solutions are already available throughout much of Central America and will be introduced to a number of new markets in 2012.

## empowering a new class of homeowners

CEMEX's work to increase the availability of high-quality, affordable housing options in low-income communities around the world is based upon the belief that socioeconomic status should not constrain one's access to safe shelter and healthy living conditions. Yet global housing deficits pose a serious threat to the prosperity and integrity of communities in and around urban centers. The United Nations estimates that 48 percent of urban growth is attributable to the expansion of slums, where social inequalities, poor infrastructure, and lack of access to basic resources all inhibit sustainable development.

To address these challenges, CEMEX offers customizable home prototypes for both urban and rural settings in diverse climates. Our modular designs allow for different floor configurations, compatibility with numerous appliances, and the option for multi-floor expansion to accommodate growing families. Housing prototypes also include features to improve their comfort and performance, such as:

- Concrete insulation for thermal protection
- Antibacterial and waterproofing additives
- Ventilation systems
- Energy- and water-management technologies
- Resilience to adverse weather conditions and earthquakes

By collaborating with an international network of developers, CEMEX has been able to help expand the affordable housing market while securing a position as a leading vendor of streamlined, low-cost housing solutions. CEMEX is also working to meet increased demand for direct-to-consumer building services by providing individual home buyers and builders with the materials and technical assistance needed to accelerate their construction projects.

We believe that home ownership, particularly in low-income communities, is a major stepping stone toward social and economic inclusion, and can greatly increase neighborhood health and cohesiveness. Wherever possible, CEMEX engages local governments and lending institutions to develop favorable financing options for potential homeowners.

**3,200**  
affordable homes  
constructed through  
our Affordable Housing  
Program

*"In all developing regions, improving the lives of slum dwellers calls for macro-level programmes that include housing infrastructure and finance, improved water and sanitation, and adequate living spaces. However, these macro-level programmes must be associated with micro-level schemes, including micro-credit, self-help, education and employment."*

— UN-Habitat, 2010

Case Study:

## dignified living in Nicaragua's "Canada District"

CEMEX's affordable-housing engagements are designed to benefit both local communities and our business. In 2011, our Canada District 2nd Stage housing project in Nicaragua brought this strategy to the fore: Among the 143 families receiving low-interest loans to build their houses, at least 50 beneficiaries will be CEMEX's own employees. Homes built through the Canada District 2nd Stage project will be 42 square meters in size and will include access to energy, clean water, and properly paved roads.

This scenario exemplifies our vision for building trust and mutual commitment between CEMEX and the communities in which it operates.



**AS A PROVIDER OF HIGH-SCALE INFRASTRUCTURE SOLUTIONS, CEMEX HELPS CONNECT CITIES AND THEIR SURROUNDING AREAS**

**keeping cities connected**

With the expectation that 70 percent of the world's population will live in urban areas by the year 2050 comes the challenge of maintaining efficient flows of people, products, and services in and out of cities. In the developing world, the prevalence of deteriorating urban infrastructure inhibits both social and economic progress and limits cities' potential for sustainable development.

As a leading provider of high-scale infrastructure solutions, CEMEX helps connect cities and their surrounding areas in a number of ways. In 2011, we completed 188 infrastructure projects, representing more than 8 million square meters of pavement for highways, mass transit projects, airport runways, and city streets.

	<b>TOTAL PAVED AREA</b> thousands of square meters	<b>PROJECTS</b>
Mexico	7,752,600	172
Colombia	41,300	5
Panama	88,100	2
Costa Rica	12,000	1
Nicaragua	58,800	2
Dominican Republic	61,950	5
Puerto Rico	30,600	1
<b>Total</b>	<b>8,045,350</b>	<b>188</b>



Tianjin Express Road in China, 123,000 m<sup>3</sup> of ready-mix concrete

**Case Study:**

**Guadalajara paving project**

CEMEX's concrete has been shown to offer a number of advantages over conventional asphalt materials. Not only do roadways paved with concrete have a longer useful life, recent research conducted by MIT suggests that the rigidity of concrete road surfaces can help to improve vehicles' fuel economy.

These advantages have spurred many cities and municipalities around the world to consider concrete as a basic building block for sustainable urban development. Among our successful infrastructure projects in 2011 was the repaving of 21 city avenues in Guadalajara—Mexico's second largest urban center. In response to public demand for repair of the city's damaged asphalt streets, Guadalajara's public-works department engaged CEMEX to lay 41 kilometers of concrete pavement, equal to seven percent of the city's total paved area.



**Newly paved streets in Guadalajara** -The Guadalajara paving project provides a long-term solution to the city's transportation infrastructure needs while offering a number of sustainability advantages.

## benefits of concrete paving



### Concrete paving

According to CEMEX Mexico's experience:

- 7 to 25% higher in initial cost
- 27 to 49% lower life-cycle cost

According to CEMEX USA's experience:

- 3 to 30% higher in initial cost
- 5 to 40% lower life-cycle cost



### Pavement recovery with cement

According to CEMEX Mexico's experience:

- 11 to 17% higher in initial cost
- 13 to 19% lower life-cycle cost



### Roller compacted concrete

According to CEMEX USA's experience:

- 10% lower initial cost
- 20% lower life-cycle cost
- 40% faster construction



### leadership in bus rapid transit

CEMEX continues to position itself as a leading provider of infrastructure solutions throughout Mexico. In 2010, CEMEX was awarded a contract for the construction of a high-occupancy, low-emissions Bus Rapid Transit (BRT) line running through one of Mexico City's central corridors. With full responsibility for the project's financing, raw materials, construction, and oversight, CEMEX was able to demonstrate the full range of its expertise as a project developer.

Over the course of 2011, the Line 3 BRT was developed to cut down on traffic congestion along the avenue Calzada Vallejo—one of the busiest in the city. With two dedicated bus lanes now in place, Line 3 reduces commuters' travel time into Mexico City by as much as 40 percent while eliminating the need for more than 500 minibuses.

### Additional resources

- > UN-Habitat
- > Institute for Transportation and Development Policy

***“Due to a rise in private automobile ownership, the CO<sub>2</sub> emissions of transportation sectors in developing countries can be expected to grow 67% between 2000 and 2030”.***

*McKinsey & Company*

Given the success and practicality of Line 3 and other BRT projects, CEMEX is better positioned to meet escalating demand for efficient public-transit systems. In 2011 alone, CEMEX secured new construction contracts in Acapulco, Monterrey, Puebla, and the municipalities of Nezahualcoyotl and Chimalhuacán, making it the top BRT developer in Mexico. Our expertise in this area enables us to target developing cities with cost-effective and durable BRT projects while operating under traditional public-works contracts or public-private partnerships. In addition, our concrete-based BRT lines reduce the number of cars on the road and offer significant environmental advantages over asphalt lines. These include longer life cycles and higher light reflectivity, which helps to reduce road-surface temperatures and mitigate the urban heat-island effect.

# enhance our carbon strategy

Our carbon strategy helps us target opportunities for long-term savings and environmental leadership through alternative fuels and energy substitution, emissions reductions, and efficiency improvements.

CEMEX'S CARBON STRATEGY HAS HELPED CEMEX TO REDUCE ENVIRONMENTAL IMPACTS AND CREATE ECONOMIC VALUE

## performance highlights

- CEMEX achieved a 22.7% reduction in specific net CO<sub>2</sub> emissions from its 1990 baseline.
- CEMEX expanded its use of alternative fuels to 24.7% of the total fuel mix—an increase from 16.4% in 2009 and 20.3% in 2010.
- Clinker content in our cement has been reduced to 75.1%, down from 84.3% in 1990.
- Four new projects have qualified for Certified Emission Reduction (CER) credits under the Clean Development Mechanism (CDM). Our full CDM portfolio implies a reduction of 1.4 million CO<sub>2</sub> tons annually.



EURUS Wind Farm in Oaxaca. Production capacity for 25% of CEMEX Mexico's energy needs

## our approach

CEMEX operates in an energy-intensive industry facing several environmental challenges. Given this reality, applying a comprehensive carbon strategy is at once a necessity and an opportunity for our business. CEMEX has designed its carbon strategy to help reduce the environmental impacts of its operations, while creating economic value and driving the construction industry's participation in the development of a low-carbon economy.

The following are the key components of our carbon strategy:

### 1) Reducing the ecological footprint of our production process

- Replacing traditional fossil fuels with lower-emission alternatives
- Reducing the clinker content in cement
- Increasing our use of renewable electricity and the energy efficiency of our operations

### 2) Aligning our operations and initiatives with international standards, regulations, and market-based mechanisms for emissions reduction

## challenges ahead:

- ▶ Reducing the clinker factor in our cement products is an ongoing effort and a challenge due to the limited availability of alternative raw materials (fly ash, slag, and pozzolan), the high logistics costs related to their transport, and limited market acceptance of cement and concrete products using these clinker substitutes.
- ▶ We also face the challenge of securing long-term supply contracts for alternative fuels and complying with more stringent environmental permitting processes for our operations.

- **Cement Sustainability Initiative (CSI)** within the WBCSD demonstrates CEMEX's ongoing commitment to industry best practices, idea sharing, and transparency. For example, CEMEX participates in Getting the Numbers Right (GNR), a sector-wide global information database covering more than 800 facilities in more than 100 countries. GNR provides accurate, verified data on the cement industry's CO<sub>2</sub> emissions and energy performance.
- **Participation in the Carbon Disclosure Project**, a voluntary initiative that requests annual information on climate-change performance and risk management.
- **Compliance with the mandates of the European Union Emissions Trading Scheme (EU ETS)** prepares CEMEX for ever-increasing regulatory stringency around emissions and environmental stewardship, and provides a platform for CEMEX's participation in the emissions-trading market.
- **Participation in Clean Development Mechanism (CDM)** and other market-driven emissions-reduction programs provides a cost-effective option to distinguish CEMEX's GHG reduction efforts.
- Due to CEMEX's strong sustainability performance, we were selected to become part of the new **Sustainability Index of the Mexican Stock Exchange (Bolsa Mexicana de Valores)** along with other high-performing companies.

## reducing the ecological footprint of our production process

Our carbon strategy helps us take a broad view of the impacts associated with concrete production. To reduce our direct emissions, we focus on curbing our reliance on carbon-intensive inputs—such as fossil fuels and clinker—and replacing them with more sustainable alternatives. This process not only presents immediate environmental benefits; it also enables CEMEX to diversify its supply chain as traditional fuels and feedstocks become scarcer and more costly. In a complementary effort to reduce our CO<sub>2</sub> emissions, we continue to increase the use of alternative raw materials to reduce the clinker usage in cement production. In addition, we are able to reduce our indirect emissions by sourcing clean, renewable energy wherever possible. Furthermore, we continue to develop and implement carbon reduction projects such as CDM's, that allow for additional optimization of our footprint.

## carbon emissions in context

For more than 200 years, advances in human industrial and agricultural activities have contributed to increased concentrations of greenhouse gases—namely carbon dioxide—in the Earth's atmosphere. Today, climate change and many forms of environmental degradation are understood to have strong linkages to the burning of coal and fossil fuels, as well as deforestation. Understanding the environmental challenges we face and responding with decisive actions are matters of paramount importance for people and societies everywhere. At CEMEX, these imperatives influence many aspects of our business operations and strategic planning.

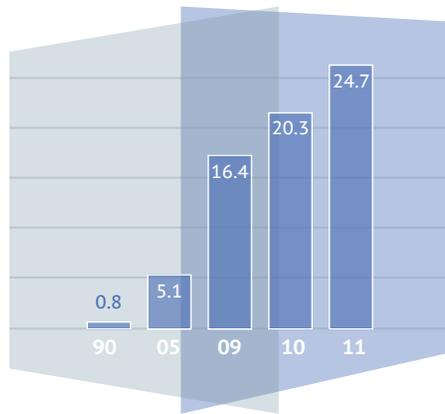
The production of cement is a particularly carbon-intensive process, requiring high temperature sintering of limestone, clay, and iron oxide to create clinker—the base material for cement. This heating process takes place in large rotary kilns that reach temperatures over 1,400°C (2,500°F) to catalyze proper chemical reactions. Both the fuel requirements of our kilns and these reaction processes, themselves, result in significant releases of CO<sub>2</sub> into the atmosphere. In fact, the cement industry as a whole represents 5% of all carbon emissions associated with human activity—an issue that has spurred widespread effort to reduce the carbon footprint of cement production.

Despite the nature of our manufacturing processes, we do not feel that our environmental and economic priorities are at odds with one another. Instead, CEMEX has made ongoing, concerted efforts to reduce the carbon intensity of its operations and equip customers with tools to understand the full life-cycle impacts of materials used in their own construction projects.



## ALTERNATIVE FUEL SUBSTITUTION RATE

percentage



**Alternative fuel substitution rates for cement operations** - CEMEX has significantly increased its usage of alternative fuels as a percentage of total fuel usage, companywide by investing more than US\$ 175 million since 2005.

### Leading our industry in the use of alternative fuels

In an effort to reduce GHG emissions and improve our fuel and energy security, we have explored a wide variety of coal and fossil-fuel alternatives to power our cement operations. Alternative fuels are predominantly residues or byproducts from industrial, domestic, agricultural, and forestry processes—including used tires; spent solvents and waste oils; processed municipal solid waste; and biomass such as rice and coffee husks, animal meal, and sewage sludge—all of which contain recoverable energy.

CEMEX is one of the leading users of alternative fuels in the cement industry. CEMEX is pursuing a goal to reach an alternative fuel substitution rate of 35 percent by 2015—the most ambitious rate among its global competitors. Exemplifying current trends, we scaled up the use of alternative fuels at our Brocēni plant in Latvia from 32.1 percent in 2010 to 58.2 percent in 2011 during the plant's first year of full-scale production. Building upon technologies and operational expertise from other CEMEX plants—particularly those in Germany—the Brocēni plant utilizes an advanced kiln design that reduces energy consumption by 50 percent compared with its traditional counterparts and allows for broader fuel compatibility.

CEMEX's longstanding commitment to fossil-fuel reduction is evident throughout our worldwide operations. In 2011, nine cement plants surpassed a 50 percent alternative fuel rate, with three of them reaching a rate above 75 percent.

# 90%

of our cement plants  
burned alternative fuels  
during 2011, thus avoiding  
the use of around 2 million  
tons of coal

**CEMEX in the Philippines is partnering with two environmental groups to implement a USD10 million, alternative-fuels project at its Solid Cement plant near Manila. The joint project will convert biodegradable, non-recyclable waste into alternative fuels**

### clinker reduction

In 2011, our overall clinker factor (the ratio of clinker content to total cement production) was 75.1 percent—down from 84.3 percent in 1990. We have achieved this overall reduction by increasing the use of alternative cementitious materials, many of which are derived from the waste streams of other industries. These materials include, among others:

- **Fly ash** – a combustion residue from coal-fired power plants
- **Blast furnace slag** – a by-product of pig iron production
- **Pozzolan** – a fine, sandy volcanic ash

Though we strive to maximize our usage of alternative raw materials, the reduction of our clinker factor depends largely on market demand for our products—some of which require higher clinker content than others. Additionally, the availability of high-quality clinker alternatives poses a significant bottleneck to our rate of substitution. Nonetheless, we are committed to finding new ways of sourcing and using clinker alternatives without compromising the performance of our building materials.

Chelm Cement Plant in Poland.  
76% of the energy required comes  
from alternative fuels.

## long-term impacts of emissions reduction efforts

In 1990 our clinker factor stood at 84 percent and no alternative fuels were used in our production processes. Since then, we have taken significant steps to reduce our CO<sub>2</sub> emissions and overall environmental footprint. Clinker reduction and alternative fuel substitution have greatly reduced the direct emissions from our manufacturing processes, while projects such as our EURUS wind farm help to curb the indirect CO<sub>2</sub> impacts associated with our power needs. Together, these efforts represent more than 7.5 million tons of avoided CO<sub>2</sub> emissions compared with our 1990 baseline. That's equal to offsetting the annual emissions of 1.3 million passenger vehicles, or saving nearly 16 million barrels of oil from being consumed.

### AVOIDED CO<sub>2</sub> EMISSIONS VS. 1990 BASELINE

thousand tons



	1990	2005	2009	2010	2011
<b>Lead in Sustainable Construction</b>					
Clinker factor (%)	84.3	81.4	75.1	75.9	75.1
Alternative fuels rate (%)	0.8	5.1	16.4	20.3	24.7
<b>Direct emissions</b>					
CO <sub>2</sub> emissions avoided from clinker factor (tons)	-	1,943,054	5,472,510	4,909,144	5,316,862
CO <sub>2</sub> emissions avoided from alternative fuels factor (tons)	-	256,468	1,130,068	1,574,212	1,755,724
Total CO <sub>2</sub> emissions avoided vs. business as usual 1990 baseline (tons)	-	2,199,522	6,602,578	6,483,355	7,072,586
<b>Indirect emissions</b>					
CO <sub>2</sub> emissions avoided from Eurus Project in Mexico (tons)	-	-	149,760	440,939	489,169

### developing alternative energy sources

Our EURUS wind farm in Oaxaca, Mexico, has the capacity to provide 25 percent of the energy needed to run our Mexican operations, and in 2011, allowed us to avoid 489,169 tons of CO<sub>2</sub> emissions.

We are exploring ways to further reduce our carbon footprint by using efficient process technologies and changing the way we source electricity. In 2011, for example, CEMEX Philippines launched a collaborative project with Sinoma Energy Conservation Ltd to devise a system for capturing waste heat from our kilns to produce clean, alternative electricity. At our Solid Cement plant in the island of Luzon, this technology is expected to yield 6 MW of onsite energy production each year, representing 27 percent of energy needs at the Solid plant and producing an annual cost savings of approximately 35 percent from grid rates.

Through these and other projects, CEMEX will continue to evaluate the feasibility of low-carbon and renewable energy solutions, including the possibility of wind and solar energy generation at many of our operations.



# WE HAVE BEEN SUCCESSFUL IN DEVELOPING PROJECTS THAT GENERATE CERTIFIED EMISSION REDUCTIONS

## collaborating to determine industry key performance indicators and best practices

In the year 2000, the World Business Council for Sustainable Development (WBCSD) convened a group of leading cement companies and related stakeholders to identify key challenges facing the industry. One of the most critical challenges identified was the industry's CO<sub>2</sub> emissions, and the development of long-term actions to address them. The result of this collaboration was the formation of the WBCSD Cement Sustainability Initiative (CSI) and its Agenda for Action, published in 2002. Since then, the CSI has focused on the proactive management and communication of issues ranging from CO<sub>2</sub> emissions and responsible fuel usage to sustainability reporting and social-impact monitoring.

As a founding member of the CSI, CEMEX has committed to monitoring and reporting greenhouse gas emissions from all its cement plants, in accordance with the CSI Cement CO<sub>2</sub> and Energy Protocol. In 2011, the CSI released the third edition of the Protocol, introducing.

- New KPIs
- Updated definitions around biomass fuel content
- More thorough accounting standards for on-site power generation
- Greater compatibility with international carbon accounting and reporting guidelines

## compensation for reducing emissions

CEMEX stays closely abreast of international discussions and policy developments addressing climate change and is supportive of environmental regulations that are fair and well designed. Within our key markets, a number of market-based mechanisms for emissions reduction have been established, and we are well positioned to take advantage of these opportunities. The European Union Emissions Trading System (EU ETS) and the Clean Development Mechanism (CDM) are both important platforms for emissions trading that allow us to pursue a variety of carbon-reduction projects more economically.

Thus far, we have been particularly successful in developing projects that generate Certified Emission Reductions (CERs). Issued under the CDM, a provision of the Kyoto Protocol for emissions-reduction projects in developing countries, CERs can be sold on the open market or used to offset emissions. Structured in this fashion, the CDM plays an important role in supporting the sustainable development of nations with less stringent environmental regulations, by rewarding projects that go above and beyond basic efforts to manage direct emissions. CEMEX has registered eight projects under the CDM—including four additions in 2011—for a total carbon offset potential of 1.4 million tons per year. And with more than ten CDM projects in the pipeline, as well as two additional initiatives currently in validation process under the Verified Carbon Standard (VCS), CEMEX expects to make significant additional reductions to its carbon footprint in the coming years while producing valuable CO<sub>2</sub> credits.

The CSI regularly publishes aggregate data on energy consumption and CO<sub>2</sub> emissions in our sector; for more information visit the online database or download the report "Getting the Numbers Right" at [www.wbcscement.org/pdf/CSI%20GNR%20Report%20final\\_updated%20Nov11\\_LR.pdf](http://www.wbcscement.org/pdf/CSI%20GNR%20Report%20final_updated%20Nov11_LR.pdf)

## Additional resources

- > CEMEX Position Paper on Market Mechanisms for Mitigating Climate Change
- > Clean Development Mechanism
- > IEA Cement Technology Roadmap 2009
- > Verified Carbon Standard
- > WBCSD Cement Sustainability Initiative
- > CSI Getting the Numbers Right:
  - Database
  - Report

PROJECT	YEAR	CERs/YEAR
EURUS Wind Farm	2007	599,571
Costa Rica Alternative Fuels	2008	42,040
Colombia Alternative Fuels	2008	169,565
Zapotiltic Alternative Fuels	2010	47,043
Egypt Alternative Fuels	2011	416,528
Panama Alternative Fuels Kiln 1	2011	29,212
Tepeaca Alternative Fuels	2011	103,359
Merida Alternative Fuels	2011	41,513
<b>Reduction Potential (tCO<sub>2</sub>/year)</b>	<b>2011</b>	<b>1,448,831</b>

Assiut Cement Plant in Egypt increasing the use of alternative fuels



# excellence in environment and biodiversity management

Proactive management of environmental risks and opportunities is an essential component of our day-to-day activity. We work to safeguard the long-term availability of natural resources and ecosystem services needed for our business operations, and we strive to achieve excellence in environmental and biodiversity management.

## Performance highlights

- CEMEX's global Environmental Management System (EMS) on schedule to launch in 2012.
- We reported zero Category 1 environmental incidents.
- We increased the percentage of clinker produced with continuous monitoring of major emissions (dust, NOx and SOx) from 74 to 80 percent.
- In collaboration with the International Union for Conservation of Nature (IUCN) we concluded that only 9 percent of our production sites are located in areas that may suffer water shortages.
- Water consumption in our production processes decreased by 8 percent in cement and 9 percent in aggregates, and increased by 5 percent in ready-mix.
- We completed a Biodiversity Action Plan (BAP) Standard in collaboration with BirdLife International to be tested during 2012 in six pilot quarries throughout the world.



**PROACTIVE  
MANAGEMENT OF RISKS  
AND OPPORTUNITIES  
IS AN ESSENTIAL  
COMPONENT OF OUR  
OPERATIONS**

Quarry Rehabilitation in  
the UK. Attenborough  
Nature Reserve

## our approach

CEMEX is focused on achieving strong environmental performance by systematically controlling and effectively managing the impacts of its activities, products, and services and by making efficient use of natural resources. Our efforts center on five main action areas:

- A global Environmental Management System (EMS) that provides for the monitoring and reduction of environmental incidents and prepares us to achieve external environmental certification (such as ISO 14001, EMAS, or Energy Star) at 100 percent of our operations by 2015.
- Managing our air emissions through expanded monitoring throughout our operations and by setting new emissions-reduction goals for 2015.
- Assessing our water usage and impacts to better understand and mitigate the water risks facing our business.
- Advancing our waste-reduction strategy through improved recycling efforts and ongoing collaboration with industry partners.
- Deepening our commitment to biodiversity management with the introduction of biodiversity action plans (BAPs) at all of our quarries located in areas of high biodiversity value.



## introducing the new CEMEX environmental management system

In 2011, CEMEX completed an intensive, multi-stakeholder review of its new global EMS, which will launch in 2012. The objective of the new EMS is to facilitate the consistent, complete implementation of risk-based environmental-management tools across its entire business structure. The CEMEX EMS comprises key mechanisms for environmental impact assessment, stakeholder engagement, and accident response based upon input from a range of environmental and biodiversity specialists. Our EMS is designed to ensure legal and regulatory compliance and its full compatibility with the ISO 14001 standard and the EU Eco-Management and Audit Scheme (EMAS). As of the end of 2011, 86 percent of CEMEX operations have implemented internal environmental management systems, and 23 percent have achieved ISO 14001 certification. As we approach full implementation of our global EMS in 2015, it is our goal to reach 100 percent compliance with our internal environmental criteria at all facilities. In addition, we have a goal to achieve external environmental certification (ISO 14001, EMAS, or Energy Star) at 100 percent of our cement manufacturing facilities.

## environmental risks, in context

Environmental and biodiversity conditions are changing at unprecedented rates throughout the world, often irreversibly. Leading research from organizations such as the World Resources Institute, the US EPA, and the United Nations Environmental Programme suggests that pollution and climate change pose serious threats to our most basic resources—such as clean air, fresh water, and arable land—and have contributed to the decline of many plant and animal species. What's at stake, should these trends continue, is a complex and delicate set of ecosystem services that support the basic needs of life on Earth. Food, fuel, clean water, climate regulation, pollination, and disease control are just a few of the ecosystem services that humans and other species enjoy. Yet the protection of these natural systems is a challenging, multifaceted endeavor.

At CEMEX, we understand the need for a holistic approach to environmental and biodiversity management. Our quarries, plants, and logistics operations all pose unique environmental challenges, and we have thoroughly analyzed the actual and potential impacts they may cause for local habitats, communities, and our customers. Through this process we have found that air quality, biodiversity, water use, and waste are the most significant environmental factors facing our company—and those requiring the most proactive, systematic handling. To minimize our overall environmental footprint, we have developed issue-specific management priorities for each of these high-risk areas.

### MOST SIGNIFICANT ENVIRONMENTAL IMPACTS FACING OUR COMPANY



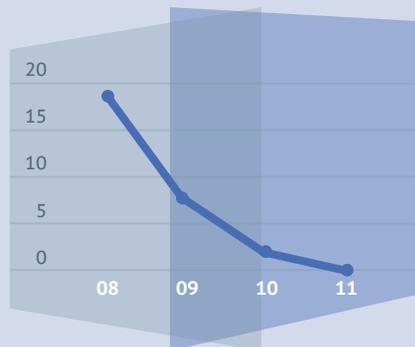
## challenges ahead:

- ▶ Having improved our management and prevention of Category 1 environmental incidents, we will refocus our energies on monitoring and reducing the occurrence of lower-severity incidents.
- ▶ With increased knowledge of our company's impacts upon water resources, we must improve our water-measurement systems in order to find viable ways to reduce water usage.
- ▶ We must undertake additional efforts to improve the way we measure and monitor the generation of waste in our facilities.

## CEMEX reports zero Category 1<sup>1</sup> environmental incidents in 2011

Through rigorous efforts to standardize implementation of our environmental management processes, we have steadily decreased our annual Category 1 incident rate from 19 in 2008—when we first began reporting—to zero in 2011. CEMEX is now prioritizing the reduction of Category 2 and 3 incidents using root-cause analysis, training, and continued process improvements through our new, risk-based EMS. We will begin reporting on Category 2 and 3 incidents in our 2012 Sustainable Development Report.

### CATEGORY 1 INCIDENTS

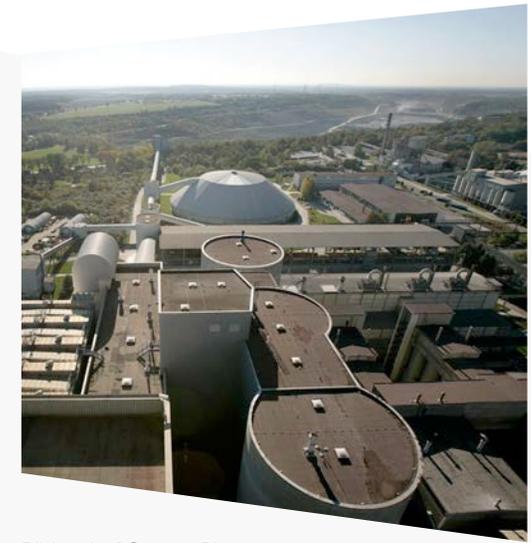


<sup>1</sup> Category 1 incidents are defined as major, uncontrolled spills or releases beyond site boundaries, and in breach of internal control procedures and/or standards. These may imply major damage and/or destruction to protected habitats or species, and/or material spillage greater than 1,000 liters or 2,000 Kg. Such incidents require immediate notification and follow-up with regulators, and may involve legal action.

## managing our air emissions

The cement-manufacturing process involves significant releases of atmospheric pollutants, including nitrogen oxides (NO<sub>x</sub>), sulfur compounds (SO<sub>x</sub>), and dust. Other pollutants, released in very small or negligible quantities, include dioxins, furans, volatile organic compounds, and heavy metals (including mercury). To control these major and minor emissions and stay in compliance with local and national regulations, we have steadily expanded our emissions monitoring efforts at manufacturing operations. In 2011, 80 percent of our clinker was produced with continuous monitoring of major emissions (dust, NO<sub>x</sub> and SO<sub>x</sub>), while 82 percent was produced with monitoring of both major and minor emissions.

To further improve upon these efforts, we have updated our performance targets for 2015, contributed to multi-stakeholder dialogues in our sector to address the handling of dioxins and mercury emissions, and aligned our emissions disclosures with the CSI reporting protocol. While our NO<sub>x</sub>, SO<sub>x</sub>, and dust emissions did increase in 2011, in all cases we are still below our new 2015 targets, which are more stringent than many local air-control limits and emissions regulations.



Rüdersdorf Cement Plant

	2009	2010	2011	Original target	New target	New target reduction vs. 2005 baseline
<b>Emissions targets for 2015</b>						
Dust specific emissions (g/ton of clinker)	106	89	101	155	120	61%
NO <sub>x</sub> specific emissions (g/ton of clinker)	1.063	1.134	1.094	1.667	1.600	18%
SO <sub>x</sub> specific emissions (g/ton of clinker)	410	334	335	520	520	10%

During 2011, we reduced our specific NO<sub>x</sub> emissions from 1,134 to 1,094 g/ton clinker, maintained our specific SO<sub>x</sub> emissions at 335 g/ton clinker and increased our specific dust emissions from 89 to 101 g/ton clinker. The increase in specific Dust emissions is mainly due to inaccuracies related to monitoring not done on a continuous basis in some of our kilns, as we have yet to install monitoring equipment in 20 percent of our kilns.



***“It is expected that within two decades, the collective demand of humans for water will exceed foreseen supply by about 40 percent.”***

– Water Resources Group, 2009

## assessing our water usage and impacts

Through continued engagement with the IUCN, CEMEX has created the basis for a materiality analysis addressing water-related risks and opportunities, and helping define a roadmap toward strong management of water issues.

The availability of clean, potable water has become a matter of global concern. Less than 0.5 percent of global water resources are available for human consumption, even as populations continue to grow and widespread water contamination and the effects of climate change further stress supplies.

While it is estimated that the concrete value chain represents only 1 percent of global industrial water demand and 0.2 percent of total global water demand, the risks of shortages are increasing. Currently, 9 percent of CEMEX operations are located in officially designated water stressed zones, based on water data from the WBCSD Global Water Tool. In addition, water regulations in many of CEMEX’s countries of operation are now imposing time-limited water abstraction licenses, stricter water metering requirements, and new water-discharge constraints.

These developments, combined with increased stakeholder demand for disclosure around water usage, demonstrate the need for proactive management of water resources in our business. To address this challenge, CEMEX worked with the IUCN in 2011 to produce the following deliverables:

1. *Setting the Scene*, a research document evaluating global water issues, associated stakeholders, key issues of water use in CEMEX’s productive processes, and methods for assessing water impact.
2. A water benchmark to understand CEMEX’s water usage in an industry context, and to assess peer best practices.

3. A data-gathering template to enable standardized reporting on water usage, metering, watershed conditions, best practices, and local challenges across all of our business segments and operations.
4. Geographical mapping of more than 2,000 CEMEX sites—cement, ready-mix, and aggregates facilities—for comparison with areas identified as water-stressed zones.
5. A materiality assessment, based upon findings of the preceding steps, to gauge and prioritize our water risks and opportunities.

The results of our final materiality assessment will become available in early 2012 and will be fully discussed in our 2012 Sustainable Development Report.

## advancing our waste-reduction strategy

Our processes generate waste that is disposed of according to our own standards and the requirements of local regulations. In terms of operational wastes, cement-kiln dust represents the largest amount of waste we produce. We now reuse it in the production process and in other processes. As we follow the waste hierarchy, we seek to monitor, minimize, reuse, and recycle our wastes. The actions we undertake in this area include:

- Monitoring of hazardous and non-hazardous waste generation in all our operations
- Replacing primary aggregates with other discarded materials (e.g. demolished concrete)
- Reusing and recycling, as much as possible, the fresh concrete returned from construction sites

# 10,964

## tons of hazardous waste disposal reduction during 2011

During 2011 we carried out a detailed revision of the methodology applied in all CEMEX production sites in our three main businesses (cement, ready mix, and aggregates) to measure waste disposal. In this review we developed a standard way of calculating the figures and we have identified CEMEX operations that were using different criteria or methods. As a result of this review we are restating our figures for both hazardous and non-hazardous waste disposal corresponding to the years 2009 and 2010, so that they can be comparable to those obtained for 2011. The changes we made are not material and they allow us to better reflect the reality in our operations.

We have reduced our hazardous waste disposal from 50,868 to 39,904 tons during 2011. By business, hazardous waste disposal increased in cement from 14,164 to 15,492 tons, it also increased in ready mix from 1,272 to 1,784 tons and it was reduced in aggregates from 35,433 to 22,628 tons. Furthermore, we have increased our non-hazardous waste disposal from 385,977 to 414,600 tons. By business, non-hazardous waste disposal in cement significantly increased from 66,139 to 96,372 tons, we had a slight increase in ready mix from 313,515 to 315,476 tons and it was significantly reduced in aggregates from 6,322 to 2,752.

The volume of returned concrete material as a percentage of the total volume we delivered was 0.76% in 2011, a slight increase over the 0.73% shown in 2010. Secondary and recycled aggregate used as a direct replacement of primary aggregates (as a percentage of the total volume sold) was 0.27% in 2011, a slight increase over the 0.25% we showed for 2010.

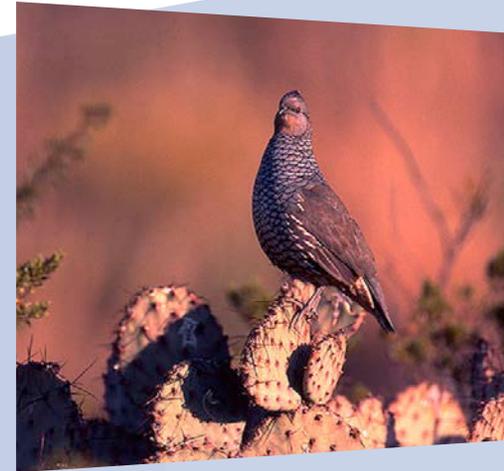
## deepening our commitment to biodiversity management

In 2010, CEMEX completed a biodiversity scoping study in collaboration with BirdLife International, determining that 131 of its operations are situated in proximity to areas of high biodiversity value. These areas include wildlife-protection zones, important bird habitats, and other areas of national, regional, and international biodiversity significance. While some facilities operating in these areas have already launched voluntary conservation projects and other activities to address biodiversity issues, CEMEX has committed to establishing comprehensive Biodiversity Action Plans (BAPs) at 100 percent of its active sites adjacent to high biodiversity value areas by 2015<sup>1</sup>.

During 2011, CEMEX and BirdLife International worked to meet this goal by creating a standard for the development of BAPs. The standard ensures that individual operations are able to produce, quickly and systematically, their own BAPs tailored to the particular biodiversity values they possess and challenges they face. The CEMEX BAP Standard includes methodologies for the following:

- Assessing biodiversity value
- Setting appropriate targets for biodiversity management
- Developing effective action plans to reach performance goals
- Engaging external stakeholders and partners around biodiversity issues

<sup>1</sup> As the number of active CEMEX operations can change year to year, there are currently 103 active sites that meet our criteria for BAP implementation.



## update on El Carmen

Through our signature conservation initiative, El Carmen, we continue working to protect a variety of plant and animal species in one of the world's most biologically diverse regions. With approximately 200,000 hectares of land under management, El Carmen is home to a variety of ecosystems, including riparian areas along the Rio Grande River, Chihuahuan desert lowlands, grasslands, pine-oak woodlands, and high-elevation pine-fir forest.

During 2011, the region has experienced a severe drought condition (the worst in the last 70 years for this region), requiring supplemental wildlife feeding and oversight efforts. Fortunately, animal population surveys show stable numbers for the mammals that have been reintroduced to El Carmen, with desert bighorn sheep maintaining a population of 200, mule deer 900, and pronghorns 95.

One of the main objectives of El Carmen is to educate, share knowledge and cooperate with our neighbors. El Carmen staff members offer workshops to local communities and landowners on avoiding conflicts with black bears, and in 2011, provided support to the Mexican government in efforts to control a wildfire and rescue wildlife in areas near El Carmen.

Each year, an average of two research projects are conducted at the reserve. In 2011, El Carmen supported the completion of two Master of Science research projects, the results of which will be used to inform future wildlife conservation activities.

To learn about El Carmen, visit  
<http://www.cemex.com/elcarmen/default.asp>

### Additional resources

- > International Union for Conservation of Nature
- > El Carmen
- > BirdLife International

### Case Study:

## CEMEX quarries and plants receive broad recognition for conservation efforts

CEMEX works to minimize environmental disturbances throughout its entire manufacturing process and even after the use of facilities has been discontinued. Our plant management and quarry rehabilitation efforts, in particular, have received international attention for drawing together strategic environmental protection processes, educational resources for communities and stakeholders, and comprehensive conservation initiatives.

### CEMEX USA

Five of CEMEX's mining, quarry, and plant sites have been inducted into the Wildlife Habitat Council's Collaborative Conservation Program as Partners. These sites include quarries in Fairborn, Ohio, and Brooksville and Miami, Florida; a sand mine in Clermont, Florida; and a cement plant in Louisville, Kentucky.

Each of these operations has been recognized for having progressive land-management and wildlife conservation programs as well as environmental education initiatives.

The partially active CEMEX quarries in Fairborn, Ohio, have received a 2011 Reclamation Achievement Award from the Ohio Aggregates and Industrial Minerals Association. Ongoing efforts to rehabilitate the Fairborn quarry sites have helped reduce environmental disturbances and improve long-term options for repurposing the land. In 2008, a CEMEX clay mine site in Beavercreek, Ohio, received the same award.

### CEMEX UK

In October 2011, CEMEX UK received the Natural England Biodiversity award for rehabilitation efforts at its Rugeley quarry in Staffordshire. CEMEX voluntarily avoided quarrying the site to maximum permitted depths, to ensure that the 80-hectare area could be rehabilitated into a lowland dry heathland—an essential habitat for local species.

In Branton, England, a former CEMEX mining site was successfully converted into a 29-acre bird and wildlife sanctuary—inhabited by over 140 different animal species—and is now open for public enjoyment.

### CEMEX Poland

The year 2011 was a productive one for CEMEX's Chelm plant in Poland. Not only did the plant win two awards at the 2011 International EcoForum conference—in recognition of environmental responsibility through innovation—Chelm also became one of only 28 Polish business operations to meet the criteria of the European Eco-Management and Audit Scheme (EMAS). Registration with EMAS—an advanced, voluntary environmental management instrument—reflects the integrity of management practices at Chelm and signals the plant's ongoing commitment to transparency and its environmental priorities.

In 2012, pilot-stage BAPs will be launched in at least one site in each of the six CEMEX regions: South America and the Caribbean, Asia, Northern Europe, the Mediterranean, Mexico, and the USA. A continuing relationship with BirdLife International and its national partners will be an instrumental part of this process, and CEMEX has authorized a new budget to make this collaboration possible. In turn, BirdLife International has reinforced its staffing by adding a new Program Manager to the partnership, whose work will be dedicated to advancing collaboration with CEMEX in the coming years.

**Left:** Demopolis Cement Plant in Alabama, Portland Cement Association's Sustainability Award Winner

**Right:** Quarry rehabilitation in the UK



# high priority to health and safety

Our rigorous focus on the health and safety of employees, contractors, and the public has enabled us to improve our performance in 2011; nevertheless we are aware that much more improvement is needed and we continue to introduce initiatives to help us meet our long-term objectives.

## performance highlights

- The employee lost-time Injury rate (per million hours worked) decreased to 2.3, a 12 percent reduction vs. 2010.
- CEMEX's Sustainability Committee endorsed the new Global Health and Safety Management System and began its roll-out.
- 2,914 supervisors and managers completed training in LEGACY, the company's in-house flagship safety leadership program—800 more than in 2010.

ENSURING THE SAFETY, HEALTH, AND WELL-BEING OF OUR STAKEHOLDERS IS A CORE COMMITMENT FOR CEMEX



## our approach

Ensuring the safety, health, and well-being of our employees, contractors, and the third parties affected by or dealing with our operations is a core commitment for CEMEX and an ongoing challenge that we work to address in the decisions we make each day. By emphasizing the importance of health and safety and the value and quality of the lives of all of our stakeholders, we are fostering a culture that ensures everyone gives health and safety the high attention that is needed.

Our structure ensures that safety teams in every country coordinate with one another to regularly share knowledge and develop programs aimed at advancing employee health and reducing incidents. Our reporting systems provide for the analysis of the root causes of each incident and for the findings to be communicated across the entire organization and to the highest levels of the company's leadership. We also explicitly align our safety goals with managers' performance requirements in a way that ensures personal accountability for the well-being of those under their supervision.

## challenges ahead:

- ▶ Despite our best efforts, we regret to report that 44 employees, contractors, and third parties died in connection with CEMEX's activities. We need to redouble our efforts, especially regarding transport activities and contract drivers, which represent a majority of fatal incidents within our operations, with a focus on countries where road safety cultures are still developing in general society.
- ▶ We must work harder to ensure all contractors working at our production sites across our worldwide operations perform to the same high health and safety standards we expect from our own employees.

# 72%

employees participating in annual medical exams, a 31% increase from 2010

# 28%

reduction in sickness absenteeism rate, to 1.8 in 2011 from 2.5 in 2010

# 96%

operations with a qualified health professional onsite or with access to an external health provider

## health and safety management system

In our 2010 SDR report, we announced that we were in the process of developing a new Health and Safety Management System (HSMS), a risk-based system that clearly establishes the company's expectations of managers in terms of health and safety performance. Aligned with OHSAS 18001:2007, a leading international standard for occupational health and safety management systems, our new HSMS is designed to enable us to accomplish the following:

- Identify and reduce safety risks
- Develop supporting standards and guidelines
- Share best practices throughout the company
- Continually improve the health, safety, reliability, and efficiency of operations
- Be fully implemented in all operations

In 2011, the CEMEX Sustainability Committee endorsed the HSMS and CEMEX began its roll-out by first presenting the program to all national Health and Safety directors and national senior management teams. In addition, the company initiated pilot audits. We also expanded our Global Health and Safety Council to reflect organizational restructuring and to ensure representation of all six global regions.



With full implementation of the program beginning in 2012, specialists in each country of operation are currently training all managers in its application. This work includes conducting a gap analysis in each country to identify issues where compliance currently lags and defining action plans to correct any gaps.

## DRIVING ESSENTIALS

 <p><b>Safety Checks</b> Carry out your vehicle checks before driving and make sure your load is stable and secure.</p>	 <p><b>Journey Planning</b> Assess the risks and plan your journey to use the safest route.</p>	 <p><b>Seatbelts Save Lives</b> Wear your seatbelt and make sure any passengers do as well.</p>	 <p><b>Watch your Speed</b> Keep below the limit and adjust your speed to suit road and weather conditions</p>
 <p><b>Keep a Safe Distance</b> Leave enough space between you and the vehicle in front so you can stop safely.</p>	 <p><b>Fit and Alert Drivers</b> Ensure you are fit to drive: hydrated, well rested, and free from the influence of alcohol and drugs.</p>	 <p><b>Do not Overtake</b> Unless it is safe and legal to do so.</p>	 <p><b>Mobile Phone</b> Use of a hand-held mobile phone whilst driving is prohibited.</p>
 <p><b>Other Road Users</b> Stay alert to other road users, particularly motorcyclists, cyclists and pedestrians.</p>	 <p><b>Respect the Law and other Drivers</b> Know and follow the road rules and be courteous to other drivers.</p>	 <p><b>Site Safety</b> Check for hazards when on site, be highly visible and assess the risks before unloading.</p>	 <p><b>Remember</b> - Your family depends on you. So drive to arrive safely at all times!</p>



## LEGACY safety leadership program

During 2011, CEMEX guided 2,914 supervisors and managers through training in LEGACY, the company's in-house flagship safety leadership program; that's about 800 more than completed the program in 2010. LEGACY is designed to help us achieve our goal of zero incidents by helping managers to adopt key safety leadership skills to help influence positive safety cultures in the workplace. When fully implemented, the program will equip managers at all levels with the tools, skills, and behavioral standards required to lead safer, more efficient operations. It is organized around the seven behaviors of effective safety leadership and covers themes such as leading by example, understanding processes and people, and ensuring accountability.

## incidents: lost-time injuries and fatalities

In 2011, we had a lost-time injury (LTI) rate of 2.3, with 213 such injuries in total. This marks an improvement over 2010's rate of 2.6 but still requires a concerted effort for us to reach our 2015 target of 0.5. We are deeply sorry to report that, despite our best efforts and the improvement in our LTI rate, 44 people—5 employees, 24 contractors, and 15 third parties—died in 2011 in connection with CEMEX activities. Nearly half, 21 people, lost their lives in driving-related accidents. These tragedies are absolutely unacceptable, and significant improvement is still needed, especially with regard to transport activities and contract drivers, which represent a majority of fatalities within our operation. We will continue to work diligently to bring that number to zero.

In 2011, the CEMEX Sustainability Committee endorsed the HSMS and CEMEX began its roll-out by first presenting the program to all national H&S directors and national senior management teams.

Health and safety programs are, by necessity, implemented at the country and site level, but the chain of responsibility and monitoring extends to CEMEX's top management team and Board of Directors.

Line management is responsible and accountable for implementing initiatives, investigating incidents, and demonstrating correct safety behaviors.

Overview, review, and guidance continue all the way up through regional and company-wide levels to the Sustainability Committee, which reports progress and challenges to the top management team.

### CEMEX HSMS ORGANIZATION AND COMMUNICATION STRUCTURE



 H&S Coordination Network  
 Collaboration

## driving safety: road transportation safety group and driving essentials

Driving-related incidents involving our employees, contractors, and the public represent the majority of fatalities in our company and the industry. We continue to face numerous challenges, including operating in many areas where road infrastructure is poorly developed and road safety culture is still maturing.

In 2011, CEMEX established the Road Transportation Safety Group, a new group representing all six CEMEX regions and comprising leaders of road transportation and logistics, to develop continuous improvement initiatives globally that can reduce safety risks on the road. Each country is now in the process of implementing action plans and reporting progress in order to achieve 100 percent compliance with the CSI Recommended Good Practices guidelines by the end of 2014, a goal we are on track to meet.

We also rolled out the Driving Essentials program last year, which raises awareness with drivers to follow 12 key behaviors known to improve road safety. We also continue to emphasize selection and training of drivers, attention to vehicle specification, and site safety as important practices. In addition, CEMEX will continue to be an advocate for stricter driving regulations and enforcement in countries that have less well-defined standards compared with those that are more developed. We believe these efforts, taken together with other initiatives, will not only reduce the risks to CEMEX but also make the communities in which we live and work safer.



Additional resources

> CEMEX health and safety

### Case Study:

## innovative practices recognized by CEMEX Safety Awards

Ensuring the safety and well-being of our employees, contractors, and communities is of paramount importance to our company. Since 2000, we have presented the Annual Global Safety Awards to those operations that have achieved outstanding safety performance during the year and consistently improved their safety performance year over year.

The winners in 2011 have demonstrated how a clear commitment to safety, combined with innovative practices and visible leadership, can ultimately lead to injury-free operations. Learning from their outstanding example and good practices, we look forward to continually improving our safety performance in the coming years.

**ENSURING THE SAFETY  
AND WELL-BEING OF OUR  
EMPLOYEES, CONTRACTORS,  
AND COMMUNITIES IS OF  
PARAMOUNT IMPORTANCE  
TO OUR COMPANY**

	Best Safety Performance	Most Improved Safety Performance
Cement	Falcon L.L.C, Cement Operations UAE	CEMEX Colombia Cúcuta Plant
Concrete	Arizona/Southern Nevada Region, Phoenix Readymix Concrete, USA	Readymix Northern, UK
Road Transportation	Logistics Aggregates Southern, UK	Coatzacoalcos and Huichapan Bases, Mexico
Aggregates	Central Florida Aggregates Operations, USA	Baleares Aggregates Region, Spain
Others	Concrete Pipe Division, Houston Plant, USA	UK Asphalt
Country ≤500 employees	CEMEX Austria	CEMEX China
Country 500> employees	CEMEX Croatia	CEMEX UAE

# strengthen local communities

Helping sustain the health and prosperity of the communities in which we operate is a matter of material significance to CEMEX. Through our social responsibility efforts, we look to become a key partner in improving living conditions in developing economies while cultivating new generations of construction professionals.

## performance highlights

- 45,545 Latin American families benefited from Patrimonio Hoy, bringing the accumulated total to 353,856.
- CEMEX established 16 new “Productive Centers of Self-employment” – 14 in Mexico and 2 in Colombia –benefiting more than 44,000 families.
- 51 sustainable community development projects participated in the CEMEX-TEC Transforming Communities Award.



AT CEMEX, WE  
RECOGNIZE THAT  
EMPOWERMENT IS  
THE MOST DURABLE  
FORM OF COMMUNITY  
SUPPORT

## our approach

At CEMEX, we recognize that empowerment is the most durable form of community support. Through productive and ongoing dialogues with our host communities, we are able to target the issues that are most socially and economically restrictive on local scales, and respond with practical solutions. We develop programs and tools that catalyze skills development, self-sufficiency, and entrepreneurship among their participants.

Given the scope of CEMEX's community involvement, each initiative is built around our Social Investment Guidelines, Responsible Operation Guidelines, and our stakeholder-engagement parameters. In this manner, we are able to maximize the effectiveness of our community initiatives for local constituents as well as our business.

Throughout our global markets, we have observed many consistent community challenges, some of which include the following:

- Access to housing
- Integrity of local infrastructure
- Quality and conditions of community institutions (schools, hospitals, community centers, etc.)
- Disaster relief imperatives
- Insufficient educational resources

## challenges ahead:

- ▶ Speeding the process to replicate community engagement initiatives in our operations, especially in countries with emerging economies.
- ▶ Continuing to raise the profile of social programs so all our employees become engaged and play an active role.

Through major initiatives such as Patrimonio Hoy, our Productive Centers of Self Employment (PCS) program, and our new Construction School launched through CEMEX-TEC, we leverage our operational capabilities and business skills to help community members address these issues, improve the quality and dignity of their lives, and secure better futures for themselves. Supporting the socioeconomic development of our markets in this way, we are building strong relationships that will help not only communities, but also our own business, to grow and prosper.

## Patrimonio Hoy: much more than a house

Patrimonio Hoy is our flagship community initiative, which is dedicated to helping low-income families reach their self-construction goals. Established in 1998, the award-winning program combines the global presence of CEMEX distribution centers with the power of microcredit, to offer families financial and technical assistance in the construction of their homes. With more than 100 offices in Latin America, Patrimonio Hoy enables families to build or improve their homes more quickly, more efficiently, and with better materials—concrete, cement blocks, and steel—that otherwise would not be possible within their means.

While Patrimonio Hoy was first launched in Mexico, we have steadily increased the presence and impacts of the program in other Latin American countries. In Colombia, for example, families benefitting from Patrimonio Hoy have increased nearly tenfold since the program entered the country in 2005. This growth pattern speaks to the widespread need for improved access to affordable housing, and CEMEX is committed to meeting this demand both through innovative community programming and by expanding the availability of comprehensive housing solutions.

# 353,856

families benefited since the Patrimonio Hoy inception, helping them build 2.5 million square meters of housing.



	Dom. Rep.	Mexico	Colombia	Nicaragua	Costa Rica	Total
<b>Expansion of the Patrimonio Hoy program</b>						
New partners 2010	134	42,345	1,992	561	67	45,099
New partners 2011	168	41,692	2,520	998	167	45,545
<b>Total partners</b>	267	335,865	11,383	5,613	728	353,856
<b>Total square meters built</b>	1,707	2,532,252	39,327	18,219	1,589	2,593,094

Read more about *Patrimonio Hoy* at [www.cemex.com/SustainableDevelopment/LowIncomeHousing.aspx](http://www.cemex.com/SustainableDevelopment/LowIncomeHousing.aspx)

## Colombia opens a new Productive Center of Self-employment (PCS)

In June of 2011, a new PCS center was opened in the city of Payandé, Colombia, as part of the latest expansion of CEMEX housing programs in the country. Throughout the remainder of the year, 120 individual participants in the PCS center collectively produced 45,511 concrete blocks, helping 12 families to start building their homes. By year end, 108 square meters of construction had been completed through efforts of the program participants.



# 45,511

concrete blocks produced  
by 120 individuals in  
Colombia's new PCS



## empowering self-sufficiency

Through our community-involvement efforts across the globe, we have learned that self-sufficiency and the development of practical skills are integral to the long-term prosperity of individuals and communities. In many of our markets, however, poor access to jobs, skills-training, and education opportunities limit individuals' ability to meet their basic needs. To address this challenge, CEMEX has developed a number of programs that simultaneously improve communities' access to building materials for their homes, and provide mechanisms to improve training and employment options.

### Productive Centers of Self-employment (PCS)

PCS are community spaces where individuals manufacture concrete blocks and other precast forms, keeping half of their production for personal construction purposes while selling the other half to state and municipal governments.

CEMEX helps PCS manage purchase agreements to ensure that each center uses proceeds to ultimately become self-sufficient. In 2011, CEMEX introduced 16 new PCS to the overall program helping over 44,013 families have build and improve their housing conditions.

### ConstruApoyo and Construimos Juntos: two models for disaster response and long-term relief

CEMEX offers two mechanisms for fast and effective response to disaster situations:

- Through its **ConstruApoyo** program, CEMEX facilitates the distribution of government relief funds with a debit card system, creating a transparent process through which aid recipients are able to purchase the building materials they need. Launched in 2005 to help with disaster-relief efforts in Mexico following hurricanes Stan and Wilma, the ConstruApoyo model has been replicated in subsequent emergency situations. Ongoing support has been provided to the victims of Hurricane Alex—which devastated parts of Nuevo León in 2010—as well as the earthquake in Haiti in 2010. In 2011, a total of USD1 million was administered through the ConstruApoyo distribution network, helping more than 2,000 families with home rebuilding efforts.
- **Construimos Juntos** is a rapid-response system for the establishment of PCS in disaster-stricken areas. Leveraging the effective, repeatable model of the PCS program, Construimos Juntos expedites the availability of essential building materials to help communities begin rebuilding efforts.

### FAMILIES BENEFITED BY PCSs

thousands



The number of CEMEX PCS increased by 60 percent in 2011, with 38 self-sustaining centers now in existence. The overall program is currently being strengthened to allow for more rapid expansion of PCS locations beyond Mexico, and into CEMEX's other countries of operation.

In 2011, CEMEX continued its support of the population affected in 2010 by Hurricane Alex through the Construimos Juntos Nuevo León program. In alliance with the governments of 10 municipalities and the state government of Nuevo León, CEMEX provided volunteers and packets of building materials to 200 displaced families, who were able to build their new homes themselves. CEMEX also donated 500 tons of cement for use in the 13 PCS established in Nuevo León. Overall, Construimos Juntos has provided support to more than 3,771 families in 15 municipalities who have suffered from the impacts of Hurricane Alex.

## supporting community infrastructure and education

In addition to addressing the immediate housing needs of the communities where we operate, CEMEX is committed to bolstering communities' fundamental capacities for long-term self-sustenance and upward mobility. We assist with the improvement of local infrastructure, educational facilities, and cultural institutions to support community health, social cohesion, and opportunities for economic advancement.

### CEMEX-TEC: for the development of sustainable communities

An estimated 87% of Mexican homes are constructed by a mason or a family member having no formal training in construction—a clear indication of the need for construction skills development in the Mexican economy. To address this issue, CEMEX and Tecnológico de Monterrey—the Monterrey Institute of Technology (TEC) have collaborated to establish extensive educational programming in the area of sustainable construction. This partnership, CEMEX-TEC, has developed three key initiatives:

- **The CEMEX-TEC Construction School** program focuses on developing students' skills and capacities in self-construction and in the construction industry, with the goal of stimulating the creation of micro businesses in the construction sector. By 2015, CEMEX-TEC has the potential to offer 1,800 technical courses through the Construction School, benefiting 52,000 students, with program coverage extended to 27 Mexican states.

- **The CEMEX-TEC Transforming Communities Award**, granted annually to support research projects and initiatives focused on sustainable development throughout Mexico. Projects on topics such as economic growth, large scale adoption and implementation of technology, social cohesiveness of communities, and preservation of natural resources are all considered for the award.
- **The CEMEX-Tec Development of Sustainable Communities Research Chair**, which explores the creation and implementation of sustainable development strategies in different communities throughout Mexico. The CEMEX-TEC Sustainability Research Chair focuses on a number of issues and sustainability indicators, including the following:
  - Urban regeneration
  - Environmental quality
  - Economic development
  - Technological development
  - Social, political, and cultural development
  - Citizenship

### Water treatment plant donated in Colombia

Infrastructural damage and inadequate public services can pose serious risks to the health and safety of communities. Such was the case in Payandé, Colombia, a small town outside of the nation's capital where, prior to 2011, local residents did not have access to clean drinking water. With operations in the neighboring community of Caracolita, CEMEX took action to solve this problem with the donation of a water treatment plant in early 2011. The facility will provide clean drinking water to 3,800 people in the town of Payandé and will help to protect the health of the broader community.

### "Building the Future" Foundation in the Czech Republic

With worldwide operations, CEMEX must adapt to a host of different cultures, geographies, and challenges among its host communities.

In 2011, CEMEX launched a regional "Building the Future" Foundation initiative in the Czech Republic, to support communities that periodically suffer from serious floods. If and when flooding does occur, CEMEX will be available to provide financial assistance for response efforts.

### Additional resources

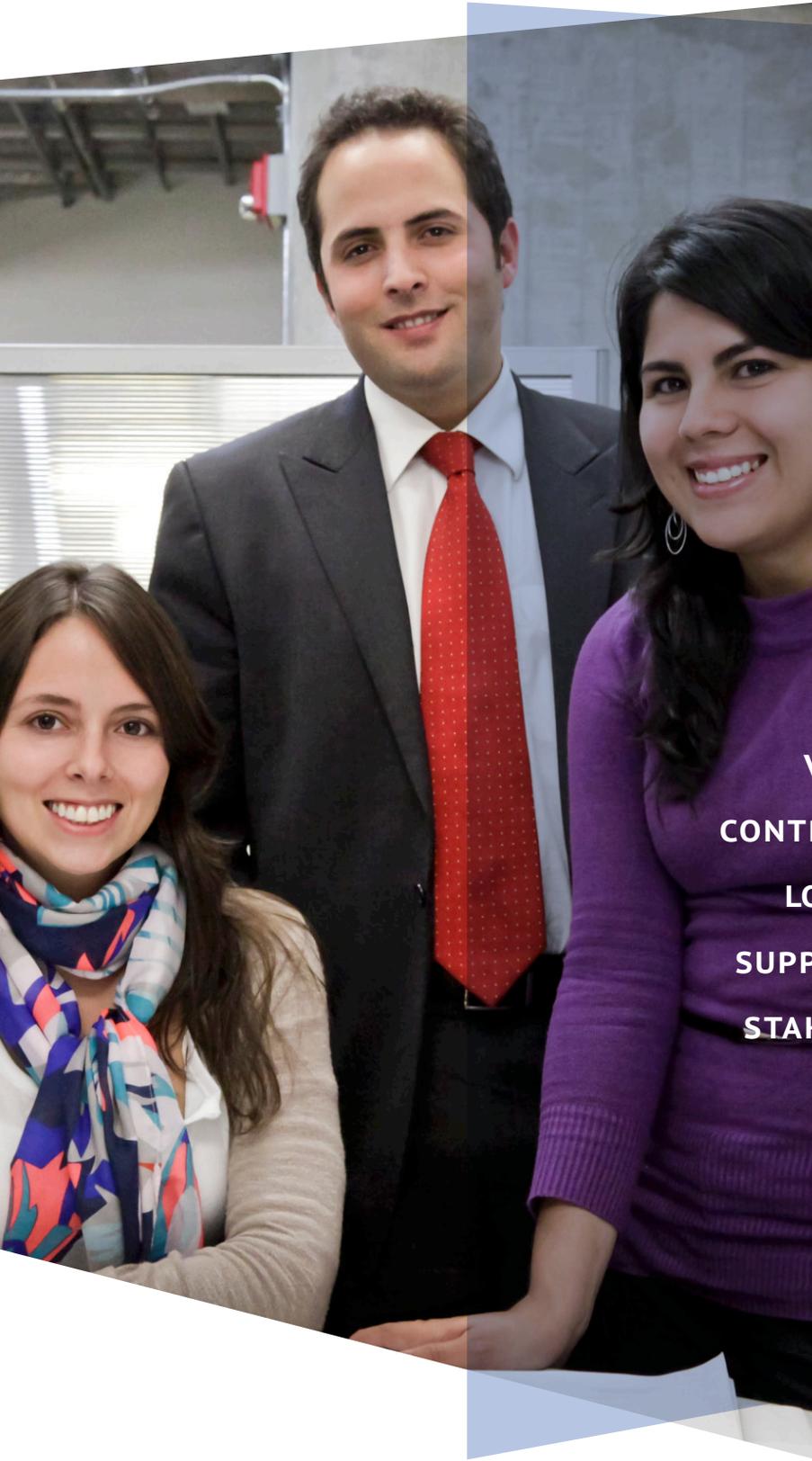
- > Patrimonio Hoy
- > CEMEX-TEC
- > CEMEX-TEC Sustainability Research Cathedra

## 2011 winners of the Transforming Communities Award



In 2011, the first place Transforming Communities Award was presented to a research team proposing the development of social housing for abandoned elderly people living in low-income areas where instances of crime and conflict are high. The proposed solution would enable a more socially active community with better local economic development, safer public spaces, and accessibility to all people.

For more information, visit [www.cdcs.com.mx/en/premio\\_categorias](http://www.cdcs.com.mx/en/premio_categorias)



# partnership with key stakeholders

Our relationships with stakeholders are essential to our ability to succeed; accordingly, we seek their valuable input and collaboration wherever possible.

CEMEX  
VALUES THE  
CONTRIBUTIONS,  
LOYALTY, AND  
SUPPORT OF ITS  
STAKEHOLDERS

## performance highlights

- Even though the Transformation project included a restructuring process among other initiatives, focused efforts were implemented to foster employee retention, engagement, and training with renewed efficiency.
- We implemented 207 employee engagement initiatives throughout the world, reaching around 70 percent of our workforce.
- CEMEX countries that conduct regular customer satisfaction surveys increased to 86 percent.
- More than 1,000 suppliers were surveyed regarding their sustainability practices.
- Working with more than 300 global and local NGO's on environmental, educational, social, and other policy and development programs.

## our approach

Our stakeholders depend on us as a supplier of products and services as an employer, customer, investment, taxpayer, and neighbor. Likewise, CEMEX values the contributions, loyalty, and support of its stakeholders. We therefore take their needs and concerns very seriously, have built longstanding relationships with them over the years, and engage with them proactively to address their concerns and to create trust and mutual long-term value.

Having restructured the organization as part of the company-wide Transformation project to be leaner and more efficient, we are now able to better focus our efforts and capabilities on meeting the needs of our customers, shareholders, and employees in ways that will ensure sustainable profitability and value in the years to come.

### challenges ahead:

- ▶ Enabling an entrepreneurial spirit within the company.
- ▶ Engaging talent.
- ▶ Maintaining and improving service levels for customers.
- ▶ Communicating effectively to investors the effects our Transformation project is having within the company.

## employee engagement

In 2011, the CEMEX Transformation project—a comprehensive effort to restructure our business and streamline operations to strengthen our competitiveness—drove an important effort from the Human Resources function. Among the more difficult decisions we had to make in connection with the Transformation initiatives, was to reduce 6 percent of active positions. However, with this process complete, the company is focusing on retaining key talent, ensuring strong employee engagement and commitment, and maintaining a pipeline of talented employees who will contribute to the growth and strength of our company.

Human Resources identified three key levers to focus on in the mid-term to drive excellence within the company:

1. **Developing capabilities.** We will focus on developing four organizational capabilities: operational excellence, entrepreneurship, market-driven innovation, and closer customer relationships. We will achieve these objectives through job training, mentoring and coaching, and academic training programs.
2. **Being closer to our customers.** Our overall strategy is to ensure that our structure allows us to be as close as possible to customers and provide better construction solutions. For example, in CEMEX Spain, the commercial activities from all the regions were consolidated under one leader in order to provide better and faster service to our customers on all product lines.
3. **Aligning incentives to value creation.** CEMEX is aligning variable compensation with the company's new organization and value-creation objectives. It is also advancing in the provision of health, insurance, and pension benefits which in many cases are beyond those required by law.

In 2011, we also focused our efforts to support and engage employees. For example, we implemented 207 employee-engagement initiatives that were based on employee suggestions or feedback. Altogether, engagement programs and events reached around 70 percent of our workforce. In addition, we continued to encourage initiatives that support work-life balance, particularly those related to childcare, healthcare, and continuing education. We have implemented 93 such programs in numerous countries, reaching a total of 28 percent of our workforce. Examples include flexible

schedules for working mothers in Mexico, Panama, Colombia and UK, and allowing employees to work from home as appropriate in Ireland.

### Employee Training and Development

Our development philosophy considers on-the-job experiences as a cornerstone of employee professional and personal growth, which in turn is supported by mentoring and traditional learning programs. During 2011, we have targeted our training efforts on sales, health and safety, ethics and compliance, and leadership.

In 2010, we developed a Manager Training Program that focuses on providing basic management tools for collaboration. In 2011, we began implementing the program in our business units, which we expect will reach 4,000 employees by the end of 2012. During 2011, we also began efforts to redefine our Leadership Development and Training for Performance programs, both of which will be deployed during 2012.

Approximately 55 percent of our executives and employees have access to a formal online system to register evaluations, and 97 percent of these employees report receiving feedback through this channel. Other employees receive regular performance and career development reviews directly from managers.

### Promotions and Compensation

We have a Job Opportunity Policy in place to ensure that all employees are made aware of and have the opportunity to apply for open positions to support their professional growth. Hiring decisions are made regardless of race, color, age, religion, mental or physical disability, sex or national origin of any employee.

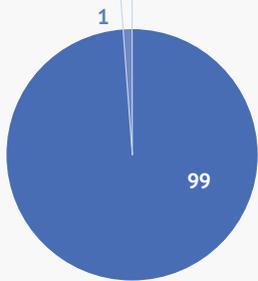
Our compensation packages are based on the responsibility level of the position and not related to race, gender, religion, age or any other protected traits. To ensure the competitiveness of our compensation we monitor the standards of the market base pay and total cash compensation of comparable companies, through independent, professional and third party surveys.

For more information on our development initiatives for employees, please visit [www.cemex.com/SustainableDevelopment/TalentDevelopment.aspx](http://www.cemex.com/SustainableDevelopment/TalentDevelopment.aspx)

## our global workforce

WORKFORCE BY TYPE OF CONTRACT

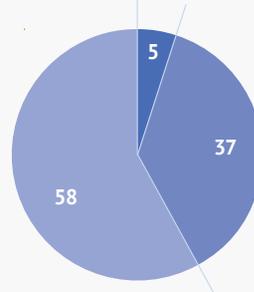
percentage



- Full time
- Part time

WORKFORCE BY LEVEL

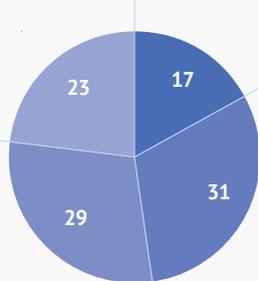
percentage



- Executive positions
- Non-executive positions
- Operational positions

WORKFORCE BY AGE

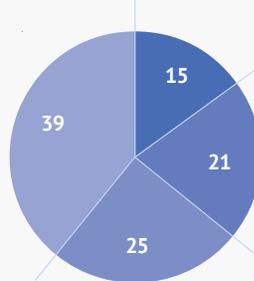
percentage



- Under 30
- 31-40
- 41-50
- Over 50

WORKFORCE BY SENIORITY

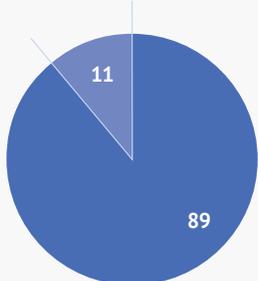
percentage



- Less than 1 year
- 1-5 years
- 5-10 years
- Over 10 years

WORKFORCE BY GENDER

percentage



- Male
- Female



## customer satisfaction

Under the Transformation reorganization project completed in 2011, CEMEX is now even better prepared to focus on the feedback and needs of our customers. Our new structure not only allows us to work more closely and responsively with customers, it also better supports product and service innovations that will benefit these relationships.

Our approach to innovating for customers has been very much driven by insights gained from careful listening to our customers via interviews and other feedback channels. 86 percent of our countries performed surveys to measure customer satisfaction. We have identified four key focus areas for innovation and customer satisfaction: construction competence, personalized construction, legacy building, and national development.

Our findings indicate that customers are often frustrated by the difficulty of finding providers who can meet their needs; the complexity of building processes, technologies and materials; and the lack of trust and cooperation among the many entities operating in the field. We will therefore focus on improving customer satisfaction through the following:

- Making construction easier for customers to plan for, execute, and manage
- Providing knowledge that gives customers and tradespeople the confidence to build
- Enabling an open and transparent platform for matching skilled help with construction projects

**86%**  
of our countries  
performed surveys to  
measure customer  
satisfaction



#### Case Study:

### CEMEX distribution card delivers customer convenience

CEMEX Philippines, in partnership with Banco de Oro, the country's largest bank, issued in 2011 the first ever Distribution Card in the Philippine cement industry. The Distribution Card offers payment and credit solutions exclusively to CEMEX customers across the Philippine archipelago—supporting the company's thrust into newer markets throughout the nation.

The Distribution Card provides a secure channel to accelerate the procure-to-pay process for CEMEX clients. The card not only increases credit lines but also offers payment flexibility, affording customers assistance in growing their businesses.

The Distribution Card is an innovation that exemplifies CEMEX's growing array of customer-focused products and services designed to build client satisfaction and loyalty.

## improving supply-chain performance

Our responsibility for sustainable business practices extends to the farthest reaches of our supply chain. Our customers and other stakeholders hold us just as accountable for the sustainability of our sourcing and procurement practices as for the sustainability of our products and services. Thus, our success in part relies on the support and participation of our suppliers, who provide valuable local perspectives, expertise, and practices and whom we view as partners.

#### Local Sourcing

We see local sourcing as a sustainable business practice: it creates jobs, which in turn stimulates local economies while developing new skills among local workers. We support small and locally based suppliers everywhere we operate (we define transactions with local suppliers as those purchases that do not include an importation code). In 2011, 94 percent of our purchases were made from locally based suppliers. While some of our national suppliers are large companies, our procurement teams participate regularly in events to identify new, local suppliers, in particular small-to-medium-sized enterprises, which typically have revenues of less than USD50 million. We also provide training and development programs to help suppliers strengthen their business practices and integrate sustainability into their business processes.

**70%**  
of our suppliers offer  
CEMEX sustainable  
products/services, such  
as 100% biodegradable  
kraft paper bags

## listening to our suppliers

Some of the findings from our global supplier sustainability survey:

- ▶ **41%** of our global suppliers are signatories or committed to the United Nations Global Compact, whose ten principles seek to address human rights, labor, environment and anti-corruption challenges.
- ▶ **62%** have specific projects or social programs to promote the development of the communities where they operate.
- ▶ **32%** work with their suppliers in social programs for the communities.
- ▶ **79%** have a written ethics policy or internal code of conduct.
- ▶ **70%** have a written sustainability policy.
- ▶ **71%** have staff responsible for sustainable development or corporate responsibility.
- ▶ **70%** offer CEMEX sustainable products/services (for example, 100% biodegradable kraft paper bags).

In 2012, we intend to conduct a deeper analysis of the survey data to uncover additional insights we can apply to supplier relationships. We will also work with the 30 percent of suppliers who lack an ethics or sustainability policy to help them establish these.

## responsible sourcing

Our Supplier Sustainability Program is being embraced by our local operations and our suppliers and we are glad to mention some of the advances, according to its four phases:



Responsible  
Sourcing  
for a better world!

Supplier Sustainability Program



**Phase I. Assessment** during 2011, CEMEX continued assessing the sustainability practices and performance of current suppliers with the supplier survey. In addition to the suppliers in Mexico, Colombia, the Dominican Republic, and the Philippines that received the survey in 2010. In 2011 CEMEX sent the survey to a total of 1,004 suppliers in the UK, Germany, Panama, Costa Rica, Nicaragua, USA, UAE, Puerto Rico, and a multinational group of suppliers categorized as Global Sourcing.

**Phase II. Communication:** In 2011, we created a new section in the CEMEX website for Suppliers. In this section, our suppliers can find all the relevant information of our Four Phases Program. We have also developed an internal global community within our internal collaboration platform, Shift, with a special section for Supplier Sustainability. Through this platform, we share the progress of countries in each phase of the Program, share best practices and allow worldwide network and support.

**Phase III. Policies:** We have developed the *Code of Conduct when doing business with us*, which will be rolled out in a schedule defined by each of the different CEMEX countries during 2012. This code of conduct is the result of a benchmark study analyzing industry best practices, the 10 UN Global Compact principles, and the procurement clauses contained in the Company's Code of Conduct. The *Code of Conduct when doing business with us* can be found on our website.

The CEMEX Procurement and Legal teams have developed sustainability clauses, aligned with the *Code of Conduct when doing business with us*, to be included in supplier contracts and purchase orders. These include requirements regarding confidentiality, anti-bribery, human rights, labor, health and safety, and environmental practices.

**Phase IV. Scorecard:** We are moving forward with the application of a scorecard for sourcing decisions that take into account sustainability considerations. More and more, CEMEX awards contracts to suppliers with the best sustainability performance under similar economic conditions. For example, in Colombia, CEMEX has reinforced the negotiation evaluation standards that will be applied in every key negotiation or strategy of the country's operation. These standards will:

- reinforce industrial safety, norms for environmental protection, and risk coverage
- standardize recruitment principles
- incorporate supplier sustainable practices, promoting the principles of the UN Global Compact of which CEMEX is already a member

In this way we will be able to encourage, from the moment we sign a contract, adherence of the suppliers to this important initiative.

For more information, please visit the Supplier Sustainability Program at [www.cemex.com/Suppliers/SupplierSustainabilityProgram.aspx](http://www.cemex.com/Suppliers/SupplierSustainabilityProgram.aspx)

## our partnerships

We leverage our knowledge and resources and promote our sustainability priorities and vision through strategic global partnerships and memberships with more than 300 global and local organizations, including NGOs, trade associations, educational institutions, and intergovernmental organizations such as the United Nations.

Partner	Objective	Activities in 2011
<b>BirdLife International</b>	To address biodiversity challenges in CEMEX's sites worldwide.	Developed, with the support of BirdLife International, our own standard (Biodiversity Action Plan Standard) to manage biodiversity on our sites.  Agreed on a working budget for the next three years and finalized a workplan for 2012 in which 6 pilots have been defined in order to test the BAP.
<b>Conservation International; International League of Conservation Photographers (ILCP)</b>	Publishing partnership for the Conservation Book Program.	Launched 19th edition of the CEMEX Conservation Book: Oceans, Heart of Our Blue Planet.
<b>Prince of Wales's Corporate Leaders Group on Climate Change</b>	Engage proactively in activities to deliver a robust climate change agreement, based on market mechanisms, giving businesses more certainty for investments in low-carbon solutions.	Discussed climate change issues during high-level dialogue in Brussels, Belgium, that also included European authorities on climate change, environmental NGOs, think tanks, and research bodies.
<b>MIT Concrete Sustainability Hub</b>	Analyze and improve sustainability of concrete.	Refined lifecycle cost analysis studies for buildings and pavement.
<b>United Nations Global Compact</b>	Shape global business practices, particularly in the field of climate change, beyond the scope of our own organization and sector.	Active member of the Steering Committee of the Caring for Climate initiative.
<b>Cement Sustainability Initiative (CSI) – WBCSD</b>	Exchange best practices and develop sustainability-related management and policy tools among leading cement companies.	We applied the following CSI standards in our operations and reporting on CO <sub>2</sub> emissions and safety incidents:  - New guidelines for emissions monitoring - Development of Quarry Rehabilitation Guidelines - Development of Product Category Rules for standardized Environmental Product Declarations
<b>Urban Infrastructure Initiative (UII) of the World Business Council for Sustainable Development</b>	Develop and employ new models of public-private partnership in order to make the world's cities more sustainable.	In addition to acting as co-chair of the initiative, CEMEX participated in the work with selected cities and took the lead in the collaboration with Latin America.
<b>International Union for Conservation of Nature</b>	Identify CEMEX's water-related material issues in order to define a corporate strategy, work to close the identified gaps and mitigate our risks, and share water-related best practices. Also, conclude phase 1 of the water footprint project in order to better assess and understand CEMEX's water related challenges and opportunities.	Defined CEMEX water baseline; achieved a better understanding of CEMEX's water-related issues, challenges, gaps, and opportunities; renewed and updated our Supplemental Agreement and Terms of Reference, reinforcing our commitment to this relationship.

### Additional resources

- > Stakeholder Engagement
- > Life at CEMEX
- > Global Partnerships

## fulfilling our global commitments

CEMEX continues to participate in the United Nations Global Compact (UNGC) Advisory Group on Supply Chain Sustainability. CEMEX shares best practices regarding sustainable procurement with the Advisory Group and also learns from the practices of others. Some of these lessons were applied during the development of the Code of Conduct when doing business with us, which is comprised of ten principles to which CEMEX expects its business partners to adhere. The code is published online and publicly available through our new website section for suppliers.

## engaging with investors and analysts

We engage with our investors and analysts, whether institutional equity and bondholders or retail investors, through a variety of means. These engagements include annual and quarterly financial reporting, conference calls, roadshows, investor days, and one-on-one meetings. Our CEMEX Day investor event, held in New York on September 29, 2011, was our most widely attended event ever: 110 participants attended in person and 1,145 followed it via webcast.

Participants included institutional investors, analysts, lenders, and journalists.

We are transparent, forthright, and consistent in our dealings with investors and analysts. More and more, we are seeking to serve their growing information needs by communicating our environmental, social, and governance performance. For example, we include in our quarterly and annual reporting "after efforts" so the sentence reads: For example, we include information on our sustainability efforts in our quarterly and annual reporting.

For more information, please visit the investor center at [www.cemex.com/InvestorCenter/CorporateGovernance.aspx](http://www.cemex.com/InvestorCenter/CorporateGovernance.aspx)

To see a full list of partnerships and memberships, visit [www.cemex.com/SustainableDevelopment/GlobalPartnerships.aspx](http://www.cemex.com/SustainableDevelopment/GlobalPartnerships.aspx)

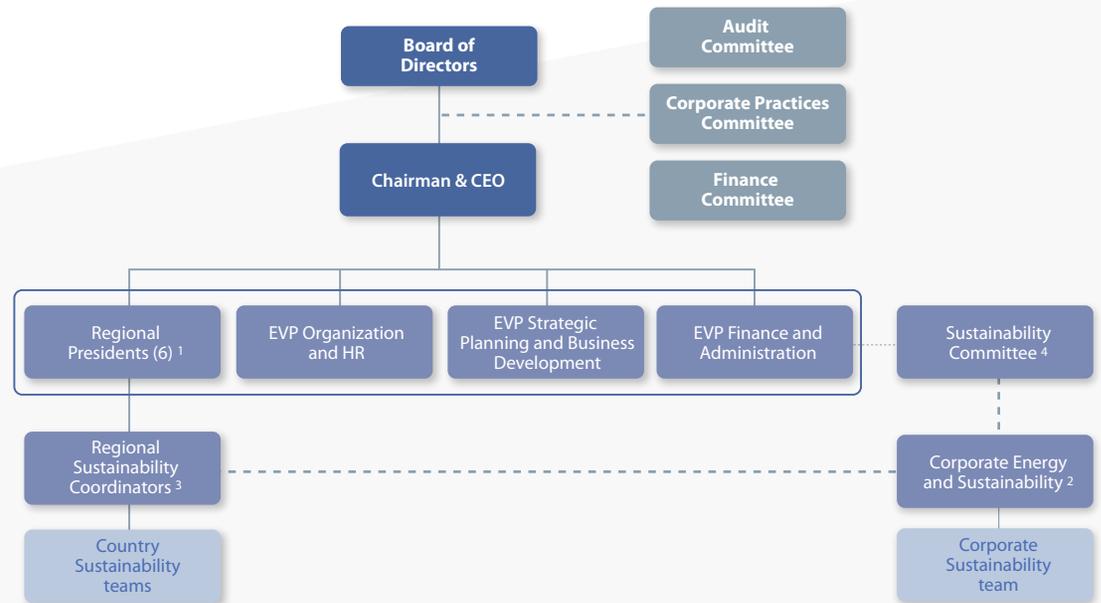
# managing our business for the long term

At CEMEX, we think of “sustainability” in the most fundamental sense of the term: as the ability to address current business needs while managing for sustained, positive performance in future business climates.

## advancing our priorities through strong governance

Led by our Chairman of the Board and CEO, Lorenzo H. Zambrano, the CEMEX Board of Directors is responsible for supervising the overall direction and operation of the company. As of December 31, 2011 the board comprised 13 directors, nine of whom qualified as independent directors according to criteria specified under Mexican Securities Law. On February 23, 2012 CEMEX's General Shareholder's Meeting appointed 11 directors to the board, 8 of whom qualify as independent directors according to criteria specified under Mexican Securities Law. The board is responsible for determining and overseeing our efforts to advance our seven sustainability priorities—performance on which is critical to our ability to execute our business strategy.

For more on our governance structure, processes, and systems, please visit the governance section of our website at [www.cemex.com/InvestorCenter/CorporateGovernance.aspx](http://www.cemex.com/InvestorCenter/CorporateGovernance.aspx)



- Defines sustainability guidelines and priorities
- Proposes and defines global sustainability initiatives through Sustainability Committee
- Executes global sustainability initiatives

- 1 Regions include Northern Europe, South America and Caribbean, Mediterranean, Asia, Mexico, USA
- 2 Reports to the President of CEMEX Northern Europe
- 3 Reports to corresponding Regional President
- 4 Consists of 12 members: 9 members of Management Team, Senior VP Corporate Energy and Sustainability, Senior VP Technology and Safety, and one regional sustainability coordinator (alternates)

## Governance structure supporting sustainability

Responsibility for sustainability begins with our Board of Directors and flows through all areas of our company to our local operations.

The Sustainability Committee comprises of 12 members: nine members of our management team, the Senior Vice President of Energy and Sustainability, the Senior Vice President of Technology and Safety, and the Corporate Director of Sustainability. This committee meets quarterly to assess and guide CEMEX in its sustainability efforts. Through their work, sustainability priorities are defined and resources allocated to initiatives that have the highest impact and provide the most significant improvement opportunities.

Decisions made by the Sustainability Committee and validated by the CEO, the management team, and the Board of Directors are swiftly executed by the Senior VP Energy and Sustainability in coordination with the different regional/country presidents and leaders of other relevant corporate functions.

## managing our risks appropriately

A multitude of risks can affect CEMEX's operations, assets, employees, and neighbors. Accordingly, we use risk management systems and tools to gather information from a range of sources, analyze the data, identify and assess potential risks, and then respond to them. Since 2007, these processes have included an evaluation of environmental, health, and safety risks.

We have several processes that test the robustness of our systems, evaluate compliance across all business units, and encourage continuous improvements. These processes include compliance training for employees, periodic reviews of our policies and procedures, and regular internal audits.

The company's sustainability-related risks are addressed by our Enterprise Risk Management System, which is ultimately supervised by our Board of Directors and the management team. The day-to-day responsibility for risk management at

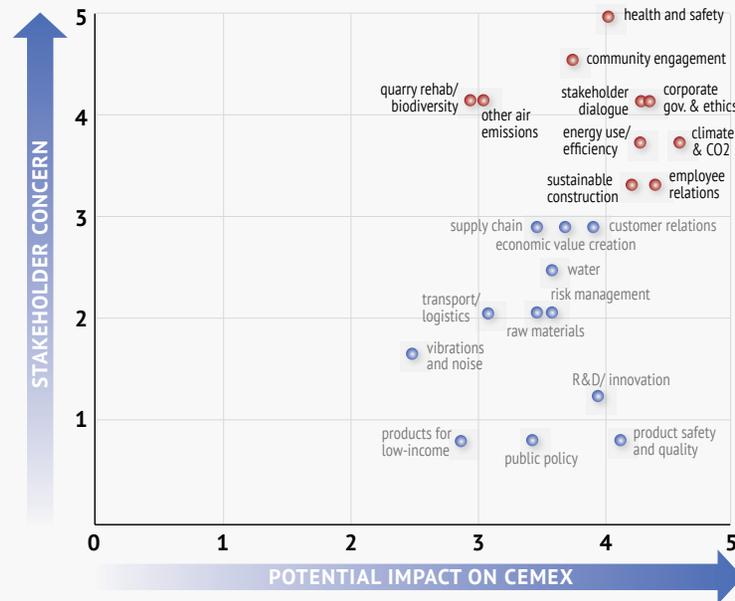
CEMEX has been delegated to the Executive Vice President of Finance and Administration, who works with the departments that have the relevant skills and expertise such as the Process Assessment Department, the Global Risk Department, the Global Legal Department, and the Internal Control Department, among others. We have also formalized the integration of the ETHOS committee, which supports the operative functions of the Global Ethics Committee. The ETHOS Committee is composed of representatives from Legal, Process Assessment, Internal Control, Human Resources and Information Security.

For more on how we manage our risks, please visit <http://www.cemex.com/SustainableDevelopment/MaterialityAnalysis.aspx>

### Identifying our priorities through materiality analysis

In 2010 we conducted a materiality analysis to assist in identifying areas of key risk and opportunity, and to refine and confirm CEMEX's strategic approach and priorities.

To conduct the analysis, we reviewed a wide variety of materials indicating stakeholder opinions and concerns, including customer inquiries, supplier requirements, competitor and peer disclosures, industry association papers and position statements, investor criteria as defined in ratings and rankings inquiries, and sustainability reporting standards. From these sources we built a preliminary list of issues and sought management's perspective regarding their impact on the company. CEMEX's management analyzed the results of the stakeholder review and company survey and approved a final list of material issues.



Sustainability Priorities	Material issues
<b>High priority to health and safety</b>	Health and safety
<b>Partnership with key stakeholders</b>	Corporate governance and ethics Stakeholder dialogue/collaboration Community engagement Employee relations/engagement
<b>Lead in sustainable construction</b>	Sustainable construction
<b>Enhance our carbon strategy</b>	Climate change/CO <sub>2</sub> emissions/energy
<b>Excellence in environmental and biodiversity management</b>	Climate change/CO <sub>2</sub> emissions/energy Other air emissions (dust, etc.) Quarry rehabilitation/biodiversity
<b>Strengthen local communities Affordable housing and infrastructure</b>	Community engagement

The material issues identified through our materiality assessment process align well with our seven sustainability priorities.

We then matched these issues with the definition of seven sustainability priorities to ensure that our business strategy is aligned with the main concerns of our stakeholders. The seven priorities are being addressed through CEMEX's governance structure and management approach. The materiality analysis conducted in 2010 remains valid and updated, as the main concerns of our stakeholders have not changed and our company is still focused in improving the performance of those issues identified as top priorities (see left).

## guiding ethical and responsible behavior

Through the CEMEX Code of Ethics and Business Conduct (Code of Ethics), we seek to ensure that all employees understand and share CEMEX's high standards of conduct.

To achieve this objective, we have launched global communications campaigns emphasizing expected behaviors.

In 2011, we trained around 10,500 employees on various topics covered by the Code of Ethics, we delivered approximately 1,700 trainings on workplace behavior and more than 2,000 related to anti-bribery, among other topics. Additionally, we conducted a significant number of internal audits with our executives in Mexico, Europe, and South America and Caribbean region on antitrust and anti-bribery issues. This is an annual compliance program that will continue to be conducted in future years, covering all relevant geographic regions where CEMEX operates.



We also launched communication efforts focusing on: anti-trust, anti-bribery, customer relations, workplace environment, giving/ receiving gifts and information security. Over 200 communications were delivered.

We also updated it to improve understanding of regulations focused on particular issues, such as human rights and anti-corruption. To ensure effective comprehension, we enhanced its design and added example scenarios and frequently asked questions. New employees are required to sign the Code of Ethics as part of their orientation. The Code of Ethics is available through our website and intranet.

ETHOSline is our safe and confidential tool to ask questions and report potential violations related to ethics, governance and compliance. ETHOSline can be accessed either online through our intranet, or via telephone; telephone accessibility was extended to all employees during 2011. ETHOSline is managed by a third party that gathers the incident information, documents the concerns, and relays the information to CEMEX.

 For more about our ethics and compliance policies, please visit [www.cemex.com/AboutUs/EthicsAndCompliance.aspx](http://www.cemex.com/AboutUs/EthicsAndCompliance.aspx)

#### Company Policies

In addition to our Code of Ethics, we communicate our expectations and set global standards through the following company-wide policies, which can be found in our internal Policy Center and on the CEMEX website:

- Health and Safety
- Environment
- Biodiversity
- Anti-bribery
- Antitrust

Number of courses in 2011	Instructor led	Online training	Total
Anti-bribery	1,862	150	2,012
Antitrust	1,559	225	1,784
Avoiding conflicts of interest		142	142
CEMEX's Code of Ethics	375	153	528
Confidential information	1,796	2,231	4,027
Insider trading	48		48
Introduction to compliance	184		184
Introduction to Sarbanes-Oxley compliance		6	6
Workplace behavior	1,641	141	1,782
<b>Total</b>	<b>7,465</b>	<b>3,048</b>	<b>10,513</b>

#### public policy activities

We actively follow public policy developments in many of the countries and regions in which we operate, and we advocate for our business and sustainability priorities. CEMEX's Chairman of the Board and CEO and the company's executive management team determine the company's priorities and public positions on issues. Our Vice President for Corporate Communications, Public Affairs and Investor Relations then works with regional managers to devise an appropriate strategy for each region and collaborate with relevant stakeholders. Current priorities include:

- Environmental protection
- Climate change and carbon markets
- Sustainable construction
- Infrastructure development
- Community engagement

CEMEX also maintains active relationships with governments at all levels to discuss and clarify perceptions of our company and our industry maximize our ability to collaborate productively. The need to reconcile economic development with protection of the environment requires effective solutions between states and private enterprises. CEMEX holds that the fastest way to a solution is often through

**10,000**  
employees were trained  
on various topics covered  
by the Code of Ethics



#### Additional resources

- > Stakeholder Engagement
- > Life at CEMEX
- > Global Partnerships

open dialogue. These dialogues are important in order to maintain our license to operate, generate institutional sales, strengthen our reputation and support the development of the communities in which we participate.

 For more information, please visit [www.cemex.com/SustainableDevelopment/PublicPolicy.aspx](http://www.cemex.com/SustainableDevelopment/PublicPolicy.aspx)

## focus on human rights

We are committed to supporting and respecting the protection of internationally proclaimed human rights, as well as ensuring we are not complicit in any human rights abuses. This obligation is reinforced by our ongoing commitment as a signatory to the United Nations Global Compact and our membership in Foro Soria 21, an international organization focused on social ethics and values. We are currently evaluating the UN Guiding Principles on Business and Human Rights, sometimes referred to as the Ruggie framework, and its implications for our business.



Pursuant to these commitments, we do more than merely comply with local employment laws. We forbid all forms of discrimination, do not use child or forced labor, and guarantee the right to freedom of association, and have implemented company procedures and training to prevent inadvertent violations of these policies:

- Our selection and hiring process requires the presentation of government-issued identification, as well as a rigorous investigation of the person's information. This process also extends to our contracted labor suppliers in countries like the Dominican Republic and Mexico. In fact, in Mexico, CEMEX itself checks that all suppliers' employees are over the age of 18.
- As part of our prohibition on forced or compulsory labor, we do not require anyone to perform hazardous tasks against their will or tasks that are detrimental to their health or wellbeing. In addition, we take measures to prevent workers from falling into debt bondage through company loans. For example, in Colombia we offer loans only through the employee fund and only after completing an analysis of the worker's borrowing capacity and minimum earnings. Naturally, all employees are free to leave the company at any time.
- Approximately 19,000 employees are represented by a union. CEMEX fully acknowledges, supports, and respects its employees rights to freedom of association, provided all actions are legal and that they do not interfere with the employees' duties and responsibilities.
- We also engage with employees through: collective bargaining processes, quarterly meetings of the board of directors with workers, monthly meetings by specific departments, and individual meetings within departments. In certain countries, including Croatia and Mexico, we host forums specifically to gather opinions on particular issues. Employees can also communicate recommendations and concerns to management through our ETHOSline, several surveys the company conducts, Open Dialogues, and Town Halls.

As mentioned before, we have a Job Opportunity Policy to ensure that all employees are made aware of and have the opportunity to apply for open positions to support their professional growth. Hiring decisions are made without regard to applicants of race, color, age, religion, mental or physical disability, sex, or national origin.

Our compensation packages are based on the responsibility level of the position and not related to race, gender, religion, age or any other protected trait. To ensure the competitiveness of our compensation, we monitor the market base pay and total cash compensation of comparable companies through independent, third-party surveys.

Based on stakeholder concerns and CEMEX's greater understanding of the human rights risks the company may be exposed to, we are taking steps to ensure that human rights are respected not only across all of our company's operations but also to the full extent of our influence. We are including explicit references to the Code of Ethics and our human rights commitments in vendor and supplier contracts, and are enhancing the systems we use to screen suppliers' social and environmental performance.

# our performance in detail

	2009	2010	2011
<b>Lead in Sustainable Construction</b>			
Production covered with CEMEX CO <sub>2</sub> Footprint Tool (%)	NA	160	87
Cement		100	100
Aggregates		50	83
Ready Mix		141	83
Sites covered with CEMEX CO <sub>2</sub> Footprint Tool (%)	NA	29	88
Cement		100	100
Aggregates		42	84
Ready Mix		22	89
<b>CO<sub>2</sub> Footprint - Annual Average</b>			
Cement (Kg CO <sub>2</sub> e per ton cement)		798	798
Aggregates (Kg CO <sub>2</sub> e per ton aggregates products)		5.3	4.9
Ready Mix (Kg CO <sub>2</sub> e per m <sup>3</sup> )		298	275

*1 Data Recalculated taking into consideration the scope set: fixed and managed plants*

<b>Affordable Housing and Infrastructure</b>			
Number of houses built under CEMEX affordable housing program	NA	1,572	3,259
Thousands of square meters of concrete paving completed	NA	7,907,968	8,045,350



	2009	2010	2011
<b>Carbon Strategy</b>			
Absolute gross CO <sub>2</sub> emissions (million metric tons)	41.7	43.5	43.1
Absolute net CO <sub>2</sub> emissions (million metric tons)	39.7	41.0	40.0
Specific gross CO <sub>2</sub> emissions (kg CO <sub>2</sub> /metric ton of cementitious product)	658	667	660
Specific net CO <sub>2</sub> emissions (kg CO <sub>2</sub> /metric ton of cementitious product)	627	629	612
Reduction in CO <sub>2</sub> emissions per ton of cementitious product from 1990 baseline (%)	20.7	20.5	22.7
Thermal energy efficiency of clinker production (MJ/ton clinker)	3,693	3,696	3,757

<b>Fuel Mix (%)</b>			
Total alternative fuels	16.4	20.3	24.7
Coal	26.1	25.3	26.9
Petroleum coke	46.8	45.0	38.5
Fuel oil	10.1	8.8	9.4
Natural gas	0.6	0.6	0.5

<b>Alternative fuels rate</b>			
Alternative fossil fuels rate	13.2	15.7	20.1
Biomass fuels rate	3.2	4.6	4.6

<b>Waste types used as alternative fuels (%)</b>			
Industrial and household waste	64	61	65
Tires	17	16	16
Animal meal	6	4	4
Agricultural organic waste	11	14	10
Other biomass	2	5	5

	2009	2010	2011
<b>Other carbon strategy indicators</b>			
Alternative raw material rate	12.2	11.8	12
Clinker/Cement factor (%)	75	76	75
Indirect Energy Consumption (GWh)	6,887	7,108	7,164
Specific energy consumption, cement (Kwh/ton cement)	115	118	118
Specific energy consumption, ready-mix concrete (Kwh/cubic meter)	3.1	3.3	3.3
Specific energy consumption, aggregates (Kwh/ton)	6.2	6.0	6.9
Direct energy consumption (TJ)	183,154	195,043	191,323

<b>Air Quality</b>			
Clinker produced with continuous monitoring of major emissions (dust, NO <sub>x</sub> and SO <sub>x</sub> ) (%)	60	74	80
Clinker produced with monitoring of major and minor emissions (dust, NO <sub>x</sub> , SO <sub>x</sub> , Hg, Cd, TI, VOC, PCDD/F)(%)	47	69	82
Absolute dust emissions (tons/year)	5,052	4,421	4,978
Specific dust emissions (g/ton clinker)	106	89	101
Absolute NO <sub>x</sub> emissions (tons/year)	50,562	56,239	54,182
Specific NO <sub>x</sub> emissions (g/ton clinker)	1,063	1,134	1,094
Absolute SO <sub>x</sub> emissions (tons/year)	19,499	16,556	16,601
Specific SO <sub>x</sub> emissions (g/ton clinker)	410	334	335

<b>Water Consumption<sup>1</sup></b>			
Cement (l/ton)	344	277	257
Ready-mix (l/cubic meter)	213	202	213
Aggregates (l/ton)	193	199	182
Operations with water recycling systems (%)	72	75	79
Cement	74	75	77
Ready-mix	76	86	89
Aggregates	64	65	71

<sup>1</sup> Under the Framework of CEMEX's Water Project, during 2010 we started the process of adjusting, improving, and standardizing our water KPIs definitions to achieve more accurate figures that in the future will align with the CSI's ongoing work on water KPI.

	2009	2010	2011
<b>Waste Management<sup>1</sup></b>			
Total disposed hazardous waste (tons)	76,543	50,868	39,904
Cement	17,681	14,164	15,492
Ready-mix	3,087	1,272	1,784
Aggregates	55,775	35,433	22,628
Total disposed non-hazardous waste (tons)	362,313	385,977	414,600
Cement	69,278	66,139	96,372
Ready-mix	282,033	313,515	315,476
Aggregates	11,002	6,322	2,752
Volume of returned ready-mix concrete material from total delivered			
%	0.78	0.73	0.76
Cubic meters	323,963	279,909	284,910
Secondary and recycled aggregates used as a direct replacement of primary aggregates (tons)			
%	0.2	0.25	0.27
Cubic meters	261,800	284,356	312,276

<sup>1</sup> During 2011 we carried out a detailed revision of the methodology applied in all CEMEX production sites in our three main businesses (cement, ready mix, and aggregates) to measure waste disposal. In this review we developed a standard way of calculating the figures and we have identified CEMEX operations that were using different criteria or methods. All past waste figures were recalculated to conform to the new standard.

<b>Biodiversity Management</b>			
Active sites with quarry rehabilitation plans (%)	82	85	89
Cement	79	82	87
Aggregates	83	86	90
Number of active quarries within or adjacent to high biodiversity value areas	112	105	103
Cement	11	12	14
Aggregates	101	93	89
Active sites with high biodiversity value where biodiversity action plans are actively implemented (%)	29	38	38
Cement	45	58	50
Aggregates	28	35	36

	2009	2010	2011
<b>Environmental Management</b>			
Operations with an Environmental Management System implemented (%)	50	76	86
Operations with ISO 14001 Certifications	NA	367	448
Operations with ISO 14001 Certifications (%)	NA	18	23
Environmental investment (US million)	77	93	95
Major environmental incidents (#)	8	2	0
Environmental non-compliance cases (#) <sup>1</sup>	67	65	129
Associated fines (US million) <sup>2</sup>	1.3	1.4	1.5

<sup>1</sup> The rise in incidents is due to the implementation of a new alternative fuel feeding system in Egypt, which caused many irregular conditions to the kiln and filters, leading to an increased level of CO<sub>2</sub> emissions. Egypt is currently proposing an investment in a more efficient filter system. Note: Costa Rica did not report this indicator.

<sup>2</sup> The United States paid a US 1.4 million dollar fine due to an Environmental Protection Agency violation reported in 2005. Note: Costa Rica did not report to this indicator

<b>Health and Safety</b>			
Total fatalities	33	46	44
Employees, total	8	2	5
Employees, cement	2	2	2
Employees, ready-mix	3	0	3
Employees, aggregates	2	0	0
Employees, other businesses	1	0	0
Contractors, total	11	15	24
Contractors, cement	5	7	10
Contractors, ready-mix	3	7	4
Contractors, aggregates	3	1	8
Contractors, other businesses	0	0	2
Third-parties, total	14	29	15
Third parties, cement	2	7	7
Third parties, ready-mix	9	7	7
Third parties, aggregates	0	0	1
Third parties, other businesses	3	15	0
Fatality rate, employees (per 10,000 employed)	1.56	0.43	1.21
Cement	1.68	1.71	1.75
Ready-mix	1.81	0	1.95
Aggregates	3.54	0	0
Other businesses	0.58	0	0

	2009	2010	2011
<b>Lost-Time Injuries (LTIs)</b>			
Employees, total	360	268	213
Employees, cement	61	52	44
Employees, ready-mix	151	125	107
Employees, aggregates	41	18	20
Employees, other businesses	107	73	42
Contractors, total	154	123	124
Contractors, cement	50	32	50
Contractors, ready-mix	36	27	38
Contractors, aggregates	24	12	8
Contractors, other businesses	44	52	28
Lost-time injury rate (LTI) frequency rate, employees (per million hours worked)	3.2	2.6	2.3
Cement	2.4	2.1	1.7
Ready-mix	4	3.3	2.9
Aggregates	3.3	1.7	2
Others	2.9	2.4	1.9
Compliance with CSI Driving Safety Recommended Practices (%)	NA	64	79
Compliance with CSI Contractor Safety Recommended Practices (%)	NA	63	82
Operations with a Safety Management System implemented (%)	98	98	99.6
Cement	95	98	98.5
Ready-mix	99	99	99.8
Aggregates	95	97	99
Operations certified with OSHAS 18001:2007 (Occupational Health and Safety Management System) (%)	NA	9	8
Cement	NA	32	34
Ready-mix	NA	7	5
Aggregates	NA	16	15
Employees trained in our CEMEX LEGACY Safety Leadership Program (#)	533	2,108	2,914
Employees trained in the CEMEX Root Cause Analysis Incident Investigation methodology (#)	956	623	857

	2009	2010	2011
<b>Lost-Time Injuries (LTIs) (continued)</b>			
Sickness Absence Rate (%)	5.2	2.5	1.8
Operations with a Health Management System implemented (%)	76	79	82
Operations with a qualified health professional onsite or with access to an external health provider	96	96	96

<b>Corporate Governance</b>			
Reports of alleged breaches to the Code of Ethics received by local ethics committees (#)	216	184	221
Reports related to employee relations	70	31	29
Reports related to a form of harassment	14	46	40
Reports related to discrimination	9	11	9
Disciplinary actions taken as a result of reports of non-compliance with the Code of Ethics, other policies, or the law (#)	92	77	119
Countries with local mechanisms to promote employee awareness of procedures to identify and report incidences of internal fraud, kick-backs, among others (%)	90	90	100
Investigated incidents reported and found to be true related to internal fraud, kick-backs, among others (#)	10	0	0

<b>Partnership with Key Stakeholders</b>			
Workforce	47,624	46,533	44,104
Mexico	10,663	11,409	10,333
United States	10,065	8,860	8,322
Northern Europe <sup>1</sup>	15,786	15,054	13,994
Africa, Middle-East, Asia <sup>2</sup>	3,976	3,646	NA
Mediterranean <sup>3</sup>	NA	NA	2,089
Asia	NA	NA	1,319
South/Central America and Caribbean	4,226	4,317	4,501
Others (including Corporate)	2,908	3,247	3,546

<sup>1</sup>The 2011 figure has partly decreased reflecting an organizational change. Croatia and Spain are now part of the Mediterranean region.

<sup>2</sup> Israel, UAE and Egypt are now part of the Mediterranean region.

<sup>3</sup> The region includes Spain, Egypt, UAE, Israel, and Croatia.

	2009	2010	2011
<b>Partnership with Key Stakeholders (continued)</b>			
Breakdown of workforce by type of contract (%)			
Full time	86	99	99
Part time	14	1	1
Breakdown of workforce by level (%)			
Executive positions	6	5	5
Non-executive positions	32	36	37
Operational positions	62	59	58
Breakdown of workforce by age (%)			
Under 30	19	19	17
31-40	32	32	31
41-50	28	27	29
Over 50	21	22	23
Breakdown of workforce by gender (%)			
Male	88	87	89
Female	12	13	11
Female employee representation by level (%)			
Executive	13	13	13
Non-executive	28	24	23
Operational	3	6	4
Male to female wage ratio	1.09	1.02	1.04
Engagement level*	88	83	NA
Participation rate in engagement survey (%)	77	64	NA
Employee turnover rate (%)**	5	6	5
Employees represented by an independent union or covered by a collective bargaining agreement (%)	51	54	54
Notice to employees regarding operational changes (average days)	30	30	40
Countries with policies to promote local hiring (%)	76	76	76
Training provided by operations (average hours)			
Executive	33	20	20
Non-executive and operational	24	22	15

\* A survey is generally completed once every two years; however, due to the Transformation Project in 2011, the 2011 Survey was postponed to 2012.

\*\* Voluntary turnover

	2009	2010	2011
<b>Partnership with Key Stakeholders (continued)</b>			
Online courses through CEMEX Learning (#)	683	1,036	1,121
Employees with access to CEMEX Learning (#)	15,621	19,002	18,767
Sites conducting social impact assessments (%)			
Cement	67	67	68
Ready-mix	75	75	75
Aggregates	61	61	67
Aggregates	67	67	70
Sites with community engagement plans (%)			
Cement	85	97	97
Cement	88	96	96
Aggregates	86	97	97
Operations with employee volunteering programs (%)	41	41	43
Countries that conduct regular customer satisfaction surveys (%)			
Cement	78	84	86
Purchases sourced from locally-based suppliers (%) <sup>1</sup>	93	93	94
Countries with a process to screen suppliers in relation to social and environmental aspects (%) <sup>2</sup>			
Cement	84	84	86
<p><i>1 The results for 2011 have decreased due to a change in definition from national /local suppliers to only local suppliers.</i></p> <p><i>2 The results for 2011 have decreased due to a change in definition from national /local suppliers to only local suppliers.</i></p>			
<b>Strengthen local communities</b>			
Families participating in Patrimonio Hoy in Latin America Initiative (# accumulated)			
Mexico	263,212	308,311	353,856
Other Latin American Countries	251,828	294,173	335,865
Other Latin American Countries	11,384	14,138	17,991
Total meters square built in Patrimonio Hoy Initiative (# accumulated)			
	NA	1,984,500	2,593,094
Number of families participating in Productive Centers of Self Employment, CPAs (# accumulated)			
	NA	8,475	44,013

# awards and recognitions

We are pleased that the hard work and commitment to sustainability of our employees across the world have been recognized in many ways during 2011, including through numerous awards:

## **Wildlife Habitat Council Certification**

Five of CEMEX's sites in the USA have earned certification with the Wildlife Habitat Council for superior management of wildlife enhancement and land conservation projects. The five sites are cement manufacturing plants in Fairborn, Ohio and Louisville, Kentucky, and the FEC Quarry, 474 Sand Mine, and Brooksville Quarry in Florida.

## **EcoForum Conference Awards**

CEMEX in Poland's Chelm plant received two awards at the second International EcoForum Conference, held in Lublin, Poland: "Environment First," carrying the title as an environmentally friendly company; and the "Man and Company" prize, granted for introducing innovative technology to minimize the plant's impact on the environment. In 2011, the plant also became one of the 28 elite organizations in Poland to meet the requirements of the European Eco-Management and Audit Scheme (EMAS).

## **Dayton Power & Light Rebate**

CEMEX's cement plant in Fairborn, Ohio decreased electric power consumption used for compressed air by more than half, earning the company a \$226,000 rebate from Dayton Power & Light. The decrease in electricity consumption also reduces the amount of CO<sub>2</sub> emitted into the atmosphere annually by more than 1,475 metric tons.

## **Austrian Ministry of Social Affairs Health & Safety Award**

CEMEX in Austria was awarded the second prize for Health & Safety from the Austrian Minister of Social Affairs for its project "Stress management—integral part of employee motivation and accident prevention."

## **Environmental Protection Agency ENERGY STAR Award**

The US Environmental Protection Agency (EPA) and the U.S. Department of Energy (DOE) have awarded five of its CEMEX's cement manufacturing plants in the United States the 2011 ENERGY STAR® award. The company's plants in Clinchfield, GA.; Louisville, KY.; Miami, FL.; New Braunfels, TX; and Demopolis, AL, received the awards in recognition of superior energy performance. These awards mark the fifth consecutive year for the plants in Clinchfield, Ga., and Louisville, KY. to receive the award and the third consecutive year for the plant in Demopolis, Ala.

## **Mercado Magazine Best Place to Work Award**

CEMEX has been named the best place to work in the Dominican Republic by *Mercado Magazine* after an assessment which took into account a reader poll and the opinions of a group of experts who weighed organizational culture, policies and practices, and human resources processes.

## **Golden Carbon Award**

CEMEX in China won the highest honor, The Golden Carbon Award, in the "Environment-Friendly Building Solutions" category at the first environmental protection innovation ideas competition, held at Qingdao Technological University.

## **The Trust for the Americas and Organization of American States Award**

CEMEX has been recognized with the 2010 Corporate Citizen of the Americas Award in the Economic Opportunity Category, given by the Association of American States (OAS) and the Trust for the Americas, for the positive social impact of its Centros Productivos de Autoempleo (Productive Self-employment Centers) program.

## **Croatia Index of Socially Responsible Business**

For the third time, the Croatian Chamber of Commerce, in cooperation with the Croatian Business Council for Sustainable Development named CEMEX in Croatia to the Index of Socially Responsible Business.

## **Council for a Beautiful Israel "Five Stars of Beauty" Award**

CEMEX in Israel's Modi'im aggregates quarry was awarded the "Five Stars of Beauty" designation by the Council for a Beautiful Israel, a non-profit public organization whose aim is to improve the quality of life in Israel through preservation of the environment.

## **UNICEM Biodiversity Certificate**

A CEMEX aggregates quarry in central France was awarded the first Biodiversity Certificate by the French aggregates association, UNICEM. The certificate recognizes numerous activities to promote biodiversity in the quarry as well as efforts to raise awareness about preserving local wildlife.

## **CEMEFI Recognition**

CEMEFI, the Mexican Center for Philanthropy, recognized CEMEX for the CEMEX-TEC Construction School program, created to spur economic development and micro-enterprise among low-income families through technical and administrative courses in construction.

# advisory panel members and statement

## CEMEX 2011 sustainable development report

### **Sustainability Reporting Advisory Panel Statement**

CEMEX is operating in an extremely difficult business climate and in 2011 consolidated its activities to ensure it remained competitive. These changes, many painful, have placed increased pressure on securing resources to implement its sustainability strategy. We are pleased to note the continued commitment of CEMEX to sustainability and how integral sustainability is to its business strategy, including seeking leadership in sustainable construction. This report is a testament to that strategic imperative and conveys an important message to the market.

### **Scope of our review**

We reviewed an advanced draft of the CEMEX 2011 Sustainable Development Report. We shared with management our detailed comments and specific suggestions for improvement. We list here our general observations and concentrate on those aspects that will further enhance the company's reporting in the future.

### **Completeness and clarity**

We like the use of the seven priorities as a reporting structure and are pleased to see its further development in the 2011 report. The report covers the important topics defined as material by CEMEX and we find it largely complete when read in conjunction with supporting material on the web. We have some reservations and concerns, which we note below.

We encourage CEMEX to find ways to help the reader understand HOW it is implementing its sustainability strategy and to provide more evidence of the effects. The report still contains too many general assertions and too little evidence of performance.

### **Fair reflection**

It is helpful that CEMEX has clearly outlined future challenges in each priority area. However, the challenges faced during 2011, a year of extreme business pressure for CEMEX, are not so well reported. We find that the report thus presents an overly positive view. We ask for the reporting to deal with the inevitable challenges in implementing the sustainability strategy in difficult economic times. Such honesty is not only good reporting practice and required by the Global Reporting Initiative guidelines, but it makes the many successes of CEMEX stand out.

### **Governance**

We reiterate our previously noted concerns about how governance is described. We would like to see greater clarity on the risks faced and what is being done to manage those risks.

### **Human rights**

As noted last year, reporting on human rights remains inadequate. But we are pleased to read that CEMEX is reviewing the implications of the UN's Ruggie process, completed in 2011, and look forward to learn about the company's actions to promote human rights.

### **Safety**

As noted by ourselves and the previous panel, safety remains a major concern. The number of fatalities, especially among contractors, is unacceptable. The Chairman confirms this in his letter and we urge him to put the necessary resources, beyond policies, in place to make the dramatic improvements necessary.

### **Biodiversity**

The report should note the future challenge posed by the target of implementing biodiversity management at 100 key sites by 2015, given that this indicator was static in 2011 (at 38 sites) while a new biodiversity action plan standard was being developed. We reiterate the call we made last year for CEMEX to move beyond the fairly vague commitments in the CEMEX Position Statement on Biodiversity and develop a biodiversity strategy with additional clear and quantifiable impact (not just process) targets, based on an overall commitment to Net Positive Impact on biodiversity across the company's operations.

In future reports, it would be good to see case studies that detail the results of the implementation of Biodiversity Action Plans at priority operations, as this is where the real challenge now lies for CEMEX's biodiversity management.

### **Stakeholder engagement**

We are pleased that CEMEX now provides detailed descriptions of its engagement with stakeholders. In future, we would like greater clarity on how CEMEX is turning itself into a buildings solution provider, as opposed to a supplier of construction materials, and how it is communicating this to the market.

### **Water**

Water is becoming an increasingly important environmental issue and we are pleased that CEMEX reports on its use of water. We look forward to more information on how it intends to improve its performance.

We have reached the end of our two-year period of engagement and thank CEMEX for taking our views seriously. We wish the company well in its endeavors and urge CEMEX to keep making progress in its contribution to sustainable development.

# assurance statement



## Independent Limited Assurance Report on the CO<sub>2</sub> emissions, safety, environmental incidents and other emissions Key Performance Indicators reported by CEMEX for the year 2011

### To the Board of Directors of CEMEX

At the request of CEMEX, we have carried out an independent limited review of CO<sub>2</sub> emissions, safety, environmental incidents and other emissions Key Performance Indicators (“The KPIs”) reported by CEMEX for the year 2011. This assurance process covers The KPIs disclosed in the 2011 Sustainable Development Report identified with the symbol :

- CO<sub>2</sub> emissions, as calculated according to the WBCSD-CSI “Cement CO<sub>2</sub> Protocol” (June 2005 version 2.0):
  - Absolute gross and net CO<sub>2</sub> emissions
  - Specific gross and net CO<sub>2</sub> emissions
  - Alternative fuels rates (alternative fossil and biomass fuels)
- Safety indicators, as calculated according to the WBCSD-CSI Guidelines “Safety in the cement industry: Guidelines for measuring and reporting” (updated October 2008 version 3.0):
  - Fatality rate for directly employed
  - Lost Time Injury Frequency rate (LTI FR) for directly employed
  - Lost Time Injury Severity rate (LTI SR) for directly employed
- Number of Category 1 Environmental Incidents, as defined by CEMEX Corporate in the Administrative and Operative Procedure “Environmental Incident Reporting”.
- Other emissions (dust, NO<sub>x</sub> and SO<sub>x</sub>) indicators, as calculated according to the WBCSD-CSI “Guidelines for Emissions Monitoring and Reporting in the Cement Industry” (version 1, March 2005):
  - Overall coverage rate
  - Coverage rate continuous measurement
  - Absolute and specific emissions data of dust
  - Absolute and specific emissions data of NO<sub>x</sub>
  - Absolute and specific emissions data of SO<sub>x</sub>

The KPIs have been prepared by, and are the responsibility of, CEMEX Management. Our responsibility consists of issuing conclusions about their consistency and reliability based on our review work described in the next paragraph.

### Bases, objective and scope of the verification

Our work was performed based on verification standards established by the International Federation of Accountants, under the International Standard for Assurance Engagement ISAE 3000 pertaining to limited assurance. We planned and performed the procedures set out below to obtain limited assurance as to whether The KPIs are free of material misstatements. A higher level of assurance would have required more extensive procedures.

- We assessed CEMEX reporting procedures for The KPIs with regard to their consistency with the “Cement CO<sub>2</sub> Protocol”, the “Safety in the cement industry: Guidelines for measuring and reporting”, the internal Administrative and Operative Procedure “Environmental Incident Reporting” and the “Guidelines for Emissions Monitoring and Reporting in the Cement Industry”, respectively;
- At corporate level, we conducted interviews with the individuals responsible for the preparation and application of the reporting procedures as well as for the consolidation of data. At this level, we performed analytical procedures and verified, on a test basis, the calculations and data consolidation;
- At regional coordination level, we conducted interviews with the individuals responsible for The KPIs reporting and performed analytical tests;

- We selected a sample of operations for site visits, and for each one of them:

- we reviewed site organization and procedures, especially those regarding KPIs reporting;
- we assessed the control procedures on key parameters, and
- on a test basis, we performed reconciliation of reported data with the supporting documentation and verified the arithmetical accuracy of calculations.

- We analyzed the consolidated KPIs reported by CEMEX in the 2011 Sustainable Development Report to verify the coherence with the results of our work.

### Recommendations:

We included and detailed the following recommendations in the report submitted to CEMEX management, with the intent to strengthen processes and systems for management information:

- Ensure the date on returning to work employees who suffer a lost time injury is timely registered in the safety indicator consolidation database.
- Strengthen training on roles and responsibilities of those responsible for the lost time injury reports.
- It is necessary to strengthen internal controls over the non kiln fuel consumption to keep accurate records, because, currently there are different systems of control of these inputs.

### Conclusions:

Based on the results of our review, and taking into account our recommendations above, nothing has come to our attention that causes us to believe that:

- The KPIs have not, in all material respects, been prepared in accordance with the “Cement CO<sub>2</sub> Protocol”, the “Safety in the cement industry: Guidelines for measuring and reporting”, the revised CEMEX “Environmental Incident Reporting” procedure and the “Guidelines for Emissions Monitoring and Reporting in the Cement Industry”.
- The KPIs contain material misstatements.

Mexico, April 10<sup>th</sup>, 2012

Enrique Alejandro Bertran Sánchez  
Partner  
Sustainability Business Solutions  
PricewaterhouseCoopers, S.C.

# GRI application level check



## Statement GRI Application Level Check

GRI hereby states that CEMEX has presented its report "2011 Sustainable Development Report" to GRI's Report Services which have concluded that the report fulfills the requirement of Application Level A+.

GRI Application Levels communicate the extent to which the content of the G3 Guidelines has been used in the submitted sustainability reporting. The Check confirms that the required set and number of disclosures for that Application Level have been addressed in the reporting and that the GRI Content Index demonstrates a valid representation of the required disclosures, as described in the GRI G3 Guidelines.

Application Levels do not provide an opinion on the sustainability performance of the reporter nor the quality of the information in the report.

Amsterdam, 01 May 2012

A handwritten signature in blue ink, appearing to read "Nelmara Arbex".

Nelmara Arbex  
Deputy Chief Executive  
Global Reporting Initiative



The "+" has been added to this Application Level because CEMEX has submitted (part of) this report for external assurance. GRI accepts the reporter's own criteria for choosing the relevant assurance provider.

*The Global Reporting Initiative (GRI) is a network-based organization that has pioneered the development of the world's most widely used sustainability reporting framework and is committed to its continuous improvement and application worldwide. The GRI Guidelines set out the principles and indicators that organizations can use to measure and report their economic, environmental, and social performance. [www.globalreporting.org](http://www.globalreporting.org)*

**Disclaimer:** Where the relevant sustainability reporting includes external links, including to audio visual material, this statement only concerns material submitted to GRI at the time of the Check on 16 April 2012. GRI explicitly excludes the statement being applied to any later changes to such material.

# about this report

## Reporting history and cycle

CEMEX began publishing annual environmental, health, and safety reports in 1996, and then in 2003 published its first Sustainable Development Report. The company has been engaged in annual sustainability reporting since then and published its most recent report in April 2010. This, the company's full 2011 Sustainable Development Report, is our ninth such report that covers the broad range of our environmental, social, and governance issues and performance.

We applied the Global Reporting Initiative (GRI) G3 Sustainability Reporting Guidelines to produce the report, which meets an application level of A+ for the fourth consecutive year.

## Boundary and reporting period

This report covers our global cement, ready-mix concrete, and aggregates operations, presenting our sustainability performance, progress, achievements, and challenges for the 2011 calendar year, which is also the company's fiscal year. We have emphasized those issues identified as high-priority through both our materiality analysis and our sustainable development strategic planning process, as reflected in the seven priority areas of our Sustainable Development Model. For more information as well as updates throughout the year, please visit the Sustainable Development section of our website.

Unless otherwise indicated, the information provided in this report is for the company as a whole. We have included information for the operations in which we have financial and operative control. If a plant is sold, its information is no longer included in our data or considered in our targets. If we have restated certain data sets from previous years because of improvements to our data-collection systems or changes to our business, each case is clearly marked. All monetary amounts are reported in US dollars. All references to "tons" are to metric tons.

The information for this report came from several sources, including internal management systems and performance databases and our Sustainable Development Report Survey, a questionnaire sent to all countries where we have operations. Data from this survey is then aggregated. This approach has enabled us to report progress on our key performance indicators for the company as a whole.

We aim to improve the transparency and completeness of each report that we produce while streamlining our processes and the way in which we provide information. We include a statement from PricewaterhouseCoopers, which verified our data on greenhouse gas emissions; atmospheric emissions; alternative fossil and biomass fuels rates; environmental incidents; and safety indicators for our cement, ready-mix, and aggregates operations.

In addition, we engaged with our Sustainable Development Reporting Advisory Panel, which provides feedback on our reporting.

## Data measurement techniques

We employ the following protocols and techniques for measuring the key performance indicator (KPI) data that we report:

- **CO<sub>2</sub> Emissions.** CEMEX reports absolute and specific CO<sub>2</sub> emissions following the CSI Cement Protocol CO<sub>2</sub> Accounting and Reporting Standard for the Cement guidelines and spreadsheet. As defined in the protocol, it considers direct emissions excluding CO<sub>2</sub> emissions from biomass fuels and purchased electricity. All historical information from baseline to current year is calculated under these procedures to reflect appropriate trends and allow year-to-year comparison analysis.
- **Dust, NO<sub>x</sub> and SO<sub>x</sub> emissions.** Absolute and specific figures are calculated based on kilns emissions measurements taken from Continuous Emissions Monitoring Systems (in those sites where kilns are equipped with such technology) or spot analysis. These methods fully comply with the CSI Guidelines for Emissions Monitoring and Reporting. All information is reported to CEMEX databases, processed, calculated, and validated to provide a final group value.
- **Energy.** Fuel consumption indicators are reported to internal CEMEX databases in which "conventional", "alternative", and "biomass fuels" are classified according to the CSI Cement CO<sub>2</sub> protocol spreadsheet. Heat values are obtained from on-site analysis (where applicable), values provided by suppliers or standards from the CSI Guidelines for the Selection and Use of Fuels and Raw Materials in the Cement Manufacturing Process.

- **Clinker factor and alternative fuels.** All material consumption is reported to internal CEMEX databases in which "alternative materials" are defined following the standards from the CSI Guidelines for the Selection and Use of Fuels and Raw Materials in the Cement Manufacturing Process. The "clinker/cement factor" is calculated using the procedures from the CSI Cement CO<sub>2</sub> protocol spreadsheet with information obtained from the databases.
- **Safety.** An internal CEMEX safety database collects all related safety information from each site and automatically provides the appropriate information to calculate the indicators. The database is configured using the WBCSD / CSI definitions.

## Deviation from protocols

We have adhered to the GRI Protocols where applicable and feasible. As our data-collection systems are still in development, however, there are instances in which we have not applied GRI protocols. In such cases the data we have is the best manner in which we can currently communicate our performance.

## United Nations Global Compact Communication on Progress

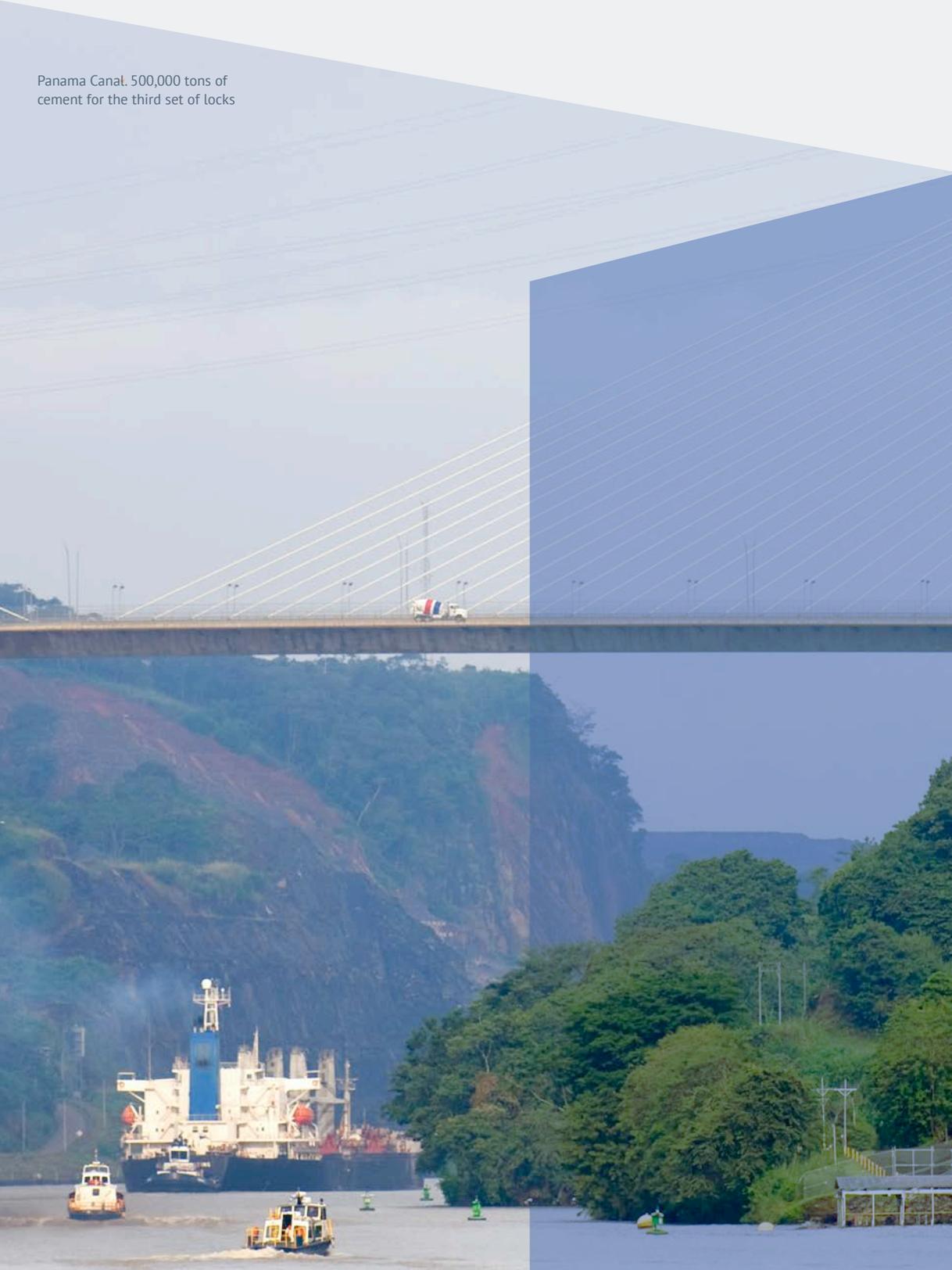
This report constitutes our Communication on Progress toward the commitments of the United Nations Global Compact (UNGC). As a signatory to the Global Compact, we work to align our company's operations and strategies with its ten principles. We are also committed to helping the world meet the targets of the Kyoto Protocol and Millennium Development Goals.

The GRI index is cross referenced to the UNGC principles; it can be found on our website and is available for download at [www.cemex.com/sustainability](http://www.cemex.com/sustainability)

We welcome your feedback on our sustainability reporting and performance. Please send your comments and suggestions to [sd@cemex.com](mailto:sd@cemex.com), or write to us at:

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Panama Canal. 500,000 tons of cement for the third set of locks



[www.cemex.com](http://www.cemex.com)