

# SUSTAINABILITY REPORT

LAFARGE 2013



**LAFARGE**  
Building better cities™

“It is our ambition to contribute to building better cities to help address the challenges of urbanization today and for the coming decades. **Our commitment to sustainability is an integral part of this ambition. It underpins our relations with all our stakeholders and informs the choices we make in favor of responsible growth and the preservation of nature.**”

BRUNO LAFONT, Chairman and Chief Executive Officer

# CONTENTS

## P.02 INTRODUCTION

P.04 2013-2014 P.05 Message from the CEO  
P.06 Lafarge world presence P.07 Our strategy P.10 Business Ethics



## P.12 BUILDING COMMUNITIES

P.14 Health and Safety  
P.16 Employee Diversity and Skills  
P.19 Community Development and Outreach  
P.22 Sustainable Supply Chain



## P.24 BUILDING SUSTAINABLY

P.26 Sustainable Construction and Cities  
P.28 Access to Housing



## P.32 BUILDING THE CIRCULAR ECONOMY

P.34 Energy Consumption and Resource Management  
P.37 CO<sub>2</sub> and Other Emissions  
P.40 Biodiversity  
P.42 Water

## P.44 APPENDIX

P.44 Our Stakeholder Panel P.46 Reporting Methodology P.48 Key Performance Indicators

## HIGHLIGHTS FROM 2013

### BUILDING THE CIRCULAR ECONOMY

#### FURTHER REDUCTION IN OUR CO<sub>2</sub> EMISSIONS PER TON OF CEMENT



We recorded a 26% reduction in our CO<sub>2</sub> emissions per ton of cement in 2013 compared to 1990, thanks to kiln energy efficiency, the use of alternative fuels and the reduction in the clinker intensity of our cements.

## SOME PROJECTS FOR 2014

#### STRATEGIC PARTNERSHIPS IN MUNICIPAL WASTE TREATMENT AND BIOMASS SOURCING



In 2014 we will continue to develop partnerships to strengthen our municipal waste offer and secure our biomass supplies, in particular through agroforestry projects in emerging markets.

### BUILDING COMMUNITIES

#### LAUNCH OF GROUP-WIDE VOLUNTEERING PROGRAM



Our volunteering program aims to strengthen the Group's contribution to building better cities and to local communities around our sites. We recorded over 57,000 volunteering hours in 2013, the first year of the program.

#### PROGRAMS TO PROMOTE EDUCATION AND JOB CREATION



In 2014 we will focus on developing new country-level programs to support education and vocational training, one of the main ways in which Lafarge can contribute to local socioeconomic development.

### BUILDING SUSTAINABLY

#### A SEMINAR FOR THE MICROFINANCE COMMUNITY



We aim to become a main convener among the key actors in the global microfinance market. In 2013 we organized a workshop in the Philippines bringing together actors representing 10% of this sector, to share their experience and best practices.

#### ACCELERATION OF OUR AFFORDABLE HOUSING PROGRAM



We continue to expand our portfolio of affordable housing projects. By the end of 2014 our objective is to have launched projects in around 20 countries, in particular in Northern and Sub-Saharan Africa, Asia and Eastern Europe.



# “MAKING A NET POSITIVE CONTRIBUTION TO SOCIETY AND NATURE”

### BRUNO LAFONT

Chairman and Chief Executive Officer



TODAY, COMPANIES ARE JUDGED NOT ONLY ON THEIR FINANCIAL PERFORMANCE, but also on the way in which they manage their business and their capacity to create value for all their stakeholders. We are accountable to our employees and our clients, but also to the communities living in the countries where we operate. In short, we have a responsibility to the planet and to society as a whole.

The United Nations Post-2015 Sustainable Development Agenda is currently outlining new goals to address global challenges, ranging from the eradication of poverty and the reduction of inequalities, to climate change mitigation and adaptation. Companies must be stakeholders in this ambitious project.

THIS IS THE CONTEXT IN WHICH WE HAVE DEFINED OUR AMBITION OF CONTRIBUTING TO BUILDING BETTER CITIES. Urbanization is the foremost challenge of

the 21<sup>st</sup> century, and requires that we address a range of issues, from housing for all, infrastructure, transport and the living environment to the reduction of greenhouse gas emissions and pollution. We are committed to developing the products and solutions that will make construction better, faster and less expensive and to integrating sustainable development at every level of our business.

It has been our conviction for many years that the success and development of an international Group such as ours depends on adopting a long-term strategy, one that shows respect for communities and for nature, as defined in our Sustainability Ambitions 2020. This program is organized around three main pillars – social, economic and environmental – and includes 34 ambitious objectives.

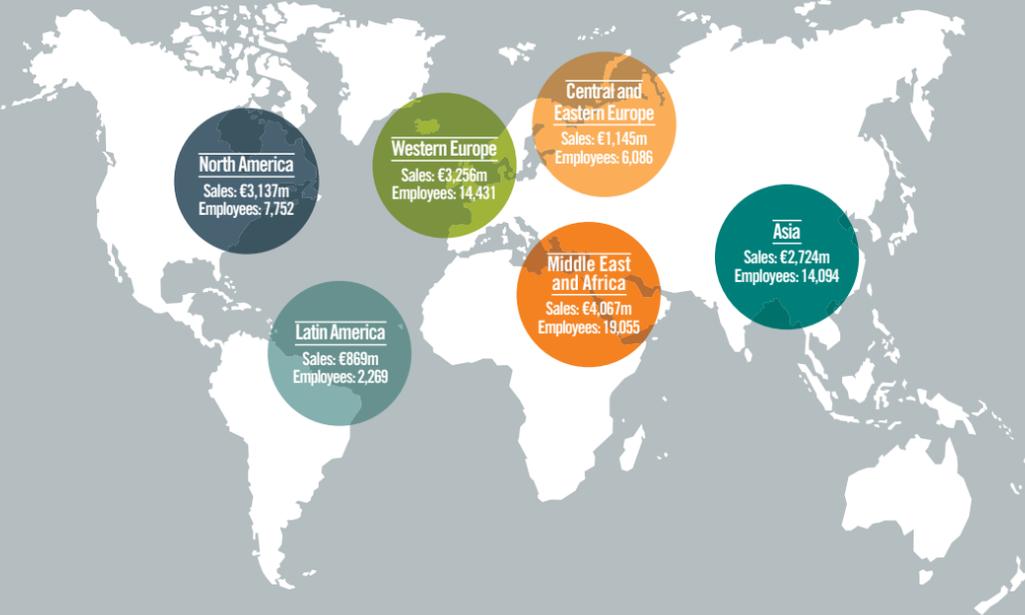
IN 2013 OUR EFFORTS WERE GEARED TOWARDS ACCELERATING AND SCALING UP our sustainability initiatives to reach our Sustainability Ambitions 2020 targets. Health and safety remains our number 1 priority. In 2013 we continued to make progress towards reducing the number of accidents, but we will not be totally satisfied as long as there are fatalities, particularly related to transport. Our efforts to reduce our CO<sub>2</sub> emissions and increase the use of alternative fuel are producing results. Sales of sustainable products and services, which represented € 1.8 billion in 2013, demonstrate our commitment to delivering innovative solutions addressing market needs.

Our Sustainability Ambitions 2020 program has a clear target: we must embed the imperatives of sustainable development throughout our business to make a net positive contribution to society and nature. We are determined to do so. ◆

COMPANY PROFILE

# Lafarge world presence

A top-ranking player in the cement, aggregates and concrete industries, we contribute to the construction of cities around the world. Our innovative solutions provide cities with more housing and make them more compact, more durable, more beautiful and better connected. With annual sales of €15.2 billion, operating in 62 countries and employing 64,000 people, Lafarge is a world leader in building materials.



SHARED VALUE AT LAFARGE	€m	%
Sales	15,198	—
Cost of goods sold	10,265	—
Cash value added	4,933	100
Paid to employees for their services	2,239	45.4
Paid to lenders as a return on their borrowings	1,041	21.1
Retained for growth	819	16.6
Community Investment	20	0.4
Net Cash	814	16.5
Income taxes paid to governments	525	64.5
Paid to investors for providing capital	289	35.5

### Cement

A world leader  
Employees: 38,000  
Revenues: €9,657m  
Countries: 56  
Sites: 155

### Aggregates & Concrete

No. 2 & No. 4 worldwide  
Employees: 25,000  
Revenues: €5,451m  
Countries: 37  
Sites: 1,481

## KEY FIGURES 2013

### Revenues

€15,198m

### Net income Group share

€601m

### Number of countries

62

### Number of employees

64,000

### Number of sites

1,636

### Of which number of quarries

726

# OUR STRATEGY

“Building better cities” expresses our ambition to play a leading role in addressing global trends and challenges. This also translates into having processes that **integrate sustainability into the way we do business and working** in the interests of society and the planet.

#### ◆ OUR AMBITION: BUILDING BETTER CITIES

The world’s population is expected to exceed 9 billion by 2050, and roughly 70% of these people will live in towns and cities. Urbanization brings its set of challenges: managing urban density and traffic flows better, providing access to decent housing for all, improving the quality of housing and building infrastructure, while reducing natural resource wastage, pollution and greenhouse gas emissions.

**70%**  
of the world’s population will live in towns or cities by 2050

As a world leader in building materials, Lafarge has an essential part to play in this evolution. In 2013, we defined a new positioning which will enable us to meet both the quantitative and the qualitative needs of this extraordinary market through our five key objectives of contributing to building cities with more housing, and which are more compact, more durable, more beautiful and better connected.

#### ◆ STAYING AHEAD THROUGH INNOVATION

Innovation lies at the heart of our strategy and goes beyond Research and Development. It primarily means a customer-centric approach and a thorough understanding of each market, allowing us to develop innovative offers. This is why our new organization has been designed to enhance the promotion of our offer to the building and infrastructure market segments. For each market, we provide products, solutions and services that will

deliver added value for our customers and growth for our businesses.

The work of our Research and Development Center, located near Lyon, France, is leveraged by local development laboratories which develop solutions adapted as closely as possible to needs expressed in the countries. Following India, China and France, a fourth laboratory was inaugurated in Algeria in November 2013. A fifth is planned in Brazil in 2014.

#### ◆ IMPROVED PERFORMANCE FOR GREATER COMPETITIVENESS

Alongside innovation, performance is one of our main growth drivers. In order to improve our competitiveness, we are working on reducing our costs, optimizing our supply chain and boosting the productivity of our plants.

Energy accounts for one third of cement production costs<sup>(1)</sup>. We are able to improve efficiency through better procurement management, preventing waste and increasing our use of alternative fuels. In 2013 we reduced our costs by €450 million.

We have set a target of increasing our annual cement production by 13 to 15 million tons by 2015. To meet this objective, we have developed operating models for each of our business ▶▶▶

1. Before distribution and overhead costs.

The aim of Ambitions 2020 is to minimize our environmental footprint while maximizing the value created for all our stakeholders.

**1,400**  
sales personnel within the Group have undertaken a comprehensive training and development plan to support our commercial transformation.

▶▶▶ lines, based on sharing best practice and improving the reliability of our industrial facilities. In 2013 our cement plants achieved a reliability rate of almost 95%.

Optimized sourcing, engineering and the supply chain are also important levers to improve performance. Our Beijing sourcing platform was expanded in 2013 to optimize the supply of equipment and replacement parts for our plants. We have also implemented an action plan intended to reduce the set-up costs of our plants and sought to raise the professionalism of the supply chain function, which plays a part in all phases of production and distribution.

◆ PEOPLE AT THE HEART OF OUR TRANSFORMATION

Human resources are a key element in our strategy supporting our commercial transformation. In 2013 the Research Center in Lyon,

France was organized according to our market priorities with a dedicated team supporting technology transfers between countries. Roles within our local development laboratories combine technical knowledge and market experience. To support our commercial transformation, the Group's 3,000 sales personnel are undertaking a comprehensive training and development program, 1,400 of whom have been trained so far.

We also continue to promote diversity and professional development through training and career management. An action plan was launched in 2013 to increase the number of women holding senior management positions and allow the promotion of people from differing backgrounds (nationality, socio-professional category).

◆ A LONG-STANDING COMMITMENT TO SUSTAINABLE DEVELOPMENT

For Lafarge, the ambition of contributing to building



— Above, left: Head office of Lafarge Canada in Alberta, a LEED-certified building.

— Above, right: Employees at our Simsimah quarry (Qatar).

better cities entails not only improving the quality of life of city-dwellers but also creating value for everyone. This ambition encompasses our employees and all those stakeholders impacted by our operations, including shareholders, customers, governments and communities situated in the vicinity of our sites.

Our growth and competitiveness are inextricably linked to the quality of living conditions in the places where we operate. There can be no sustainable economic development without the preservation of nature.

Our commitment to sustainability translates directly into operational and business performance. Back in 2001 we targeted a 20% reduction in our carbon emissions per ton of cement by 2010 and reached this goal a year ahead of schedule. In 2007 we launched our Ambitions 2012 program which enabled us to move our sustainability practices forward. Encouraged by this success, we have launched a second, broader sustainability program, with more ambitious goals.

◆ AMBITIONS 2020: GOING FURTHER

Our Sustainability Ambitions 2020, introduced in 2012, is the most comprehensive and far-reaching program in the sector. It covers all dimensions of sustainable development - social, economic and environmental - considering them as a whole<sup>(2)</sup>. Focusing on key issues for our Group, as well as our stakeholders' expectations, we have identified ambitious, quantified targets for priority action (see Materiality Matrix opposite).

The Ambitions constitute the Group's roadmap for making a net positive contribution to society and to nature. The aim is to minimize our environmental footprint while maximizing the value created for all our stakeholders.

◆ FURTHER INTEGRATING SUSTAINABILITY INTO OUR BUSINESS STRATEGY

Our ambitions for sustainability are a key growth driver. Our sustainability strategies directly contribute to our industrial and commercial development in each country.

To do this, we have developed a unique methodology called the Lafarge Sustainability Compass, which we intend to roll out in 2014 in all of our countries. It consists of three phases, the first of which provides countries with an objective assessment of their maturity level in ten main impact areas (water, biodiversity, health and safety, employment, climate change, etc.). Country management teams then identify the key issues for their business and their stakeholders. Finally, by consolidating all this information, countries select the priority areas on which to act. This methodology will enable countries to draw up action plans that take into account local sustainability imperatives, combining growth in their business with ambitious targets for sustainability. ◆

2. In accordance with GRI G4-19 disclosure standard.

**34**  
This is the number of objectives included in our Sustainability Ambitions 2020 program, covering all dimensions of sustainable development.

MATERIALITY MATRIX

We conduct an annual materiality assessment, to identify areas that are important to our stakeholders and our business<sup>(1)</sup>. We distinguish between issues that are inherently important due to the nature of our activities (in red), issues of general corporate responsibility (in green) and issues whose importance depends on the local context (in blue). This has allowed us to define three overarching priority areas at Group level: climate change, health & safety, and ethics and governance. These priorities are directly linked to the nature of our business. Through the Sustainability Compass, countries will carry out a similar exercise, reflecting local priorities<sup>(2)</sup>.

FOR MORE INFORMATION:  
<http://sustainabilityreport.lafarge.com>



1. In accordance with GRI G4-20 disclosure standard.  
2. In accordance with GRI G4-21 disclosure standard.

The Lafarge Sustainability Compass will enable countries to draw up action plans that take into account local sustainability imperatives, combining growth in their business with ambitious targets for sustainability.

# BUSINESS ETHICS

**Business ethics is embedded into our governance principles** and is the framework of our social and environmental responsibility. It is also a core part of our risk management systems. The Group Executive Committee and Country CEOs are ultimately responsible for ensuring that business ethics policies are implemented in our strategies and operations, under continuous monitoring by the Board of Directors, that also continuously reviews our corporate governance<sup>(1)</sup>.

## LEAD

Lafarge is a LEAD member of the United Nations Global Compact.

### ◆ OUR CODE OF BUSINESS CONDUCT IN PRACTICE: GOING BEYOND COMPLIANCE

Our Code of Business Conduct (CoBC) was first adopted in 2004. To ensure the effectiveness of the CoBC, all newcomers are taken through it upon their arrival in the Group. Specific training modules exist for our employees and we have developed a multi-language awareness toolkit, including an e-learning module, available in all countries where the Group operates. As part of our commitment to go beyond compliance on these issues, we are also an active member in working groups and policy advisory committees related to business ethics. The same high standard of professional conduct is also expected of all of our suppliers worldwide when dealing with Lafarge and our employees. This extended responsibility was formalized in 2013 through the adoption of a supplement to the Code of Business Conduct, aimed at Lafarge suppliers.

### ◆ MANAGING THE RISK OF CORRUPTION

Our dealings with governmental entities mainly relate to our license to operate: i.e. the granting or renewal of permits for our plants and quarries. We have a zero tolerance policy on corruption. In order to avoid any complicity in corruption issues, we have put in place specific procedures on fraud and anti-corruption and rolled out

guidelines on gifts and hospitality. Our guidelines on anti-corruption frame our practices with regards to all donations. New, more stringent Group rules were developed in 2013 with regards to contracts with intermediaries. All such contracts must be approved by the Country CEO and those above a certain amount must be signed off by the Group General Counsel and the relevant Group EVP in charge of Operations. Specific rules also apply in certain countries, such as the participation in Political Action Committees in the United States. In 2013 Lafarge was rated “best-in-class” on prevention of corruption in a survey by the French *Service Central de Prévention de la Corruption*.

### ◆ PURSUING OUR EFFORTS ON ANTITRUST

Competition issues are a risk inherent to our industry due to its capital-intensive nature. To address this risk, the Group has put in place a Compliance program since 2007, rolled out in all our countries. It includes awareness, guidance, reporting and audits, with the Group legal department organizing verification exercises in countries to check compliance with local laws and the Group Competition Compliance Program. In addition, going beyond compliance with local

1. See Chapter 3 of Lafarge Annual Report.



regulations, the Group legal department organizes regular workshops to raise awareness of local management teams with regards to the latest competition cases and policy developments. As part of its advocacy initiatives, Lafarge maintains regular contacts with competition authorities worldwide and well-established organizations such as ICC, in a transparent manner.

### ◆ HUMAN RIGHTS

Our Code of Business Conduct states that Human Rights must be addressed in business-decision making. In addition, Lafarge adheres to the major business ethics frameworks born from the United Nations: the Universal Declaration on Human Rights, the Declaration on the Rights of Indigenous People and the Guiding Principles on Business and Human Rights (also known as the “Ruggie principles”).

As a member of the LEAD project of the United Nations Global Compact, Lafarge is committed to going beyond compliance on these issues. This means embedding the ten principles into our business strategies and operations, taking actions in support of broader UN goals and issues and engaging actively with the UN Global Compact. In 2013 Lafarge Chairman and CEO Bruno Lafont signed the Global Framework Agreement on Corporate Social Responsibility and International Industrial Relations with the Group’s international unions. This enshrines Lafarge’s commitment to respect International Labor Organization Declarations, the OECD Principles of Corporate Governance and the UN Global Compact principles. The Global Framework Agreement specifically covers the following issues: forced labor, discrimination in employment, diversity, protection of migrant workers, child labor, freedom of association, compensation, working hours, health and safety and working conditions and skills training. It applies not only to the Group, but also to our subcontractors.

### ◆ RESPONSIBLE LOBBYING

Lafarge public affairs practice relies on a Lobbying Charter drafted with the support of Transparency International. Through this Charter Lafarge stands out as one of the few companies who have formalized their commitment to responsible public affairs practice. To ensure its effectiveness, Group officers from the legal and public affairs team manage networks of peers in countries. We contribute actively to the public debate on issues of importance to our business, such as energy, climate change, use of natural resources and fiscal policies. Our public positions are formalized throughout this report. ◆

FOR MORE INFORMATION:  
<http://sustainabilityreport.lafarge.com>

Our responsibility in terms of business ethics is a commitment to all our stakeholders.

## 100%

Our Competition Compliance Program has been implemented in 100% of our businesses.

Our Code of Business Conduct states that Human Rights must be addressed in business-decision making.

1

**BUILDING COMMUNITIES**

*As an industrial Group with strong local roots, Lafarge invests in its operations for the long term and thus has a special responsibility towards society. This starts with our own employees, whose health and safety is our number one priority. Our impact on neighboring communities means that we must also play an active part in their socio-economic development. On a local level this takes the form of improving access to health services and education, taking part in urban development and environmental conservation programs and helping create businesses and jobs. These actions are carried out in consultation with local stakeholders and our employees have an opportunity to play a role, through volunteering programs in line with the Group's values.*



1 HEALTH AND SAFETY	P.14
2 EMPLOYEE DIVERSITY AND SKILLS	P.16
3 COMMUNITY DEVELOPMENT AND OUTREACH	P.19
4 SUSTAINABLE SUPPLY CHAIN	P.22

**Pupils at a school supported by Lafarge,** near our Ewekoro cement plant (Nigeria).



— Lafarge employee acknowledging truck presence at our cement depot in Khorigba (Morocco).

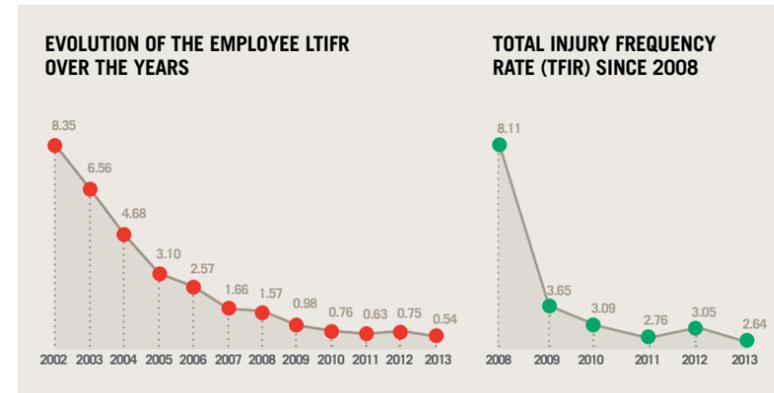
## HEALTH AND SAFETY

Health and safety is our number one priority. By 2020 we want to attain world-class performance: zero fatalities and virtually no lost time incidents for our employees and contractors.

Our overall safety performance has improved significantly over the last 10 years as we have put into place more comprehensive policies and standards. However, we still need to do more to strengthen our health and safety culture and fully embed it into our business. In 2013 we recorded a strong reduction in our total Lost-Time Injury Frequency rate (LTIFR) – for employees and contractors - from 0.62 in 2012 to 0.49 in 2013. We also saw improvements in our site safety culture compared to previous years. Despite these improvements, we remain deeply concerned that we had 26 fatalities.

### ◆ OUR PRIORITIES: ROAD SAFETY AND OCCUPATIONAL HEALTH

Road safety remains the biggest health and safety issue in the Group: 19 fatalities occurred on roads in 2013, largely among contract transporters delivering product. As part of our Sustainability Ambitions 2020, we are committed to improving transport safety, with a 60% reduction in the number of road accidents per million km against a 2012 baseline. In 2013 we started rolling out road safety workshops in our countries, involving all relevant stakeholders: Country CEO and senior management, Country Supply Chain managers and road contractors. These workshops are aimed at engaging all key players and creating solid action plans to address this topic. Other specialized



# 0.49

This was our total Lost Time Injury Frequency Rate (LTIFR) - for employees and contractors - in 2013, compared to 0.62 in 2012.



Lafarge has established leadership within its sector and has delivered significant reduction in employee Lost Time Injuries over the last decade. This has been achieved by consistent visible leadership and the deployment of a robust management system.

There is however still a long way to go, in particular to address the major risks associated with road safety and distribution of Lafarge's products. The number of fatalities is unacceptable and it is disappointing that there was no reduction achieved in 2013. Appropriate actions to raise awareness and deploy training are being taken but there needs to be a renewed focus and urgency if Lafarge is to achieve its ambition of zero fatalities.

Progress is being made with the Occupational Health program but it will take some time to be comprehensively implemented throughout the whole business. Consideration should be given

to bringing forward the implementation timeline for the benefit of Lafarge employees and to add value to the business. The focus on culture and integrating Health and Safety into the new Plant Operating Model is welcome. In future reports it will be of interest to hear more of the challenges of delivering continuous improvement in Health and Safety performance as well as sharing the success stories.

**FRANK ROSE**  
Independent

programs are running in our countries. For example, our business in Greece developed the People Transport Development Program, targeting Lafarge employees and their families, with the objective of creating a safe driving culture throughout the company. Fifty-three sessions were held in 2013, covering employees of all Lafarge sites in the country. In terms of health, we focused in 2013 on occupational health: putting systems in place to establish the medical fitness of our employees and contractors to perform their jobs. We are focusing on three specific areas of risk: noise, dust and ergonomics, setting objectives and implementing programs in these areas as part of our Sustainability Ambitions 2020. We continue to address challenges such as identifying expertise in countries where there is a lack of industrial hygiene service providers; and ensuring that personal exposure measurements are performed, where some countries have been performing only ambient measurements. In 2013 health assessment systems were developed in 60% of our countries. Going forward we will work with those countries that still need to do this and follow up on the assessments performed.

### ◆ PROGRESSING TOWARDS A WORLD-CLASS HEALTH AND SAFETY CULTURE

We are convinced that our performance in health and safety is linked to better operational efficiency.

**We are convinced that our performance in health and safety is linked to better operational efficiency.**

This is why we are seeking to embed health and safety more strongly into our business. For example, it is fully integrated into POM 2.0, the new operating model for our Cement business, designed to improve plant mastery and competitiveness. Our commitment to health and safety must be renewed every day by each one of our employees, starting from the highest level of responsibility. Indeed, health and safety is first and foremost a leadership issue and this is why part of our Group Bonus Plan depends on our managers' individual performance and results in health and safety. Each country has decided on a targeted program to fit its safety maturity. For example, our business in the Philippines hired a US Occupational Safety and Health (OSHA) outreach trainer to provide advanced industry safety training to more than 40 members of its leadership team. ◆



## EMPLOYEE DIVERSITY AND SKILLS

We are convinced that an effective organization, strong investment in our people and diversity in our teams are key to achieving our strategic objectives and ensuring that our business thrives over the long term.

**W**e believe that business acceleration starts with the development, well-being and engagement of our people as well as strong, constructive social dialog. That is why as part of our Sustainability Ambitions 2020 program, we are committed to enhancing diversity and inclusion, access for women to senior management positions and skills development. In 2013 we continued working towards these objectives, implementing new programs and tools to help countries in their journey.

### ◆ LEADING BUSINESS ACCELERATION THROUGH SKILLS DEVELOPMENT AND MORE DIVERSE TEAMS

Developing our people is a vital investment and an important lever to ensure continued growth for our Group. As part of our Sustainability Ambitions 2020, to go beyond having all employees trained and qualified for their positions, we have set objectives to have 75% of our positions covered by certification programs and for 75% of our employees in those positions to complete the program. A certification program provides employees with master-level skills. Our strategic orientation towards performance and innovation relies on our people to lead business acceleration. In 2013 the Group launched skills development initiatives targeted at specific groups spearheading our performance, innovation and

commercial efforts. For example, we launched the “Make it Yours” initiative targeting our Innovation and Performance functions. Through this initiative, we are creating tailor-made Individual Development Programs for employees in key sales and production positions. Once employees have carried out specific development activities, they receive a certificate attesting to their newly acquired skills. 2013 also saw the launch of our new Plant Operating Model POM 2.0 designed to improve the mastery of the basics at our plants and make them more productive and competitive. By the end of 2014 all our plant managers throughout the world will have been trained on POM 2.0. Finally, as part of the overall professionalization of our functions, we launched the Sales Force Effectiveness program targeting marketing and sales teams. In 2013 1,400 marketing managers were trained throughout the world. Benefits of improved sales force effectiveness have been estimated at €105m additional EBITDA<sup>(1)</sup> in 2015 compared to 2011. Through diversity and inclusion, we aim to create an organization where our employees feel involved, respected and connected, so that more people from a wider range of backgrounds succeed. This will make our decision-making more effective, stimulate creativity and generate new business, making our company sustainable for the years to come. The strong commitment to increasing



**With the launch of Lafarge's Sustainability Ambitions 2020,** management and employees have responded to the challenges in a way that makes us look optimistically to the future. I strongly believe that employees, teams and management diversity is an essential factor in achieving a high level of performance and innovation. Our concerns related to employee diversity and skills development, regardless of gender, nationality, color or religion, will ensure that we achieve our targets.

Increasing the number of women in senior management positions up to 35% by 2020 is a priority. Considering the level reached in 2013 of 18.6%, we need to accelerate the identification of women capable of engaging in career development and occupying leadership positions. We need to identify good practices in some countries, such as Romania, where 42% of the total number of managers and 59% of the Executive Committee are women. Informing all sites on the methods, procedures and programs used can support

those who want to accelerate the promotion of equal opportunities. Social dialogue is an important element promoted by the Group and in the information-consultation process employees have shown a practical sense and have often contributed with excellent solutions.

The Group supports the development of employee skills and key positions will be covered by certification programs and individual development programs and training. Employees are encouraged to be involved in development, implementation and compliance with leading standards in developing a creative mindset, so their diversity may become a force for innovation and performance.

**ADRIAN MARINESCU**  
European Works Council

### Through diversity and inclusion, we aim to create an organization where our employees feel involved, respected and connected.

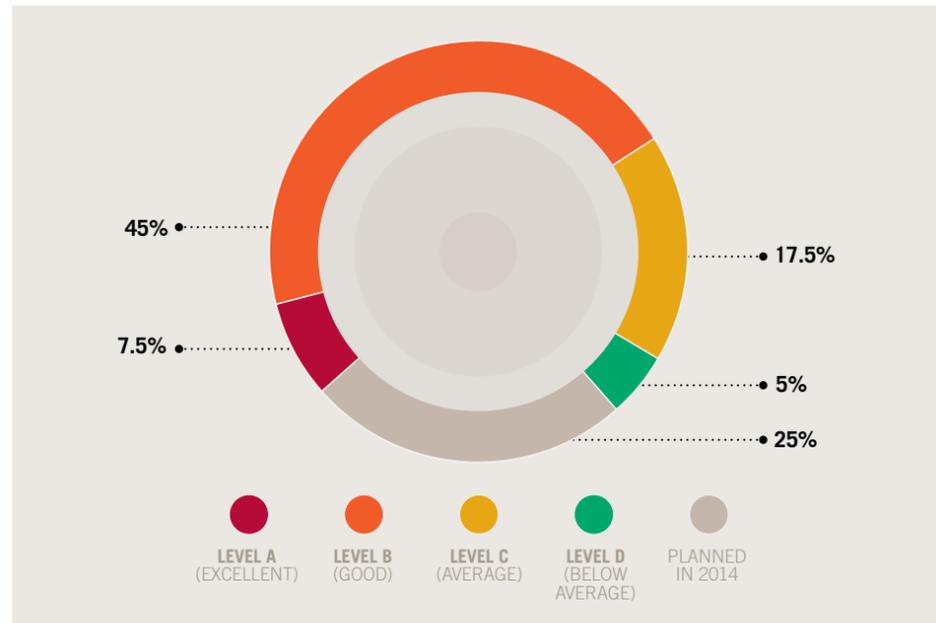
Group performance and innovation thanks to diversity and inclusion is reflected in our Sustainability Ambitions 2020 objectives of having 35% of senior management positions held by women. Although this a challenging target, some of our countries are leading the way, such as Romania, where 60% of senior executives are women. 75% of our countries must also show a high level of diversity and an inclusive work environment. In order to progress on our ambitions, we designed and implemented in 2013 the Diversity & Inclusion Maturity index (see description hereafter).

### ◆ STRENGTHENING EMPLOYEE ENGAGEMENT

Well-being at work is an essential factor for employee motivation and in turn for Group performance, exhibited for instance by ▶▶▶

**18.6%**  
of our senior management positions are held by women, compared to 16.4% in 2012.

1. Earnings before interest, taxes, depreciation and amortization.



**COUNTRY MATURITY LEVELS ON DIVERSITY & INCLUSION**

In 2013, 75% of our countries used our Diversity & Inclusion Maturity index to assess their performance. This index takes into account various areas such as gender diversity at senior management level, diversity of pipeline to senior management and diversity of Excom members. An annual questionnaire also assesses inclusiveness in the work environment. To enhance their performance, countries have started to develop action plans. For example, Lafarge Central Europe (LCE), currently Level B, plans on improving inclusiveness for new comers with a structured integration process. On diversity, LCE intends to vary recruitments thanks to more flexibility of job design, home office and part time work.

▶▶▶ a reduction in employee turnover. As part of our Sustainability Ambitions 2020 we aim to be recognized as an Employer of choice in at least 20 countries. In 2013 our businesses in Morocco, Brazil and France were recognized as Employer of choice. Moreover 18 countries, including Poland, Nigeria and India implemented surveys dedicated to well-being at work or employee satisfaction. While the 2013 global turnover resulting from all company departures (including divestments, redundancies, retirements, etc.) was 16.1%, Lafarge continues to attract and retain talents, as the employee turnover rate for those employees choosing to leave the Group (also included in the global turnover) was only 5.3%.

**◆ SOCIAL DIALOGUE FOR A GLOBAL AND SHARED STRATEGY**

Lafarge values the involvement of employee representatives, especially in a rapidly changing business environment. In May 2013 we signed a new Global Framework Agreement with the Building and Wood Workers' International (BWI) and IndustriALL Global Union covering corporate social responsibility and international industrial relations. At country level, employees and management have regular exchanges on Group strategy. In 2013 82.8% of countries informed their employees on business and strategy. In

addition, health and safety and well-being at work remain the topics that are most discussed as part of our social dialogue. At the European level, Lafarge signed a declaration in May 2013 with its European Works Council and the European Federation of Building and Woodworkers on well-being at work which aims to enshrine key principles and promote Group best practices. Today 97.5% of our operations benefit from a Health and Safety committee, contributing to the improvement in our safety results. ◆

**18** countries implemented surveys in 2013 dedicated to well-being at work or employee satisfaction.

**52.5%** of countries are rated A or B according to Lafarge's Diversity and Inclusion Index.



**COMMUNITY DEVELOPMENT AND OUTREACH**

Strong engagement with local stakeholders facilitates the delivery of our business objectives and supports the achievement of our Sustainability Ambitions 2020. We have therefore developed a Group methodology and tools to help sites to structure their approach locally.

**O**ur products - manufactured from local resources and sold in neighboring markets - are essential to economic growth in the regions where we operate. In turn, our development is closely linked to communities around our sites: for Lafarge to thrive over the long term so must our communities. We have set ambitious objectives to promote local socio-economic development, including volunteering, job creation and a structured approach to stakeholder engagement. In 2013 we focused on the necessary organization to help countries achieve these ambitions and on embedding stakeholder engagement further into our business.

**◆ AN INTEGRATED APPROACH TO STAKEHOLDER ENGAGEMENT**

Whether we are promoting more sustainable water management or introducing a new alternative fuel, there is a community impact and therefore a need to involve local stakeholders. Engagement is guided by our recently updated methodology and toolkit, which help sites plan, implement and evaluate their actions. In 2013 52% of site managers met regularly with stakeholders. Over 3,300 meetings took place (a 30% increase on 2012), 28% of which were formal, with the remainder in more informal settings. Around 1,900 community programs were undertaken, focusing on areas such ▶▶▶



**This part of the report is good and contains very useful information.** A lot of progress has been made with respect to training as a way of creating employment opportunities. It's particularly good that the company tracks the outcomes of the training courses as relates to post training employment because in the short and long term this is what delivers social and economic benefits to the communities. However some statistics on the type and level of training and indeed the resulting employment could make the reporting complete. It might also be worth categorizing elements of the community and indicating Lafarge's focus and the rationale. This is important because the company cannot target all community members at once and to the same degree. By the same token, it is worth considering a two way approach in which Lafarge gives but also receives because this in the long run is more sustainable. In the environmental area communities

are very resourceful in providing indigenous knowledge of fauna and flora. They can also be helpful in pointing heritage sites and evading the tension that comes from not being aware of presence of these in the vicinity of quarries. This mutual engagement should be encouraged. One of the most effective ways to deliver socio-economic benefits is to avail SMEs opportunities. At community level this can be achieved through the supply chain. Yet the report does not reference such an initiative. To the extent that this is being done it is worth reporting if it is not done it is worth adding to the initiatives.

**SHEILA KHAMA**  
African Center for Economic Transformation

▶▶▶ as education and skill development, health issues and job creation. This increased level of engagement has contributed to a reduction in the number of sites experiencing difficulties with their communities. Although most of the difficulties at our sites are minor (59%), some of our sites are experiencing major challenges affecting their business (see <http://sustainabilityreport.lafarge.com> for more details). We will need to pursue our efforts in this area going forward as in 2013 we recorded lower participation in training (46% of managers) and a lower number of sites with action plans (20%).

◆ **MANAGING OUR SOCIO-ECONOMIC FOOTPRINT**

Deployment of the socio-economic footprint tool developed with CARE France for our sites continued, with key missions at Sonadih plant (India) and Kanthan plant (Malaysia). At Kanthan, for example, it was found that the plant supports over 12,000 local people through its activities and has around 30 community programs, focusing mainly on education. Interviewees indicated that existing dialogue should be extended to more people impacted by the site. This feedback has provided useful input for the site's engagement plan. Strong engagement is particularly important currently for the site's quarry development program, which has raised some local concerns. We can contribute to local socio-economic development through programs to support local

employment, vocational training or basic education. 37% of our countries implemented a program in 2013; our aim is to increase this to 75% by 2020. In Algeria, the Hirfati ('My profession') program was set up to train local unemployed builders in masonry finishing skills and help them find employment. In Bangladesh, we provided free training courses in solar panel installation and mobile servicing to more than 120 trainees, who all subsequently found employment. Finally, the Beočin Business Park initiated by our Serbian team in 2012 continued to thrive, with over 350 local jobs now created.

◆ **LAUNCHING OUR GROUP VOLUNTEERING PROGRAM**

Volunteering is a relatively new initiative at Group level and in 2013 there was a focus on implementing the necessary HR infrastructure, identifying sponsors in each country and preparing tools to assist with deployment. In 2013 over 57,000 hours were recorded, with schemes in place at over 270 operational sites on topics such as affordable housing, education and nature conservation. Our operations in the United States recorded 15,000 volunteering hours, working with Wildlife Habitat Council, for example, on education initiatives. ◆

**57,000**

hours of volunteering were recorded in 2013, in areas such as affordable housing, education and nature conservation.

CASE STUDY  
**PROMOTING TRAINING AND EDUCATION IN NIGERIA**



In order to help combat local youth unemployment, Lafarge Nigeria has launched a number of educational and vocational training initiatives within the communities around its sites.

**THE FIRST OF THESE IS AN 18-MONTH TRAINING COURSE** at its Ewekoro plant, near Lagos, to train local youths in automation, electrical and mechanical jobs, areas where there is currently a lack of skilled professionals. Classes are given by lecturers from higher-education institutions and a pool of ex-Lafarge staff. Apprentices receive monthly stipends and graduates obtain a diploma attesting to their successful completion of the course.

**LAFARGE NIGERIA HAS ALSO SET UP THE BLOCKMAKERS' EMPOWERMENT PROGRAM**, to help young people set up or expand their own block-making business. This activity is a major source of livelihood for small-scale entrepreneurs in the country, but funding for expansion is often difficult to obtain. Through a partnership with a local micro-finance bank, the program provides beneficiaries with low interest loans, training opportunities and a skills upgrade. The initiative rides on our local Supaset cement brand, a specific solution for precast block making.

**OUR TEAMS IN NIGERIA ARE ALSO WORKING TO PROMOTE BASIC EDUCATION** among children living in the communities surrounding our plants. In the last two years, we have

renovated 40 classrooms, donated science laboratory equipment to 18 schools and provided 450,000 exercise books for local children. Employees across the country contributed around 2,000 volunteering hours in 2013, in projects related to skills training, education, health and safety and local job creation. Our teams are also supporting the enhancement of literacy in students through a mobile reading workshop, the Books on Wheels program.

**IN RECOGNITION OF THESE INITIATIVES**, Lafarge Nigeria received three awards at the Nigeria Social Enterprise Reporting Awards in 2013, including the 2013 Most Socially Responsible Company in Nigeria award.



— Bagged cement being loaded onto a truck at our Otavalo plant (Ecuador). Lafarge purchases approximately 1.1 billion paper cement bags per year.

## SUSTAINABLE SUPPLY CHAIN

It is our responsibility to ensure that our suppliers respect basic sustainable development principles. In so doing, we promote high standards in sustainability across our entire value chain and ensure reliability in our strategic sourcing.

The United Nations Principles on Human Rights and business (also known as the Ruggie principles) state that as part of their responsibility to respect Human Rights, companies must carry out due diligence to ensure that their commercial partners also respect these rights. Over the past four years Lafarge has worked towards the integration of sustainability assessment into the sourcing process. A sustainable supply chain contributes to our operational performance and helps us deliver on other key business objectives such as the use of 50% of alternative fuels, which requires reliable and sustainable strategic sourcing.

### ◆ ENSURING RESPECT OF UNITED NATIONS GLOBAL COMPACT PRINCIPLES

As part of our Sustainability Ambitions 2020, we have set an objective for all Purchase Orders to include a requirement for suppliers to adhere to the United Nations Global Compact (UNGC) principles. Third party assessment must also be carried out for critical suppliers. In 2013 we focused mostly on the first objective, which resulted in 99% of our purchase orders including the requirement to adhere to UNGC principles. This result is in line with the objective announced in our 2012 Sustainability Report.

99%

of our purchase orders mandate adherence to the principles of the United Nations Global Compact.



**In 2013 Lafarge renewed an International Framework Agreement on corporate social responsibility** and International Industrial relations with the global labor unions BWI and IndustriAll. In this global agreement Lafarge reaffirms its commitment to respect the standards of the International Labor Organization, the OECD Principles of Corporate Governance and the UN Global Compact principles. Lafarge also made a commitment to Ruggie's Guiding Principles for Business and Human rights. In accordance with the Ruggie recommendations, the criteria for the due diligence process are defined in the global agreement with the labor unions.

Labor appreciates that Lafarge as the first company in the cement industry has taken this important step forward as there is currently no common understanding of a defined performance assessment standard. Lafarge is setting a benchmark for the industry.

Lafarge has standards and mechanisms in place to audit and control its supply chain. We are impressed that in 2013 Lafarge started with a third party review of hundreds of critical suppliers and more will follow. It would be interesting to learn about the findings and the way Lafarge is dealing with suppliers which do not comply with Lafarge's standards. Lafarge is dealing with more than 100,000 suppliers worldwide. It will be difficult to guarantee sustainable supply chain management which is in line with Ruggie's principles, in countries with a critical human rights record.

**MARION HELLMANN**  
Building and Wood Workers International

### ◆ EVALUATING OUR SUPPLIERS' SUSTAINABILITY PRACTICES

We also continued our efforts to assess critical suppliers based on their sustainability practices. We engaged EcoVadis, a company that specializes in supplier assessments, to carry out a category risk mapping of our suppliers to assess their sustainability risk. As part of this assessment, we are evaluating suppliers on potential risks linked to social, environmental and ethical practices. In 2013 three hundred critical suppliers were assessed by EcoVadis in the US, Canada, France, Algeria, Germany, Greece, Pakistan, India, Bangladesh, China, Malaysia, Philippines, Morocco, and South Africa. It has been challenging to engage suppliers in this new endeavor as they do not yet appreciate the importance that sustainability can play in improving their business. We chose to start implementing this ambition in very diverse countries in terms of Human Rights risks, supplier base and size of our business. In 2014 we aim to extend the roll-out of this objective to all countries. We have also revised our initial target upwards, with the aim of assessing another 300+ critical suppliers in 2014 and 80% of our total spend by 2020. In 2013 to help our suppliers go through the assessment process, we held several webinars to train our in-country purchasing teams and we developed a brochure translated into the Group's

main languages. We also identified key success factors for implementation, such as including this ambition in purchasing teams' annual objectives, awareness raising and capacity building for both purchasing teams and suppliers.

### ◆ CONTRIBUTING TO RAISING THE BAR IN SUSTAINABILITY PRACTICES

Once suppliers have been evaluated, this information will provide the country purchasing teams with an accurate mapping of their suppliers' practices and will be used to establish corrective action plans when required. The benefit for suppliers is that they will receive feedback on their practices, which will allow them to work with Lafarge on improving performance. They will also be able to use a successful assessment with other potential clients to grow their business. In 2013 we decided to include sustainability criteria in our tender processes. This commitment has been emphasized in the new code of business conduct that Lafarge requires its suppliers to endorse before doing business with them. This action will be implemented in 2014. Finally, Lafarge is active through the WBCSD's<sup>(1)</sup> Cement Sustainability Initiative (CSI) working group devoted to supply chain sustainability. ◆

**We aim to assess another 300+ critical suppliers in 2014 and 80% of our total spend by 2020.**

1. World Business Council for Sustainable Development.

## **BUILDING** **SUSTAINABLY**

*Successful urbanization is a key challenge of the 21<sup>st</sup> century. The massive influx of new city-dwellers in the next few decades will generate enormous needs for housing, transport and infrastructure which cannot be achieved at the cost of increased pressure on natural resources, pollution and increased greenhouse gas emissions. These challenges are at the heart of our business. To address them we are developing products and solutions and adapting our production methods, to respond to market needs and take into account sustainability imperatives. To encourage the construction of affordable housing we are working on solutions that are both technical and financial such as the creation of microcredit programs in a number of countries.*

**1 SUSTAINABLE CONSTRUCTION  
AND CITIES**

**P.26**

**2 ACCESS TO HOUSING**

**P.28**

**Residential home for elderly dependent people** in Paris (France), renovated with a Ductal® ultra-high performance concrete facade to filter the light.





— Waterside area on the banks of the River Saône in the Confluence district of Lyon (France).

## SUSTAINABLE CONSTRUCTION AND CITIES

Our ambition is to contribute to building better cities. In all our markets, we are innovating to develop tailor-made local solutions to provide cities with more housing and make them more compact, more durable, more beautiful and better connected.

Increasing urbanization brings many social and environmental challenges. The construction sector as a whole must develop solutions to meet the needs of the world's populations in terms of decent housing and infrastructure, contributing to an improvement in the quality of life in towns and cities, while ensuring that this is not to the detriment of the natural environment. With this in mind, we are harnessing our innovation to contribute to building better cities, developing high value-added products and solutions and devising new building systems in partnership with other stakeholders all along the construction chain.

### ◆ INNOVATING THROUGHOUT THE VALUE CHAIN

With our new Innovation organization in place, we focused in 2013 on helping our countries develop segmented offers to meet the specific needs of their local markets. In Morocco, for example, we developed an offer for the mid-range collective housing segment, proposing nine construction solutions such as insulating roofs, fast-placing screed and a lost-formwork solution to allow more efficient, faster construction. In the Philippines, we developed a complete green roof solution in partnership with Sika, a manufacturer of waterproofing membranes (see case study p. 30). In France, we went a step further, licensing the ABCD+ positive-energy house concept developed in partnership with French home builder Cécile

Robin to other individual home builders across the country. This concrete detached house combines traditional techniques with innovative materials such as pumice-stone concrete blocks for optimal energy efficiency.

### ◆ DEVELOPING SPECIALIZED IN-HOUSE EXPERTISE

Our innovation strategy is supported by our research center near Lyon, France. The world's leading building materials research facility, its research projects are closely aligned with the needs of our businesses. For example, our research teams are working on solutions for energy efficiency, renovation – particularly in developed countries – and affordable housing; but also innovative binders, recycled asphalt and aggregates. They work in close partnership with our global network of development laboratories. A fourth laboratory was inaugurated in Algeria in November 2013, adding to existing facilities in France, India and China; a fifth laboratory is planned in Brazil in 2014. These facilities allow us to adapt our solutions to meet local needs, constraints and market opportunities.

Our dedicated team of in-house specialists continued to develop the Efficient Building™ catalog of cement-based construction systems, now numbering around 60. An example of a construction system from the Efficient Building™ catalog is the double-skin concrete wall, developed by Lafarge experts working in partnership with French company GBE Innovation. Consisting of a high-performance insulating panel placed between two layers of concrete, this system eliminates thermal bridges, a major case of energy loss in buildings. Furthermore, since interior walls can be left exposed, the thermal inertia of concrete can be used to regulate interior temperature.

### ◆ PARTNERING WITH OTHER STAKEHOLDERS IN THE CONSTRUCTION CHAIN

In 2013 we continued to reinforce our high-level specialized sales functions: Construction

### All developments in the area of Sustainable Construction and Cities, registered during 2013, are in the right direction.

The scope is becoming broader in Lafarge's offer – from materials the focus continues to shift to efficient building systems and partnerships with other relevant industry actors are being forged in favor of robust and affordable solutions. The combined set of solutions provided begins to answer a wide scope of societal challenges, not shying away from, until recently impenetrable territories, such as informal settlements. A fearless and holistic approach to the urban context provides fertile ground for innovation, while identifying new markets. These markets, although demanding, diverse and context specific, are also potentially rewarding and, in the context of a long term crisis, can strategically contribute to addressing social inclusion and a more balanced society.

What is next? Efficient building systems, require quantifying real added value of unique and intrinsic qualities (such as thermal inertia) and urban solutions require engaging with transdisciplinary working groups, including stakeholders such as the end user, in order to pave the way to better regulations and to better urban living environments. These next steps may “not be so easy” so I would like to wish Lafarge clarity of focus and resources to continue effectively in this path!

**LIVIA TIRONE**  
Architect



### Our research teams are working on solutions for energy efficiency, renovation and affordable housing; but also innovative binders, recycled asphalt and aggregates.

Specialists, deployed in each country, and International Key Account Managers. Liaising with specifiers and decision-makers at a very early stage in construction projects, their role is to analyze particular needs and offer appropriate products and solutions. We also continued to develop partnerships with other stakeholders in the construction chain in 2013 through global programs such as WBCSD's Energy Efficiency in Building (EEB 2.0) initiative and partnerships at the country level. In Morocco, for example, we developed a partnership with Reichen & Robert and Novec, respectively the urban planning agency and engineering design firm in charge of the Zenata new 'eco-city' project. ◆

## €1.8 billion

In 2013 we recorded sales of €1.8 billion from sustainable products, solutions and services, generating direct or indirect environmental benefits.



In Nigeria, the French Development Agency has contributed 5 million euros to the LAPO microfinance institution, local partner of our affordable housing program.

## ACCESS TO HOUSING

Our Affordable Housing project is an integral part of our ambition to contribute to building better cities. Through a range of initiatives, we aim to facilitate access to decent<sup>(1)</sup>, affordable housing for two million people by 2020.

over **120,000**  
In 2013 Lafarge enabled over 120,000 people to access decent housing through its Affordable Housing project.

**W**e have developed our Affordable Housing Project in response to the enormous challenge of providing the world's population with decent, sustainable housing. Over the past two years we have developed a unique portfolio of affordable housing projects across a range of geographies, including Northern and Sub-Saharan Africa, Asia and Eastern Europe. By the end of 2013 projects had been launched in 15 countries, benefiting over 120,000 people. While contributing considerable social benefits, this is not an exercise in philanthropy: five projects were already profitable in 2013 and all are expected to deliver additional EBITDA in 2014.

### ◆ STRUCTURING OUR OFFER

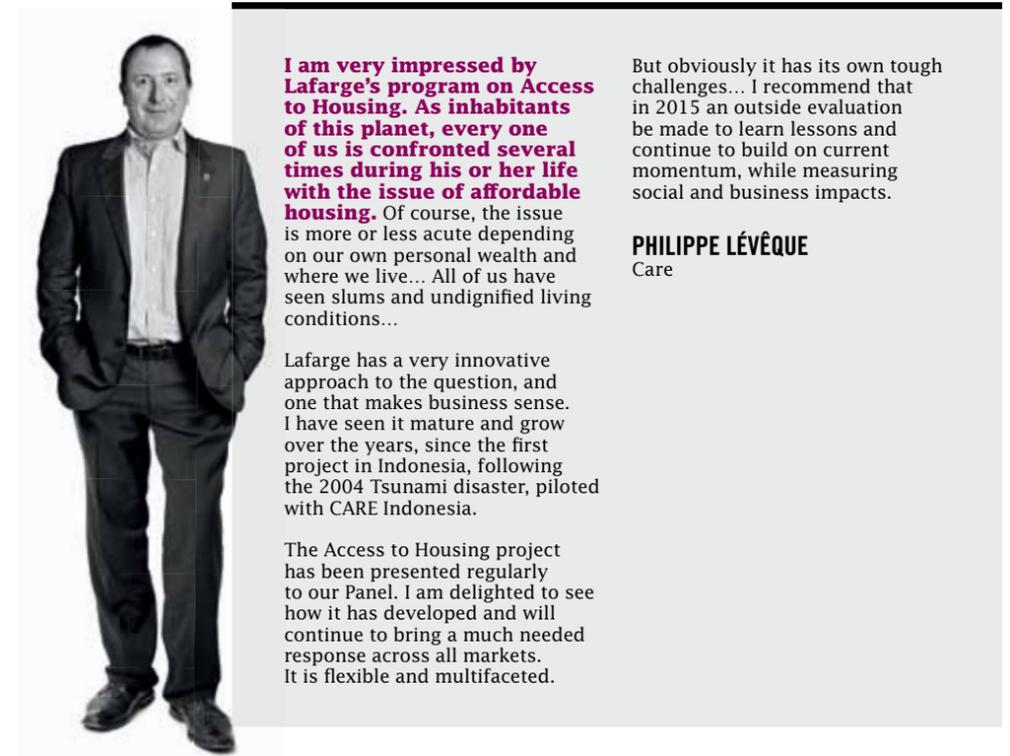
Our affordable housing offer is organized around four specific market segments:

- Microfinance to help people in emerging markets to fund the construction, renovation or extension of their homes
- Earthen & cement solutions to improve the durability of traditional earthen homes today used by an estimated 2 billion people

1. According to UN Habitat, decent housing is defined as housing that is permanent, clean, sufficiently spacious, with access to water and security of land tenure.

## €5m

Following the launch of our partnership with the French Development Agency (AFD), we announced AFD's contribution of 5 million euros to LAPO (Lift Above Poverty Organization) in Nigeria.



**I am very impressed by Lafarge's program on Access to Housing. As inhabitants of this planet, every one of us is confronted several times during his or her life with the issue of affordable housing.** Of course, the issue is more or less acute depending on our own personal wealth and where we live... All of us have seen slums and undignified living conditions...

But obviously it has its own tough challenges... I recommend that in 2015 an outside evaluation be made to learn lessons and continue to build on current momentum, while measuring social and business impacts.

**PHILIPPE LÉVÊQUE**  
Care

Lafarge has a very innovative approach to the question, and one that makes business sense. I have seen it mature and grow over the years, since the first project in Indonesia, following the 2004 Tsunami disaster, piloted with CARE Indonesia.

The Access to Housing project has been presented regularly to our Panel. I am delighted to see how it has developed and will continue to bring a much needed response across all markets. It is flexible and multifaceted.

- Bagged concrete for slum rehabilitation
- Social housing in emerging markets, as well as developed countries.

### ◆ SCALING UP OUR MICROFINANCE PROJECT

By the end of 2013 microfinance projects for affordable housing were in place and profitable in Indonesia, Serbia, the Philippines and Zambia. Other projects were also in the pipeline in Morocco, Sri Lanka and Bangladesh. In order to achieve our ambitious objectives in this area, we are working in partnership with local microfinance institutions, banks and retailers. In the Philippines, for example, our affordable housing solutions are today available in over 200 outlets: either banks proposing microfinance loans bundled with building materials – with over 1,000 credit officers trained so far - or retailers proposing materials bundled with microfinance. In addition to products and access to finance, our microfinance offer includes technical support from architects and developers. Following the launch of a partnership with the French Development Agency (AFD), we announced in October 2013 AFD's contribution of 5 million euros to the LAPO (Lift Above Poverty Organization) microfinance institution, our partner in Nigeria. This will

enable low-income families to finance the construction, expansion and renovation of their homes, helping to improve their living conditions.

### ◆ CONSTRUCTION SOLUTIONS TAILORED TO LOCAL MARKET NEEDS

In 2013 we continued to roll out our innovative solution to deliver ready-mix concrete in bags to slums in Mumbai, helping to improve the quality and durability of housing in these informal settlements. We also developed solutions adapted to the rural market, with the launch of Durabric in Malawi (see case study p.31). Our affordable housing offer is not limited to emerging markets. In 2013 we continued to develop construction solutions for the social housing segment in developed markets, optimizing the use of the modular properties of concrete to develop projects such as Les Hauts Plateaux, the vertical housing estate in Bègles, France that was inaugurated in September 2013. ◆



### CREATING A COMMUNITY OF MICROFINANCE INSTITUTIONS

We aim to achieve our ambitious objectives in affordable housing by positioning ourselves as the main convener among the key actors in the global affordable housing offer. In 2013 we organized a workshop in the Philippines bringing together actors representing 10% of the global microfinance market to share their experiences and exchange on best practices.

CASE STUDY

**GREEN ROOFS: A SOLUTION FOR GREEN CONSTRUCTION**  
(SUSTAINABLE CONSTRUCTION & CITIES)



**In the Philippines, to meet growing market needs for green construction solutions,** our local teams have developed a new offer for green roofs, working in partnership with Sika, a manufacturer of waterproofing membranes.

This solution targets the mid to high-rise building segment, which represents over 20% of the local construction market, and where developers are increasingly looking for green construction solutions. Our local teams have developed a complete offer for green roof construction, using lightweight aggregates, custom mix soil and Sika waterproofing membranes.

**AESTHETICALLY PLEASING,** green roofs can contribute to more efficient water management, help reduce the 'heat island effect' in towns and

cities and improve energy efficiency. They can be compared to sponges, since rainwater is captured inside the substrate and stored for future use by vegetation. Depending on the type of green roof and on the season, between 25 and 90% of rainwater can be retained in the soil. By collecting rainwater within their substrate for plants, green roofs also help cool the surrounding atmosphere, since the water in the soil evaporates when the temperature rises. Such green areas provide soil humidity and vegetation absorbs most of the energy received from the sun, acting as insulation for the building. Finally, the insulating properties of green roofs can help to improve the energy performance of a building over its lifetime.

**OUR PARTNERSHIP WITH SIKA** has allowed us to develop a complete solution that meets local market needs, helping developers to improve their LEED performance<sup>(1)</sup>. Roll-out will continue in 2014, via our local construction specialists and Sika's large applicator network.

1. Leadership in Energy and Environmental Design - a set of rating systems for the design, construction, operation, and maintenance of green buildings.

CASE STUDY

**A NEW CEMENT BINDER IN MALAWI**  
(ACCESS TO HOUSING)



**We have launched Durabric, an earth-cement technology for the housing market in Malawi.** This offers a more durable, water resistant, esthetic and environmentally-friendly construction solution for the growing peri-urban population.

**DURABRIC IS A NEW CEMENT** binder specially formulated for use in soil-stabilized blocks. Made of 5 to 8% cement extended with soil and/or sand, Durabric blocks offer more durable, water resistant and esthetic homes than traditional clay bricks. They are also a more environmentally-friendly solution as, unlike clay bricks, they do not require burning, a practice that has harmed the local environment through deforestation and soil degradation.

**OUR RESEARCH & DEVELOPMENT CENTER IN LYON,** France, had already been working on earth-cement solutions to improve the durability of traditional earthen homes. In a short space of time, our researchers were therefore able to adapt the formula to meet the specific needs of the local market in Malawi, working with our teams on the ground.

**THE NEW DURABRIC OFFER** that we have developed for customers, developers and contractors in Malawi is a complete package combining products and services. These include consulting on formulas and soil lab analysis – with the support of our R&D Center – block-making machines via leasing, a training program on block making, plus silos for bigger construction projects lasting six months or more.

**DURABRIC HAS SO FAR BEEN USED** in the construction of a school in Lilongwe, the capital of Malawi and will be used in 2014 for an affordable housing project called Maziko, which aims to help reduce the acute shortage of formal housing in the country. The program targets urban and peri-urban dwellers owning pieces of land, who will be supported to build houses using Durabric blocks. These pre-designed houses, that can be completed in only 15 to 25 days, will be 20 to 40% cheaper than conventional homes.

## **BUILDING** **THE CIRCULAR ECONOMY**

*A pioneer in the field of sustainable development, Lafarge endeavors to reduce its impact on the climate, water, air, raw materials and energy. One of our main priorities is to replace conventional fuels in our cement plants with industrial or household waste, with a target of an average of 30% of alternative fuels by 2015 and 50% by 2020. The circular economy is one of the keys to responsible industrial development. It consists of reusing waste materials from one industry as an input to another in order to conserve natural resources. We also recycle concrete to manufacture aggregates and new concrete. Finally, we have launched numerous programs for responsible water management, quarry rehabilitation and biodiversity enhancement.*

1 ENERGY CONSUMPTION AND RESOURCE MANAGEMENT	P.34
2 CO <sub>2</sub> AND OTHER EMISSIONS	P.37
3 BIODIVERSITY	P.40
4 WATER	P.42

**View of our Bouskoura cement plant (Morocco) and its rehabilitated quarry.** The plant today uses around 12% of alternative fuels and is also one of the priority sites targeted by our water program.





Construction and demolition waste (paper, wood and plastic) used as alternative fuel at our Richmond cement plant (Canada).

## ENERGY CONSUMPTION AND RESOURCE MANAGEMENT

Substituting fossil fuels with industrial or municipal waste and biomass to power our cement plants allows us to reduce our environmental impact, generates local economic activity and contributes to plant competitiveness at a time of fast-rising energy costs.

As part of our Sustainability Ambitions 2020 we aim to use 50% non-fossil fuels in our cement plants by 2020, 30% of which should be biomass. In order to achieve these very ambitious objectives, we are increasing our direct sourcing of alternative fuel, in particular municipal and agricultural waste, where we can develop shared value projects that benefit our operations, the environment and the wider community. In 2013 we continued to increase our use of alternative fuel, achieving an average fuel substitution rate of 17.2%<sup>(1)</sup> over the year and more than 30% in 14 countries. 64 major capital projects to improve alternative fuel usage, plus many smaller ones, were initiated in 2013. We therefore expect further improvements in our fuel substitution rate going forward.

### SCALING UP OUR ALTERNATIVE FUEL PROJECTS

Municipal waste is a major issue in towns and cities in many emerging markets, where waste treatment facilities are either insufficient or non-existent. In 2013 we continued to develop our municipal waste treatment offer in a number of countries, such as

1. Consolidation is done based on the proportional ownership of Lafarge. This figure amounts to 15.8% for entities managed by Lafarge or where Lafarge owns 50% equity or more.

17.2%

of alternative fuel was used in 2013, of which 39% was biomass.

the Philippines, Morocco, Egypt, Pakistan and Romania, working with local partners. We also scaled up our biomass projects, focusing in particular on Sub-Saharan Africa, where local farming activities generate significant amounts of agricultural waste. In 2013 our operations in Sub-Saharan Africa more than doubled their use of biomass as alternative fuel. Our cement business in Benin achieved a particularly strong increase in the use of biomass, reaching 25% in 2013 compared to 8% in 2012, complementing cotton waste – only available on a seasonal basis – with palm kernel shells.

### SECURING SUPPLY THROUGH STRATEGIC PARTNERSHIPS

Going forward, we will continue to focus on strengthening our municipal waste offer. We are also looking to develop agroforestry projects in a number of countries. Developed with local communities, these allow the production of high value products, crops for the local population plus biomass residues for our plants. This could help us to ensure the security of our biomass supply, while generating significant social and environmental benefits for the communities around our plants. In 2013 we signed a Memorandum of Understanding with the Moringa Fund, sponsored by ONF International, to explore potential agroforestry projects in Nigeria, Kenya, Tanzania and Brazil. Prefeasibility studies in these markets were carried out - including the social impact of these projects - at the end of 2013 and beginning of 2014.

### DEVELOPING OUR RECYCLED PRODUCTS OFFER

As part of our ongoing efforts to optimize the use of non-renewable resources, we continued to develop our sales of recycled aggregates in 2013, increasing these by 88% compared to 2012. 18% of these sales were of our aggneo™ brand of high-quality recycled aggregates, developed for a range of higher-value applications such as road base, road shoulders and drainage systems, and now available in France and Canada.

Climate change is the single-most intractable challenge facing Lafarge, given the chemical composition of its core feedstock (CaCO<sub>3</sub>), which inescapably involves the release of vast amounts of long-sequestered carbon. Nothing short of a radical transformation in Lafarge's basic product can solve this conundrum: any carbon savings squeezed out through fuel substitution or efficiency measures, however ambitious, are more than wiped out by volume growth. R&D is the only answer, yet with success still many years off, the only choice is to pedal faster, by cranking up any and all savings that lie on the margins of the limestone carbon cycle. Against this gloomy backdrop, the good news is that years of experimentation – and sustained pressure from this Panel – are bearing fruit: projects to replace fossil fuels with agricultural and municipal waste are multiplying, and the 50% target by 2020 is a real jump from today's 17%. The emphasis on shared value, as illustrated by the

extraordinary Zabbaleen project in Cairo, shows both shrewdness and sensitivity. Solving sanitation woes while also curbing CO<sub>2</sub> is a classic win-win, and capitalises on the rapid pace of urbanisation in emerging markets, thereby neatly meshing with Lafarge's strategy of Building Better Cities. The same step-change must now be achieved with sales of recycled aggregates, where the concept carries similar promise, though the numbers at this stage still lack context: sales are up 88% over 2012, but without information about their scale relative to total group sales or future growth projections, we cannot judge the pace of progress or impact on the business. The beauty of this project is that it leverages business objectives in the service of sustainability goals – but next year's report should contain actual business KPIs so that its actual and expected impact becomes clear.

KARINA LITVACK  
Independent



### PUBLIC POSITION

**ENERGY CONSUMPTION AND RESOURCE MANAGEMENT**  
The circular economy addresses three public policy objectives: independence in energy supply, natural resource stewardship and job creation through the development of the green economy. Public policies need to incentivize recycling and limit the landfilling of high-energy waste. Public authorities need to foster the reuse of construction and demolition materials when these meet technical requirements, adapting building regulations as required.

FOR MORE INFORMATION:  
<http://sustainabilityreport.lafarge.com>

CASE STUDY

EGYPT: DEVELOPING THE USE OF REFUSE-DERIVED FUELS



**Our El Sokhna cement plant in Egypt has joined forces with the Zabbaleen, an informal network of household waste collectors in Cairo, to develop the use of Refuse-Derived Fuels for its kilns.** This partnership has allowed the plant to secure a supply of quality alternative fuels, helping to make it more competitive. It has also created local jobs and provided a safe, environmentally sound route for waste disposal in the area.

**OUR EL SOKHNA CEMENT PLANT NEAR CAIRO** is one of the biggest in the world. Facing issues with regards to its access to a reliable natural gas supply, the plant decided to develop the use of alternative fuels, aiming to increase the share of these in its energy mix from 2.2% in 2012 to 10% by the end of 2013.

**A PARTICULAR AREA OF INTEREST WAS REFUSE-DERIVED FUELS (RDF),** i.e. what remains from household waste when all recyclable materials such as plastic, cardboard and metal have been removed. In order to

ensure quality and regularity of supply, our teams contacted the local network of Zabbaleen ('garbage people' in Egyptian Arabic). The Zabbaleen have served as Cairo's informal garbage collectors for almost 80 years, with extraction and sales of recyclables representing their main source of income. In a city that produces around 15,000 tons of municipal solid waste every day, they are able to handle large volumes and are also experts in manual sorting, allowing the sourcing of high-quality waste for use as alternative fuel.

**A DEDICATED TEAM OF ZABBALEEN WORKERS WAS CREATED** to collect, treat and recycle waste for Lafarge Egypt, allowing the creation of over 140 new jobs within the Zabbaleen community. After a series of meetings, site visits and training workshops with our plant teams, they were able to sort waste to produce a high quality RDF with low moisture and contaminants. Our local teams helped them to create a dedicated waste treatment

facility and apply basic safety standards onsite. They also helped them to develop the necessary logistical solutions to facilitate and optimize the transportation of RDF to our plant.

**THIS PARTNERSHIP HAS HELPED TO ENSURE A CONTINUOUS SUPPLY OF LARGE VOLUMES OF RDF** to our El Sokhna plant, making it more competitive. It has also strengthened our relations with local stakeholders, contributed to local economic development and helped to reduce the amount of waste randomly dumped in open sites or burnt, causing pollution to land and air.

**IN 2014, WE AIM TO DOUBLE THE VOLUME OF RDF** provided through the Zabbaleen network, while strengthening health and safety within the community and focusing on the education of Zabbaleen children.



— Wind farm at our Tetouan cement plant (Morocco) - used today to meet all the plant's electricity needs.

## CO<sub>2</sub> AND OTHER EMISSIONS

Managing our emissions is a key element of our industrial performance and our environmental stewardship. It is also central to our responsibility towards local communities and public health.

**A**s part of our Sustainability Ambitions 2020 we have set an aggressive target to reduce our net CO<sub>2</sub> emissions per ton of cement by 33% in 2020 compared to 1990 levels. We are also committed to further reductions in our NO<sub>x</sub>, SO<sub>2</sub>, dust and mercury emissions, focusing on those plants where emissions are highest. Finally, in order to reduce potential negative impacts for the communities living around our sites, we have set objectives to improve the visual impact of our operations and reduce night-time noise.

### ◆ CONTINUING TO REDUCE OUR CARBON FOOTPRINT

At the end of 2013 we recorded a 26% reduction in CO<sub>2</sub> emissions per ton of cement, representing a 203kg reduction in CO<sub>2</sub> emitted per ton of cement compared to 1990 (Kyoto reference year) and around 31.5 million tons of carbon emissions avoided in 2013. In 2013 our emissions from electricity consumption (Scope 2) were stable compared to 2012 levels, at 8.7 million tons, and emissions induced by our activities (Scope 3) amounted to 2.4 million tons. This is the first year that we are reporting on these Scope 3 emissions, focusing specifically on emissions related to the transportation of our products, where the impact is highest and where we can also ensure maximum ▶▶▶

**26%**

By the end of 2013 we had reduced our CO<sub>2</sub> emissions per ton of cement by 26% compared to 1990 levels.



**In general, I welcome Lafarge's continued leadership in the sector** and in particular Bruno Lafont's editorial which reiterates the company's commitment to creating shared value, and more importantly to making a net positive contribution to society and the planet.

I am very pleased to see the emphasis on R&D in innovation around materials and construction systems and in particular the development of technologies involving CO<sub>2</sub> capture and sequestration.

Although the figures for reductions of dioxin and furan are well on track, the reduction in mercury emissions is relatively unimpressive. It would be

useful for Lafarge to outline a more detailed strategy for reducing mercury emissions including a program of implementation, with clear targets and timelines, detailing which heavy emitting plants will be tackled first. It is stated that "actions to reduce emissions can take several years" but this could sound like a weak excuse for lack of progress in reducing mercury emissions.

**JEAN-PAUL JEANRENAUD**  
WWF

►►► accuracy of our reporting. Our CDP score for carbon disclosure in 2013 was 96/100 and we are included in the Carbon Disclosure Leadership Index for France.

The further improvement in our CO<sub>2</sub> performance was achieved thanks to:

- better kiln energy efficiency
- an increase in our use of alternative fuels, including biomass
- the continuing reduction in the clinker intensity of our cements, as we develop blended cements for a range of different applications. Our clinker factor was 71.9% in 2013, compared to 72.6% in 2012 and 84.6% in 1990.

In addition to the ongoing industrial performance programs that have been driving these changes, our R&D teams continued to develop our new generation lower carbon Aether<sup>®</sup> cements in 2013, working on formulations for different ready-mix and precast applications. We also signed a partnership with the US start-up Solidia Technologies<sup>®</sup> to industrialize an innovative technology involving CO<sub>2</sub> capture to produce pre-cast concrete. Finally, we continued to develop new products and solutions to improve building energy efficiency, such as our Thermedia<sup>™</sup> range of structural insulating concrete, or our Efficient Building<sup>™</sup> construction systems (see Sustainable Construction and Cities, p.26).

◆ **MANAGING OUR OTHER EMISSIONS**

Our Sustainability Ambitions 2020 program includes demanding new targets for reductions in our NO<sub>x</sub>, SO<sub>2</sub> and dust emissions, set against a new baseline year of 2010. In 2013 we achieved significant reductions in all emissions: -26% for dust, -6% for SO<sub>2</sub> and -17% for NO<sub>x</sub> (see graphs p. 39). These improvements were achieved through a program focusing on those plants where emissions were highest. We installed new bag filters to reduce dust emissions at plants in Romania, Moldova, Russia, Uganda, and Tanzania, and introduced NO<sub>x</sub> and/or SO<sub>2</sub> abatement technologies at two of our plants in the USA. There are also nine ongoing projects to reduce NO<sub>x</sub> emissions at plants in China.

As part of our Sustainability Ambitions 2020, we also aim to reduce mercury emissions per ton of clinker by 30% compared to 2010 levels, a very ambitious target. This year we are reporting on these emissions against the new baselines for the first time, recording a slight reduction of 1%. In 2013 we focused on identifying the sources of mercury at those plants where emissions are highest. Rigorous screening is carried out of alternative fuels and raw materials, to limit mercury concentration. Challenges occur where higher levels of mercury are found in the natural raw materials used by a plant. In such cases, process changes involving the installation of mercury abatement systems need to be implemented. In 2013 two such systems utilizing carbon injection were installed, resulting in a ten-fold reduction in emissions at these installations by year-end. Actions to reduce emissions can often take several years to implement and take effect. We therefore see considerable potential for further, more significant reductions in our mercury emissions going forward. ◆

↓ **PUBLIC POSITION**

**CO<sub>2</sub> & AIR EMISSIONS**

We support the conclusion of a global agreement on climate change at the 2015 Conference of Parties in Paris. This agreement should facilitate the implementation of cost-effective CO<sub>2</sub> emission reduction initiatives by companies, foster private sector investments in energy efficiency and innovation towards low carbon solutions throughout the value chain, without distorting competition. In the absence of such an agreement, uncoordinated energy and climate policies are likely to emerge, hindering companies' competitiveness and ability to take action.

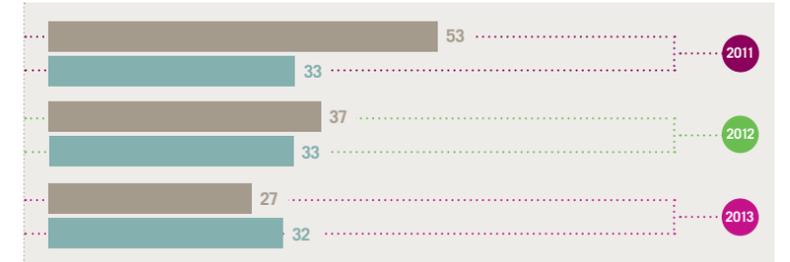
FOR MORE INFORMATION:  
<http://sustainabilityreport.lafarge.com>

**CONTINUING PROGRESS IN EMISSIONS REDUCTION**

1 **PERSISTENT POLLUTANT MERCURY / DIOXIN-FURAN**

Our emissions reductions from 2010 levels are 63.2% and 1% respectively for dioxin/furan and mercury.

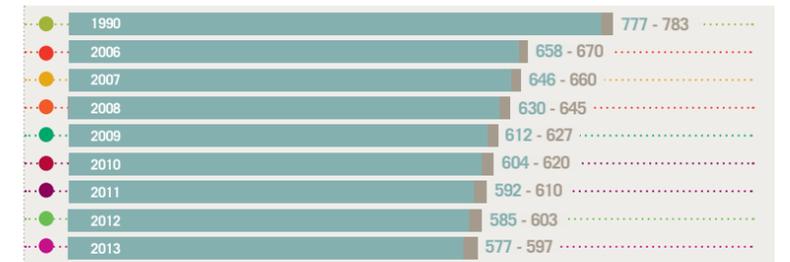
■ mg Hg / t kk ■ ng Dioxin / Furan / t kk



2 **NET AND GROSS CO<sub>2</sub> EMISSIONS**

In 2013 our gross CO<sub>2</sub> emissions per ton of cement were 23.9% lower than 1990 levels and our net CO<sub>2</sub> emissions were 26.0% lower than 1990 levels.

■ Net CO<sub>2</sub> emissions (kg/ton cement) ■ Gross CO<sub>2</sub> emissions (kg/ton cement)



3 **CLINKER FACTOR (% clinker in cement)**

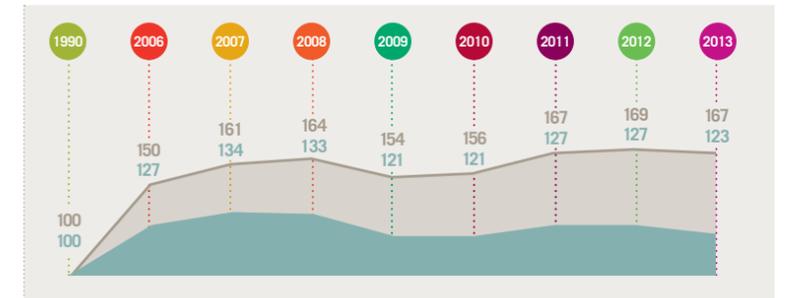
Clinker, the component of cement whose production is responsible for CO<sub>2</sub> emissions, has decreased by 14.9% since 1990.



4 **CARBON EFFICIENCY IN OPERATIONS**

In 2013 we produced 67% more cement than in 1990 but our net CO<sub>2</sub> emissions increased by only 23% over the same period.

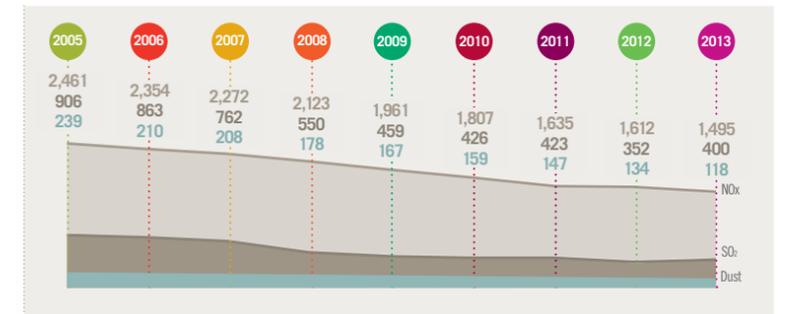
— Cement Produced — Net CO<sub>2</sub>



5 **NO<sub>x</sub>, SO<sub>2</sub> & DUST EMISSIONS**

NO<sub>x</sub>, SO<sub>2</sub> and dust emissions have decreased by 17%, 6% and 26% respectively since 2010, baseline for our new reduction targets.

— g NO<sub>x</sub> Emissions/tKK — g SO<sub>2</sub> Emissions / tKK — g Dust Emissions / tKK





## BIODIVERSITY

Effective quarry rehabilitation, facilitating the protection and promotion of local biodiversity, is key to maintaining good relations with the local stakeholders around our operational sites and to securing our license to operate.

**20%**  
of our quarries are situated in or near areas of local biodiversity sensitivity.

**37%**  
of these quarries have implemented Biodiversity Management Plans.

**M**anaging biodiversity and restoration over the long term is beneficial both for Lafarge and the environment. Quarry restoration is essential to our license to operate. The most cost-effective way of implementing this at our sites is to work closely with local wildlife NGOs, universities and other local stakeholders to identify the most suitable local species. These will have a much higher survival rate and will also help to enhance local biodiversity, for the benefit of our local communities.

In 2013 Lafarge won several awards for biodiversity and restoration. Our Sepolno Gravel Pit in Poland was awarded the European Aggregates Association (UEPG) prize for restoration by an independent panel of experts. Our Racos Quarry in Romania also won the UEPG special award for biodiversity (see opposite).

### ◆ PROGRESS TOWARDS OUR OBJECTIVES

As part of our Sustainability Ambitions 2020, we have set an objective for 100% of our quarries and cement plants to implement Biodiversity Management Plans in line with Group standards. By the beginning of 2013 these were already in place at all sites located in or near international biodiversity sensitive

1. Sites within 500m of IUCN zones I-VI, Ramsar, IBA, Natura 2000.



## PUBLIC POSITION

### BIODIVERSITY

Through appropriate planning for resource extraction and rehabilitation programs, our extracting practice can have a positive impact on biodiversity protection and ecosystem management. It is essential to enable raw material sourcing and extraction close to production sites. This is achieved through coordinated planning and efficient allocation of licenses to operate. In addition, we consider that quarry rehabilitation is the best way to protect biodiversity, as opposed to financial compensation.

FOR MORE INFORMATION:  
<http://sustainabilityreport.lafarge.com>



### Last year I stepped into the space vacated by Alastair McIntosh - a hard spot to fill!

Lafarge's commitment to the United Nations Declaration on the Rights of Indigenous People was a motivation and I am pleased to see this embedded in the company's business ethics. So far I have appreciated 'Building better cities' as a holistic approach by the company who makes just one - albeit critical component - cement. The industry turns rock into concrete, uses large amounts of fossil fuel and produces 5% of global carbon emissions. Providing leadership in reducing emissions is critical. The rock is not just there for the taking - it is found in places that have both nature and people. Limestone for cement is also good for nature and home to unique forms of life. Weathered limestone, known as 'karst' produces fantastically beautiful landscapes. The circular economy for the cement industry must include leaving intact, restored and productive lands with healthy communities. This presents both

a challenge and a duty for an industry that reduces intact nature into a moonscape of rubble. As a student of ecology I visited one of those 'rubble moonscapes' at Lafarge Bamburi, Kenya. I had the privilege to meet Dr Haller who pioneered restoring the quarries to forest cover. Lafarge is developing a biodiversity strategy which includes leaving special areas alone and restoring where it has worked. I look forward to supporting and challenging the company to meet its ambitious targets.

**ROBERT WILD**  
IUCN

areas<sup>(1)</sup>. During 2013 we identified those quarries situated in areas of local biodiversity sensitivity, using a methodology developed during our partnership with WWF International and through consultation with site personnel. In total 20% of our quarries are situated in areas of local biodiversity sensitivity, 37% of which have already developed a Biodiversity Management Plan. Our objective is for these plans to be in place at all locally sensitive quarries by the end of 2015. The number of quarries with rehabilitation plans at the end of 2013 remained stable at 85%, as gains in some areas were offset by changes due to mergers, acquisitions and divestments. We aim to accelerate the development of rehabilitation plans in 2014.

### ◆ OUR BIODIVERSITY STRATEGY

In 2013 we developed a Group strategy for biodiversity, in close consultation with our International Biodiversity Panel. This strategy, which will be published in 2014, includes commitments related to opening new quarries in protected areas and the development of a methodology to demonstrate net positive impact through quarry rehabilitation. In 2014 we will focus our efforts on driving the implementation of Biodiversity Management Plans in locally sensitive areas. These should

## CASE STUDY

### RACOS QUARRY - ROMANIA

The Lafarge Racos Quarry is located in the Persani Mountains in Romania, a protected area known locally as the "small Colorado canyon". The site has been used as an aggregates quarry since 1890 and in 2011, Lafarge and Geopark Persani, the custodian NGO of the area, started a new partnership to develop an ecological restoration plan. The aim was to preserve the unique geology of the area and promote local biodiversity, implementing constant biodiversity monitoring to limit the potential impacts of quarrying.

**A BIODIVERSITY MANAGEMENT PLAN**  
The IUCN red list was used to identify species of predatory birds using the new habitat and a detailed Biodiversity

Management Plan was drafted in partnership with Geopark Persani and specialists from the local Faculty of Ecology and Forestry. This plan was also presented to local stakeholders, including local authorities, representatives of local environmental agencies, the agency for mineral resources, land owners and representatives from local NGOs.

The project has rehabilitated habitats, controlled and removed invasive species and ensured the planting of local species to enhance local biodiversity and create the optimal habitat for vulnerable species of birds.

involve projects between our operations and local stakeholders, including local environmental NGOs and universities, to build strong relationships between our sites and local biodiversity experts. ◆



## WATER

Good freshwater availability is a critical social, environmental and economic issue. As a water-using company and a visible stakeholder in communities, we are committed to reducing our water impacts and enhancing water management in the wider water basin.

**100%**  
of our cement and aggregate operations have completed water risk assessments, in accordance with our Sustainability Ambitions 2020.

**A**s 25% of our cement production is located in areas of water scarcity, we have both a social obligation and a business interest in managing our water impact in a responsible way. As climate change and demographic growth put increasing pressure on this essential resource in certain parts of the world, our water use and discharge and relationship with our local communities on this issue matter more than ever before. Our efforts to improve water efficiency have allowed us to reduce water consumption per ton of cement by 10% since 2010. We have been measuring and reporting the water footprint of our industrial sites for several years and continue to promote the reduction of water footprint through best practices such as rainwater harvesting, reuse of waste water and water recycling.

### ◆ PREPARING THE GROUND FOR STAKEHOLDER ENGAGEMENT

In 2013 we focused our efforts on our cement operations in high-risk water basins, situated mainly in Northern and Sub-Saharan Africa, the Middle East, India and Pakistan. As part of our Sustainability Ambitions 2020 we are committed to continuing to reduce the water footprint of our operations in these zones, but also to promoting more responsible water stewardship in the wider water basin, working with the local stakeholders

**CASE STUDY**

**REDUCING WATER CONSUMPTION IN IRAQ**

**At our Bazian cement plant in Northern Iraq, we have developed a number of good practices to reduce our water consumption,** such as rainwater harvesting and using treated waste water for cleaning and irrigation. The plant is situated in a very arid region with a long dry season from May to the end of September, during which temperatures can reach up to 50°C. Our local teams have therefore worked on improving water efficiency, introducing a system to reuse waste water from the on-site water treatment facility for irrigation and cleaning at the plant. They have also installed a series of concrete settling tanks to harvest rainwater and run-off, filtering out impurities to allow the water to be used for agricultural purposes. Finally, feasibility studies are underway to create a storm water retention pond that would allow

the plant to meet part of its process water needs through rainwater harvesting.

**RESPONSIBLE WATER STEWARDSHIP**  
From 2014, we intend to focus on promoting more responsible water stewardship in the wider water basin, working closely with the communities surrounding our operations. This will first entail meetings with the local population to identify their needs more precisely and facilitate their access to safe and clean water. One action that we are already planning is to share water stored in a 170,000m<sup>3</sup> - capacity lake at the plant's clay quarry with the local population, to help them meet their agricultural needs.

around our production sites. Understanding the water challenges within the basin and identifying stakeholders is the first step towards initiating any engagement on water-related issues. In 2013 we therefore prepared a detailed 'Basin ID' for each plant to analyze the basin in which it operates: physical characteristics, regulatory framework, current users and concerned parties, as well as any existing water initiatives. This work was carried out by our in-house environmental teams, working in partnership with local experts and NGOs. Based on this preparatory work, we will start working in 2014 on the development of partnerships in these priority basins, defining the appropriate type and level of local engagement for each water basin.

### ◆ STRUCTURING OUR APPROACH TO MAXIMIZE SHARED VALUE

We have identified five potential areas in which we could contribute to more sustainable water management. These are as follows:

- facilitating access to water for local communities
- contributing to improvements in water quality
- helping to reduce the risk of flooding
- protecting and promoting biodiversity in aquatic habitats
- raising awareness on water-related issues through local volunteering actions and communication campaigns.

**We continue to promote the reduction of water footprint through best practices such as rainwater harvesting, reuse of waste water and water recycling.**

For example, in Algeria pipes and water points installed by our M'sila cement plant in a very arid region of the country have helped to provide the local community with easy access to water for domestic and farming purposes. Another example is in Greece, where we have set up a partnership with a local soft drinks company near our Volos cement plant to reuse their waste water in our industrial process. This partnership has allowed us both to reduce freshwater consumption at Volos and eliminate discharge of wastewater into the sea by the soft drinks company. Going forward, the Water Steering Committee set up in 2013 will provide advice and support to countries as they develop appropriate local initiatives around their sites in 2014 and beyond. ◆

### ↓ PUBLIC POSITION

**WATER**  
Water policies need to cover three essential aspects: resource availability, quality and ecosystem management. Relevant public policies need to be implemented locally. They should aim at maximizing benefits for all stakeholders equitably through coordination on water, land and other resource management, without jeopardizing ecosystems. Such public policies should result from dialogue between all stakeholders, including the private sector.

FOR MORE INFORMATION:  
<http://sustainabilityreport.lafarge.com>

# APPENDIX

The appendix includes a comprehensive list of externally verified KPIs, consistent with GRI G4 methodology. It also includes the following comments from the Group Stakeholder Panel, made up of nine external personalities representative of our major stakeholder groups.

## OUR STAKEHOLDER PANEL

**“We appreciate the integrated, business-driven focus of this report, which conveys Lafarge’s holistic approach to sustainability as a core element of its underlying commercial strategy.”**

For the last decade, the Lafarge Stakeholder Panel has served as the company’s group of “critical friends”, by supporting Lafarge on its sustainability journey, challenging its approach to sustainability, helping it anticipate emerging issues, testing its understanding of the boundaries of good practice, and pressing it to exercise leadership in the building materials industry<sup>(1)</sup>.

In this Statement, we comment on progress achieved during 2013 as well as the direction Lafarge has embarked on for the future.

On the positive side, we appreciate the integrated, business-driven focus of this report, which conveys Lafarge’s holistic approach to sustainability as a core element of its underlying commercial strategy. We also welcome the tangible examples cited in the “Shared Value at Lafarge” table (p. 6), as well as the direct and quantified linkage between cost efficiency and sustainability (p. 7), a practice we recommend be further expanded in years to come.

We appreciate Lafarge’s move to introduce country-level reporting in this year report, following our recommendation last year. Tools such as the “Sustainability Compass” (p. 9) and the “Country Maturity Levels on Diversity & Inclusion” chart (p. 18) also constitute very interesting and innovative mechanisms for external communication – and have great potential to help Lafarge prioritize and monitor its sustainability objectives internally.

In terms of areas for further improvement, we reiterate our earlier recommendation that Lafarge better contextualize and benchmark its performance against external standards, competitors and other industry leaders. We would also encourage more detailed and frank commentary on dilemmas and challenges faced during the reporting year, where successful resolution holds the key to its ability to trade profitably<sup>(2)</sup>.

We believe the section on governance could be further strengthened. We are pleased to see “Business Ethics” highlighted, indicating that it is the basic cultural

framework underpinning Lafarge’s overall corporate strategy. We also commend Lafarge for its open and proactive stance on lobbying as an integral part of its responsible public affairs practices. However, more information is needed regarding its approach to supply chain assessments, as well as to prevention of corruption, anti-competitive behavior and other aspects of fraudulent commercial practices.

### ◆ BUILDING COMMUNITIES

We welcome Lafarge’s improvements in developing the diversity and skills of its employee base. The company is also making significant progress in engaging effectively with the communities surrounding its operations, but we remain concerned that conflicts persist with a substantial minority of these.

We recognize that progress is being made on health and safety, but there is still a long way to go. And we were disappointed to see the number of fatalities has not reduced.

We appreciate Lafarge’s implementation of the “Ruggie Principles” on business and human rights in its supply chain, where it is setting a leading standard within the cement industry. Once the new supplier assessment tools are in place, we expect to gain additional insights into how Lafarge works with those suppliers that fall short of its expectations.

### ◆ BUILDING SUSTAINABLY

We appreciate Lafarge’s move from a product-based approach to a more systemic approach focused on urban resilience. We recommend that more be done to build networks to provide better and more

affordable solutions and systems that leverage Lafarge’s capacity. This would enable Lafarge to reach deeper and wider into more vulnerable and challenged communities.

### ◆ BUILDING THE CIRCULAR ECONOMY

We welcome the progress made on energy conservation and resource management. Lafarge has initiated very creative, innovative strategic partnerships involving municipal solid waste and plant waste as feedstocks into its plants.

Apart from a slow start on curbing mercury emissions – where we hope to see fuller detail on planned remedies, we are pleased to see that Lafarge is on track with its 2020 commitments on water, CO<sub>2</sub> and air emissions.

Lafarge is also making progress in developing biodiversity action plans for its plants, but its approach on quarry restoration needs greater attention paid to high-value biodiversity, especially karst systems. We encourage Lafarge to explore how its circular economy strategy can be leveraged more effectively to deliver more tangible results in respect of its commitment to create net positive value<sup>(3)</sup>. ◆

**“We are pleased to see that Lafarge is on track with its 2020 commitments on water, CO<sub>2</sub> and air emissions.”**

1. In accordance with GRI G4-25 disclosure standard.

2. In accordance with GRI G4-26 disclosure standard.

3. In accordance with GRI G4-27 disclosure standard.

## STAKEHOLDER PANEL MEMBERS<sup>(1)</sup>

- **Adrian Marinescu**  
(European Works Council)
- **Jean-Paul Jeanrenaud**  
(WWF)
- **Philippe Lévêque**  
(Care)
- **Frank Rose**  
(Independent)
- **Marion Hellmann**  
(Building and Wood Workers International)
- **Sheila Khama**  
(African Center for Economic Transformation)
- **Karina Litvack**  
(Independent)
- **Livia Tirone**  
(Architect)
- **Robert Wild**  
(IUCN)

1. In accordance with GRI G4-24 disclosure standard.

# APPENDIX

## REPORTING METHODOLOGY

### ◆ REPORTING STANDARDS

The rules for computing the KPIs are consistent with the GRI (Global Reporting Initiative) G4 reporting standard<sup>(1)</sup>. Where detailed definitions of KPIs are defined by WBCSD - CSI (World Business Council for Sustainable Development - Cement Sustainability Initiative), the recommended CSI methodology is used for the calculation of the KPI. All elements for calculating KPIs are documented in a glossary specific to the Cement, or Aggregates and Concrete businesses. Compliance with GRI G4, details on materiality assessment and a summary of reporting standards used is documented online at <http://www.lafarge.com><sup>(2)</sup>.

Health and safety data is collected separately, taking into account our internal guidelines and external best practice. The Group's Social Policies department conducts a separate survey on social data. The KPI related to the training on stakeholder relationship is also tracked and verified. Local stakeholder relationship management training is organized around plant managers (in cement) and area/regional managers in aggregates and concrete.

### ◆ SCOPE OF CONSOLIDATION AND REPORTING METHODOLOGIES

The reporting covers all business units and their industrial production sites under the Group's management control throughout the world.

When a new site is acquired by Lafarge, procedures and definitions for sustainability data are not necessarily in line with Lafarge standards. Accordingly we give new sites a maximum of four years to meet our standards but performance and emissions reporting are included from the start up date. This period is necessary to implement the appropriate management systems. When a plant is sold, we cease to include its performance data and we remove its data from the baseline data used for our Sustainability Ambitions, whether the reference year is 1990 or 2010. For plants divested during the year, social data is

excluded for the entire year; for environmental and health and safety, data is included up until the time of divestiture.

We use the CSI Protocol V3 to calculate CO<sub>2</sub> emissions between the 1990 baseline and the reporting year.

In 2011 we changed our methodology for calculating air emissions to be in accordance with the March 2012 CSI guidelines for emissions monitoring and reporting in the Cement Industry ([wbcscement.org](http://wbcscement.org)). Previously, gas factors based on the type of kiln process were utilized whereas we now use gas factors based on the energy consumption of the specific kiln; prior years data and our baseline (2010) is restated using the this methodology for comparison.

For dust, SO<sub>2</sub> and NO<sub>x</sub> emissions, we use standard emission concentrations based on the site's kiln process when no measurements are available. In 2013 the standard emission concentration was applied to 1.2% of clinker production for dust emissions, 0.9% for SO<sub>2</sub> emissions and 1.6% for NO<sub>x</sub> emissions.

For water, dewatering of quarries and non-contact cooling water taken from surface water and returned to the same catchment is not included in net withdrawal.

For the calculation of safety KPIs that include contractors, contractor off-site hours are not included in the divisor and therefore these indicators may slightly overstate the frequency rates.

Social data and health and safety data are collected by business units and consolidated at Group level. Social data for 2013 in this report is derived from a social survey covering 89 entities representing 100% of the total Group workforce and includes majority owned entities and managed assets. Headcount data is compiled by an external consultant supervised by Corporate and Country finance departments. Absenteeism data is not consolidated due to the various national definitions under which this data is

captured. We are currently working on a methodology to address this issue.

### ◆ CONTROL AND ASSURANCE

Environmental data is collected by business line and consolidated at Group level. For cement, environmental experts in the regional technical centers (Beijing, Cairo, Montréal, Kuala Lumpur and Vienna) review and validate the performance data for the plants within their regions.

Bureau Veritas provides independent verification for sustainability data. A selection of key quantitative indicators (lost time injury frequency rate and fatality rate; total headcount, hours of training, workforce hirings, resignations, retirements, redundancies and death; women in senior and executive management; sites environmentally audited, quarries with rehabilitation plans and quarries screened for biodiversity and those having biodiversity management plans; consumption of energy, fuels used, CO<sub>2</sub>, dust, NO<sub>x</sub>, SO<sub>2</sub>, mercury, VOC and dioxins/furans emissions, water withdrawals by sources and consumption quarried and alternative raw materials consumption) were reviewed to issue a limited assurance report. ◆

1. In accordance with GRI G4-18 disclosure standard.  
2. In accordance with GRI G4-22 disclosure standard.

## VERIFICATION REPORT ON THE SINCERITY OF THE INFORMATION RELATIVE TO THE REQUIREMENTS OF TRANSPARENCY OF COMPANIES ON THE DISCLOSURE OF ENVIRONMENTAL AND SOCIAL TOPICS

*The reviewed social, environmental and societal information are relative to year ended December, 31, 2013.*

### REQUEST, RESPONSIBILITIES AND INDEPENDENCE

At the request of the Lafarge Group, and in accordance with the requirements of article L.225-102-1 of the French commercial code (code de commerce), we performed, as independent third party, an independent verification of the social, environmental and societal information contained within the section 4 "social and environmental responsibility" of the 2013 Lafarge registration document.

The preparation and presentation of the qualitative and quantitative information for the publication required by the article R.225-105-1 of the French commercial code (code de commerce) is the sole responsibility of Lafarge. The collection and management of this information has been coordinated by the Technical Director for Environment of the Lafarge in accordance with:

- the reporting procedure Group "group environmental standard" version V3.7.4;
- the group specific instructions and procedures, a summary of which is provided in Section 4.5.2 (under the heading 'social and environmental responsibility'), relating directly to the table of the Key Performance Indicators in section 4.5.1.

This is further named "the reporting methodology", available at Lafarge's Head Office, and a summary of which is included under the form of a methodological note in the registration document section 4.2.5, which will be available on Lafarge's website.

It is our role, in accordance with the requirements of the article R.225-105-2 of the French commercial code (code de commerce), to conduct the verification pursuant to the issuing of this verification report. The conclusions of this report include:

- an attestation of completeness of the social, environmental and societal information required by the article R.225-105-1 of the French commercial code (code de commerce);
- a reasoned opinion on the sincerity of the published information as well as a limited assurance opinion of the quantitative information, and if any a reasoned opinion on the explanation given in case of the omission of certain consolidated information.

This opinion is independently stated, and without partiality. Our work has been conducted according to the professional practice. Bureau Veritas has implemented its Code of Ethics which is applied by its staff.

### NATURE AND SCOPE OF OUR WORK

During the period from September 2013 to February 2014, a team of verifiers competent in social responsibility conducted

the work; they are experienced on social, environmental and societal issues.

We verified that the information covers the consolidated perimeter as defined in the articles L.233-1 and L.233-3 of the French commercial code (code de commerce). The perimeter's adjustments for the social and environmental information are clarified in the methodological note of the registration document.

For the attestation of completeness of the information we undertook the following work:

- taking note of the Group policy relative to sustainable development, according to its social and environmental impacts and its societal commitments;
- comparison of the information presented in the registration document with the list as provided for in Article R.225-105-1 of the French commercial code (code de commerce);
- verification of the explanation in case of omission of consolidated information.

For the reasoned opinion on the sincerity of the information, we conducted our work in accordance with the legal order published on the 13<sup>th</sup> May 2013 determining the methodology according to which the independent third party conducts its mission.

We conducted the following procedures in order to provide limited assurance that nothing has come to our attention that causes us to believe that the produced information contains any material misstatements likely to call into question its sincerity, in all material aspects according to the "reporting methodology":

- review of the "reporting methodology" with regard to relevance, reliability, completeness, neutrality, understandability of information, relating to good practice within the sector;
- identification of the persons, within the Group, in charge of the collection, and if any, those who are responsible for the procedures of internal control and risk management;
- verification of the implementation of a process for the collection, treatment, compilation, internal control of the information to guarantee their completeness and consistency;
- examination of the internal control and risks management procedures relative to the preparation of the Information;
- discussions with persons in charge of the social, environmental and societal reporting;
- selection of consolidated information to be tested<sup>(1)</sup> and definition of the nature and the scope of the tests, taking into consideration their importance with regard to the social and environmental consequences related to the Group activities as well as to its societal commitments.

Regarding the quantitative information we recognized as to be the most important we have:

- performed an analytical review of the information and check for a sample of information the calculations and the compilation of the information at the corporate level and the controlled entities;
- selected a sample of sites<sup>(2)</sup> based on their activities, their contribution to the consolidated information, their localization, the results of the previous verification exercises and a risks analysis;

- regarding each selected entity we performed the following work:
    - interview to check that the "the reporting methodology" is correctly implemented;
    - performance of detailed tests, checking, based on sampling, the calculation applied and reconciling the Information with supporting evidences;
- The sample of the selected sites represents around 20% of the reported data for the environmental and social information, and around 50% of the clinker production.

Regarding the qualitative information, for the information we believe to be the most important, we have conducted interviews, examined source documents and, if any, public information. Regarding the explanations relative to the missing/omitted information, we assessed their relevance.

### COMMENTS ON THE "REPORTING METHODOLOGY" AND ON THE INFORMATION

The procedures and process for the reporting of the group leads us to make the following comment:

- the additional verification of Technical Center is required for the information relative to water consumption in order to ensure the reliability of the data. In the quarries of aggregates, the water consumption is most commonly estimated, it is necessary to strengthen the implementation of the internal reporting method of reporting and control;
- the method to account for subcontractor employee headcount differs between sites; however, at the global level the data is seen to be consistent on a year to year basis;
- although no major anomaly was detected on safety indicators, the collection of hours worked of subcontractors should be strengthened. Reinforcement to personnel of the definitions used to calculate safety indicators would increase the efficiency of the reporting process of these data.

### ATTESTATION OF COMPLETENESS OF THE INFORMATION

Based on our work, and within the limit of the perimeter defined by the Group, we attest to the completeness of all the required information.

### SINCERITY OPINION AND LIMITED ASSURANCE

Based on our work nothing has come to our attention to suggest that the social, environmental and societal information, communicated by Lafarge Group in its 2013 registration document, is not fairly presented in all material aspects in accordance with the reporting methodology. The explanation in case of omission of consolidated information appears to be acceptable.

Puteaux, March, 3, 2014  
Bureau Veritas  
**Jacques Matillon**  
Agency Director

### 1. INFORMATION WITH LIMITED ASSURANCE

- Social Information: total headcount breakdown by gender, age, kind of contract of employment, status; workforce hiring; retirements; resignations; redundancies; death; women in senior and executive management; hours of training.  
- Environmental and Health & Safety Information: sites environmentally audited; dust; NO<sub>x</sub>; SO<sub>2</sub>; mercury; VOC; dioxins/furans emissions; water withdrawals by sources; consumption of energy, fuels used; consumption of quarried and alternative raw materials consumption; quarries with rehabilitation plans and quarries screened for biodiversity and those having biodiversity management plans, CO<sub>2</sub> emissions, lost time injury frequency rate and fatality rate.

### 2. FOR SOCIAL INFORMATION THE CONTRIBUTOR ENTITIES IN THE FOLLOWING COUNTRIES: CHINA, FRANCE, INDIA, MALAYSIA AND UNITED STATES OF AMERICA.

For environmental and health & safety information: the cement and aggregates & concrete business units in China, France, India, Malaysia and United States of America, two regional technical centers (IPEA and China), four cement plants on site, one cement quarry, two aggregate quarries, three aggregates/concrete/asphalt centers located in the five countries above, moreover seven cement plants have been verified off site.

# KEY PERFORMANCE INDICATORS

## BUILDING COMMUNITIES

Issue	Indicators	2011	2012	2013	Scope	Ambitions 2020 target
<b>Health and Safety</b>						
Fatalities	Fatalities (employees)	8	5	3	Group	
	Fatalities per 10,000 employees	1.11	0.77	0.47	Group	
	Fatalities (sub-contractors)	17	12	11	Group	
	Fatalities (third party)	9	8	12	Group	
	<b>Total</b>	34	25	26	Group	0
Lost Time Injuries	Lost Time Injuries (employees)	93	105	72	Group	
	Lost Time Injuries per 1 million manhours (employees)	0.63	0.75	0.54	Group	
	Lost Time Injuries (sub-contractors)	62	51	51	Group	
	Lost Time Injuries per 1 million manhours (sub-contractors)	0.58	0.47	0.44	Group	
	Lost Time Injuries per 1 million manhours (total)	0.61	0.62	0.49	Group	0.45
	<b>Total</b>	155	156	123	Group	
<b>Community Development and Outreach</b>						
Stakeholder Engagement <sup>(1)</sup>	Site managers mapping their stakeholders	87% 70%	55% 31%	69% 39%	Cement Aggregates + Concrete	
	Site managers developing action plans	59% 18%	55% 25%	48% 10%	Cement Aggregates + Concrete	100%
	Site managers meeting regularly with their local stakeholders / representatives of local communities	78% 55%	67% 34%	86% 40%	Cement Aggregates + Concrete	
	Site managers running corporate social responsibility actions	69% 56%	72% 47%	83% 57%	Cement Aggregates + Concrete	
	Number of hours of volunteering to locally selected projects	N/A	N/A	57,139	Group	1,000,000
	Countries having implemented job creation plans / education programs	N/A	N/A	37%	Group	75%
	Countries having measured their sites' socio economic footprint	N/A	N/A	50%	Group	75%
	<b>Employee Diversity and Skills</b>					
Workforce	Total Headcount	67,923	64,337	63,687	Group	
	Full-time employees	99%	99.1%	98.7%	Group	
	Part-time employees	1%	0.9 %	1.3%	Group	
	Permanent employees	97%	96.4%	97%	Group	
	Fixed-term contract employees	3%	3.6%	3%	Group	
	Employees under the age of 30	16.1%	15.0 %	14.5%	Group	
	Employees between 30 and 50	63%	63.6%	63.5%	Group	
	Employees above 50	20.9%	21.4%	22%	Group	
	Number of sub-contractors	33,432	31,577	32,571	Group	
	Turnover	Employee turnover rate	N/A	14.2%	16.1%	Group
Voluntary employee turnover rate		N/A	4.6%	5.3%	Group	
Hirings		7,400	5,544	6,991	Group	
Resignations		3,770	2,996	3,354	Group	
Retirements		776	910	993	Group	
Redundancies		4,308	3,298	2,025	Group	
Deaths		125	98	114	Group	
Male / Female fatalities		33M/1F	24M/1F	24M/2F	Group	

Issue	Indicators	2011	2012	2013	Scope	Ambitions 2020 target
Employees by business	Employees in Cement	43,392	41,249	37,948	Cement	
	Employees in Aggregates and Concrete	23,242	21,780	25,009	A & C	
	Employees in other businesses	1,289	1,308	730	Gypsum	
Employees by region	Employees in Western Europe	12,202	11,448	14,431	Group	
	Employees in North America	9,604	8,821	7,752	Group	
	Employees in Central and Eastern Europe	7,464	7,041	6,086	Group	
	Employees in Middle East and Africa	20,376	19,644	19,055	Group	
	Employees in Latin America	2,535	2,609	2,269	Group	
	Employees in Asia	15,742	14,774	14,094	Group	
Employer of choice	Countries where Lafarge is recognized as "Employer of Choice"			3	Group	20
Training and skills development	Hours of training	1,611,339	1,577,585	1,557,717	Group	
	Hours of training for management staff (average per person)	41	39	37	Group	
	Hours of training for non-management staff (average per person)	29	33	36	Group	
	Managers who had an annual performance review (M/F)	91%	88%	91.9% 92.4%	Group	
	Non-managers who had an annual performance review (M/F)	62%	63%	73.7% 80.4%	Group	
	Key positions covered by certification programs			25%	Cement	75% (Group)
	For job families with certification programs, % of employees with a completed program for their position	N/A	N/A	35%	Cement	75% (Group)
	Diversity	Women in senior management positions	15.8%	16.4%	18.6%	Group
Entities with a recruitment and/ or career development plan aimed at a specific population		31%	45%	37%	Group	
Of which % of entities with a specific program for women		75%	76%	70%	Group	
Of which % of entities with a specific program for disabled workers		25%	33%	37%	Group	
Countries rated A or B according to Lafarge diversity maturity categorization criteria		N/A	N/A	52.5%	Group	75%
Working Hours	Employees working on (3) 8h shifts	15%	16%	14.1%	Group	
	Employees working on (2) 8h shifts	9.4%	8.2%	8.7%	Group	
Social dialogue	Entities having strike actions	9	4	6	Group	
	Countries where employees are covered by collective agreements	74%	78%	75.3%	Group	
	Total workforce represented in Health and Safety Committees	98%	99%	97.5%	Group	
<b>Governance</b>						
Governance	Countries that have implemented the Competition Compliance Program	96%	100%	100%	Group	
	Purchases from suppliers who have agreed to respect communities and workers' human rights	N/A	N/A	99%	Group	100%
	Number of suppliers assessed by third party on ESG issues	N/A	N/A	311	Group	
	Entities contracting security agencies to protect personnel and property	68	74	74	Group	
	% of which employ armed personnel	24	23	32	Group	

## BUILDING SUSTAINABLY

Issue	Key Performance Indicator	2011	2012	2013	Scope	Ambitions 2020 target
	Sales generated from sustainable products & services (billion euros)	2.3	2.2	1.8	Group	3 billion per year

## BUILDING THE CIRCULAR ECONOMY

CO <sub>2</sub> and Other Emissions		2011	2012	2013	Scope	Ambitions 2020 target
Carbon emissions	Total CO <sub>2</sub> emissions - gross (million tons)	96.5	96.7	92.5	Cement	
	Total CO <sub>2</sub> emissions - net (million tons)	93.7	93.8	89.4	Cement	
	Specific CO <sub>2</sub> emissions - gross (kg/ ton cementitious material)	610	603	597	Cement	-33% vs 1990
	Specific CO <sub>2</sub> emissions - net (kg/ ton cementitious material)	592	585	577	Cement	
	GHG emissions from energy purchased and consumed (scope 2) (million tons)	9.0	8.9	8.7	Group	
	GHG emissions from value chain (scope 3) (million tons) <sup>(2)</sup>	N/A	N/A	2.4	Group	
Other emissions	Total NO <sub>x</sub> emissions (ton/ year)	188,828	187,554	166,562	Cement	
	Specific NO <sub>x</sub> emissions (g/ ton clinker)	1,636	1,611	1,495	Cement	-25% vs 2010
	Total SO <sub>x</sub> emissions (ton/ year) <sup>(2)</sup>	49,404	41,076	44,622	Cement	
	Specific SO <sub>x</sub> emissions (g/ ton clinker)	428	353	400	Cement	-30% vs 2010
	Total dust emissions (ton/ year)	16,842	15,463	13,121	Cement	
	Specific dust emissions (g/ ton clinker) <sup>(2)</sup>	146	133	118	Cement	-50% vs 2010
	Mercury emissions (ton/ year)	3.8	3.8	3.5	Cement	
	Specific mercury emissions (mg/ t clinker)	33.0	32.7	31.7	Cement	-30% vs 2010
	Dioxin/Furan emissions (g TEQ/ year)	4.7	3.3	3.1	Cement	
	Specific dioxin/furan emissions (pg/ ton clinker)	40.4	28.1	27.4	Cement	
	VOC emissions (kt/ year)	4.5	3.8	3.8	Cement	
	Specific VOC emissions (g/ ton clinker)	39.0	32.8	34.0	Cement	
	Heavy metal emissions <sup>(3)</sup> ("HM1"): Cd+Ti (t/year)	4.06	4.26	3.93	Cement	
	Specific heavy metal emissions ("HM1"): Cd+Ti (mg/ t clinker)	35.2	36.6	35.3	Cement	
	Heavy metal emissions ("HM1"): Pb+As+Co+Ni+Sb+Cr+Cu+Mn+V (t/year)	124.15	115.3	110.3	Cement	
	Specific heavy metal emissions ("HM1"): Pb+As+Co+Ni+Sb+Cr+Cu+Mn+V (mg/ t clinker)	1,075	991	989	Cement	
	Clinker produced with monitoring of "HM1" emissions	44%	56%	57%	Cement	
	Clinker produced with monitoring of "HM2" emissions	45%	58%	58%	Cement	
	Clinker produced with monitoring of dust, SO <sub>2</sub> and NO <sub>x</sub> emissions	94%	97%	99%	Cement	
	Clinker produced with continuous monitoring of dust, SO <sub>2</sub> and NO <sub>x</sub> emissions	66%	71%	74%	Cement	

## Energy Consumption and Resource Management

Energy efficiency	Total energy consumption (PJ)	485.4	485.9	472.1	Group
	Direct energy consumption by primary energy source (million Teo)	10.27	10.32	9.99	Group
	Electricity purchased (GWh)	11,538	13,686	14,926	Group
	Specific heat consumption of clinker production (MJ/ ton clinker)	3,659	3,652	3,625	Cement
	Clinker Intensity	73.0%	72.6%	71.9%	Cement
Alternative fuels	Alternative fuels	12.8%	13.9%	15.8%	Cement
	Biomass fuel rate	4.7%	5.5%	6.3%	Cement

Issue	Key Performance Indicator	2011	2012	2013	Scope	Ambitions 2020 target
Materials	Quantity of quarried material (million tons)	373.9	375.1	429.1	Group	
	Alternative raw materials rate	8.24%	8.78%	8.36%	Group	
	Consumption of material (million tons)	415.3	420.9	468.2	Group	
Waste	Dust disposed on-site (kton)	556	557	479	Cement	
	Non hazardous waste recovered (kton)	221.4	352.9	356.3	Group	
	Non hazardous waste disposed (kton)	314.7	367.3	402.7	Group	
	Hazardous waste recovered (kton)	8.1	6.0	11.4	Group	
	Hazardous waste disposed (kton)	2.1	2.0	2.5	Group	

## Natural Resources

Biodiversity	Quarries with a rehabilitation plan in place	86.4%	84.6%	85.1%	Group	100%
	Quarries screened for international biodiversity sensitivity using IBAT data	97.2%	100%	100%	Group	
	Quarries with red listed species (from IUCN protected species list)	19%	17.8%	17%	Group	
	Quarries which operate within or adjacent to an internationally protected area	18.3%	18.5%	21.7%	Group	
	Quarries which operate within or adjacent to an internationally protected area with site biodiversity programs	49.2%	99.2%	100%	Group	
	Quarries which operate within or adjacent to a locally protected area	N/A	N/A	19.6%	Group	
	Quarries which operate within or adjacent to a locally protected area with site biodiversity programs	N/A	N/A	36.6%	Group	100% by 2015
	Total quarries with a biodiversity program	N/A	N/A	40%	Group	100%
Materiality	Environment capital expenditure (million euros)	73.6	64.1	64.4	Group	
	Environment operating expense (million euros)	N/A	138.5	108.7	Group	
Water <sup>(4)</sup>	Production in regions with (extreme) water scarcity	24.7%	20.3%	20%	Group	
	Total water withdrawal from ground water (million cubic meters)	41.7	40.9	46.9	Group	
	Total water withdrawal from open water (million cubic meters)	211.6	221.5	225.1	Group	
	Total water withdrawal from municipal supply (million cubic meters)	13.6	12.5	12.9	Group	
	Rainwater harvested (million cubic meters)	15.7	16.1	7.4	Group	
	Net water withdrawal (million cubic meters)	120.8	125.6	126.9	Group	
	Quantity of water consumed (million cubic meters)	81.78	82.56	100.30	Group	
	Sites equipped with a water recycling system	68.5%	69.7%	70.7%	Group	
Verification	Sites (in terms of revenues) audited as part of our Environmental Management System	84.6%	89.3%	94.4%	Group	

1. The 2013 data is taken from a survey of 147 cement plant managers and 144 area and regional managers for the A&C product line (these roles represent the target population for this topic).

The survey covered 1,023 sites and was completed by around 90% of respondents.

2. This figure accounts for 87% of our scope. It includes business travels for managers.

3. Except for mercury, heavy metal emissions are not included in the scope of verification.

4. Water consumption volumes break down into: 43.7 Mm<sup>3</sup> for cement and 56.6 Mm<sup>3</sup> for aggregates and concrete.

**Lafarge Group Communications, Sustainable Development & Public Affairs – Photo credits:** Cover: Central Park, New-York, (United States) © Getty Images / © Lafarge Media Library p.4: Safety technician at Cairo cement plant (Egypt) - Ignus Gerber (Photographer); Tree plantation to produce biofuel for the Vipingo cement plant (Kenya) – Olivier Coulange (Photographer); Lafarge employees in Canada volunteering on a Habitat for Humanity worksite; Trainees on the Hirfati course created by Lafarge in Algeria / p.4: slum (India) © REA / p.5: Charles Plumey-Faye (Photographer) / p.9: Peter Casamento (Photographer); Tucker Photography (Photographer) / p.11: Peter Casamento (Photographer); Ignus Gerber (Photographer) / p.12-13: G.Osodi - CAPA Pictures (Photographer) / p.14, p.16 and p.19: Ignus Gerber (Photographer) / p.21: G. Osodi - CAPA Pictures (Photographer) / p.22: Marko Bizarro (Photographer) / p.24-25: Agence Philippon-Kalt (Architect) Grégoire Kalt (Photographer) / p.26: Thomas Campagne (Photographer) / p.28: G. Osodi - CAPA Pictures (Photographer) / p.29: Portrait of Philippe Lévêque © REA / p.30: Green roof © Corbis - Patrick Strattner (Photographer) / p.30, p.32-33, p.34, p.37 and p.40: Ignus Gerber (Photographer) / p.31: Billy Milimbo (Architect, SSB specialist) / p.36: Techno Group (Production company) / Photographs of Stakeholder Panel members: Yves Chanoit (Photographer)

Printed by Baugé - Design, production and writing: **A&F&P** (RALDO13)

**LAFARGE**  
61, rue des Belles-Feuilles – BP 40  
75782 Paris Cedex 16 – France  
Tel: + 33 1 44 34 11 11  
Fax: + 33 1 44 34 12 00

**www.lafarge.com**  
sustainability@lafarge.com

