

10  
years

LAFARGE  
WWF

The partnership  
explained in 10 answers



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<p><b>BRUNO LAFONT,</b> CHAIRMAN AND CHIEF EXECUTIVE OFFICER, LAFARGE</p> <p>“I am convinced that our approach to sustainable development can be shared and that it must be constantly challenged and questioned.”</p>	<p><b>JIM LEAPE,</b> DIRECTOR GENERAL, WWF INTERNATIONAL</p> <p>“The fact that this partnership has lasted ten years is a clear indication that NGOs can work with the private sector, often over sensitive issues, rather than just calling for change from the sidelines.”</p>

### — GUIDING PRINCIPLES

Lafarge and WWF believe that corporate commitment is key to transforming markets and to promoting sector-wide shifts towards sustainable development. When they signed their first global Conservation Partnership in 2000, they shared a vision of a collaborative relationship, shaped by ongoing dialog and mutual trust, with WWF acting as a critical friend to help Lafarge progress towards jointly defined goals and lead the industry in the process.

### QUESTION

# 1

## MARCH 2000

— Lafarge and WWF sign a first 5-year agreement, focusing on climate change and biodiversity issues. Partnership renewals in 2005 and in 2009 have expanded to include persistent pollutants, water conservation, sustainable construction and the development of local initiatives.



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#### PARTNERSHIP TARGET AREAS

- Climate change: reduce Lafarge's global footprint in terms of greenhouse gas emissions
- Persistent pollutants: improve Lafarge's knowledge, understanding and management of persistent pollutants
- Water management: reduce Lafarge's water footprint across its global operations
- Biodiversity: develop a comprehensive biodiversity plan for all Lafarge's quarries including an extensive pilot testing phase
- Sustainable construction: contribute to Lafarge's transformation into a provider of sustainable construction solutions.

#### — INITIAL FOCUS

Biodiversity and climate change were the partnership's earliest focus areas. An ambitious ten-year objective was jointly set to tackle Lafarge's CO<sub>2</sub> emissions. In parallel, the partners developed a biodiversity index to apply to Lafarge quarry sites, as well as a quarry rehabilitation management system.

#### — AN EXPANDING FIELD OF ACTION

The early partnership focus has expanded to include water management, the reduction of persistent pollutants emissions, and the development of sustainable building materials and systems. At the local level, Lafarge-WWF initiatives, built around one or several of these areas, are supported by the partnership to benefit nearby communities and beyond.

#### — POSITIVE RESULTS

WWF and Lafarge have clearly demonstrated that a corporation and an NGO can work together to achieve common goals, for example in the field of biodiversity and climate change. They have jointly developed indicators and methodologies to reduce the Group's environmental footprint, creating a working model for the industry and for businesses everywhere. This partnership has been a driving force for the entire building materials sector, and the whole industry has now set more targets to reduce its environmental footprint. Read on to learn more about their achievements.

## ► How do two such unlikely partners work together effectively?

By looking beyond their differences to understand each other's motivations and constraints, and by agreeing to disagree on certain issues. Open-minded debate, mutual trust and transparency have been the key to the success of the partnership. Acting as a critical friend, WWF brings its environmental expertise helping Lafarge to progress in its sustainability targets.

**JEAN-PAUL JEANRENAUD,**  
WWF INTERNATIONAL  
CORPORATE RELATIONS  
DIRECTOR

"We are very proud to have had such a long standing partnership with Lafarge and it is true to say that both organizations have learned a lot from each other. Throughout the partnership, as with every relationship, there have been periods of

difficulty and areas of disagreement. We have however been able to overcome these through mutual respect, by being transparent and willing to discuss, and by taking on the role of 'critical friend'. The result is a strong partnership that has challenged Lafarge to push the boundaries and take a pioneering lead within the industry."

QUESTION

2



## QUESTION

## 3

## ► What has the partnership achieved?

### — COMMITMENTS

The partnership was formed at a global level, but Lafarge Business Units and their WWF counterparts own it on the ground, contributing to group-wide goals and leading ambitious local initiatives.

Lafarge is also a member of WWF's Climate Savers and the Water Footprint Network, as well as leading the industry as a founder of the Cement Sustainability Initiative.

### — KEY PERFORMANCE INDICATORS

Targets and goals increase awareness and accountability. Jointly identified environmental performance indicators have been developed to monitor and measure progress in each of the partnership target areas.

### — REPORTING

Reviewed by the stakeholder panel of which WWF is a member, and audited by a third party, Lafarge was the first in its sector to publish a yearly Sustainability Report in 2001.

## CLIMATE SAVERS

— 2001: Lafarge joins WWF's Climate Savers and commits to significantly reducing CO<sub>2</sub> emissions by 2010.

**KAREEN RISPAL**, SENIOR VP SUSTAINABLE DEVELOPMENT AND PUBLIC AFFAIRS, LAFARGE

"Originally, our idea was to move forward on biodiversity and climate change with this partnership. Having WWF for a partner has made us much more ambitious. Companies can be cautious, and at times we didn't know how we could possibly reach the partnership goals, but WWF has guided our learning, helping us climb ever

higher. We are now on the other side of caution: convincing our teams, rallying them around each new partnership challenge. But everyone has embraced the commitment at Lafarge. There is a sense of pride in our association with WWF that people take home after a long day's work. It has been very challenging and continues to demand huge efforts on our part, but we have earned that pride and the legitimacy that comes with a sense of real accomplishment."

## ► Water conservation is one of the partnership's newest priorities: how can Lafarge make a difference?

Only 0.5% of the planet's water resource is freshwater and 60% of that is concentrated in nine countries. A growing world population and increasing human activity accentuate the imbalance and affect water quality. Industry accounts for 22% of total freshwater use.

### — AN AMBITIOUS GOAL FOR A PRIORITY COMMITMENT

As a member of the Water Footprint Network since 2009, Lafarge is engaged in the process of identifying and addressing the overall amount and impact of its activities on water resources: its water footprint. The partnership's goal is to minimize Lafarge's impact on water resource by limiting ground and surface water withdrawal, for example through the use of recycling.

### — EARLY RETURNS

Selected for their locations in water-scarce areas, four Lafarge pilot sites in the United Kingdom, Romania, Egypt and Spain analyzed their water footprint and initiated action plans in 2010. Guidelines based on their findings are being applied at 10% of our sites which are under similar water stress. Increased water recycling and rainwater recovery enabled Lafarge Aggregates & Concrete Brazil to reduce water consumption by 24%, surpassing their -10% target for 2010. Thirteen new pilot sites will further define Lafarge's water strategy in 2011. Lafarge and WWF will also design programs to help local communities access and better conserve their water resources by actively engaging in water stewardship.

## QUESTION

## 4



# ROMANIA

Matasaru quarry  
rehabilitation  
2010



## ON THE GROUND

### ► Objectives

- Meet the challenge of rehabilitating an aggregates quarry partly situated on the Arges River floodplains.
- Create an educational environment.
- Contribute to the improvement of water quality.

### ► Solutions

Implement a plan to specifically benefit the Arges River - one of Romania's most impacted waterways. Develop joint actions to improve the biodiversity of this Natura 2000-classified site.

Connect two lakes to enable frogs and other aquatic species to populate new habitats, create a vegetation belt with native plants, and keep waste-dumping and overfishing in check.

### ► Results

Community feedback on the project has been extremely positive. Rehabilitation of a wide range of plants and animals is already in progress. The wetlands are expected to have a purifying effect on the river. The three-year mark will see the full benefits of this exciting project.



QUESTION

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## ► Why tackle CO<sub>2</sub> emissions under this partnership?

### — CO<sub>2</sub> REDUCTION OBJECTIVES

In 2001, Lafarge and WWF joined forces to mitigate climate change, and tackle the carbon emissions of the Group's cement plants worldwide. Cement manufacturing, an energy-intensive process, accounts for 98% of Lafarge's CO<sub>2</sub> emissions. An ambitious ten-year commitment was made in 2001 to reduce emissions by 20% below 1990 levels per ton of cement produced worldwide.

### — GLOBAL PERSPECTIVE

Efforts to mitigate climate change can make a real impact if businesses and industries everywhere, in both the developed and emerging markets, take action. Through the partnership and the Cement Sustainability Initiative, Lafarge is leading the industry towards a low-carbon economy. This includes key achievements such as the first five Chinese cement makers joining the Cement Sustainability Initiative last year.

### — MAJOR ADVANCES

By modernizing plants to improve energy efficiency, replacing fossil fuels with renewable biomass and alternative fuels, and using by-product additives like slag and fly-ash to bring down energy consumption in the cement-making process, Lafarge exceeded its 2010 goal in 2009, one year ahead of schedule. At year-end 2010, emissions across the Group had been reduced by 21.7% per ton of cement produced compared to 1990. Lafarge's efforts are ongoing, expanding in scope and invested in the long-term. Second generation targets have been set.

TARGET MET IN 2010

-21.7%

of net CO<sub>2</sub> emissions per ton of cement worldwide, compared to 1990

## ► What is the partnership's approach to sustainable construction?

Buildings are responsible for 40% of total CO<sub>2</sub> emissions in the course of their lifetime. Sustainable construction means reducing that impact. The partnership is contributing to innovative low-carbon, energy-efficient building materials and solutions that can be re-used or recycled.

### — CLIMATE CHANGE SECOND GENERATION COMMITMENTS

Our 2020 commitments are now to reduce CO<sub>2</sub> emissions per ton of cement by 33% compared to 1990; develop sustainable construction initiatives with 10 innovative product ranges and contribution to the design of 500 sustainable construction projects by 2015; and promote national and international policies to manage CO<sub>2</sub> mitigation.

**VINCENT MAGES,**  
VICE-PRESIDENT CLIMATE  
CHANGE INITIATIVES,  
LAFARGE

"Having achieved the initial partnership's targets, Lafarge and WWF have agreed to a new set of challenging objectives. Our second generation targets will make a positive contribution to buildings' energy efficiency and sustainability with innovative products.

This is why we devote 50% of our research to sustainable building products and systems development. At the ten year mark, this partnership is not just about percentages, it's also about what makes sense and what actions we can identify to enlarge our scope to benefit society. The partnership evolves along with our knowledge, and society's awareness of climate change. Expectations are high, and so are our ambitions."

QUESTION

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## CANADA

Lafarge Cement Plant,  
Bath, Ontario  
2010



### ► Objectives

— Study and develop the use of home grown biomass to reduce carbon emissions in cement manufacturing process.

### ► Solutions

University researchers planted hybrid poplar trees and other crops near the plant in 2010, testing them as potential renewable biomass energy sources. The Bath plant also worked with local farmers to raise “fuel” crops on idle Lafarge land (“The Energy Farm”) and observe effects of their cultivation on water use and biodiversity. Nearly 1,000 bales of fuel crops have been harvested for full-scale testing of their impact on CO<sub>2</sub> and persistent pollutant emissions.

### ► Results

The development of a first roadmap for implementing renewable, economically viable, locally grown, biofuels across the company. Also a foundation for forming WWF Canada’s local and federal recommendations and policy incentives for sustainable development of bio-energy production.



## QUESTION

## 7

## ► How are WWF and Lafarge working on biodiversity?

### — BEHIND THE COMMITMENT

Mineral raw materials are basic building ingredients, but their extraction is disruptive to biodiversity. A former quarry, however, often offers opportunities to enhance biodiversity values: operations modify the terrain, sometimes creating small cliffs, arid areas, ponds or basins. With roughly 750 quarry sites in operation around the world, their planned management and rehabilitation is a key partnership priority. This means re-dedicating rehabilitated quarries to fragile ecosystems such as wetlands, as new homes for rare and endangered species, and giving them a role that will benefit the community.

### — WWF'S EXPERTISE

WWF's global and local knowledge has been crucial in the development of a framework for managing biodiversity at every stage of a quarry's lifespan. An early step in the partnership was to measure the scientific value of several quarry sites and assess management and rehabilitation efficiency, which resulted in 2001 in the development of a biodiversity index at the Mannersdorf quarry in Austria. Launched in 2009, a four-stage biodiversity management system (analysis, scheduling, action, review) was designed by the partners to ensure that all plans meet the same standards. To this effect, a WWF-approved screening process has been implemented to reference indigenous plant and animal

### DAN WARD, WWF BIODIVERSITY COORDINATOR

"A lot of progress has been made, but much remains to be done. A biodiversity guidance document to help reduce the negative impacts of Lafarge's site operations is being developed. These include quarry rehabilitation and efforts to reduce any local impacts from a site, enabling

ecosystems to flourish and render valuable services. Ideally, the rehabilitation of a quarry can be performed "as you go", restricting quarry operations to a small area at a time, and transplanting species from an operational area to an area that has just been worked. Impacts are thus reduced and rehabilitation is made easier and more effective."



species, and identify sites which are home to species at risk and require a specific biodiversity plan.

### — RESULTS

Red-listed\* plants and birds have found sanctuaries at Austria's Mannersdorf quarry and at the Yepes-Ciruelos site in Spain, newly created wetlands are purifying river water in Romania and the value of ecosystem services was surveyed at the Presque Isle quarry in the USA. Rehabilitation plans are now in place for nearly 84.5% of all operated quarries. Specific biodiversity roadmaps are factored into the rehabilitation of 47% of the sensitive sites where rare species are at risk, with the partnership aiming for biodiversity plans for all sites by 2012. And for each new quarry, the next stage is planned before operations begin. Finally, WWF is also helping Lafarge to expand its biodiversity work beyond quarries to also cover plants, offices and other sites.

\* Red list species are recognised by IUCN as threatened species with extinction.

### TARGETS MET IN 2010

**94%** of quarries screened according to criteria validated by WWF International

**84.5%** of quarries have a rehabilitation plan

**47%** of sensitive zone quarries have a biodiversity plan

### WHAT IS BIODIVERSITY?

— **Definition:** Biodiversity is nature. It encompasses all forms of life, from microorganisms to plants and animals whose survival and reproduction depend upon a range of interactions known collectively as an ecosystem.

— **Issues:** Quarry extraction disturbs plants and wildlife during operations.

— **Stakeholders:** In addition to Lafarge and WWF, terrain specialists, academics and local stakeholders.

## SPAIN

Yepes-Ciruelos (Toledo)  
quarry rehabilitation,  
2008



### ON THE GROUND

#### ► Objectives

- Accelerate the return of native plant and animal species to the restored quarry site.
- Promote environmental awareness.
- Encourage recreational use by employees and the public.

#### ► Solutions

Observe and monitor surrounding habitats and species, evaluate reintroduction potential and work closely with local specialists.

#### ► Results

An example of careful restoration of a high-biodiversity area, Yepes-Ciruelos is now a habitat for protected Iberian Peninsula species that are successfully colonizing the site, thanks to the focus of local Lafarge and WWF offices, the botanical department of the University of Castilla-La Mancha and others.

A nature trail through the quarry, hiking and cycling paths with camouflaged observation points, an educational center, and above all, the return of pollinating honeybees, complete this success story.



QUESTION

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## ► How can Lafarge reduce persistent pollutants emissions?

As their name suggests, persistent pollutants are long-lasting chemical substances that do not break down naturally in the environment. In the cement industry, they can be trace elements in raw materials, or a side effect of high temperature combustion in kilns, where ingredients are fired to make cement.

### — MEASURES TAKEN

Mercury, dioxins and furans are the key persistent pollutants targeted for reduction by the Lafarge-WWF agreement. An extensive survey, completed in 2010, has measured all operating kilns for persistent pollutants. The data collected is enabling the partners to develop standard practices to ensure that they are well managed at all plants. Action plans are being implemented for the highest emitters.

## ► What is the vision for the future of the partnership?

Working side by side with business was ground-breaking for an NGO at the time of the first partnership signing. In ten years, the partnership expanded its initial climate change and biodiversity commitments to embrace new, bold ambitions at each renewal, while building on the strong roots of the commitments made in 2001.

### — BUILDING ON OUR FOUNDATIONS

The same pioneering spirit is now needed to establish new goals for Lafarge that will drive the sector and the industry as a whole. With significant results achieved in a number of different areas of work, the partners are ready to build on these foundations.

Preserving, fostering, enriching the biodiversity of the planet for the benefit of its future citizens and the communities of today is a key commitment of the WWF-Lafarge collaboration. But, as society evolves, so do partnership's objectives. So while reducing Lafarge's environmental impact remains the core of the collaboration, it will also need to address new challenges such as the footprint of Lafarge's products.

### — ADDRESSING NEW CHALLENGES

How? For WWF and Lafarge, it means shifting from product to service, moving away from just manufacturing products to becoming a provider of sustainable construction solutions and systems.

Our joint work on water, climate, persistent pollutants and biodiversity, as well as sustainable construction are key pillars to the success of any strong future partnership. This is where together we can make a significant contribution to creating a sustainable world.

QUESTION

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# CHINA

Chongqing City  
2011



## ► Objectives

- Promote urban management of solid waste recycling.
- Enhance capacity of city planners and decision makers to develop and implement low carbon policies via sustainable building and hotel initiatives.

## ► Solutions

Gather international best practices; work with local authorities and conservation groups to adapt, develop and implement methods to establish Chongqing as a pilot site for waste recycling. With the Lafarge plant as a role model, develop the use of solid waste as an alternative fuel for cement manufacturing. With at least two pilot buildings in Chongqing, demonstrate and develop a sustainable urban construction model for China. Organize low carbon city workshops in Chongqing and other key cities for local decision makers.

## ► Expected results

A solid waste-recycling management model for urban China, and a new generation of decision makers committed to the integration of low carbon goals into public and private building programs.



## QUESTION

## 10

## ► How can local players or employees get involved in the partnership?

One of the international partnership's priorities is to encourage and support on-the-ground initiatives. Lafarge Business Units are invited to submit project proposals for financial backing, provided that they directly relate to partnership's priorities and are drawn up with the participation of local WWF offices. Not only do the projects have direct local benefits, they are also great case studies for Lafarge and beyond.

### — INSPIRATION

Inspiring examples include a unique biodiversity awareness project, involving the extensive restoration of the Mannersdorf quarry. Today, among the 405 plant varieties now thriving onsite, 34% of **Austria's** endangered species are represented.

**In Kenya**, an initiative focused on protecting and conserving ecosystems, restoring the Shimba Hills forest and cultivating renewable biofuels.

**In Canada**, the partnership helped build a railway line to reduce transport disturbance. The initiative also contributed to creating a mapping program for the protection of mountain bears, wolves and cougars.

**In Northern Ireland**, a massive rehabilitation plan is underway to include the construction of an eco-village for 450 families.

**In the Philippines**, a 'green' building rating system spotlighting the lifecycle of blended cements has been developed to guide sustainable construction policies.

The creativity, focus and commitment of local teams is behind the success of every initiative.

### — BENEFITS

Running a Lafarge-WWF initiative offers an ideal opportunity to respond to the needs of local stakeholders. It is a great tool for setting Lafarge Principles of Action in motion. Particularly illustrating Business Units' environmental commitment, it is one of the most effective ways of raising internal awareness and involvement.

The Lafarge Business Units and WWF national offices share the management of each local partnership on the ground, with the international partnership providing guidance, follow-up, and financial support.

### LOCAL INITIATIVES

- Austria: quarry rehabilitation and creation of the Biodiversity Index.
- Kenya: forest conservation and development of biofuels.
- Canada: protection of the region's large predators.
- Spain: ecological quarry rehabilitation.
- Romania: biodiversity and quarry rehabilitation.
- USA: biodiversity and ecosystem valuation.
- Northern Ireland: quarry rehabilitation and development of a sustainable housing project.
- Philippines: sustainable construction and life cycle of blended cements assessment.
- France: quarries biodiversity valuation and management indicator implementation.
- Canada: sustainable implementation of renewable biomass fuels.
- China: low carbon buildings, waste recycling management in Chongqing city.

### CONTACTS

— Interested in developing a local partnership? All the information you need is on either the Lafarge or WWF intranet sites. Alternatively, contact [krispal@lafarge.com](mailto:krispal@lafarge.com) and/or [jmeunier@wwfint.org](mailto:jmeunier@wwfint.org).



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