

An aerial photograph of a vibrant green park. Numerous people are scattered across the grass, some sitting in groups, others walking. The park features winding paths, colorful flower beds with pink and purple blooms, and a few trees on the right side. The overall scene is bright and lively, suggesting a pleasant day outdoors.

# — Greener world

Building does everything from meeting basic human needs to enabling social progress to giving shape to people's aspirations. Our purpose-driven strategy aims to grow our business while addressing key challenges such as climate change, urbanization and population growth.





Jubilee Gardens –  
London, UK

Overview

Healthy communities

Resilient business

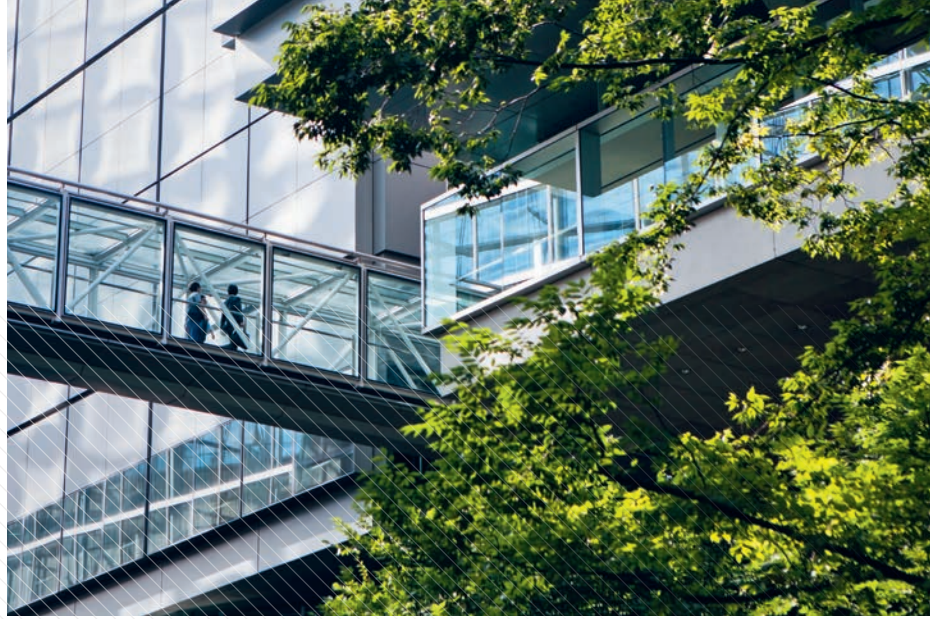
Greener world

Summary financial information









# LafargeHolcim is committed to Net Zero.



# — Our net zero pledge

Reducing CO<sub>2</sub> emissions is key for us to continue creating long-term value. Our cement is one of the most carbon-efficient in our sector. Our scope 1 and scope 2 emissions per ton of product are 28% lower than in 1990.



To continue making progress, we became the first global building materials company to sign the UNGC's "Business Ambition for 1.5°C" initiative with intermediate targets approved by the Science-Based Targets initiative (SBTi) in alignment with the net zero pathway. In addition, we have partnered with SBTi to define our net zero roadmap beyond 2030.

On our journey to net zero we set the most ambitious 2030 climate goals in our industry and are further lowering our target for scope 1 CO<sub>2</sub> intensity in cement to 475kg net CO<sub>2</sub> per ton of cementitious material (net CO<sub>2</sub>/t.cem.), and will reduce our scope 2 emissions (see below) by 65% per ton of cementitious material from a 2018 base year. In addition, we will reduce our transportation and fuel-related emissions ('scope 3') by 20%.

We will offer more low-carbon and carbon-neutral products, such as ECOPact and Susteno, and develop new ones. With 46 million tons of waste recycled in 2020, we are already one of the world's largest waste management companies. By 2030 we may well be the largest, as we have also committed to recycling 100 million tons of waste and by-products for energy and raw materials (see page 64).

## — Reducing scope 2 emissions Accelerating renewable energy use

As part of our net zero roadmap, we have committed to not only reduce our direct emissions, but to lower the indirect emissions from the electricity we use ('scope 2' emissions) by 65% by 2030 compared to 2018.

To reach this objective we're partnering with power producers worldwide to install renewable energy facilities across our sites and

increase our share of renewable energy from the grid. For example, we've installed wind turbines at our Paulding plant in the United States, thereby eliminating at least 9,000 tons of CO<sub>2</sub> annually. In Argentina, over 30% of our electricity comes from renewable sources. Most recently in Leffe, Belgium, we're installing a wind power plant that will meet more than 75% of the quarry's electricity needs.

Another key lever to reduce indirect emissions is waste heat recovery. This approach takes thermal heat to produce electricity. In 2020 we announced an investment in India of CHF 100 million in waste heat recovery systems across six sites, doubling the number of waste heat recovery systems we operate.



# The time for climate action is now

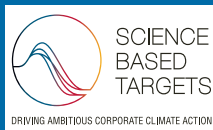
We've accelerated our impact in 2020

## Net zero pledge



Industry-leading 2030 climate targets, validated by SBTi.

Setting the first net zero roadmap in the cement sector, in partnership with SBTi.



## Green building solutions

ECOPact

Global launch of ECOPact, the world's broadest range of green concrete, followed by EcoLabel, identifying the environmental benefits of our green products.



## Circular economy

Recycled

46m

tons of materials across our business, using construction and demolition waste wherever we can.

## Green energy

160 GWh

Partnering around the world to install renewable energy facilities to power our sites, from Paulding, Ohio USA to Leffe, Belgium.

## Green finance

Reached CHF

6bn

in ESG-related funding agreements.

## Global recognition

CDP

A List

for climate change, putting us among the world's top companies driving the climate agenda.



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# — Levers to reduce carbon

To reach our 2030 targets we will invest in proven technologies that leverage our expertise, especially reducing our clinker factor and using alternative fuels (or increasing our 'thermal substitution rate').

Our experience demonstrates that these projects produce a good return on investment. We are scaling up and accelerating those efforts.

## Reducing clinker factor

It is during the production of clinker, the main component of cement, that produces the most CO<sub>2</sub> emissions. The majority of these emissions result from the chemical reaction that occurs when the raw material (limestone) calcinates into a clinker in the kiln.

This decarbonation process is our largest source of CO<sub>2</sub> emissions, accounting for 47% of our total CO<sub>2</sub> footprint. We aim to reduce our clinker content from 70.6% currently to 68% by 2030.

Replacing the clinker in our final cement products with alternative mineral components reduces the carbon intensity. The main reduction will not only come from recycling construction and demolition waste or by-products from other industries but also by investing in calcined clay facilities and developing novel cements with new binders. We expect calcined clay to gradually replace traditional mineral components such as slag or fly-ash.

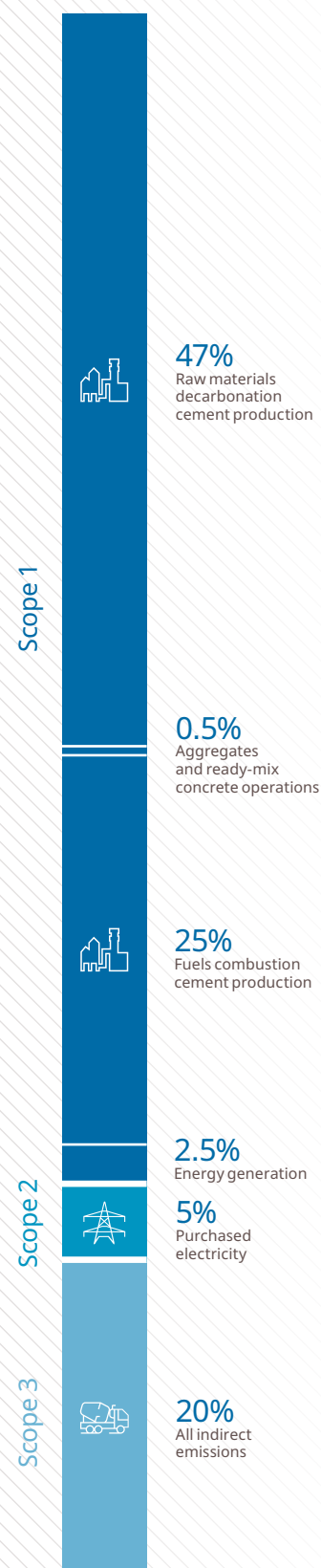




## Reducing our carbon footprint



## Our CO<sub>2</sub> footprint



### Increasing the use of recycled fuels

Taking a circular approach, we will reduce the carbon intensity of our cement by substituting fossil fuels with pretreated non-recyclable and biomass waste fuels to operate our cement kilns. Preparing, recovering and recycling fuels and materials in our processes allows us to divert waste from incineration or landfill and improve the waste management hierarchy at local level.

To increase this “thermal substitution rate” (TSR) we will be investing in co-processing facilities and process improvements. We aim to increase our TSR from 20.9% currently to 37% by 2030.

### Alternative raw materials

The use of alternative sources of materials is a key lever to further reduce our CO<sub>2</sub> emissions. Waste materials and by-products from other industries can be used to replace some of the limestone in the production process. These materials can include recycled “fines” from demolition waste, air-cooled slag and

waste lime. We are working with innovative companies to keep on raising the standards and developing new alternative material streams.

### Carbon capture, usage and storage (CCUS)

In addition to our ongoing activities to reduce CO<sub>2</sub> emissions, net zero carbon cement will require effective carbon capture and usage and storage (CCUS). We are currently piloting over twenty CCUS projects. In 2020 alone we announced four pilot projects. Over the next ten years we will explore CCUS technologies to reach the scalable and cost effective solutions the industry needs to meet the net zero ambition. Our objective is to develop a handful of solutions for use and storage that can be combined in different ways and environments. However, no single solution will be perfectly scalable as different environments present different conditions, from local partners to geological conditions that are favorable for storage.

Scope 1 emissions in cement operations account for 75% of LafargeHolcim's carbon footprint. Scope 2 is part of our pledge commitment. Scope 3 emissions, even if only a fifth of overall emissions, are high enough to require our attention. We will therefore focus on reducing these emissions by focusing mainly on outbound logistics and fuel.



# Green concrete for green leaders

St.Gallen, Switzerland – Ernst Risch,  
HSG Foundation Managing Director

- Switzerland's University of St.Gallen (HSG) is one of the most innovative and prestigious universities in the world. When it came to planning the new HSG Learning Center, it was clear that the building had to embody that same spirit.

Sou Fujimoto Architects from Tokyo/Paris were chosen by the HSG Foundation to help achieve this synthesis of old and new. The final design consists of multiple cubes on a grid, with a total of 7,000 m<sup>2</sup> of floor space. The structure of the building is designed to enable the layout of the rooms to be changed repeatedly and to establish a dialogue with the historical campus of the HSG.

With its refined architectural design, numerous exposed concrete surfaces and focus on environmental aspects, the building

materials used for the project had also to represent the latest in sustainability and innovation.

To complete the project, Holcim Switzerland was chosen to deliver concrete that is 100% carbon neutral. Evopact is part of LafargeHolcim's global ECOPact product line, the industry's broadest range of green concrete, delivering high-performing, sustainable and circular benefits (see following page).

**"We are driving the transformation to a circular economy together with the construction sector."**

**Roger Dällenbach**  
Regional Manager,  
Holcim Switzerland



# +14

Markets offering ECOPact green concrete since 2020

## ECOPact

The Green Concrete

### — Green concrete goes global ECOPact

In 2020, we introduced ECOPact, the industry's broadest range of green concrete, delivering high-performing, sustainable and circular benefits. After a successful market adoption in Germany and Switzerland, ECOPact is now available across 14 markets including the US, the UK, Canada, India and Latin America. Further rollouts are scheduled for other markets worldwide in the coming months. This introduction is an essential component of our strategy to advance the transition towards low-carbon and circular construction.

With ECOPact, the concrete used in the HSG Learning Centre (left), we have applied a range of cutting-edge techniques.

"With ECOPact concretes we close the building material cycle,

conserve natural resources and save CO<sub>2</sub>," explains Roger Dällenbach, Regional Manager at Holcim Switzerland. The innovative concrete replaces natural gravel with recycled aggregates from the region. It also contains Susteno, Europe's first and only resource-saving cement in which mixed granulate from demolition sites is used as a grinding additive. This enables Holcim Switzerland to completely close the building materials cycle, as this fine material cannot be recycled in concrete production and is normally landfilled.

An ever-increasing share of our net sales come from sustainable solutions. Expanding that range of products and solutions is part of our 2030 commitment as we continue our net zero journey.

Lyon, France –  
LafargeHolcim  
Research Center



# — At the forefront of green building solutions

Concrete is the material of choice for a net zero future. It is locally sourced, safe, durable, versatile and affordable. It enables great aesthetics, comfort and energy efficiency. With the global launch of ECOPact (see page 61) and as part of our pledge toward net zero, we are on our way to making it carbon neutral.

Bern, Switzerland –  
Paul Klee Museum





## Global water risk map

### Overall Water Risk

- Extremely high
- High
- Medium-high
- Low – Medium
- Low

Source: WRI Aqueduct (aqueduct.wri.org) accessed on 26 February 2020.

Since buildings account for more than one-third of the world's carbon emissions, we can only be part of the solution. We are therefore expanding our offer of green products worldwide as part of our net zero journey.

In 2020 we gave a special push to green building with our EcoLabel, which transparently brands all cement and concrete with at least 30% lower CO<sub>2</sub> footprint compared to local industry standard or 20% recycled content. Recycled materials such as Aggneo, our range of high-quality aggregates processed from recycled concrete, help make it circular. Materials like Airium improve energy efficiency. Services such as Lafarge360, which help builders measure the CO<sub>2</sub> impact of different material choices, promote sustainable design and building solutions.

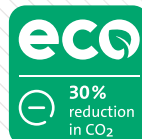
To keep a full pipeline of sustainable solutions, our Innovation Center in Lyon, France dedicates over 50% of its resources to green construction and over 40% of its patents are in this area.

We also tap into our global network of external experts, beginning with Maqer, our open innovation platform. Maqer has assessed over 1,200 startups, many of which are developing green building solutions. In nearly every country we're leveraging these startup solutions in projects ranging from collecting unrecyclable plastic for co-processing in manufacturing to sourcing trucking services for greener, more efficient logistics. We also collaborate actively with 40 leading university departments around the world in fields ranging from materials science to civil engineering to sustainable construction.

## Our environmental commitment Focusing for impact

Currently, 23% of our sites are located in the medium to high water risk areas. As water is a local problem, it is key to tailor our solutions to local conditions. In our own operations we improve our efficiency by reducing leakages and optimizing our processes, including improving measuring and estimation methodologies. When possible, we use non-freshwater sources. In some countries, for example, we use harvested rainwater, while in others we use sea or estuary water.

Another critical environmental priority for us is biodiversity. To minimize any harm we may cause to biodiversity, we have a mandatory Quarry Rehabilitation and Biodiversity Directive, a framework for managing risks and protecting and enhancing biodiversity. Its requirements go beyond local legal compliance and include measures respecting the mitigation hierarchy and a Biodiversity Management Plan (BMP) for sites assessed as having high biodiversity value. By the end of 2020, 86% of our quarry sites had rehabilitation plans in place and 93% of quarries with high biodiversity value have a BMP in place.





# — Driving a circular economy: a world leader in recycling

Albox, Spain –  
Geocycle platform

The world throws away more waste than ever before. We're helping to change that.

## Other circularity initiatives include:

- Improving building and operational efficiency, especially through innovation and digitalization (see page 46)
- Increasing alternative fuel and raw material use (see page 58)
- Substituting clinker with waste-based mineral components (see page 58)

We're already one of the largest recycling companies in the world. Now we plan to double the amount of recycled material we use in less than ten years, preserving one billion tons of virgin resources by 2030.

Managing the huge quantities of waste humanity produces each year is no small problem. According to the World Bank, the amount of construction and demolition waste (CDW) produced every year will increase from 1.3 billion tons to 2.2 billion tons by 2025. This is on top of sharp rises in other types of waste, particularly municipal solid waste (MSW).

We're committed to tackling these challenges. In 2020 we recycled 46 million tons of material across our business, preventing much of this from being landfilled. Our ambition is to become a 100-million ton recycling company by 2030 with a focus on creating a totally circular construction sector.

## Rethinking waste

At our Geocycle Recycling Center at the Retznei cement plant in Austria, for example, we aim to close the construction loop. Construction demolition waste is collected and transported to the plant, for which we offer small- and medium-scale demolition and construction-waste container services. This shows this plant is ahead of the game as it also uses close to 100% alternative waste derived fuel.

Recycled concrete, asphalt and glass can be used as an artificial aggregate base material in road construction. Crushed recycled concrete can also be used to replace some of the coarse aggregate in ready-mix concrete (RMX). We have developed a network of partners to close the construction loop. For example our site Saint Fons in France has been selling recycled aggregates since 2016 and giving construction and demolition waste a new life in concrete and other products.



We are also a key partner in plastic neutrality with PlaNet, a program that supports companies to recycle their plastic waste. The recyclable plastic is extracted and the non-recyclable plastic is used as a source of energy.

### Helping other industries

We have a long history of working with other industries to help them deal with their waste – either by co-processing their waste in our cement kiln as alternative resources or by co-grinding with clinker to produce blended cement.

Co-processing of waste in cement kilns has a number of advantages over traditional waste management solutions.

The high temperatures and long residence time in a cement kiln means that the waste is completely decomposed, while it also enables any mineral and energy value contained in the waste to be recycled and recovered. Eleven percent of the waste we recycled was co-processed as alternative fuel.

### Meeting net zero

This has a big impact on CO<sub>2</sub> emissions. We co-processed 5.2 million tons of waste as fuels in 2020, saving 5.1 million tons of CO<sub>2</sub> emissions and providing 21% of the thermal energy needed by our plants. For this reason co-processing is an integral pillar of our net zero pledge.

## — Building smarter Doing more with less

At the project in St. Gallen (p. 60) we're casting around 900 to 1,200 hollow bodies per floor directly into the ceilings, reducing mass by around 17 percent and making the building more earthquake-resistant. Each hollow body holds around 13 liters. This means that 13–15m<sup>3</sup> of concrete can be saved per stage.

