BUILDING A GREENER WORLD

Striatus bridge in Venice, Italy, designed by ETH-Block Research Group and Zaha Hadid Architects. Made possible by Holcim and its proprietary TectorPrint 3D printing ink.

"If it's not sustainably designed, it's not designed. You can do a lot to reach net zero with good design."

DEBORAH WEINTRAUB
Chief Deputy City Engineer, City of Los Angeles

DECARBONIZING THE BUILT ENVIRONMENT

We are working towards a net-zero built environment, driving circular construction to reduce, reuse and recycle materials wherever we can. With the construction sector representing 38% of the world's global CO_2 emissions, we have an essential role to play across the entire building lifecycle.

UPSTREAM

SUPPLIERS

FUEL

CONSTRUCTION PHASE

REDUCING INPUT EMISSIONS

Holcim Green Building Materials

ECOPact
ECOPlanet

Holcim Smart Design Building more with less

> Reducing Buildings' footprint

BUILDINGS ACCOUNT FOR

38% of the world's CO_2 emissions

30%

of which are linked to building materials

BUILDINGS IN USE

REDUCING OPERATIONAL EMISSIONS

Holcim Building Solutions
From energy-efficiency to renovation
> Making buildings last

Firestone
AIRIUM

DEMOLITION AND RECYCLING

DRIVING CIRCULAR CONSTRUCTION

Recycling CDW to build new from the old
> Making concrete infinitely recyclable

Susteno

70%
of which come from buildings in use

FOUR LEVERS TO GREEN AND CIRCULAR CONSTRUCTION

Climate action is at the heart of our strategy. We are working on four critical growth levers to accelerate the transition to net zero.

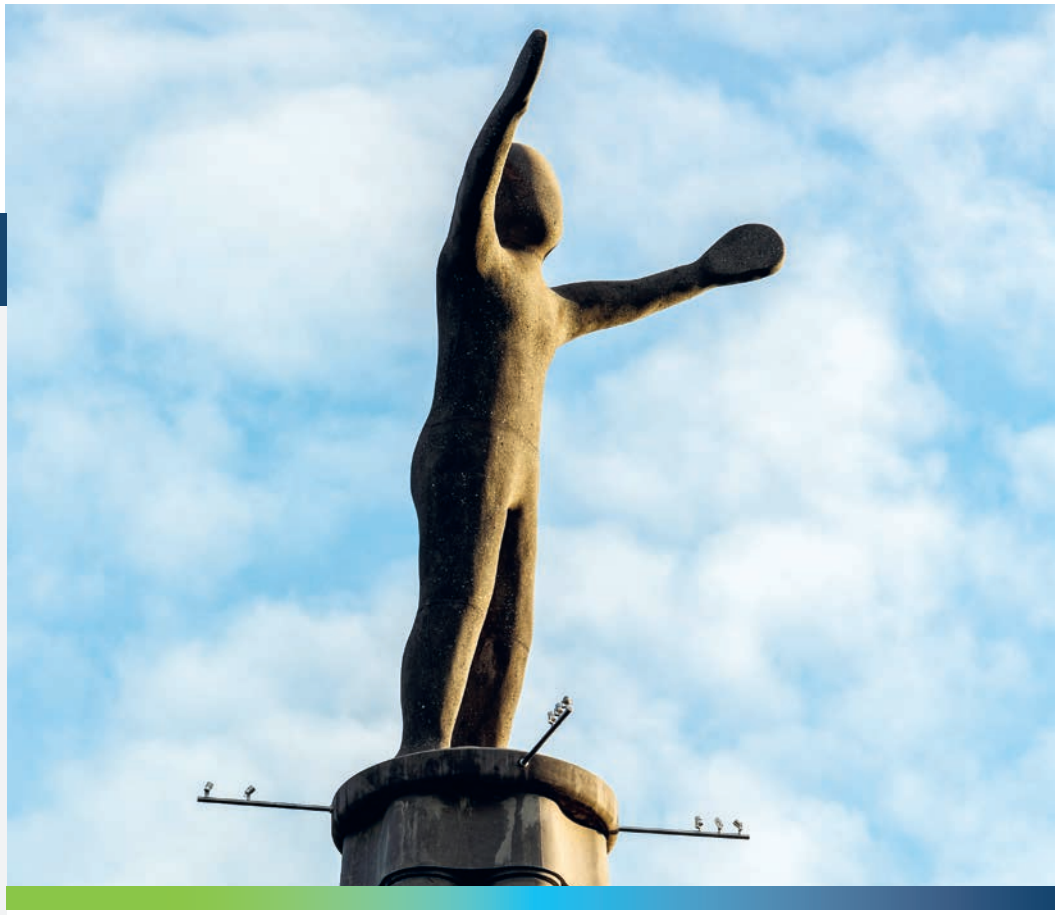
GREEN BUILDING MATERIALS

We are at the forefront of green building solutions, with the world's first global ranges of green concrete, ECOPact, and green cement, ECOPlanet, starting at 30% lower CO_2 footprint compared to the market reference. Our ECOPact green concrete is available in 24 markets today, making low-carbon construction possible around the world, from Mumbai to New York.

25%

Target share of ECOPact in ready-mix concrete sales by 2025

TOGETHER FOR OUR PLANET



SUSTAINABLE BUILDING IS POSSIBLE TODAY

Sustainable construction is essential to building a net-zero future that works for people and the planet – and our green building solutions are bringing this reality to life in cities around the world (see pages 4–5 for examples).

At the COP26 UN Climate Change Conference in Glasgow, Holcim engaged with key stakeholders to accelerate the shift to net zero building. To symbolize how green construction is possible today, Holcim partnered with British designer Steuart Padwick to create the Hope Sculpture (pictured above) in a low carbon design. It is made possible by Holcim's ECOPactMax with a 70% lower environmental footprint compared to standard concrete, with no compromise in performance or aesthetics.

The Hope Sculpture in Cuningar Loop woodland park on Glasgow's East End is composed of long, elegant columns evoking former chimney stacks atop of which sits a child figure reaching out to a greener future.

DRIVING CIRCULAR CONSTRUCTION

Holcim is already a world leader in recycling with 54 million tons of materials recycled across our business this year. Our goal is to recycle 75 million tons by 2025, 10 million tons of which will be construction & demolition waste (CDW) that we will turn into new, high-value products. For instance, we launched the world's first green cement with 20% recycled CDW inside. We also launched the Circular Explorer to preserve our oceans from plastic waste while advancing marine science and education.

WORLD'S 1ST GREEN CEMENT WITH

20%
CDW inside

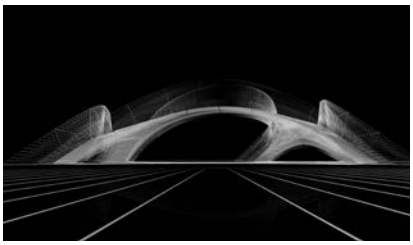
54
MILLION TONS
Waste recycled in 2021

6.6
MILLION TONS
CDW recycled in 2021

OUR FLAGSHIP PLANT IN RETZNEI, AUSTRIA

We are reducing the carbon intensity of our cement by substituting fossil fuels with pretreated non-recyclable and biomass waste fuels to operate our cement kilns. To increase this "thermal substitution rate" (TSR) we will be investing in our facilities to increase our TSR from 21.3% in 2021 to 37% by 2030.

More than half our plants in the EU operate at a TSR above 50%, and one third above 70%. At our "star" plant in Retznei, Austria, we have achieved 100% TSR when conditions allow.



SMART DESIGN

Smart design is key to use materials only where they are needed, to build more with less. It starts with a building's end in mind to make structures circular by design. We are deploying digital technologies like 3D concrete printing to optimize material use, which can reduce a building's footprint by up to 70% with no compromise on performance. 3D printing opens an infinite range of possibilities, from affordable housing to bridges and infrastructure for renewable energy.

In 2021 our joint venture 14Trees built the world's first 3D-printed school in Malawi, and its walls were printed in just 18 hours, compared to several days with conventional building materials. By the end of the year we had already scaled up the approach at Africa's largest 3D printed affordable housing project in Kilifi, Kenya.

Such solutions can play an essential role in the world's critical affordable housing gap, with 1.2 billion people lacking access to adequate housing and sanitation today.

STRIATUS BRIDGE

In July 2021 we launched Striatus, the first-of-its-kind 3D concrete printed bridge, at the Venice Architecture Biennale. Designed by Zaha Hadid Architects and ETH's Block Research Group in collaboration with incremental 3D, it is made possible by Holcim's proprietary ink, TectorPrint. It establishes a new language for concrete that is digital, environmentally advanced and circular by design.

The structure is composed of 3D concrete printed blocks that stand together solely through compression, with no reinforcements, no mortar and no binders, applying computational design and 3D printing for minimal material use and maximum strength. All the blocks are entirely recyclable.

STRIATUS
Awarded best innovation design by the European Culture Center, as an architectural breakthrough this year.

European Cultural Centre

Zaha Hadid Architects

ETH zürich

incremental3d

Made possible by Holcim

NEXT GENERATION TECHNOLOGIES

We are developing next generation technologies like Carbon Capture Utilization and Storage (CCUS) to accelerate our sector's decarbonization beyond 2030 with over 30 pilot projects around the world today.

CCUS separates and concentrates CO_2 from industrial processes. We are exploring ways to recycle it across a range of applications from synthetic fuels for aviation in Germany – such as WestKüste 100 (right). We also use it in farming in Spain or store it in mineral rocks as a low emission raw material for our green building solutions in France.

There is no "one-type-fits-all" CCUS solution, as the options for utilization and storage of CO_2 vary from one site to another, and the regulatory setting varies from one country to another.

>30
CCUS pilots around the world

WESTKÜSTE 100

CO_2 from our Lägerdorf plant in Germany will be transformed into green methanol and further on to a synthetic fuel through the WestKüste 100 project, to supply (for example) at nearby airports. This ten-company consortium is focused on the development of end-to-end sustainable business practices across industries to avoid waste in all sectors. This integrated approach is an industrial example for the required sector coupling in the energy transformation process.

As part of the HyScale100 consortium, the proposal has been officially designated as an 'important project of common European interest' (IPCEI).

UNDERSTANDING OUR CO_2 FOOTPRINT

Holcim is among the first companies worldwide to set 2050 net-zero targets validated by the SBTi. With these goals, Holcim is establishing a new milestone for its industry as the first with: 2030 and 2050 net-zero targets validated by SBTi, and cutting across its operations and value chain, including Scope 1, Scope 2 and Scope 3.

Our targets cover the three 'scopes' of carbon emissions as established by the GHG Protocol to address both our direct and indirect impact.

SCOPE 1

Scope 1 includes all emissions released directly from our operations. They account for 75% of our footprint and are at the core of our emissions reduction strategy. A number of factors are involved in bringing our Scope 1 emissions to net zero:

- Alternative sources of materials, such as waste and byproducts from other industries can be used to replace some raw materials and reduce our CO_2 emissions.
- Clinker, the main component of cement, produces the most CO_2 emissions. Replacing it in our final cement products reduces carbon intensity.
- We also replace fossil fuels with biomass and other waste fuels to operate our cement kilns.
- Over time, the increasing importance of embodied carbon per m^2 of building/infrastructure will move the market to more carbon-efficient construction, leading to less materials used per m^2 of buildings and infrastructure.

The extension of Kunsthaus Zürich in Switzerland was built with Holcim's Modero 3B green cement.

- Carbon capture technologies play an essential role in our net-zero journey beyond 2030. Currently, we are working with leading multinationals and startups and exploring their potential across more than thirty pilot projects worldwide (see page 64).

SCOPE 2

Scope 2 emissions account for 5% of our carbon footprint. They include indirect emissions from the generation of purchased electricity consumed in our operations.

SCOPE 3

Scope 3 emissions account for 20% of our carbon footprint. They include all other indirect emissions generated in our supply chain, such as those from transportation. Our Scope 3 intermediate targets have also been validated by SBTi, marking a new milestone in our industry.

Full details on our net-zero journey will be available in our Climate Report, to be published on our website in April 2022.

REDUCING OUR CARBON FOOTPRINT

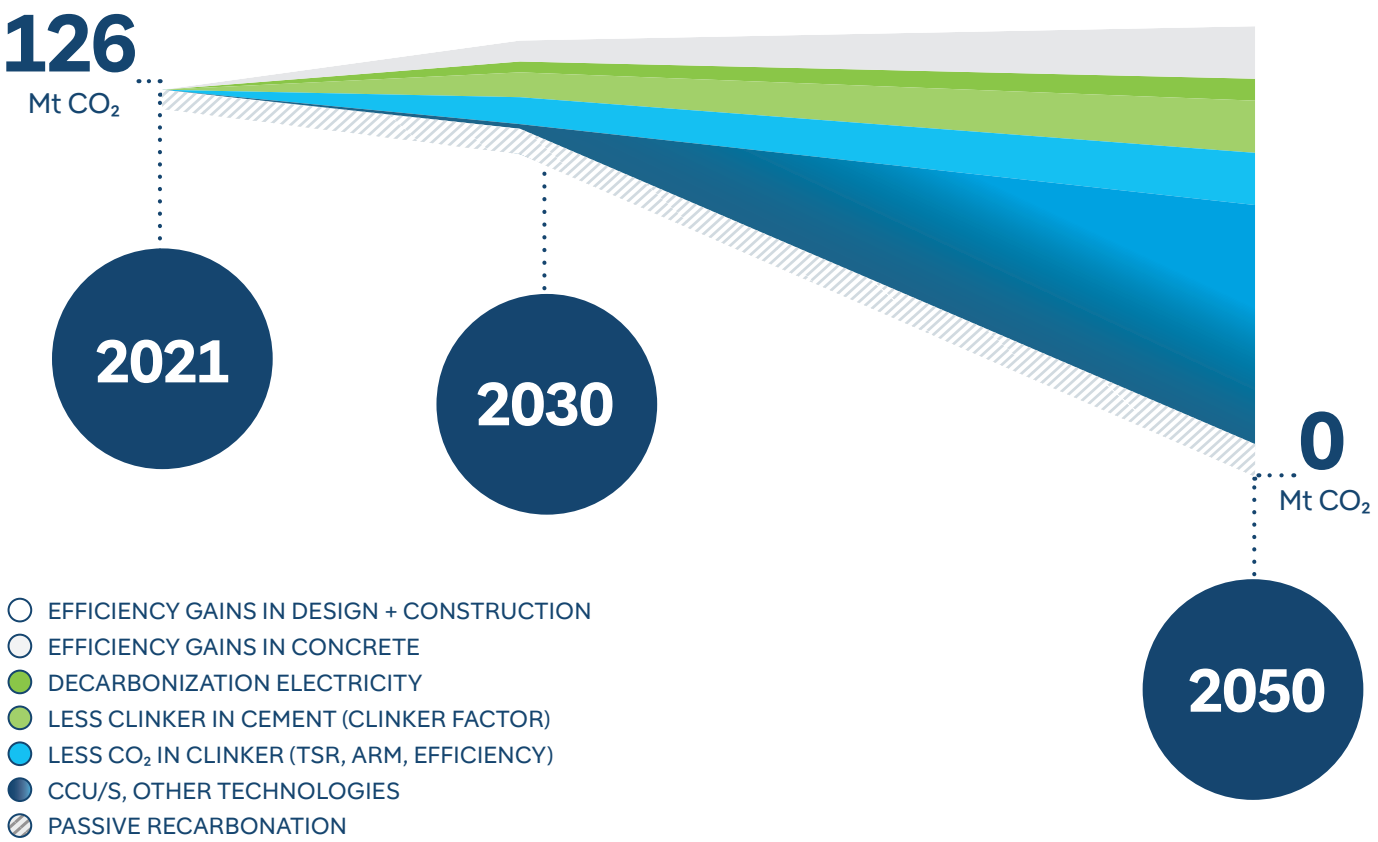
YR	SCOPE 1	SCOPE 2	SCOPE 3
2018	576 BASELINE	38 BASELINE	
2021	553	34	-0% Kg CO_2 per ton of purchased clinker and cement -9% Kg CO_2 per ton of purchased fuels -9% Kg CO_2 per ton of material transported
2030	475 Kg CO_2 Net/t cementitious	13 Kg CO_2 /t cementitious	-20% Kg CO_2 per ton of purchased clinker and cement -20% Kg CO_2 per ton of purchased fuels -24% Kg CO_2 per ton of material transported
2050	net zero GHG emissions across the value chain validated by SCIENCE BASED TARGETS		

Holcim's 2050 Net-Zero Targets validated by SBTi:

- Holcim commits to reduce scope 1 and 2 GHG emissions by 95% per ton of cementitious materials by 2050 from a 2018 base year.*
- Holcim commits to reduce absolute scope 3 GHG emissions by 90% by 2050 from a 2020 base year.

* The target boundary includes land related emissions and removals from bioenergy feedstocks.

OUR ABSOLUTE SCOPE 1 + SCOPE 2 EMISSIONS PATHWAY



NATURE

We are committed to building a nature-positive future. The launch of our nature strategy in 2021 places us among the first 1% of the 500 largest global companies with science-driven biodiversity targets and the first in our sector with a freshwater replenishment commitment.

"We congratulate Holcim for its ambitious biodiversity and water goals as part of its nature-positive journey. Implementing Holcim's nature strategy can drive scalable change both within the building materials sector and industry as a whole."

EVA ZABEY
Executive Director,
Business for Nature

Our nature strategy sets out measurable 2030 targets to restore and preserve biodiversity and water, while at the same time bringing more nature into cities.

BIODIVERSITY

Our biodiversity targets are based on transformative rehabilitation plans and measured by a science-based methodology developed in partnership with the International Union for Conservation of Nature (IUCN).

Our commitments include:

- Global Biodiversity Indicator Reporting System (BIRS) baseline completed in all managed land by 2024
- Measurable positive impact on biodiversity by 2030 based on the BIRS

At the end of 2021, 93% of our quarries had rehabilitation plans in place and 94% of quarries of high biodiversity importance had Biodiversity Management Plans in place.

WATER

Water is essential to our operations. As water is a local resource, we tailor our solutions to local conditions and prioritize higher water-risk areas. Currently, 30% of our sites are located in medium to high water-risk areas, which we assess using the World Resources Institute (WRI) Aqueduct tool.

By 2030 we commit to replenish freshwater in these water-risk areas, with:

- 75% of sites water-positive
- 100% of sites equipped with water recycling systems

We also commit to lowering water intensity across business lines, with:

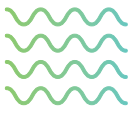
- 33% reduction in Cement
- 20% reduction in Aggregates
- 15% reduction in Ready-Mix Concrete

We implement water stewardship actions in our own operations and outside our site boundaries (see graphic).

In 2021 we reduced specific freshwater withdrawal in our cement plants to 259 liters per ton of cementitious material.

OUR OPERATIONS

Improve water use efficiency and reduce pollution
Optimize water use and implement strict standards to ensure discharge of high-quality treated water



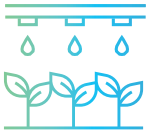
Shift to non-freshwater withdrawal
Replace freshwater with sea or treated wastewater

Maximize rainwater harvesting
Use harvested rainwater to meet site water requirements

Access to WASH
Provide water, sanitation and hygiene for all employees and contractors (WASH pledge)

BEYOND SITE BOUNDARIES*

Watershed protection and restoration
Revitalize degraded wetlands, recharge of groundwater and promote reforestation to improve water flow back to basins



Water for productive use
Promote water-efficient irrigation and agriculture practices to help relieve water stress in watersheds

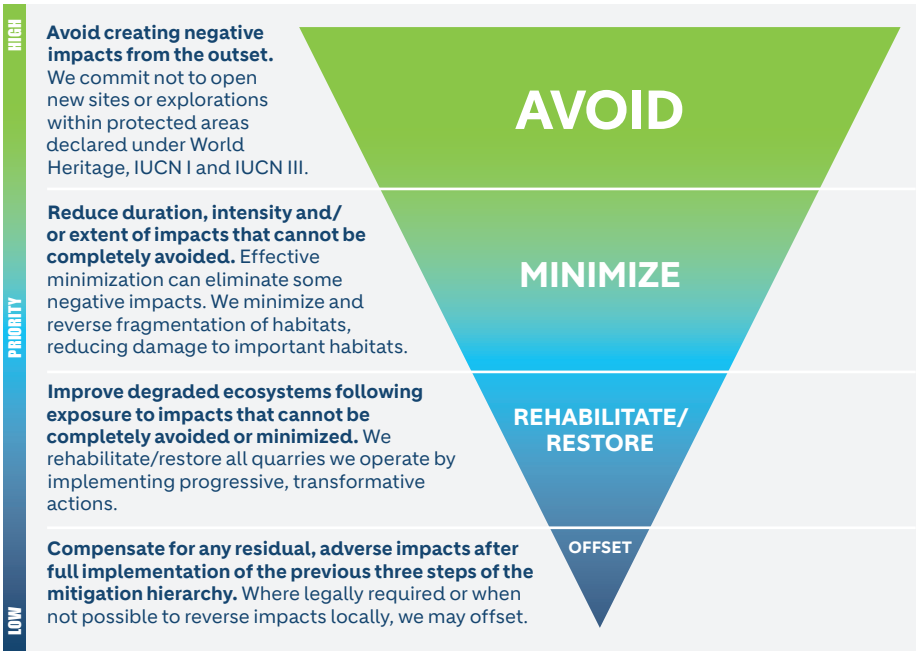
Water access and sanitation
Support communities with supply of potable water and installation of sanitation facilities to improve well-being of people and communities (WASH pledge)

* Projects are implemented within a local context and in consultation with relevant stakeholders, including communities and public infrastructure

ADVOCACY & LEADERSHIP

Holcim was selected as a member of the Taskforce on Nature-related Financial Disclosures (TNFD) to develop and deliver a risk management and financial disclosure framework to support a shift in global financial flows towards nature-positive outcomes. Holcim is also a signatory of the Call to Action of Business for Nature, which brings together influential organizations and forward-thinking businesses seeking to reverse nature loss. By signing the call we aim to positively influence international agreements on nature and climate change. Our Chief Sustainability & Innovation Officer, Magali Anderson, is a member of the Business for Nature's Strategic Advisory Group. We are also a signatory of the CEO Water Mandate and the WASH pledge, strengthening our water stewardship commitments.

OUR MITIGATION HIERARCHY



HOW WE CALCULATE A SITE BIODIVERSITY INDEX WITH BIRS

PRODUCT INNOVATION FOR NATURE

Holcim provides a number of solutions to our customers that have a positive impact on freshwater ecosystems. We also promote innovations where nature is embedded into the built environment. We are driving the nature-based approach in our products and solutions to bring nature into cities, tackling societal challenges such as biodiversity loss, water pollution, soil and air quality and the urban heat island effect. We are deploying solutions such as permeable concrete, bioactive concrete and green roof systems for more livable urban environments.

PEOPLE

We are committed to respect human rights and to empower people and communities to build a better future. In 2021, Holcim announced its 2030 people strategy to continue creating shared value and uplifting the well-being of communities worldwide.

The world's first 3D-printed school, built by our joint venture, 14Trees.

The strategy focuses on three pillars: bridging the world's housing and infrastructure gap, improving livelihoods and upholding the highest standards of human rights. We committed to contributing CHF 500 million to create positive social impact by 2030.

THRIVING COMMUNITIES

Holcim's commitment builds on its legacy of positive social impact, having benefited 30 million people with more than CHF 200 million in social investment over the last five years. In 2021, we invested CHF 43 million, a 19% increase compared to the previous year, in accelerating access to adequate housing and infrastructure and in continued support to communities, from health and education to skills development. Building on our long tradition of working closely with our communities and promoting their health and well-being, our teams continue to be mobilized to implement an extraordinary range of measures at country level to support people and communities during the COVID-19 pandemic (see page 69.

As part of our focus on affordable housing and infrastructure, we use innovation, technology and market-based approaches to create positive impact at increasing scale and speed. In 2021, through our social initiatives, we invested in building and renovating more than 3,200 buildings, from houses to schools and hospitals, working closely together with communities from Ecuador to Algeria. We helped build the world's first 3D-printed school in Malawi (pictured left). The school was built by 14Trees, our joint venture with CDC, the UK's development finance arm, to accelerate the provision of affordable housing and schools in Africa.

In India, the Ambuja Cement Foundation's Women Empowerment Program focuses on inclusive growth to harness the collective power of women as breadwinners, community leaders and changemakers.

HUMAN RIGHTS

We strengthened our commitment to human rights in 2021, adopting new and updated policies, and receiving strong endorsement from top management globally.

We implemented a new Human Rights and Social Policy, as well as a Human Rights Directive in 2021, setting out our aims, methodology and processes as well as salient risks (see graphic and page 112). These guidelines, developed after extensive consultation with a broad range of stakeholders including global managers, employees, external human rights experts, civil society and community representatives, are aligned with the UN Guiding Principles on Business and Human Rights and the OECD Guidelines for Multinational Enterprises.

Holcim is committed to respecting and promoting human and labour rights in our operations, business activities and relationships, and in the communities where we work. Launching a group-wide awareness-raising campaign of the new policy, CEO Jan Jenisch reaffirmed that upholding human rights is at the core of our business model and success.

Human rights due diligence and global training are key to our efforts to improve performance. Human Rights Impact Assessments, which are part of our Human Rights Approach and due diligence work, have been carried out for the past decade, led either by group-level experts or at a country level. This work continued in 2021, despite travel restrictions caused by the pandemic, with 100% of the countries where we operate having a human rights assessment process in place and have defined action plans to address risks based on our methodology. Under our country and Group-level programs, we have trained more than 16,000 employees, contractors, community members and other stakeholders on human rights topics.

Our policy and approach are further steps in the process of embedding respect for human rights in our business activities.

KENYA'S MVULE GARDENS

Building on the success of the world's-first 3D-printed school in Malawi that we developed through 14Trees, our joint venture with the UK's CDC, we have now started 3D-printing Mvule Gardens, a 52-unit housing project in Kilifi, Kenya. Over three billion people are expected to need affordable housing by 2030. This issue is most acute in Africa, with countries like Kenya already facing an estimated shortage of two million houses. We are proud that our TectorPrint 3D printing ink is part of the solution.