Towards low-carbon construction

The built environment is a major source of carbon emissions. Over the next 25 years, an additional two billion people will join urban areas, and 60 percent of the infrastructure that humanity will need by 2050 remains to be built.

As a leader in our industry, we embrace the environmental and societal challenges ahead as we seek to provide solutions, differentiate our offer and set tomorrow’s standards in the building materials industry. LafargeHolcim is leading the transition towards low-carbon construction by introducing more low-carbon products and solutions to our customers worldwide and by being at the forefront of innovation in building materials.

Concrete will continue to play a central role in the transition towards carbon-neutral construction. Widely available, it is characterized by a low-carbon and energy footprint and high recyclability. Besides, no other material is more versatile, resilient and safer than concrete.

LafargeHolcim leads the industry in reducing net carbon emissions, making us one of the most carbon-efficient building materials and solutions companies.
Advancing low-carbon construction and bringing solutions across our value chain

LafargeHolcim's commitment

LafargeHolcim is a preferred building materials partner for low-carbon construction solutions. Its innovative concrete and cement products allow for CO₂ savings of up to 60 percent compared to standard Ordinary Portland Cement (OPC) products.

The company is committed to continuously reducing the carbon intensity of its portfolio, as demonstrated by its leadership position on carbon efficiency as well as an ambitious 2030 target aligned with the 2°C scenario of the Paris COP21 climate agreement.

Building the future today

Our teams of chemists, physicists, engineers, architects and masons from around the globe are inventing the building materials of tomorrow. We do not stop at our processes. We work hand-in-hand with our customers and partners from across the construction value chain to understand their challenges and needs, and develop the products and solutions that will enable them to reduce carbon emissions from buildings and infrastructure.

Collaborating to develop low-carbon technology and advance low-carbon construction

At LafargeHolcim, we believe that reaching carbon-neutral construction requires integrated collaboration and innovation across the entire construction value chain (from regulators and investors to engineers, contractors and producers).

This is why LafargeHolcim is continuously exploring new technologies and developing new construction solutions through wide-ranging partnerships. These range from piloting integrated carbon capture technologies to developing alternative binders, carbon footprinting tools for the built environment and circular models by using waste materials instead of fossil fuels and primary raw materials.

Towards low-carbon construction

Upstream and downstream chain

Energy and carbon efficiency

Construction solutions

Circular economy

Innovation

Renewable energy deployment

Low-carbon materials and solutions

Public authorities

Investors and financiers

Developers

Engineers and contractors

Owners and users

Startups and academics

Other industries

Waste producers

Use of thermal mass of materials to reduce peak demand of electricity

Repurposing and recycling of industrial, municipal and agricultural waste

Energy sector

Lifecycle carbon footprint optimization tools for the built environment

Affordable and low-carbon housing solutions

Safe, fire-resistant, energy-efficient and innovative building solutions

A network of innovation and R&D facilities that spans five continents

Advanced low-carbon technologies (incl. CCSU)

Leader in open innovation

Large portfolio of new, ultra-high performance and low-carbon binders

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Examples of our climate solutions and partnerships

Reinventing insulation
AIRIUM is a mineral insulating foam technology that is fully recyclable and has a lower CO₂ footprint over its life cycle compared to other insulation methods. Through its unique adjustable density, it combines insulation and structural performance.

Permanently storing carbon in concrete
Solidia Cement™ hardens through the addition and absorption of CO₂ ("carbonation"), in a patented curing process that reduces the overall carbon footprint by up to 60 percent.

Turning CO₂ into raw materials
Waste from different industries is transformed into valuable products again. One million tonnes per annum of CO₂ captured from our Lägerdorf cement plant will get a second life and contribute to the production of decarbonized fuels covering about a third of the consumption of Hamburg airport.

Repurposing waste
By managing more than ten million tonnes of waste annually, Geocycle contributes towards a regenerative circular economy that closes resource cycles and reduces CO₂ emissions. Geocycle’s contribution also reduces greenhouse gas (GHG) emissions. Geocycle prevents the GHG emissions equivalent of 250,000 cars by diverting municipal waste from landfills.