WE ARE DECARBONIZING BUILDING FOR A NET-ZERO FUTURE.





INTRODUCTION

At Lafarge UAE - member of Holcim Group, we are decarbonizing building for a net-zero future.

As a global leader in innovative and sustainable building solutions, we partner with customers, architects, engineers, public authorities and cities around the world.

Leveraging our formulation expertise and open innovation ecosystem, our products and solutions enable the construction industry to build better with less.

We offer the world's broadest ranges of low-carbon cement and low-carbon concrete, and we're recycling construction demolition materials into new building solutions to drive circular construction.







geocycle • ALTERNATIVE RAW MATERIAL

GREEN OPERATIONS

BUILDING BETTER WITH LESS Decarbonizing construction

ECOPact CemPlus 3D Printing



GREEN OPERATIONS GREENING OUR OPERATIONS TO DECARBONIZE LAFARGE UAE AND BECOME A NET-ZERO COMPANY



1. ALTERNATE FUELS

GEOCYCLE SOLUTIONS

Recycling materials at end of their lifecycle from Tires, Plastics, FMCG and Co-processing of Industrial Hazardous Waste & Municipal waste (RDF)

CIRCULARITY RATIO

Reused waste & Circularity ratio



Improve in AFR volume increase circularity ratio 10% 2027



+200K Tons of waste co-processed annually

Dubai Municipality





500K Tons of waste by 2030, mostly municipal waste (Refuse derived fuel and dried municipal sludge)





DECARBONIZATION **OF OUR BUSINESS**

New RDF Feeding System with Hot Meal Extraction

Main Highlights:

- **1.** To comply with Ministerial Decree No.98 of 2019 on using 10% RDF.
- 2. Improve our CO2 emission by 33 kg/t CO2 reduction.

RDF Project 1.2% CO2 Reduction **By End of 2023**

2.8% CO2 Reduction By End of 2024

Engineering Solutions

- 1. Precalciner feed system having 20t/h feeding capacity. Installation of air pipe conveyor to feed RDF in calciner with a pre-dosing & weighing at ground level
- 2. Hot Meal Extraction:5tph,

HOT MEAL EXTRACTION





2. GREEN POWER POWERING OUR OPERATIONS WITH WASTE HEAT RECOVERY SYSTEMS



GREEN POWER WHR







Cooler Heat Exchanger:







3. CCUS CARBON CAPTURE, UTILIZATION AND STORAGE

Harnessing advanced technologies like carbon capture, utilization and storage (CCUS) is a game-changer to meet long-term climate goals. Locally Lafarge Emirates Cement is working on a C02 sequestration project with a local partner.



BUILDING BETTER WITH LESS BUILDING BETTER WITH LESS TO DECARBONIZE CONSTRUCTION, BY

1. CemPlus

- CemPlus is a Portland Limestone Cement (PLC).
- Designed to have equivalent or better performance to existing cement classes
- Manufactured according to both ASTM C595 and BS EN 197-1 : 2011 - CEM II/A-L 42.5 N Standard Specifications for Blended Hydraulic Cements.
- Blended cement in which finely ground limestone (5 to 15%) is an integral component within the cement, uses less clinker than the traditional manufacturing process and reduces CO2 emissions by more than 10% per metric ton of cement.
- Confirmed by Holcim and academia that interactions between Portland limestone cement (PLC) and supplementary cementitious materials (SCMs), such as fly ash and GGBFS, are essentially the same when compared with Type I cement.
- Lafarge UAE has been exporting nearly 1 million tons annually across US over the past 3 years, and signed the contracts till 2026

To know more about the comparison between CemPlus, OPC & SRC, visit https://www.lafarge.ae/decarbonizing-building





EcoPact

- ECOPact low-carbon concrete delivers 100% performance offering 60% lower CO2 emissions compared to standard (CEM I) concrete, without offsets. In 2023, 45% of concrete sold by Lafarge UAE's was EcoPAct, with EPD's for 10 top selling mixes.
- With ECOPact, we are committed to helping our customers reduce the footprint of their buildings and infrastructure to build better with less and decarbonize construction at scale.
- Did you know that we saved 45% carbon emissions in a residential building in Dubai, using EcoPact, visit www.https://www.lafarge.ae/residentia I-building-dubai-reduces-co2-emission s-45-ecopact

3. 3D Printing

How is 3D printing revolutionizing the construction industry?



Fast and reliable

Building is a matter of hours. 3D printing significantly reduces construction time, as it eliminates the need for many manual labor tasks. Our large-scale printers can work around the clock, rapidly building structures.



Cost effective

Reduce your construction cost. By reducing building time, material and waste, construction 3D printing leads to cost savings and minimizes the need for expensive formwork and scaffolding.



More sustainable

Lower construction carbon footprint by up to 70%. 3D printing builds faster, uses less material and produces less waste than conventional construction methods.

3D printing can be used for

- Wind Turbine Towers
- Housing
- Footbridges
- Marine Caissons

At Lafarge UAE, we have a JV with TamVinci, print a facade in Dubai, prefabricate the segments, and send them to the Trojan project in Saudi Arabia, where the 2029 Winter Olympic Games are planned to take place.

At the end of June 2024, LEC will begin its first pilot project: a single-story, 3-bedroom villa in Dubai.

The development is part of a joint venture with AC3D and a collaboration with HIC.





Design flexibility

Discover unlimited possibilities. 3D printing allows for intricate and complex architectural designs that are impossible to achieve with conventional construction methods.



3 - MAKING BUILDINGS SUSTAINABLE MAKING BUILDINGS MORE SUSTAINABLE IN USE TO DECARBONIZE CITIES

1. Airium

In UAE, Airium has been used for the following applications:

- Filling purposes
- Lightweight Screed
- Thermal & acoustic insulation purposes in typical floors
- The lightweight mineral foam for flooring and filling applications in your buildings

250 to 1000 kg/m³ Mineral Insulating Foam

Up To 0.12 w/(m.k) Thermal Conductivity

100% Recyclable

To know more about how our Airium was used in the prestigious Al Wasl project in Dubai, visit **https://www.lafarge.ae/airiumr-lightweight-flooring-and-filling-solutions-difference**



2. Hydromedia

- Hydromedia is a water management system that rapidly absorbs rainwater off streets, parking surfaces, driveways and walkways – imagine having Hydromedia as part of the UAE infrastructure system ready in the recent floods!
- This permeable solution combines the properties of concrete and advanced drainage technology.
- Water is the world's most vital resource and requires proper management in order to reap its benefits while avoiding its adverse effects. Hydromedia enables the ultra-rapid evacuation of water directly into the soil. This

produces a natural aquifer recharge or enables the water to be recycled. The Hydromedia range is designed to cover all your possible needs, from street pavements to roofing solutions.

3. Tector

- Tector is a global construction solutions brand developed with you in mind by the largest building materials company in the world, Holcim, owners of the Lafarge brand.
- The Tector range, available in the UAE, offers versatile dry mortars for all needs—from rendering and masonry to concrete repair and tile fixing. Perfect for ensuring top-notch quality and durability in construction.

4 - CIRCULAR CONSTRUCTION DRIVING CIRCULAR CONSTRUCTION TO BUILD NEW FROM OLD

1. EcoCycle

- With ECOCycle[®], we recycle construction demolition materials from cement and aggregates to concrete into new building solutions.
- We only have one planet but are living like we have two. Driven by rising population and urbanization, the world builds the equivalent of New York City every month. It is therefore essential to stay within our planet's boundaries while we build to improve living standards for all.
- All products that contain ECOCycle[®] incorporate between 10% to 100% recycled construction demolition materials.
- At Holcim, we recently built a fully recycled building in France.

2. Construction & Demolition

UAE Market size : 42.6 Mt Development in two directions:

- Develop solutions with developers (Sobha, Aldar) for recycling of CDW with building new from old concepts.
- Lobbying with authorities for Landfill tipping Fee to make recycling of CDW economical.
- Calcined clay: involved in R&D with New York university Abu Dhabi for the testing and trial of calcined clay source (Ibra region Oman).
- Decarbonized Lime materials.
- Contaminated Slag recycling.
- Paper Ash.

To know more, visit https://www.holcim.com/who-we-are/our-stories/fully-recycled-concrete-building



www.lafarge.ae