

CEMEX'S POSITION ON LOWER-CARBON PRODUCTS

The Challenge

The United Nations found that in 2021 the buildings and construction sector emitted historic levels of CO₂ emissions, accounting for approximately 37% of global CO₂ emissionsⁱ. According to the UN's report, the trends in the sector's carbon performance leave it off track to decarbonize by 2050. With a rapidly growing population increasingly moving to cities in pursuit of higher standards of living, the world is expected to construct buildings equivalent to the size of Paris every five days for the next 40 yearsⁱⁱ. To meet this demand without compromising industry decarbonization goals, utilizing lower-carbon products will be needed. Lower-carbon products are increasingly gaining acceptance across markets, but there still remain obstacles to their adoption. In some geographies, building codes restrict the introduction of lower-carbon products, only allowing the utilization of conventional materials in buildings and infrastructure projects. This restriction is compounded by the lack of customer acceptance by certain segments of architects, engineers, and contractors, who tend to be risk averse and may prefer conventional building materials over newer lower-carbon products. To meet society's future construction demands while decreasing the environmental footprint of the built environment, accelerating the adoption of lower-carbon products is necessary.

Our Position

There are no substitutes for the attributes and qualities concrete possesses, which makes it the second-most consumed material in the world and the ideal material to building the sustainable cities of tomorrowⁱⁱⁱ. Cemex supports the adoption of lower-carbon cement and concrete products in the built environment, as these products have the same or better performance attributes as conventional products, but at significantly lower CO₂ profiles. Developing lower-carbon products is possible by optimizing the clinker factor in cement using supplementary cementitious materials, mineralizers, recycled materials, calcined clays, admixtures, and new grinding technologies. It is also possible by incorporating state-of-the-art levers such as alternative fuels with high biomass content, hydrogen injection, and decarbonated raw materials. All of these technologies are proven and available today, and Cemex is implementing them worldwide where industry standards and customer acceptance allow. Utilizing lower-carbon products reduces production emissions in the cement and concrete industry, which accounts for approximately 8% of global emissions. It also supports customers in the construction industry meet their sustainability goals and helps solve some of society's waste management challenges by contributing to the circular economy through the utilization of residues from other sectors. We consider lower-carbon cements as those with CO₂ reductions of 25% or more versus conventional cement, and lower-carbon concretes as those with CO₂ reductions of 30% or more versus conventional concrete.

Our Approach

As part of our commitment to promote the adoption of lower-carbon products, in 2020 Cemex launched [Vertua®](#), our line of lower-carbon products which included the industry's first-ever net-zero CO₂ concrete. Our Vertua® brand is now an extensive family of products with enhanced sustainability attributes that help clients meet their construction needs through various attributes: lower-carbon footprint, water conservation, energy efficiency, recycled materials, or efficient construction systems. Our Vertua® products have seen widespread customer adoption. As of late 2023, the Vertua® lower-carbon line accounted for 56% of our total cement volumes and 47% of our total concrete sales^{iv}. With the current levels of Vertua® sales, we have

achieved our 2025 goal of Vertua® lower-carbon cement sales reaching 50% of total cement sales two years ahead of schedule. Meanwhile, Vertua® lower-carbon concrete adoption is nearing its goal of 50% of all ready-mix sales by 2025 ahead of schedule as well.

During 2023, Cemex became the first company in the industry to provide third party validated environmental impact information globally for all core products in our main markets. In addition, products under Cemex's Vertua® brand provide a sustainable fact label, the first in the industry, which details the product's performance across a range of sustainable attributes. This transparency is an essential step to support our clients in the design of sustainable construction and to decarbonize the built environment.

Cemex is providing over 200,000 cubic meters of Vertua® lower-carbon concrete for the expansion of the Khalifa Port megaproject in the United Arab Emirates, one of the largest port infrastructure projects in the world.

The Road Ahead

Decarbonizing the built environment requires higher acceptance and consumption of lower-carbon products. Cemex is working alongside governments, civil society, and other industry partners to increase and further strengthen the use of lower-carbon and sustainable products in construction. We recognize that achieving decarbonization goals will require further support from government policies and incentives, as well as working with specifiers, architects, engineers, and contractors to gain broader acceptance of lower-carbon products.

We support:

- **Updating construction codes to enable and incentivize the use of lower-carbon products**, through the utilization of performance, rather than ingredient-based standards.
- **Integrating CO₂ performance standards in public procurement**, including the utilization of full life-cycle assessments.
- **Requiring the utilization of Environmental Product Declarations (EPDs)** in building material products that consider the full life-cycle impact and provide the full global warming potential of products, to ensure transparency and to allow architects and builders to make informed comparisons among different options.
- **Promoting the utilization of Building Information Models** by architects and builders for them to estimate the embedded CO₂ footprint of their buildings and allow them to use the best combination of materials to reach the desired result.

ⁱ <https://www.unep.org/news-and-stories/press-release/co2-emissions-buildings-and-construction-hit-new-high-leaving-sector>

ⁱⁱ <https://www.unep.org/news-and-stories/press-release/un-plan-promises-massive-emission-cuts-construction-sector-most#:~:text=Nairobi%2C%2012%20September%202023%20%E2%80%93%20Rapid,per%20cent%20of%20global%20emissions.>

ⁱⁱⁱ <https://missionpossiblepartnership.org/action-sectors/concrete-cement/>

^{iv} As of Q3 2023, this figure is updated every three months.