

CEMEX'S POSITION ON THE CIRCULAR ECONOMY

The Challenge

Demand for natural resources rose from 43 billion metric tons in 1990 to an all-time high of 92 billion metric tons in 2017, an increase of 113%ⁱ. The world is currently using the equivalent of 1.6 earths to maintain its current way of life, meaning it takes the earth a year and a half to generate the resources that the human population uses in only a year. This natural resource consumption is projected to increase to 190 billion metric tons by 2060, the equivalent of almost three earthsⁱⁱ. Natural resource extraction is inextricably linked to climate change and decline in biodiversity, accounting for half of total global greenhouse gas emissions and 90% of biodiversity loss. Despite efforts from policymakers and voluntary commitments from the private sector to curb virgin natural resource consumption, economies remain largely linear, or “take-make-waste”, with only 7.2% of the world’s economy being circular^{iv}. The linear model of production and consumption also contributes heavily to waste generation. Every year, an estimated 8-11 billion tons of waste are generated worldwide, of which approximately 56% is municipal & industrial waste and 36% is construction and demolition waste^v. Waste management represents a huge challenge to society, as mismanaged waste can lead to adverse environmental effects including global warming and soil pollution, as well as sanitary risks. With increasingly depleted natural resources and rising waste management challenges, Cemex believes that the current model of production and consumption is not sustainable and for the world to reach its net-zero decarbonization goals, a circular economy must be adopted.

Our Position

Cemex supports a circular economy model of production and consumption that minimizes virgin natural resource extraction, waste generation, and emissions from the extraction of natural resources. In a circular economy, consumption is reduced wherever possible, products are kept in use, recycled, or repurposed for as long as possible, extending the value and life cycle of products. The circular economy model benefits the environment as it preserves nature and biodiversity that is otherwise at risk from natural resource extraction and reduces carbon emissions. Additionally, the repurposing of waste away from landfills reduces methane emissions, a greenhouse gas 80 times more potent than CO₂ in the first 20 years of life, as well as contaminants to the soil.

The cement industry has a unique ability to contribute to the circular economy. Manufacturing cement requires high temperatures, and the industry can repurpose and co-process non-recyclable household waste and waste from other industries for use as raw materials and as alternative fuels that replace fossil fuels. Repurposing waste as alternative fuel yields many benefits for both society and the cement industry: CO₂ emissions are lower than with fossil fuels, waste is managed in a safe and effective way that avoids methane emissions from landfills and reduces the consumption of virgin raw material. We estimate the cement industry could repurpose approximately 5% of global municipal and industrial waste while the aggregate and ready-mix industry could recycle approximately 16% of construction and demolition waste produced worldwide. Demolished concrete can be recycled infinitely back to recycled aggregates which can be used in concrete, asphalt, or as base material. A concrete pavement placed 50 years ago that is demolished and transformed to recycled aggregates can serve society for another 50 years.

Our Approach

At Cemex, we aim to maximize the use of non-recyclable waste and by-products with a particular focus on three waste streams: municipal and industrial waste, construction, demolition & excavation waste (CDE), and

industry by-products. We utilize the waste streams in three of our climate action decarbonization levers: alternative fuels, clinker substitution, and alternative and decarbonated raw materials.

In 2022, we repurposed close to 27 million tons of waste, which is about the same amount of waste collected across England. By 2030, we aim to increase by more than 50% the amount of waste and by-products we manage. We also substituted 35% of the fossil fuels used in our kilns with alternative fuels through co-processing, avoiding over 2 million tons of CO₂ emissions in 2022. In Europe, we reached approximately a 70% alternative fuel substitution rate, higher than the industry average and enabled by advanced circular economy regulations in the region.

In 2022, Cemex launched Regenera, a new business specialized in providing circularity solutions to extend the life cycle of products and materials. Regenera offers waste management solutions, which include the reception, management, recycling, and co-processing of different kinds of waste to organizations from the private and public sector.

The Road Ahead

We recognize the transition toward a global circular economy requires a transformation of economic sectors. The cement industry is one of the few industries that can repurpose waste efficiently and effectively. With the right regulations and incentives, the cement industry can play a significant role in this transition to a circular economy. Cemex is committed to working with governments, civil society, and industry partners to advocate for the development of a circular economy and alleviating some of the pressing issues confronting our communities: waste and scarce natural resources.

We support:

- **Establishing waste management hierarchies** that regulate and prioritize how waste is utilized, including the recognition of co-processing as a favorable energy recovery option, above incineration.
- **Setting financial and fiscal incentives to disincentivize landfilling**, and unregulated waste, in the form of landfill taxes and gate fees, pay-as-you-throw schemes, and methane fees.
- **Investing in waste infrastructure to improve the collection, sorting, and treatment of waste into valuable resources**, including all waste streams and allowing public-private collaboration to manage and treat waste where applicable.
- **Updating building codes and standards** to develop performance-based standards that allow and incentivize the utilization of recycled products such as recycled aggregates in cement and concrete, as well as the use of alternative raw materials – either natural or industry byproducts – in the production of blended cements.

ⁱ <https://unstats.un.org/sdgs/report/2019/goal-12/>

ⁱⁱ <https://www.un.org/en/actnow/facts-and-figures#:~:text=Resource%20extraction%20has%20more%20than,biodiversity%20loss%20and%20water%20stress.>

ⁱⁱⁱ <https://www.oneplanetnetwork.org/programmes/sustainable-lifestyles-education/about#:~:text=Today%2C%20our%20global%20footprint%20is,sustain%20our%20ways%20of%20living.>

^{iv} <https://www.circularity-gap.world/2023>

^v <https://www.unep.org/resources/report/global-waste-management-outlook>