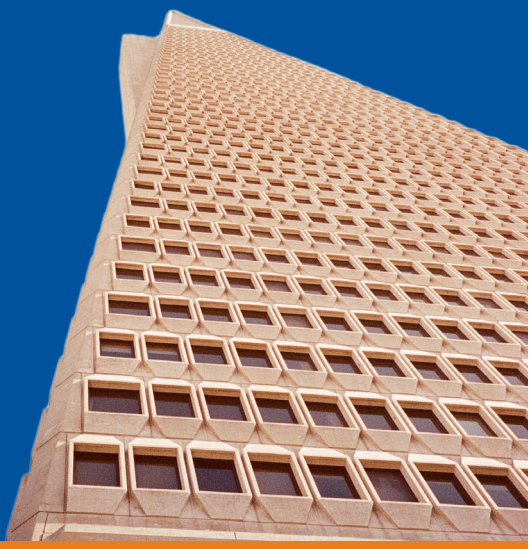
CONCRETE:

CLINKER — Key chemically reactive ingredient | CEMENT — The binder | **CONCRETE — Critically useful material to society** | CONSTRUCTION — Service life / use phase impacts | CARBON UPTAKE — Concrete is a CO_2 sink

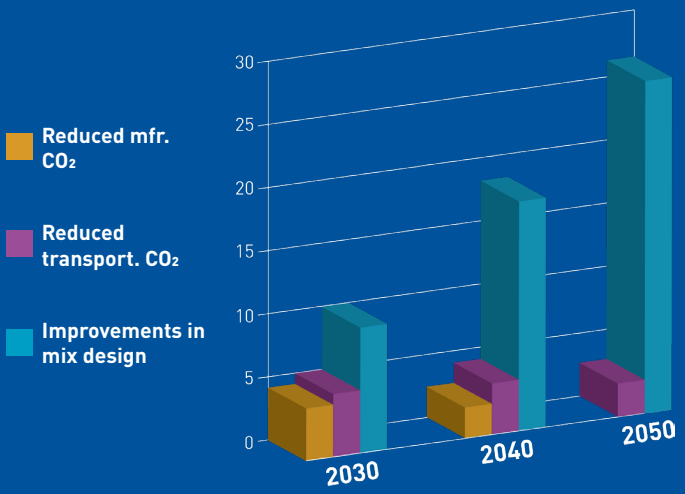
Society needs concrete and concrete needs society. Concrete is the second most used material in the world after water.



It's the foundation of modern civilization.

Concrete is necessary to our society, and it's also a sustainable building material. There are almost a limitless number of concrete formulations, and it can be designed for any application.

Opportunities to reduce concrete's carbon footprint allow us to continue building sustainably and resiliently for the future.



Through optimized concrete mixes, it's possible to avoid 10% of the CO_2 footprint of concrete by 2030 and 26% by 2050.

- Improved mix design translates to avoided CO_2. Today, a cubic yard of concrete represents about 500 pounds of CO_2. By 2050, that same amount of concrete will represent less than 200 pounds of CO_2.
- No two projects have the same requirements, yet we specify generic concrete mixes all too often. Tomorrow's mixes could allow for project-specific, custom approaches that target specific strength, durability or other requirements, allowing for better designs and reduced emissions.

Mixing and delivering concrete requires energy. Today, manufacturing accounts for 5% of concrete's total CO_2 footprint by 2030.

- By shifting energy needs to renewable energy sources, emissions are targeted at 4% of total CO_2 footprint by 2030, 2% by 2040, and 0% by 2050—a 100% reduction in production energy.
- Transportation accounts for 6% of total CO_2 footprint. Some PCA member companies have already added natural gas powered trucks to their fleets—a starting point to reducing delivery energy by 50% in 2050.

Visit CementProgress.com to learn more about our progress to reduce emissions across the cement-concrete-construction value chain.

PCA Since 1916 America's Cement Manufacturers™

ROADMAP To CARBON NEUTRALITY Portland Cement Association

shaped BY CONCRETE