

The Materials and Building Challenge

If we are to address climate change in any meaningful way, we must address cement production. Why? Because the production of cement contributes to 8% of global CO₂ emissions. In fact, if cement production were a country, it would be the third largest emitter, behind only China and the United States.

At the same time, according to a report issued in 2020 by Architecture 2030, the number of buildings worldwide is expected to double by 2060, the equivalent of adding an entire New York City to the world, every month for those 40 years – and much of that building stock will depend on durable, resilient concrete made from cement.

The Minus Materials Solution

Envisioning a world where concrete buildings and the world’s infrastructure are carbon-storing rather than carbon-emitting, Minus Materials is cultivating a carbon-negative limestone from algae. This biorenewable limestone performs the same as quarried limestone – the key feedstock in cement production – and meets essential standards, but without the embodied carbon penalties. When heated, it only releases CO₂ that was previously sequestered from the atmosphere during the algae’s lifetime. This stands in contrast to the production of cement from quarried limestone, which causes a new release of carbon dioxide – a reaction that is responsible for 60% of the emission associated with portland cement production.

#1

Concrete is the most consumed man-made material in the world.

8%

The production of cement, a key ingredient in concrete, accounts for 8% of global carbon emissions.

40

For the next 40 years, the world is expected to build the equivalent of another New York City every month.

2

The cement industry is focused on 2 objectives: radically reduce carbon emissions, while meeting the staggering building needs.

+1,450°

Quarried limestone, the key feedstock in cement product, is heated at +1,450°C.

60%

The heating of quarried limestone accounts for 60% of the emissions associated with portland cement production.

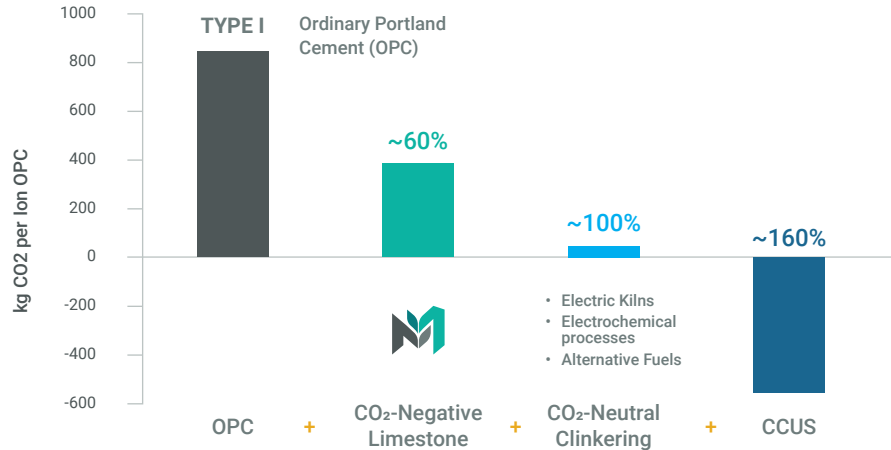
ZERO

Replacing quarried limestone with algae-grown limestone (a carbon-negative material) yields a **zero-emissions** process. Why? When heated, Minus Materials’ cultivated limestone only releases the carbon dioxide that was previously sequestered from the atmosphere during the algae’s lifetime.

MULTIPLE

Because we grow limestone, which is mostly calcium carbonate, our product can serve a **multitude of applications** outside of the cement and concrete industry. These encompass various building materials, such as paint, as well as consumer goods such as cosmetics and dietary supplements.

Enabling CO₂-Negative Cement



Key Milestones



Founders

- Sarah Williams, Ph.D.**
CEO, Co-founder
- Wil V. Srubar III, Ph.D.**
Acting CTO, Co-founder
- Danielle Beatty, M.S.**
Co-founder

Funders and Supporters

