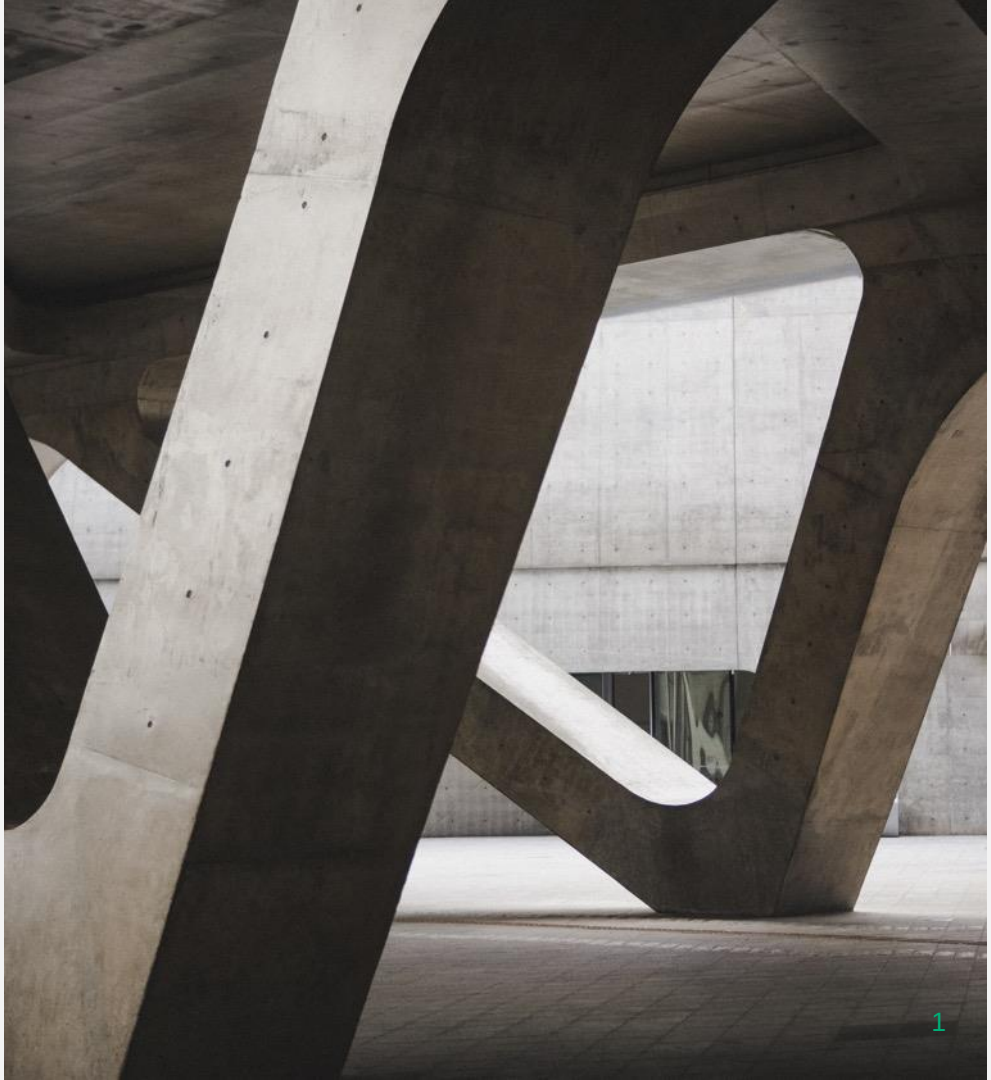
carbon upcycling

Decarbonizing Concrete



Our Vision

A world where carbon is a sustainable resource, unlocking a new frontier of circular materials

How it works

CO_2

Industrial point-source low-purity flue emissions

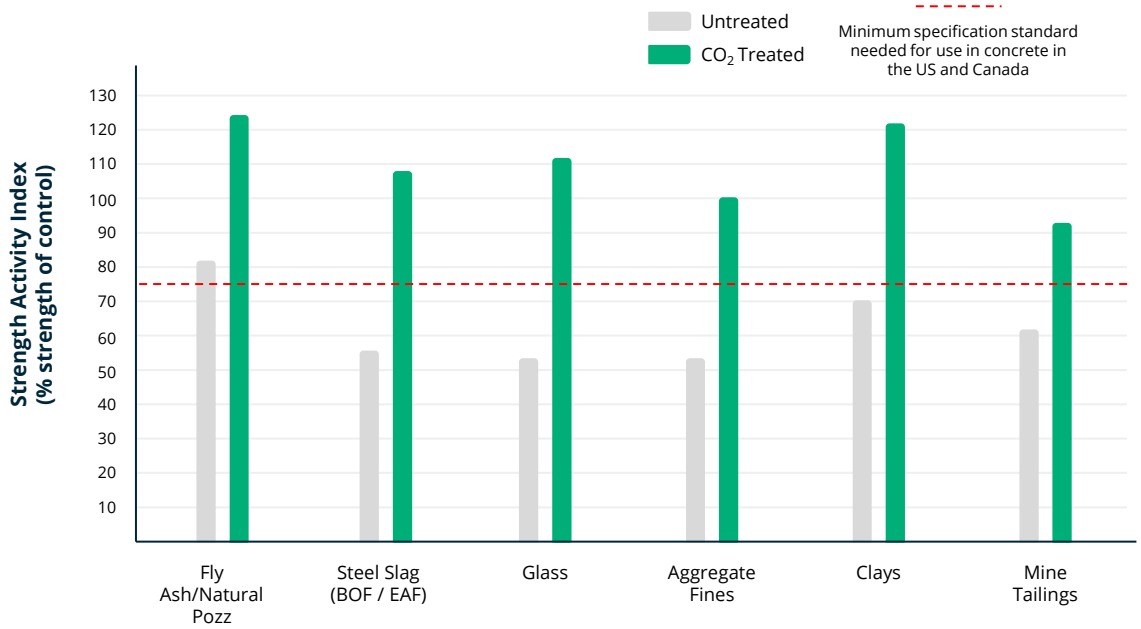
Material Feedstock

Industrial waste by-product or natural mineral

Our Product
CO_2-Enhanced Materials

carbon upcycling

Carbon Upcycling transforms low-reactivity materials into SCMs that surpass the minimum standards for use in concrete



All feedstocks are tested and verified by third-party labs

Over **30** varieties of feedstocks has been tested and verified, **providing flexibility and versatility** in deployment opportunities for our cement partners

Tackling Two Massive Problems

Unmanageable Amounts of Industrial CO_2

Heavy industrial emitters (steel, cement, chemicals, etc) account for a large portion of our global carbon emissions – the cement industry alone accounts for 8% of annual global emissions, due to the inherent high-heat chemical and thermal reactions that occur in the kiln to create cement.

Landfills of Industrial By-Products and Natural Minerals

Annually, over 10 billion tonnes of industrial by-products are sent to and stored in landfills, and millions on tonnenes of natural minerals remain underutilized. Without finding a mitigation or utilization pathway for these materials, these mounds of waste will continue to rise and further pollute our planet.

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Scaled by 1,000,000X in 6 years

2016

100 grams

28 gram CO_2

2017

1 kg

0.10 kg CO_2

2018

3 metric tonnes

100 - 150 kg CO_2

2020

250 kg

13.3 kg CO_2

2021

20 metric tonnes

600 - 900 kg CO_2

2022

3 - 5 metric tonnes per hour

900-1500 kg/hr CO_2

Minnesota DOT and the National Road Research Alliance independently funded a trial to evaluate the ability of 16 various lower-carbon products to achieve a sustainable and durable concrete mix for an active section of highway

Practicing Companies/Products

carbon upcycling

CARBON CURE.

pozzotive

TERRA CO2

Hess PUMICE IDAHO USA

CARBON LIMIT

CONTINENTAL CEMENT

LC3

BURGESS PIGMENT COMPANY

3M

CP Tech Center

UHM Ultra High Materials
Stronger ◦ Faster ◦ Greener

Carbon Upcycling's mixture design accomplished the highest reduction in cementitious material of all designs submitted

	Total Cementitious Content (lbs / cubic yard)	SCM %	Emissions Reduction vs. Control (kg CO2e / cubic yard)
MnRoad Control (SCM = Fly Ash)	570 lbs	30%	Baseline
Carbon Upcycling (SCM = CO_2 Fly Ash)	**500 lbs**	**30%**	**- 15.8%**
Other Company 1 (SCM: Manufactured Fly Ash)	570 lbs	35%	- 6.4%
Other Company 2 (SCM = Fly Ash)	558 lbs	30%	-2.1%

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First Projects: UK

First deployment of technology in Mainland Europe

Location Rugby, England

Partner CEMEX

Feedstock Waste Glass

Thank you!

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carbon upcycling

We have traction with the largest global companies

Active in Carbon Upcycling Feedstock Testing Program

US CONCRETE

vimson
Shivanand Salgaocar Group

Buzzi Unicem

SCG

UltraTech CEMENT

Hanson
HEIDELBERGCEMENT Group

PanUnited

NUCOR

ArcelorMittal

Project Development & MOU Discussions

CEMEX

CRH

LAFARGE

HEIDELBERG CEMENT

HOLCIM

BURNCO

NATIONAL CEMENT
A Vicat Company
"The Cement of Choice for Building Success"

DMI
DIVERSIFIED MINERALS INC.