



# Curbing CO<sub>2</sub> at the Source

Solutions and Programs  
for Sustainability





# RESILIENT AND CARBON NEUTRAL BY 2050

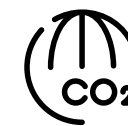
## OUR SUSTAINABILITY PROGRAM

We help customers navigate the challenging carbon neutrality journey throughout the concrete lifecycle. Our expert teams assist our producer partners with solutions, tools, and services to develop high-performing concrete.



### COMPREHENSIVE SOLUTIONS PORTFOLIO

Enhance concrete performance, quality, and reusability, while reducing the carbon footprint throughout the product lifecycle.



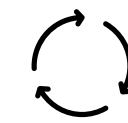
### ACCURATE PRE- QUANTIFICATION

Customers can realize the value of pre-quantifying embodied carbon savings to achieve their targeted CO<sub>2</sub> reduction goals.



### SUSTAINABILITY EXPERTS

Our expert teams can develop innovative solutions that meet your unique requirements and material challenges.



### CIRCULAR ECONOMY

Our mission is to advance sustainable concrete with circular economy-based admixtures.



### UNIQUE PARTNERSHIP APPROACH

We drive the education and application of sustainable concrete practices alongside assisting with mix design optimization for CO<sub>2</sub> reduction.

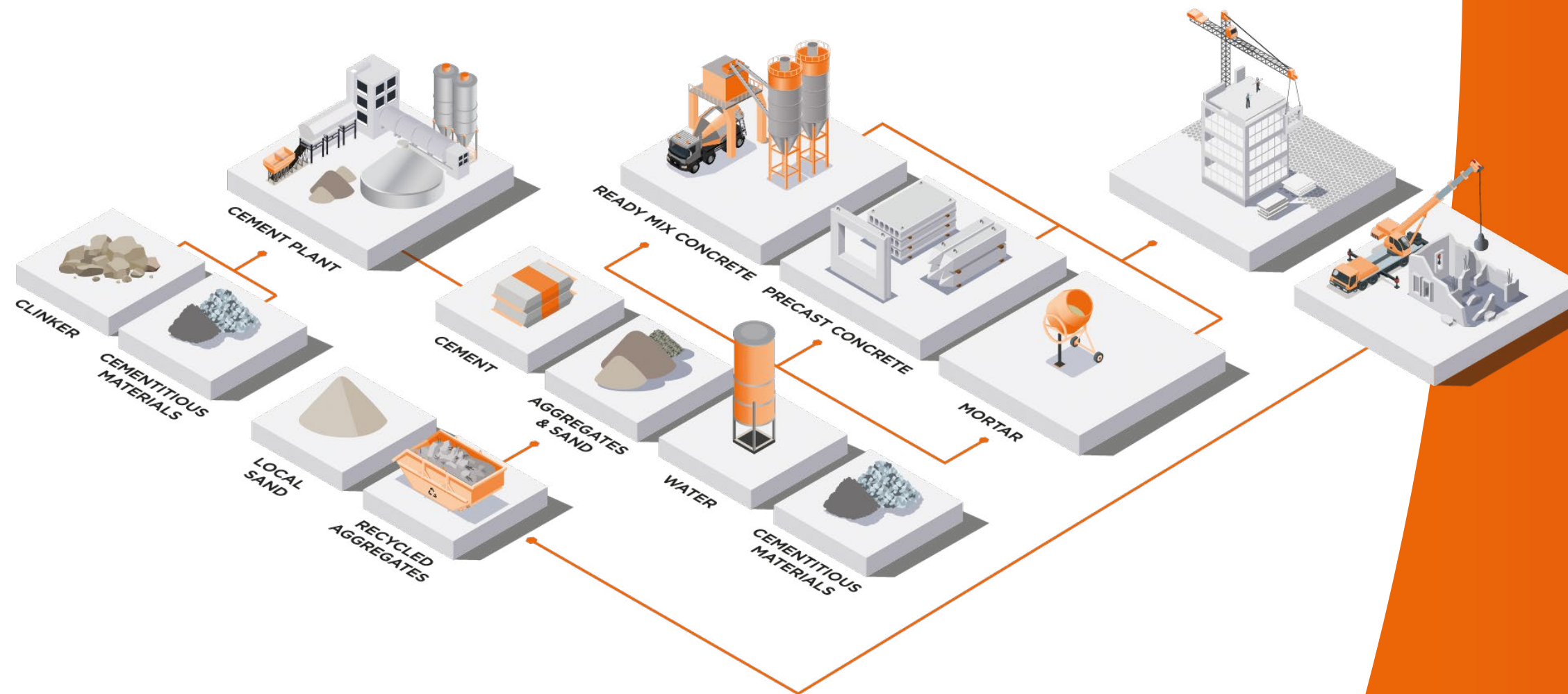


### ENVIRONMENTAL PRODUCT DECLARATIONS

We continue to support our customers during the EPD validation process through our partnership with an industry leading program operator.

# COMPREHENSIVE PORTFOLIO OF SOLUTIONS

We partner with our customers throughout the cement and concrete lifecycle enabling them to achieve their technical, business and sustainable objectives.



## CO<sub>2</sub> OPTIMIZED SOLUTIONS

### Cement Reduction

Highest potential for CO<sub>2</sub> reduction with Strength Enhancers EnviroMix® SE

### Cement Replacement

High potential for CO<sub>2</sub> reduction with Water Reducers (Adva®, CHRYSO®Optima, Concera®, EnviroMix®) and Accelerators

### Use Local Materials to Reduce Transportation

Slight potential for CO<sub>2</sub> reduction with CHRYSO®Quad

### Fiber Conversion from Steel

70-80% lower embodied carbon than reinforcing steel with Macro and Fibrillated Fibers, Strux® & Sintar®

### Recycled and Returned Concrete Solutions

Operational efficiencies with CHRYSO®Convert-C and Recover®

### Reducing Clinker % and Energy Consumption

Cement additives Opteva® & Tavera® for quality improvement and grinding efficiency

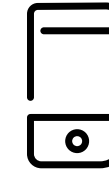
# MIX OPTIMIZATION FOR CO<sub>2</sub> REDUCTION

Proprietary embodied carbon app to pre-quantify results

The mix optimization process considers many factors. Improving concrete durability, resiliency, and overall sustainability starts with the following steps:

- Working with customers to characterize their materials
- Defining customer targets and developing a mix optimization strategy
- Supporting customers through our regional application labs
- Quantifying CO<sub>2</sub> reduction of optimized mix designs

ENVIROMIX  
IMPACT APP



The EnviroMix® Impact App assists in accurate pre-quantification of GWP and does not replace a 3rd party verified EPD. The app uses industry average data references for Scope A1 to A3 and allows for the use of product specific EPD data.

Produce comprehensive reports to use as a decision-making tool.

Compare optimized mix design GWP\* against a benchmark and

view specific material impacts such as; cement, aggregates, transportation, water and cost impacts.

Contact your Technical Sales Representative today to begin your analysis today.

# INDUSTRY NEEDS REDUCTION

With data availability and transparency with a on-demand EPD program

Simplifying compliance with evolving industry requirements. Our technical partner WAP Sustainability Consulting, we have created a program that uses our product specific admixture EPD data in developing your concrete mix designs EPDs.



WEB-ENABLED TOOLS



3RD PARTY VALIDATION



SCALABLE SOLUTIONS



ROBUST ADMIXTURE DATA

## GETTING STARTED WITH AN EPD

Contact your Technical Sales Representative to start the process.

STEP

1

### INITIAL CONSULTATION

With our Sustainability Program Manager and technical partner to review process, costs and goals

STEP

2

### DATA COLLECTION

Of plant specific operational data, such as energy and water use along with material information

STEP

3

### LIFE CYCLE ASSESSMENT

Of concrete materials and plant data

STEP

4

### DOCUMENT GENERATION

EPDs generated per ISO standards and verified via a 3rd party



# UNIQUE PARTNERSHIP

## Customer-driven Approach

- Streamlined admixture screening process and agility to custom formulate
- Adapt to rapidly changing materials, new cements, SCMs, aggregates, and sands

## In-house Knowledge

- Strong local admix formulation and concrete materials expertise (Cement, SCM, Aggregates)

## Synergistic Efforts

- For both cement and concrete performance
- Patent-pending technologies to support low clinker factor cement while maintaining performance
- Proprietary mill diagnostic process support, and other Tech Services
- Focus on minimizing impacts to concrete

## Quick Technology Transfer

- 5 application labs across North America to enhance testing capabilities and fast responsive times
- 2 R&D Centers with the ability to deliver next-generation solutions

## Eco-innovation Practices

- Material decision-making driven by internal LCA expertise
- Designed with circular economy in mind

## Training and Support

Helping your teams navigate the rapidly changing carbon and sustainable construction conversation.

Whether it's a deep dive on mix optimization for CO<sub>2</sub> reduction or understanding how decarbonization efforts are impacting specifications, we're here to collaborate on everything from training programs to project support.



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