
Making Sustainable Innovation Smart Business for Cement and Concrete

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A giant step that leaves a small footprint.
Big Problems with Few Solutions
Carbon pollution, Water Scarcity
Energy use, Solid waste

With Solidia, this...

The Problem:
- Concrete is the 2nd most utilized industrial product on earth
- Cement production represents 5-7% of global CO₂ emissions
- 1 ton of cement produces ~1 ton of CO₂
- ~50% of industrial energy use in developing economies is used to make cement

Huge Target Market:
- Cement: $300 Billion/yr
- Concrete: $1 Trillion/yr

Becomes this.
Solidia Concrete™ pavers installed as a walkway.
Why We Will Be Successful
Taking “Disrupt” out of “Disruptive Technology”

We eliminated barriers to adoption by:
…working with the industry,
not against it, and,
…solving a real challenge.

We offer sustainable technologies that are:
…easy to adopt,
…anywhere in the world,
…using the industry’s existing
  ▪  infrastructure
  ▪  raw materials
  ▪  formulations
  ▪  production methods, and
  ▪  specifications
…while enhancing profitably.
Solidia takes a giant step that leaves a small footprint.

Each year, Solidia’s technologies reduce:

- **the carbon footprint** of concrete by up to 70% ...equaling 1.5 gigatonnes or ~4% of the world’s CO$_2$ emissions, with the potential to do more;

- **water** usage up to 100%, avoiding the consumption of 3 trillion liters of fresh water ...enough to fill 1 million Olympic swimming pools;

- **energy** consumption at cement plants equal to ~260 million barrels of oil/year (or 67 million tons of coal) ...especially critical in developing markets where cement production represents almost 50% of industrial energy use; and

- **landfills** by eliminating at least 100 million tonnes of concrete waste.

And transforms CO$_2$ worldwide into a valuable commodity.
Bringing one of the world’s oldest industries into the 21st century

Cement binds concrete together. It is the single most expensive ingredient in a concrete mixture.

**Solidia’s solution has two pieces:**

1. Better cement with reduced CO\(_2\) emissions and energy use at a lower cost. Produced in traditional kilns, Solidia Cement:
   - reduces energy consumption 30%.
   - reduces CO\(_2\) gas emissions by up to 40%.
   - produces ~12% more cement/tonne of raw materials.

2. Better concrete made with Intelligent CO\(_2\) curing. Solidia Concrete exhibits the following process and product characteristics:
   - Less water (100% of concrete process water can be recycled)
   - Less waste (>1% of concrete production can be recycled)
   - Better product performance
   - While permanently storing CO\(_2\)

1 tonne of Solidia Cement permanently stores up to 300 kg of CO\(_2\) during concrete curing
CO₂ Footprint Reduction on a Global Scale

- Global CO₂ emissions = 36.5 gigatonnes/yr
- Cement production CO₂ emissions = ~2.2 gigatonnes/yr

Solidia’s potential annual CO₂ emissions reduction (tonnes/yr)
- Global precast market: up to 500,000,000
- Add Global ready mix market: up to 1,500,000,000
  ...with the potential to go carbon negative.

By comparison....

CO₂ Emissions
(tonnes/yr)
- UK 370,000,000
- Japan 1,200,000,000
- Russia 1,700,000,000
- India 2,500,000,000
- US 5,000,000,000
- China 10,400,000,000

Footprint reduction = Reduced CO₂ emissions at cement plant + CO₂ permanent storage at concrete plant