

Big problems. Big solution. Fast.



Making Sustainable Innovation
Smart Business
for Cement and Concrete

Tom Schuler
President and CEO

Andlinger Center for Energy
and the Environment
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Princeton University

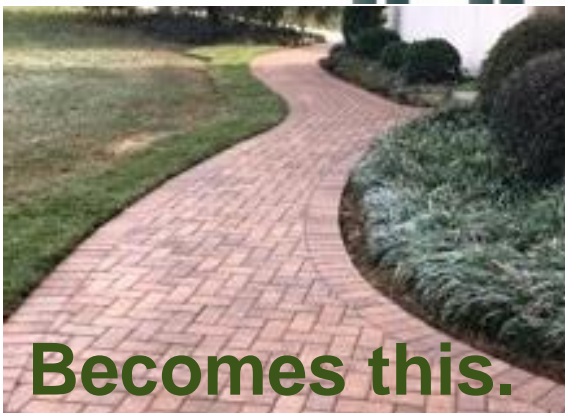
A giant step that leaves a small footprint.

Big Problems with Few Solutions

Carbon pollution, Water Scarcity
Energy use, Solid waste



**With Solidia,
this...**



Becomes this.

Solidia Concrete™ pavers installed as a walkway.

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

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.



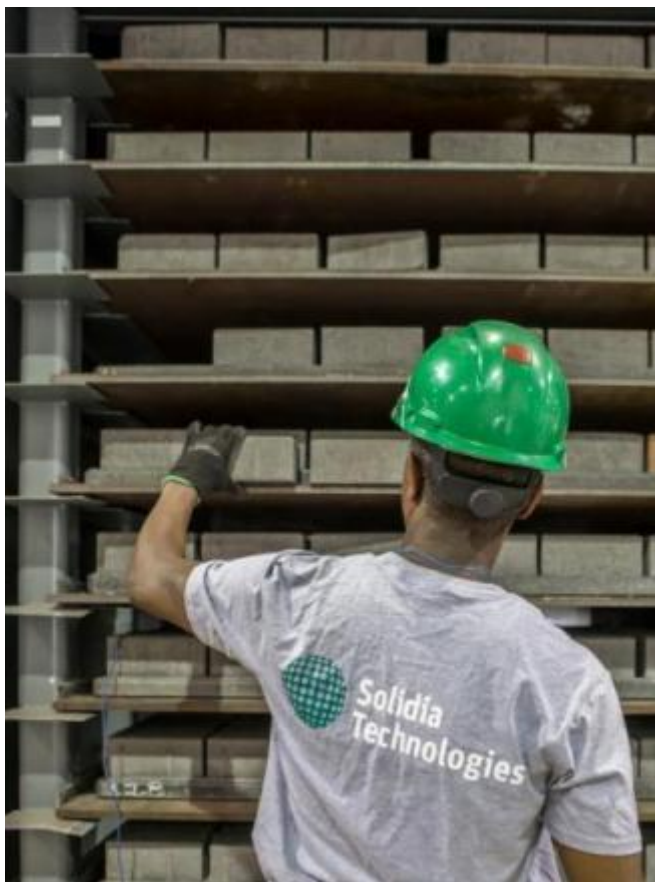
Each year, Solidia's technologies reduce:

- the **carbon footprint** of concrete by up to 70%
...equaling 1.5 gigatonnes or ~4% of the world's CO₂ 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 CO₂ worldwide into a valuable commodity.

Bringing one of the world's oldest industries into the 21st century

1 tonne of Solidia Cement permanently stores up to 300 kg of CO₂ during concrete curing



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 CO₂ emissions and energy use at a lower cost. Produced in traditional kilns, Solidia Cement:
 - reduces energy consumption 30%.
 - reduces CO₂ gas emissions by up to 40%.
 - produces ~12% more cement/tonne of raw materials.
2. Better concrete made with Intelligent CO₂ 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 CO₂

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