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Contact: Ellen Yui, YUI+Company, Inc.
O: 301-270-8571, M: 301-332-4135
ellenyui@yuico.com

Solidia Technologies Announces Possibility of Turning Concrete into a Carbon Sink for the Planet

In TED Talk at Countdown's Global Launch Event, CEO Tom Schuler shares technology application for ready-mix

PISCATAWAY, N.J., October 15, 2020—Solidia Technologies® CEO Tom Schuler shared the possibility of turning Solidia Concrete into a carbon sink for the planet during his TED Talk at TED and Future Stewards' Global Countdown Launch. Tom was invited to "The Countdown," a call to action on climate change, to explain how cement and concrete contribute to the global carbon challenge and the potential impact of new production technologies for Solidia Cement™ and Solidia Concrete™.

"To address global warming, innovation in both cement production and carbon utilization are absolutely essential," said Tom. "Our new technology for ready-mix concrete is currently being tested for infrastructure applications. And we have already pushed our research beyond that with a technology that enables concrete to become a carbon sink; that means we consume more carbon dioxide (CO₂) than we emit during production."

Outlining the issue, he explained how concrete contributes to the global carbon challenge because it is made with cement. "For every ton of cement produced, about a ton of CO₂ is released into the atmosphere. As a result, the cement industry is the second largest industrial emitter of CO₂, responsible for about eight percent of global emissions."

By changing the chemistry of cement, Solidia both lowers emissions at the cement plant and consumes CO₂ in the production of concrete. "Our cement reacts with CO₂ instead of water. During curing, the chemical reaction with our cement breaks apart the CO₂ molecules and captures the carbon to make limestone that glues the concrete together."

For production of precast concrete that is cured in kilns, he explained: "When you combine the emissions reduction during cement production with CO₂ consumption during curing, we reduce cement's carbon footprint by up to 70%."

Describing the different carbon delivery system developed for ready-mix, he added: "Since we can't use CO₂ gas at a construction site, we had to introduce it into our concrete in solid or liquid form. We are partnering with companies that are turning waste CO₂ into a family of chemicals, like oxalic or even citric acid – the same one in orange juice. We use these acids to react with our cement and pack in as much as four times more carbon, resulting in carbon-negative concrete."

Citing the potential impact, Tom explained: "That means that, in just a few hours, one kilometer of road could permanently consume the same amount of CO₂ that nearly 100,000 trees absorb in one year. Thanks to chemistry and waste CO₂, we have the potential to transform concrete – the second most utilized material on the planet – into a carbon sink for the planet."

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About Solidia Technologies®

Based in Piscataway, N.J. (USA), [Solidia Technologies®](#) is a cement and concrete technology company that makes it easy and profitable to use CO₂ to create superior and sustainable building and construction materials. At scale each year, Solidia can eliminate at least 1.5 gigatonnes of CO₂, save three trillion liters of fresh water, reduce energy consumption equal to ~260 million barrels of oil, and eliminate 100 million tonnes of concrete landfill waste, while engaging industry in a rapid, globally scalable response to some of the greatest threats facing people and planet. Solidia's investors include [Kleiner Perkins](#), [Bright Capital](#), [BASF](#), [BP](#), [LafargeHolcim](#), [Total Energy Ventures](#), [Oil and Gas Climate Initiative \(OGCI\)](#), [Climate Investments](#), [Air Liquide](#), [Bill Joy](#) and other private investors. Honors include: the 2020, 2019 and 2014 [Global Cleantech 100](#); a 2020 and 2014 [Best Place to Work in NJ](#); 2020, 2019 and 2018 [BP Advancing Low Carbon](#) accreditation; the 2019 [Solar Impulse 1000 Efficient Solutions](#); 2017 [ERA Grand Challenge](#) (formerly CCEMC) finalist; 2016 [Sustainia 100](#); 2015 [NJBiz Business of the Year](#); 2014 [CCEMC Grand Challenge](#) finalist; 2013 [R&D Top 100](#); 2013 [Katerva Award](#) finalist; and [MIT's Climate CoLab shortlist](#). Follow Solidia on [LinkedIn](#), [Instagram](#), [Twitter](#), and [YouTube](#).

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