



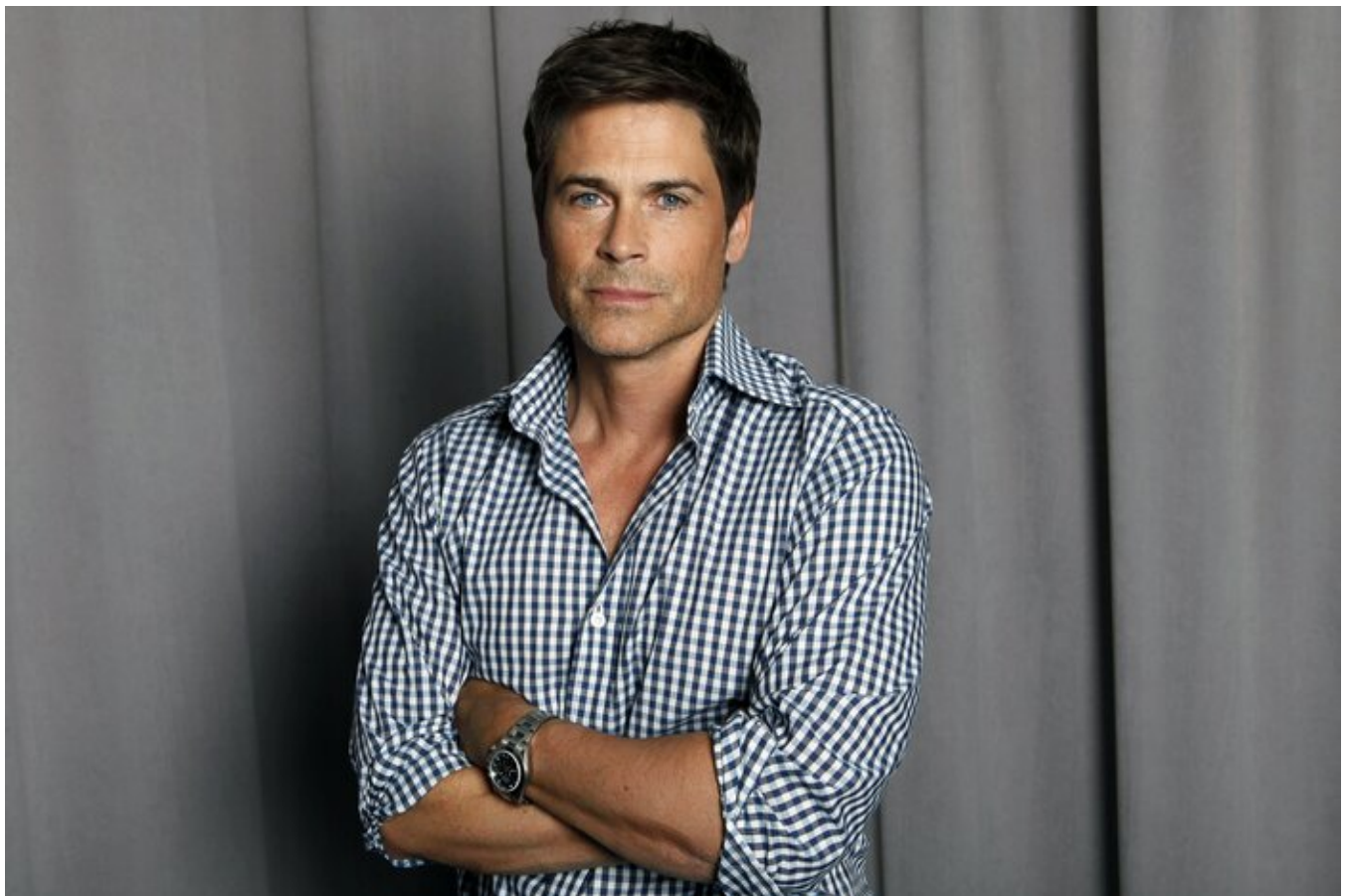
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Green Concrete Idea From Netflix's Hit 'Unstable' Has Potential

By **Andrew McIntyre**

Law360 (May 4, 2023, 9:44 AM EDT) -- Netflix's new hit "Unstable" stars Rob Lowe as the CEO of a startup seeking to develop carbon-capturing concrete. Construction lawyers say the concept actually has legs, with various companies already in research and development — although various barriers exist.

Experts say the idea, which would capture and store carbon in concrete, has potential, but cost is one major concern. And there are various technological and logistics questions that also still need to be sorted out.



Netflix's new hit "Unstable" stars Rob Lowe as the CEO of a startup seeking to develop carbon-capturing concrete. Construction lawyers say the concept actually has legs. (AP Photo/Amy Sussman, file)

"As for its feasibility and likelihood of success, on the latter I am aware of it being successful," said Lawrence Prosen, a member of Cozen O'Connor.

Here, Law360 looks at the current state of carbon-capturing concrete and where it may be headed.

Environmental Variables Abound

In "Unstable," Lowe labors in front of a dry-erase board seeking to sketch out the solution to the carbon-capturing technology. Construction lawyers say developers in real life are also asking similar cost-benefit

questions on the environmental front.

Concrete notoriously has a high carbon footprint, but just how exactly to implement a carbon-capturing element of the process is still a major question. The question currently rests largely with the private sector, although governments could get involved down the road, experts say.

"How much captured, over what time, with lots of other environmental variables, are all important pieces of the puzzle as well as the ever-important cost-benefit analysis," said Adam Richards, a partner at Berger Singerman LLP. "Private projects are a different animal from public, and there's potential that government starts requiring the use of this concrete, and even further, that government leads the way perhaps in requiring the use of such concrete in all construction, but would have to balance out to relieve potential cost pressures of course."

Richards said that while tech and artificial intelligence have been focuses of the construction sector for years, green building has lagged behind, which means it will take some time to sort out questions related to carbon-capturing concrete.

"What other materials/construction processes, if looking from purely an environmental perspective, can/should be evolved and what could those potential impacts be on the industry at large?" Richards said. "Concrete is an important material, surely top in terms of use and demand."

Myriad Cost Pressures

While logistics is one barrier to carbon-capturing concrete, cost is also a major concern, lawyers say.

"The big issue is the cost to capture the CO₂ and inject it into the concrete," Prosen said. "That does take energy."

Prosen noted that certain technologies could make the concrete stronger, which could require less concrete, representing a cost savings on that slice of the process.

Richards said cost is what comes to mind first for him, and that he wonders how many buyers currently would pay a premium for a condo in a building that had used carbon-capturing concrete.

"Where we are right now is still very much so in an inflationary environment, rising costs, supply chain issues, geopolitical/economic uncertainty. Can this new concrete be supplied at or under current market costs? If so, fantastic," Richards said. "Otherwise, developers will have to decide if the juice is worth the squeeze, whatever they deem that squeeze to be, whether purely financial or value is being attributed to the underlying good-cause element."

It's Already Happening

Despite the perceived cost and logistics hurdles, some companies are moving forward.

"There is a facility here in the Bay Area capturing flue gases from one of our local power plants and using the CO₂ for concrete production. It was approved as a demonstration project and recently received a two-year extension," said Emily Lieban, a partner at Holland & Knight LLP who works out of the firm's San Francisco office.

"There's another project doing something similar a little further south at Moss Landing, and UCLA has also been running a project with [Department of Energy] funding to demonstrate viability of carbon-neutral cement. ... Carbon capture through mineralization is definitely a real thing, although it's still in pretty nascent stages," Lieban added.

Meanwhile, in Canada, Halifax-based CarbonCure is also working on a process to permanently inject recycled carbon dioxide into concrete.

And back in California, Fortera is working on a process to capture carbon during the cement manufacturing stage and later feed that carbon back into the concrete.

"To get companies to invest in novel technology with the goal of replacing a generally low-cost existing product with relatively untested green materials requires some strong levers from both the market and the government," Lieban said. "California is working on pulling some of these levers, but it's been slow

going. ... We've had a lot of recent movement in this space in California."

More Research in the Pipeline

While various companies are in the weeds in terms of developing the technology, experts say others are still at the basic research stage, continuing to address fundamental questions of cost, environmental impact and efficiency.

"It seems to have some real legs, albeit getting the process and infrastructure to a cost and efficiency that works is the big step. Currently, concrete suppliers provide air-entrained concrete to reduce cracking and weight," Prosen said. "This takes that to another level, with more green and chemical advantages, from my nonscientific understanding."

One hurdle is selling the new technology to a concrete industry that's for decades been entrenched in the use of the same technology.

"You have novel products going up against traditional and proven building materials, and that can be a tough sell," Lieban said. "Financially, you could get the benefit of environmental incentives, but these often require a life cycle analysis, and whether a particular product can meet the requirements depends on a myriad of factors."

And although some companies are moving forward with the technology in its current form, others may be searching for different ways to accomplish the goal of eco-friendly concrete.

"Even some type of targeted search on the IP front, filings, etc., may reveal some potential options," Richards said. "There most likely are educational institutions/startups currently scrutinizing this on the global scale."

--Editing by Marygrace Anderson and Daniel King.

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