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Carbon-Capture Machines Part of Southern New England's 'Climate Change Moonshot' Initiative

By Tim Faulkner January 12, 2018

PROVIDENCE — Graciela Chichilnisky has a machine that removes carbon dioxide from the atmosphere and she wants to build them in Rhode Island, Connecticut, and Massachusetts.

The Massachusetts Institute of Technology-trained mathematician is a professor of economics at Columbia University and the CEO and co-founder of Global Thermostat, a New York City company that produces industrial-scale systems that collect carbon dioxide and sell it for commercial uses, such as carbonating soda, making plastic, or feeding plants.

Chichilnisky has an impressive resume of professorships, publications, and work on climate agreements that inform her latest initiative. She's concluded that market-based innovation is required to solve the climate crisis. She's done the math and, with a lot of financial backing and public support, she projects that carbon capture can return the atmosphere to safe levels of carbon dioxide and avert the planet from its climate reckoning.

The investment would be massive: $200 billion per year for 15 years to build 32,000 of these "carbon-negative power plants."

Carbon-capture machines cost about $1.5 million apiece and require a source of heat to vacuum the air through carburetors. The heat can come from solar panels or any energy source with a thermal byproduct, such as a fossil-fuel power plant. So far, a test model is running in Berkley, Calif., and a handful of others are in the works.

A project of this scale needs investors, as well as legislative and community backing. That need has prompted a partnership with the Tri-State Climate Coalition. The initiative calls for a "Climate Change Moonshot" to build support and establish financial incentives and subsidies to build the carbon-capture systems, while simultaneously making a wholesale shift to renewable energy.

In Rhode Island, Sen. Jeanine Calkin, D-Warwick, will sponsor resolutions to study and gather facts about massive investments in renewable energy while attracting businesses that can use the captured CO2.

“What are we going to do when much of Rhode Island is underwater and our air is terrible to breath?” Calkin asked during a Jan. 10 carbon-capture discussion at the Rhode Island School of Desgin headlined by Chichilnisky. “We need to look at other options.”

Calkin insisted the development of carbon-capture technology must not occur with the development of new fossil-fuel power plants and related infrastructure.
After a brief video, Chichilnisky fielded questions from members of the audience who worried that the CO2-capture facilities would give fossil-fuel companies justification to conduct business as usual. In fact, the oil industry is the biggest buyer of industrial CO2, which it uses for enhanced oil recovery from oil wells. Others questioned the feasibility and brevity of sequestering carbon dioxide in new products.

Chichilnisky noted that companies such as IKEA are already sequestering carbon dioxide in plastics and that captured CO2 can make carbon fibers, which are used in construction and boat building.

Demand for local sources of CO2 in manufacturing and beverages, Chichilnisky said, give the power plants instant revenue. And since carbon dioxide is evenly concentrated in the atmosphere, it can be collected anywhere.

“Wherever you are you can have a factory to take in the air,” she said. “We can make money and we can avert climate change … people simply don't believe it.”