



Carbon Engineering - Oxy Unit Look to Develop Modular DAC Plants

By Mark Fogarty

A Canadian firm doing a big direct air capture (DAC) venture with a British Columbia First Nation, is expanding its DAC efforts with plans to open a large plant in south Texas that could become a model to “franchise” up to 70 modular DAC operations by 2035.

Such an expansion of DAC plants would give tribes, and other potential local partners vastly increased possibilities to be involved in carbon removal.

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These new carbon removal efforts differ from the one Carbon Engineering (CE) is involved in with the Upper Nicola Band, on its land near Merrick, B.C. It was planned, as an end process, to create fuel from the removal of carbon from the air; while the one in South Texas, as well as the additional modular plants, are seen as sequestering carbon in underground streams.

CE said the one-megaton facility to be built in Kleberg County, Texas will provide the template for many other DAC operations capable of removing up to 30 megatons of carbon from the atmosphere.

It did not specify the number of plants, but partner 1PointFive specified 70 by 2035, with 135 possible if demand is there. Each would be able to remove one megaton of carbon from the atmosphere in a year. 1PointFive, a unit of Occidental Low Carbon Ventures, called these “cut and paste” plants based on the original.

1PointFive said it is continuing to work with CE to reduce the cost of DAC but did not specify by how much.

Current industry benchmarks are \$500 to \$1,000 per ton, while industry participants are hoping to get that down to \$100 per ton.

CE said it is working on an improved capture material for rollout at the end of this year. It is hoping for a 20 percent improvement in capture efficiency, which would lower costs and achieve energy savings.

“The deployment approach standardizes the design of plants to help deliver complete, operationally ready DAC facilities to local partners. Through this process, plant components and equipment will be modularized, mass manufactured, and then assembled on-site using an established supply chain of vendors,” according to 1PointFive.

It projected its first plant in Texas to be operational by late 2024.

At the end of October, CE announced it has started front-end planning and engineering for the south Texas plant.