As Congress promotes carbon capture, lack of pipelines slows companies looking to cash in

James Osborne July 11, 2018 Updated: July 12, 2018 7:12 p.m.

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Captured carbon dioxide piped from the the WA Parish power plant in Fort Bend County. Photo: Marie D. De Jesus, Staff / Houston Chronicle

WASHINGTON — From Occidental Petroleum's headquarters in central Houston, executives can look eastward to the petrochemical complex lining the Houston Ship Channel and watch as thousands of tons of carbon dioxide get pumped into the atmosphere each day.

That gas poses an existential threat to the oil and gas industry as governments worldwide crack down on carbon emissions in an effort to slow climate change, but it is also the life blood of Occidental, which has long pumped carbon dioxide into their oil wells to extricate crude that otherwise would remain trapped underground.

Now, as the U.S. government urges companies to expand the use of carbon dioxide in oil production and other industrial activity — toward creating markets and incentives to capture the gas before it gets into the atmosphere — a roadblock is emerging. Few pipelines are available to move the carbon captured from industrialized areas such as the Houston Ship Channel to remote oil fields where it can be used and stored underground.

“One barrier is the lack of a robust pipeline infrastructure,” said Jody Elliott, president of Occidental Oil and Gas Domestic.“Industries that emit CO2, like refineries, power generators, ethanol plants, cement plants, may not be located near a pipeline.”

Many industry officials and analysts view carbon capture as a key to keeping fossil fuels and the companies that produce them relevant in a low-carbon environment. Earlier this year, Congress passed a budget deal increasing the tax credit for carbon capture projects, with Democrats and Republicans alike hoping to boost interest in a technology whose high costs have so far prevented it from reaching commercial scale.

That would seemingly provide an inexhaustible supply of carbon dioxide to companies like Occidental and Plano-based Denbury Resources, which also has a significant business recovering oil with carbon dioxide**.** Right now, the companies rely on naturally occurring carbon dioxide reserves in underground caverns and carbon capture facilities close to their oil fields.

But even if the technology succeeds, there’s no practical way to move carbon long distances. There is less than 5,000 miles of pipelines for carbon dioxide distribution in the United States — compared to more than 2.5 million miles of natural gas pipelines. Carbon dioxide pipelines are contained within individual regions, with the most in West Texas’s Permian Basin, said Brad Crabtree, policy director at the North Dakota think tank Great Plains Institute.

“It’s a lot compared to what people realize is out there, but it’s a long way from what we need,” he said. “Along the Gulf Coast you have very large sources of CO2 that could be taken advantage of.”

But the appetite for financing long-distance carbon dioxide pipelines is small. Occidental is trying to find a partner to build a $2 billion pipeline that would run close to 400 miles from Houston to the company’s operations in West Texas, where it is developing a new technique that uses carbon dioxide to recover more oil coming from shale wells, to try and prevent the dramatic drop-off in production after those wells’ first year.

With crude prices just back above $70 a barrel, finding investors willing to back such a capital intensive project is proving difficult. NRG Energy’s Petra Nova carbon capture facility in Fort Bend County, which delivers carbon from a coal plant to oil fields less than 100 miles away, was funded in part with a $190 million grant from the Department of Energy.

“Whether it’s private equity, whether it’s government help, there has to be some funds to put the pipeline in,” Occidental CEO Vicki Hollub said at a conference in Houston in March. “Our shareholders are bearing the risk of developing the site facilities and the developments costs. We can’t bear the cost of the pipeline as well.”

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A bipartisan coalition that includes Sen. John Barrasso, R-Wyo., chairman of the Senate Environment and Public Works Committee, and Sen. Sheldon Whitehouse, D-R.I., is pushing for additional legislation to support the development of carbon capture technology, including speeding up the permitting of carbon pipeline networks and funding research into new uses for carbon dioxide.

“We’re trying to find value for carbon,” Barrasso said, speaking to reporters recently. “If we can create a technology that the rest of the world can use, that’s the goal.”

Carbon-capture backers are hoping for more government funding, through a federal infrastructure package that President Donald Trump and other Republicans have called for. But even if that legislation comes together, the political divide over federal spending and climate change is going to make finding funding for carbon capture a difficult sell.

“The whole debate is going to be more challenging now, after tax reform and the cost to the [national] deficit,” Crabtree said. “What feedback we have gotten, there is an interest in doing something [to help fund carbon dioxide] pipelines because this is the missing part of the puzzle.”

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