

Carbon Burial Venturing

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(<https://www.wired.com/story/big-business-burying-carbon-dioxide-capture-storage/>)

Port Arthur's Motiva Oil Refinery. PHOTOGRAPH: KATIE THOMPSON

The capturing of carbon (<https://organikos.net/2016/06/10/new-carbon-capture-method-in-iceland/>) is a concept we have been working to understand (<https://organikos.net/2021/08/26/carbon-capture-closer/>), but questions about where it goes (<https://organikos.net/2016/06/25/using-soil-to-capture-carbon/>) and how it is stored (<https://organikos.net/2017/01/13/tropical-peatland-carbon-storage/>), have been fuzzy until now (thanks to Jeffrey Ball at Wired):



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Tip Meckel holds a sandstone sample. PHOTOGRAPH:
KATIE THOMPSON

The Big Business of Burying Carbon (<https://www.wired.com/story/big-business-burying-carbon-dioxide-capture-storage/>)

The porous rock beneath the Gulf Coast launched the petroleum age. Now entrepreneurs want to turn it into a gigantic sponge for storing CO₂.

SOMETIME AFTER THE dinosaurs died, sediment started pouring into the Gulf of Mexico. Hour after hour the rivers brought it in—sand from the infant Rockies, the mucky stuff of ecosystems. Year after year the layers of sand hardened into strata of sandstone, pushed down ever deeper into the terrestrial pressure cooker. Slowly, over ages, the fossil matter inside the rock simmered into fossil fuels (<https://www.wired.com/tag/energy/>).

And then, one day in early 1901, an oil well in East Texas pierced a layer of rock more than 1,000 feet below Spindletop Hill, and the well let forth a gooey black Jurassic gusher, and the gusher began the bonanza that triggered the land rush that launched the age of petroleum.

One of the products of the economy that black gold built is the city of Port Arthur, Texas. Perched on the muggy shores of Sabine Lake, just across the border from Louisiana, it's among the global oil-and-gas industry's crucial nodes. Port Arthur is home to the largest petroleum refinery in North America, opened the year after the Spindletop gusher and now owned by

the state oil company of Saudi Arabia. The area emits more carbon dioxide (<https://www.wired.com/tag/carbon-dioxide/>) from large facilities every year than metropolitan Los Angeles but has a population 3 percent the size. Smokestacks are its tallest structures; nothing else comes close. Around town, pipeline pumping stations jut up from shopping-center parking lots, steam from petrochemical plants hisses along highways, and refineries flank both sides of main roads, their ductwork forming tunnels over traffic. Janis Joplin, who grew up here, described it in a 1970 ballad called “Ego Rock (<https://youtu.be/SsY6MBI07O8>)” as “the worst place that I’ve ever found.”

Tip Meckel has a more hopeful view of the place, maybe because he spends so much time looking down. A lanky research scientist at the University of Texas’ Bureau of Economic Geology, Meckel has worked for most of the past decade and a half to map a roughly 300-mile-wide arc of the Gulf Coast from Corpus Christi, Texas, through Port Arthur to Lake Charles, Louisiana. Though he’s the grandson of a refinery worker and the son of an oil consultant, his interest isn’t in extracting more petroleum from this rock. Instead, he has devoted most of his career to figuring out how to turn it into a commercial dump for CO₂.

The idea is that major emitters will Hoover up their own carbon waste, then pay to have it compressed into liquid and injected back down, safely and permanently, into the same sorts of rocks it came from—carbon capture and sequestration on a scale unprecedented around the globe, large enough to put a real dent in climate change (<https://www.wired.com/tag/climate/>). Suddenly, amid surging global concern about the climate crisis, some of the biggest names in the petroleum industry are jumping in.

On the rainy morning I meet Meckel in Port Arthur, the brown-haired geologist (<https://www.wired.com/tag/geology/>) is dressed in a blue Patagonia fishing shirt, black jeans, and running shoes, with sunglasses dangling from a leash around his neck. We pile into his gray Toyota 4Runner and head south, through the petro-sprawl, toward the Gulf. We’re off to see a patch of ocean that Meckel thinks could be key to the drive for decarbonization...

Read the whole article here. (<https://www.wired.com/story/big-business-burying-carbon-dioxide-capture-storage/>)

Carbon, Climate Change, Collaboration, Conservation, Economics, Engineering, Geology, Innovation, Science

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