

What is Carbon Capture?

- Carbon Capture and Storage or “CCS” is a vital technology that combats climate change by removing CO₂ from the air and permanently storing it thousands of feet underground.
- Calpine is a champion for CCS and supports policies incentivizing the technology. We can deploy CCS to reduce CO₂ while ensuring a reliable supply of electricity and protecting and creating thousands of high-paying jobs.

The Steps



Step 1

Capture technology removes carbon dioxide emissions from industrial processes and the air. Capture equipment can be retrofitted to existing facilities or built into new facilities.



Step 2

Captured CO₂ is transported from the emissions source to appropriate geologic formations.



Step 3

The captured carbon is injected thousands of feet underground, where it is safely and permanently stored under layers of impermeable rock where it mineralizes and becomes rock.

Our Deer Park Carbon Capture Project:

The DOE awarded Calpine a grant to support the carbon capture project at our Deer Park Energy Center. In collaboration with industry leader Shell Cansolv, this project is set to be one of the world's largest carbon capture projects and will be designed to capture 95% or more of total CO₂ emissions from flue gas generated from the turbines at Calpine's Deer Park Energy Center. As a combined heat and power generation facility, carbon capture at this facility will enable it to provide low-carbon industrial heat to co-located facilities and low-carbon power to the Texas grid.

More Details:

- About 1200 megawatts of carbon-free power.
 - Enough to power more than 480,000 homes.
- Up to 5 million metric tons per year in CO₂ offsets.
 - Equivalent to removing 1,077,346 cars from the road annually.
- FEED (Front End Engineering Design) study, permitting and preliminary development underway.
- Potential employment benefits from the creation of clean energy power plant jobs and progress toward addressing legacy environmental justice issues in the region.
- Close to over 150 gigatons (330 trillion pounds) of CO₂ carbon storage capacity in the Gulf Coast of Texas that can store carbon dioxide safely and securely, permanently preventing it from entering the atmosphere and contributing to climate change.
- With over 300 million metric tons per year CO₂ emissions in the greater Houston area, Calpine is currently working with other industrial emitters in the region on modular, scalable carbon capture solutions as well as integrated pipeline and transportation plans that will yield synergies and accelerate the establishment of a Greater Houston Carbon Capture Utilization and Storage (CCUS) hub.

