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# Carbon Capture Demonstrations Projects Selected and Awarded Projects

Baytown Rendering

# Awarded Carbon Capture Demonstration Projects

## Baytown Carbon Capture and Storage Project

PROJECT FACT SHEET →

COMMUNITY BENEFITS COMMITMENTS SUMMARY →

*Fact sheets currently describe Phase 1.*

*Baytown Energy Center*

**Federal Cost Share:** Up to $270 million

**Recipients:** Calpine Texas CCUS Holdings, an indirect subsidiary of Calpine

**Location:** Baytown, Texas

**Project Summary:** Calpine plans to build the Baytown Carbon Capture and Storage Project (Baytown CCS Project), a carbon capture demonstration facility that aims to capture carbon dioxide from the Baytown Energy Center (BEC), a natural gas combined-cycle power plant in Baytown, TX. The project would be the first full-scale implementation of CCS technology at a natural gas combined cycle power plant in the U.S. The project plans to use Shell's CANSOLV point-source technology to capture up to 2 million metric tons of CO2 annually—equivalent to the annual emissions of nearly 450,000 gasoline-powered cars. The project plans to sequester the CO2 in saline storage sites on the Gulf Coast. The project is evaluating the use of greywater cooling to

minimize freshwater consumption by reusing wastewater. The project's primary power and steam off-taker, Covestro, plans to prove technologies that showcase the benefits of decarbonized process heat and electricity in the industrial sector.

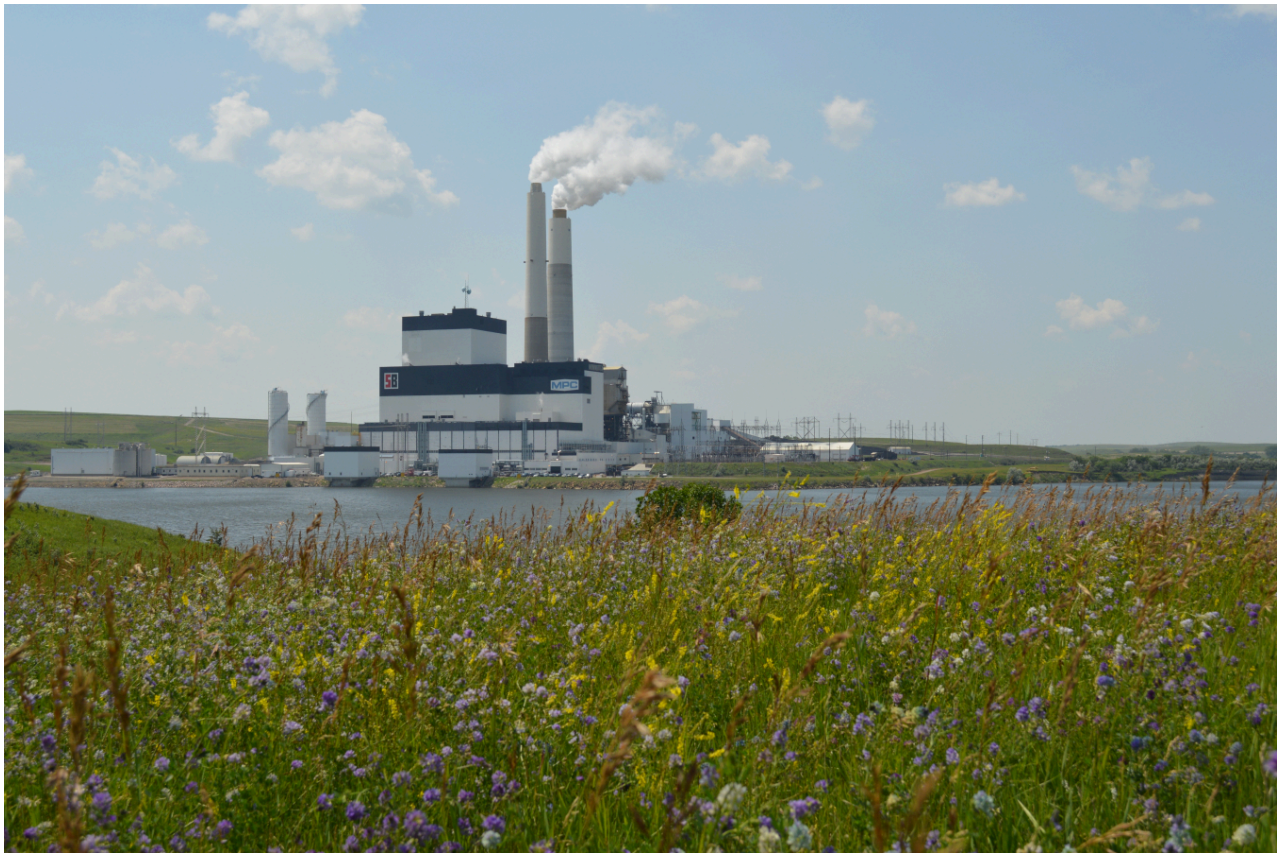
Calpine has committed to creating a strong Community Benefits Plan with local stakeholders that prioritizes equity, justice, and creation of quality, good paying local jobs. The project has already incorporated community feedback into the project designs to reduce non-CO2 air pollutants in addition to minimizing freshwater usage. The project estimates creating approximately 22-26 permanent jobs and 1,500,000 hours of construction jobs and has partnerships with Minority-Serving Institutions to support equitable job access and workforce development including the support of internships from HBCUs and Hispanic-Serving Institutions. Calpine plans to develop a Community Benefits Agreement to ensure the project delivers benefits to local communities. The project will include third party Community Benefits Plan monitoring and validation to support accountability and transparency.

## Project Tundra

PROJECT FACT SHEET →

COMMUNITY BENEFITS COMMITMENTS SUMMARY →

*Fact sheets currently describe Phase 1.*



***The Milton R. Young Station provides reliable power for communities in North Dakota and Minnesota***

**Federal Cost Share:** Up to $350 million

**Recipient:** Dakota Carbon Center East Project LLC (DCC East), led by project sponsor Minnkota Power Cooperative

**Location:** Center, North Dakota

**Project Summary:** Project Tundra is a carbon capture system that would be developed by the Dakota Carbon Center East Project LLC (DCC East), which is led by project sponsor Minnkota Power Cooperative. DCC East was formed to facilitate investment in and development of Project Tundra, which would be located near Center, North Dakota. The project plans to deploy carbon capture technology at Milton R. Young Station using Mitsubishi Heavy Industries' KS-21 solvent to capture up to 4 million metric tons of CO2 each year—equivalent to the annual emissions of 800,000 gasoline-powered cars—from the coal power plant each year. The captured CO2 would be safely and permanently stored in

saline geologic formations deep underground beneath the power plant. The storage site has already been approved for a Class VI well permit, which minimizes schedule risk. The project plans to transfer lessons learned to inform future carbon capture projects around the country.

Project Tundra plans to establish a Community Advisory Group with membership from local impacted communities, workforce organizations and labor unions, and community-based organizations to discuss and offer feedback on project initiatives and community benefits. The project team would also work with community representatives to negotiate Community Benefits Agreements to align project benefits with the needs of impacted communities and Good Neighbor Agreements to protect the natural landscape and ensure responsible project development. Project Tundra also plans to engage tribal nations and Tribal Colleges and Universities to provide workplace and educational opportunities for students.

## Sutter Decarbonization Project

PROJECT FACT SHEET →

COMMUNITY BENEFITS COMMITMENTS SUMMARY →

*Fact sheets currently describe Phase 1.*

*ION Clean Energy's rendering of a carbon capture demonstration facility*

**Federal Cost Share:** Up to $270 million

**Recipients:** CCS LLC, an indirect subsidiary of Calpine

**Location:** Yuba City, California

**Project Summary:** The Sutter Decarbonization Project plans to demonstrate and deploy a commercial-scale carbon capture system at the Sutter Energy Center, which is a 550-megawatt natural gas combined-cycle power plant near Yuba City, CA. The Sutter Decarbonization Project plans to use ION's ICE-21 solvent to capture up to 1.75 million metric tons of carbon dioxide from this facility each year—equivalent to the annual emissions of nearly 390,000 gasoline-powered cars—transport it and sequester it permanently and safely more than a half mile underground in saline geologic formations. This project will be the first in the world to deploy an air-cooling system at a carbon capture facility, which will eliminate the use of cooling water and significantly minimize freshwater usage—a critical concern of the local community and an imperative to further deployment of CCS in the arid western United States. To minimize land disturbance, the Sutter Decarbonization Project plans to construct and

operate a transportation pipeline running parallel to or using an existing natural gas pipeline rights-of-way.

Sutter Energy Center has been an active community member for more than two decades—including negotiating Community Benefits Agreements—and the Sutter Decarbonization Project will include robust community engagement. The project has already incorporated community feedback into the project designs and made responsive changes to absorber column height, sound dampening systems, and the cooling method. The project also has a long-term commercial relationship with the Sacramento Municipal Utility District (SMUD). SMUD has said that the project will provide tangible benefits to its customers, which include disadvantaged and under-resourced communities, and that it will be a partner in targeted outreach and two-way engagement with traditionally excluded communities. Negotiation of a Project Labor Agreement (PLA) is underway and the project plans to engage with local and statewide labor organizations and educational institutions to secure qualified and highly skilled craft labor. The project estimates creating approximately 15–20 permanent jobs and 1,500,000 hours of construction jobs. In addition to the PLA, the project is engaged and collaborating with the community to implement a robust Community Benefits Plans. The project plans to support 10 internships through Minority-Serving Institutions to create career pathways that can help ensure that the project's high-quality jobs are filled by a skilled workforce from historically underrepresented communities. During operations, the project has a 10 percent diverse supplier spend goal. Lawrence Livermore National Laboratory will support accountability and transparency and will monitor the implementation of the project's Community Benefits Plans.

**Q. What is carbon capture, transport, and storage?**

**Q. How is carbon capture, transport, and storage different from Direct Air Capture?**

**Q. Why is DOE investing in carbon capture, transport, and storage?**

**Q. How many projects have been selected and how much funding is DOE providing?**

**Q. How were the Carbon Capture Demonstrations projects selected?**

**Q: How is this related to the Carbon Capture Demonstration Projects Program Front-End Engineering Design (FEED) Studies?**

Q. What are the anticipated benefits of the Carbon Capture Demonstrations?

Q. How does DOE plan to address risks associated with these projects?

Q. How will communities where these projects are located be engaged?

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