



**OCED**  
Office of Clean Energy Demonstrations

# THE OFFICE OF CLEAN ENERGY DEMONSTRATIONS



## Carbon Capture Demonstrations National Briefing on Project Selections

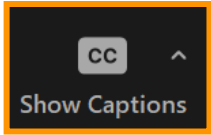
December 18, 2023

Office of Clean Energy Demonstrations

U.S. Department of Energy

# Webinar Logistics

## How do I turn on live captions?

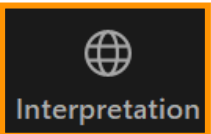


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## Is this webinar being recorded?

**Yes, this webinar is being recorded** and will be available on the DOE YouTube channel and the OCED website within the next few days.

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Click on the “**Interpretation**” button in the control panel at the bottom of your screen.

## Will the slides be shared?

**Yes, a copy of the presentation slides will be shared** via email with registrants and on the OCED website within the next few days.



# Agenda

- Welcome & Opening Remarks
- Carbon Capture Demonstration Projects Program Overview
- Selected Carbon Capture Demonstration Projects Overview
- Next Steps & Resources





# Opening Remarks



# Carbon Capture Demonstration Projects

# How Does Carbon Capture and Storage (CCS) Work?

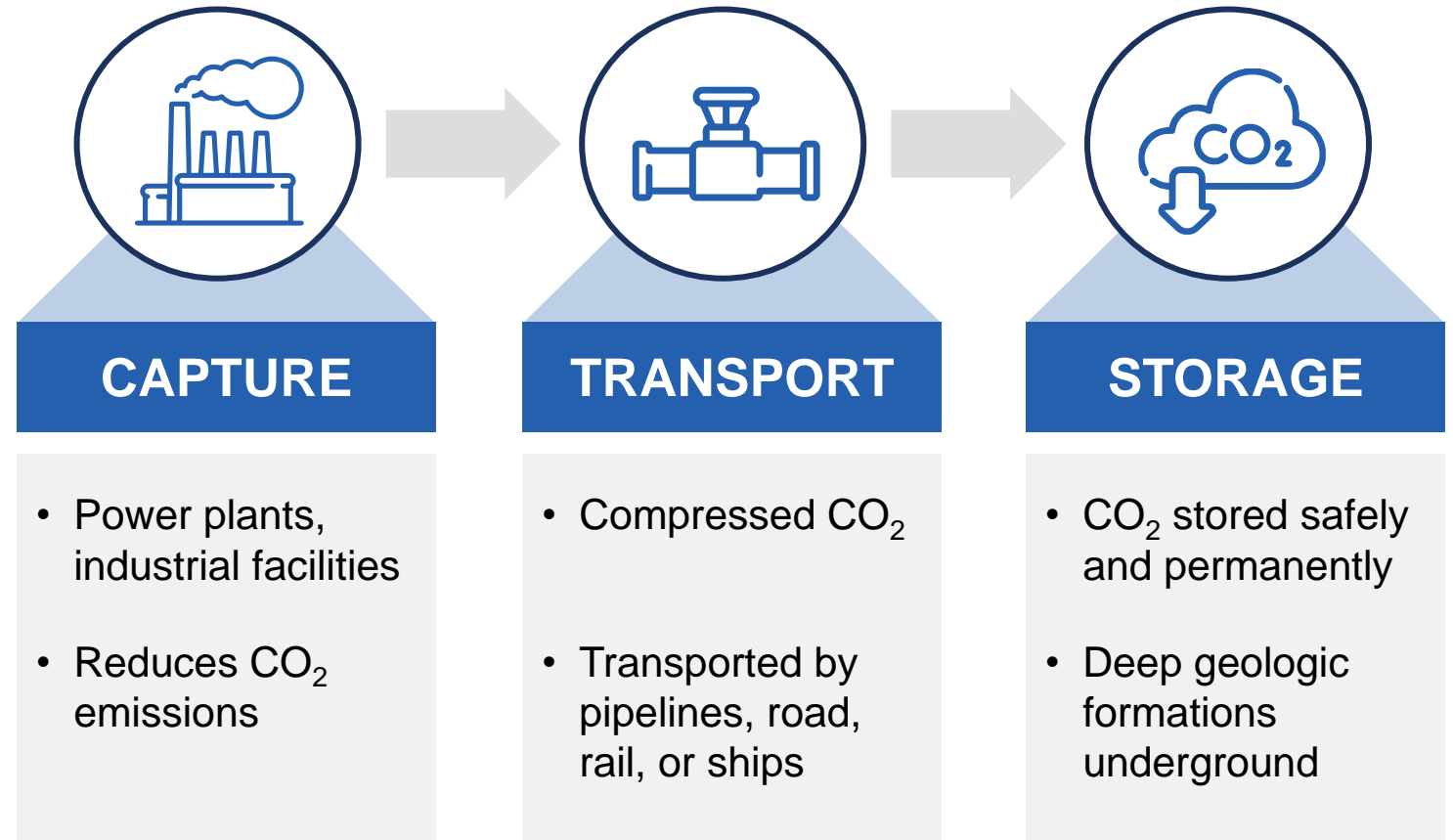
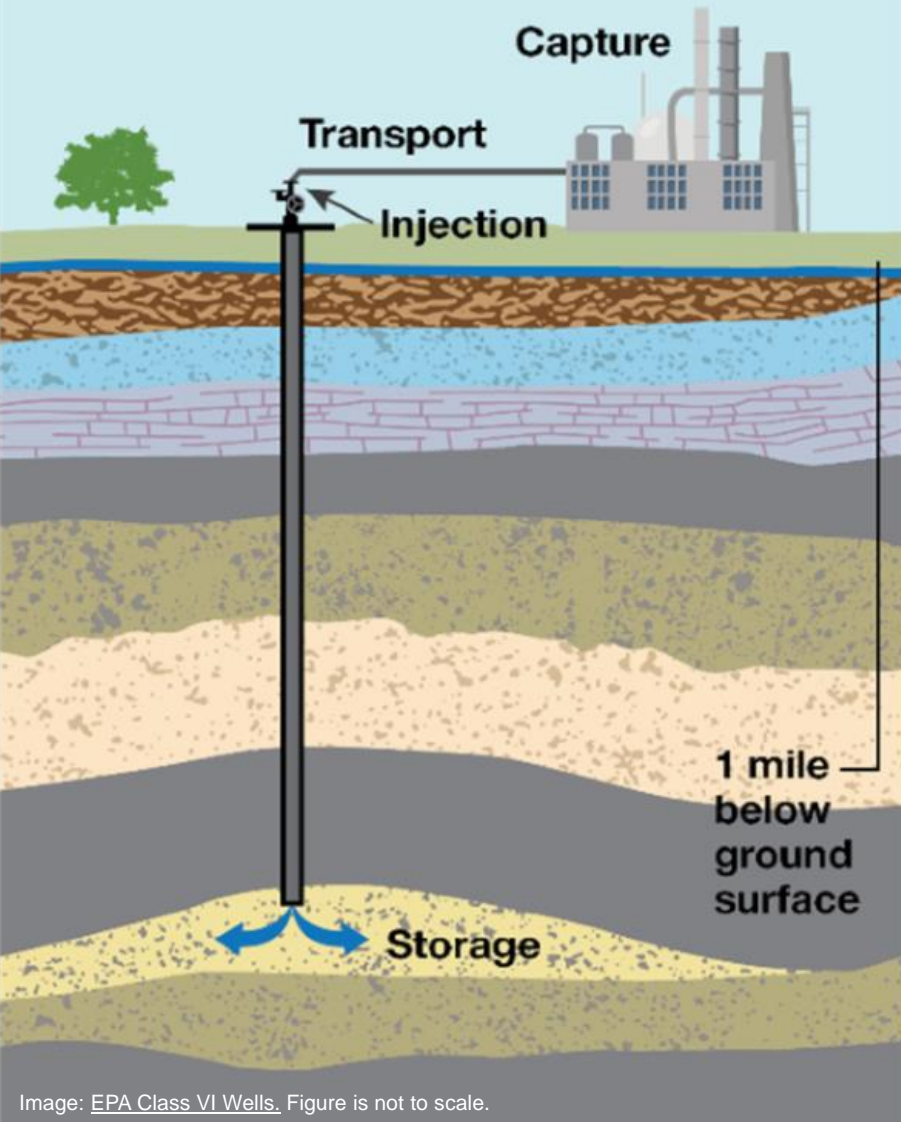
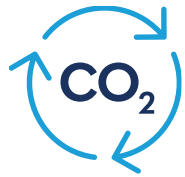


Image: EPA Class VI Wells. Figure is not to scale.

# Deploying CCS Technology has the Potential to...



**Reduce harmful carbon pollution** by preventing carbon emissions from entering the atmosphere.



**Demonstrate technology leadership** and increase U.S. competitiveness in the global energy transition.



**Deliver cleaner air** by reducing health-harming pollutants, like SO<sub>2</sub>, NO<sub>x</sub>, and particulate matter.



**Maintain good, high-wage jobs** while advancing the clean energy economy.



**Decarbonize existing infrastructure** and assets in the power and industrial sectors.



**Support our nation's net-zero goals** and help the world decarbonize at existing facilities.





## Carbon Capture Demonstration Projects Program

**Develop six carbon capture facilities to significantly improve costs, emissions reductions, and environmental effects of coal and natural gas use.**

### **CCS Demonstrations Current Status**

- February 2023: Announced funding opportunity for CCS Demonstration Projects.
- May 2023: Received full applications.
- **December 14, 2023: OCED announced three projects selected for award negotiation.**
- DOE anticipates future FOAs for CCS Demonstrations.

### **Carbon Capture FEED Studies Current Status**

- May 2023: Selected nine FEED study projects for award negotiation.
- September 2023: Awarded two FEED study projects.
- December 2023: Awarded two FEED study projects.
- *Other FEED study selectees are still in negotiations.*



# Prioritizing Community Benefits in OCED Projects

OCED **requires** applicants to include a Community Benefits Plan to help ensure broadly shared prosperity in the clean energy transition.

By **prioritizing community benefits**, we can ensure the next chapter in America's energy story is marked by greater justice, equity, security, and resilience.

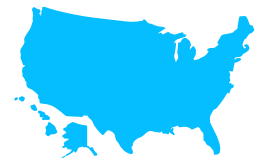
**Community & Labor Engagement**



**Diversity, Equity, Inclusion, & Accessibility**



**Investing in the American Workforce**



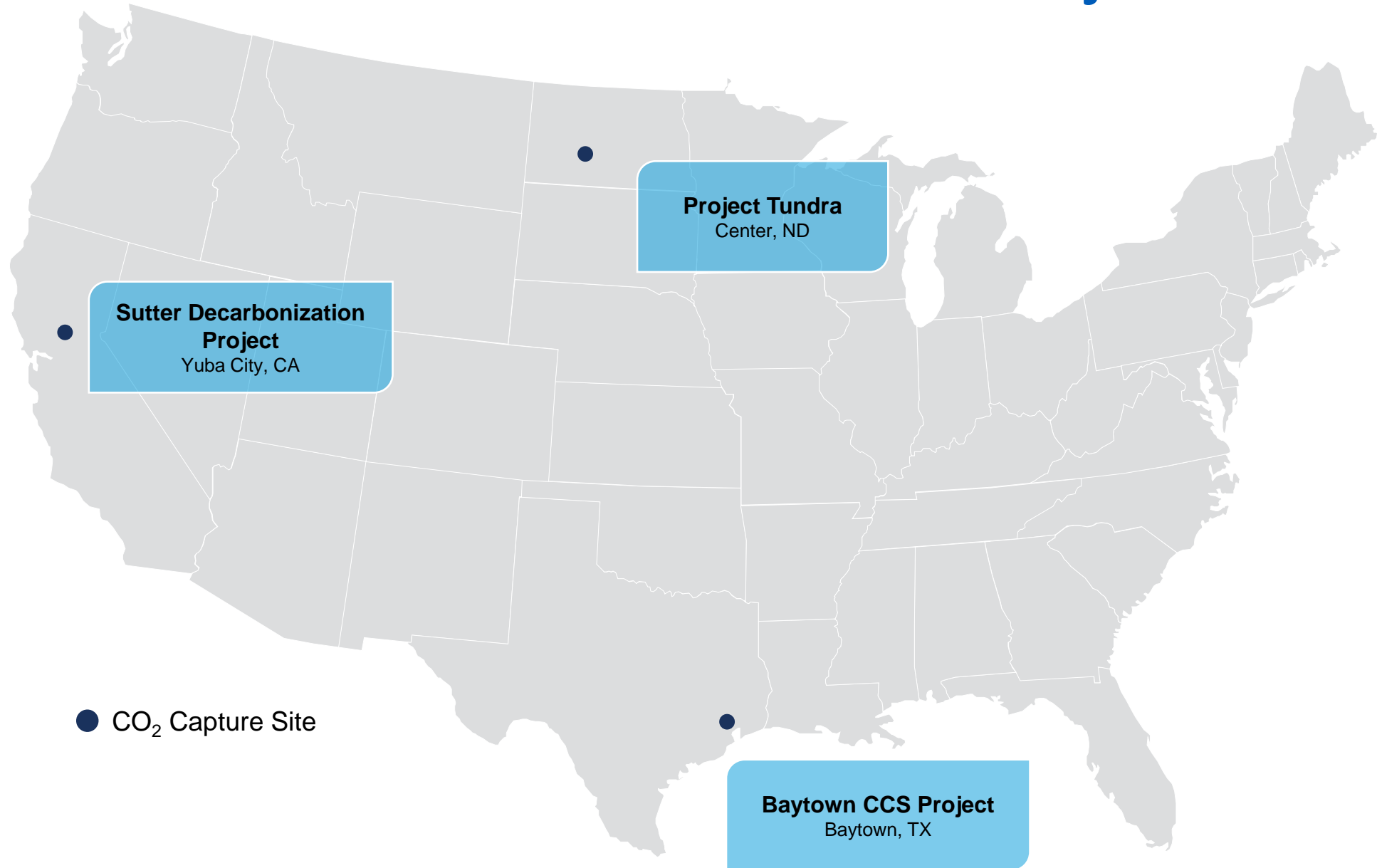
**Justice40 Initiative**





# CCS Demonstration Projects Selected for Negotiations

# Selected CCS Demonstration Projects



# Selected CCS Demonstration Projects Will...

## Reduce CO<sub>2</sub> Emissions

- ✓ 7.75 million metric tons of CO<sub>2</sub> will be captured annually
- ✓ Captured CO<sub>2</sub> will be permanently stored in geologic formations deep underground

## Demonstrate innovation with first-of-a-kind projects

- ✓ 1<sup>st</sup> CCS demonstrations for natural gas combined-cycle power plants
- ✓ 1<sup>st</sup> CCS project with saline storage for a coal-fired power plant
- ✓ 1<sup>st</sup> CCS project to deploy an air-cooling system to reduce water use

## Provide tangible benefits for Americans

- ✓ Retain and create good-paying jobs
- ✓ Create new training programs in partnership with labor unions
- ✓ Support supply chain diversity by partnering with minority-owned businesses

# Project Tundra

## Project Overview

Prime Applicant:

**Dakota Carbon Center  
East Project LLC**

Location:

**Center, North Dakota**

Federal Cost Share:

**Up to \$350 Million\***

\*Pending negotiations

## Key Facts

- Coal-fired power plant
- **4 million metric tons of CO<sub>2</sub> annually**
- Storage site: Saline geologic formations near the power plant in ND
- 1<sup>st</sup> U.S. coal plant storing CO<sub>2</sub> in saline formations

## Community Benefits

- Plan to negotiate a Community Benefits Agreement (CBA) and Project Labor Agreement (PLA)
- Existing Collective Bargaining Agreement with International Brotherhood of Electrical Workers
- Estimate creating approx. 25 permanent jobs and a minimum of 400 construction jobs





# Sutter Decarbonization Project

## Project Overview

Prime Applicant:  
**Sutter CCUS, LLC,**  
a Calpine subsidiary

Location:  
**Near Yuba City, California**

Federal Cost Share:  
**Up to \$270 Million\***

\*Pending negotiations

## Key Facts

- Natural gas combined-cycle power plant
- Capture capability up to **1.75 million metric tons of CO<sub>2</sub> annually**
- Storage site: Saline geologic formations 10 miles from the power plant in CA
- Air cooling to minimize water consumption

## Community Benefits

- Negotiating a Project Labor Agreement (PLA)
- Plans to support 10 paid, pathway to employment internships through Minority-Serving Institutions
- Estimate creating approx. 15-20 permanent jobs and 1.5 million hours of highly skilled craft labor



# Baytown CCS Project

## Project Overview

Prime Applicant:

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

Location:

**Baytown, Texas**

Federal Cost Share:

**Up to \$270 Million\***

\*Pending negotiations

## Key Facts

- Natural gas combined-cycle power plant
- **2 million metric tons of CO<sub>2</sub> annually**
- Storage site: Saline geologic formations on Gulf Coast
- Greywater cooling to minimize freshwater use



## Community Benefits

- Plans to develop a Community Benefits Agreement
- Partnering with Minority-Serving Institutions to support 10 paid, pathway to employment internships
- Estimate creating approx. 22-26 permanent jobs and 1,500,000 hours of construction jobs





# Next Steps & Resources



# Next Steps – Negotiations

**Award Negotiations:** DOE OCED will begin the negotiations process with project selectees

**After Award: *IF the projects receive an award (successful negotiations)***

- Awarded projects will enter into a cooperative agreement with OCED
- Phase 1: Detailed Project Planning begins
- NEPA: OCED will work with the awarded project partners starting in Phase 1 to ensure compliance with the National Environmental Policy Act (NEPA)
- Local communities (state, local and community stakeholders) will have the opportunity for ongoing engagement with OCED and the awardee(s)

More broadly, DOE is exploring the use of regional frameworks to support project outcomes.

# Get Involved

How could this project impact me?

Learn more about OCED's Community Benefits Plan →

Is there a Carbon Capture Demonstration project near me?

Learn more about the selected projects here →

Project selected



What is a CC Demo project?

Learn more →

**Announcement and Negotiations**  
Projects have been selected, but awards have not been made

Project awarded



1

~12-18 months

When are the CC Demos project-specific briefings?

Learn more and register here →

2

~2-3 years

Phase 2: Project Development

Community Benefit Commitments Public

Phase 1: Detailed Plan

Community Benefit Commitments Public

Ongoing community engagement throughout each phase

3

~3-6 years

Phase 3: Install, Integrate, Construct

Community Benefit Commitments Public

4

~2-4 years

Phase 4: Ramp-Up & Operate

Community Benefit Commitments Public

How do I stay informed?

Sign up for updates →



# Next Steps – Community Briefings

Learn more and  
register: [Local  
Engagement  
Opportunities](#)

OCED will hold three virtual project-specific briefings where selectees will share more information with the communities hosting CCS Demonstration Projects.

**Project Tundra – North Dakota**  
**Tuesday, January 9, 2024**

**Baytown CCS Project – Texas**  
**Wednesday, January 10, 2024**

**Sutter Decarbonization Project – California**  
**Thursday, January 11, 2024**

\*Subject to change based on negotiations. Negotiations may take several months.



## Stay Connected

- Reach DOE OCED about these CCS Demonstration Projects at [Engage\\_CCS@hq.doe.gov](mailto:Engage_CCS@hq.doe.gov)

- OCED Website & Newsletter [energy.gov/oced](https://energy.gov/oced)

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- Follow us on LinkedIn [linkedin.com/company/doe-oced/](https://linkedin.com/company/doe-oced/)

# CCS Demonstration Projects Resources

## Carbon Capture Demonstration Projects Program

- [Program Page](#)
- [Press Release](#)
- [Overview of Selected Projects](#)
- [Local Engagement Opportunities](#)

## Community Benefits

- [CBP101 Webinar](#)
- [OCED CBP Factsheet](#)
- [OCED Communities, Jobs, and Justice Page](#)

## Additional Carbon Capture Resources

- [Carbon Management Pathways to Commercial Liftoff Report](#)
- [Interactive Diagram of DOE's Carbon Management Provisions](#)
- [EPA Class VI Wells Information](#)



# Thank you!



**OCED**  
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For more information, please visit: [energy.gov/OCED](https://energy.gov/OCED)