



THE OFFICE OF CLEAN ENERGY DEMONSTRATIONS



Carbon Capture Pilot at Vicksburg Containerboard Mill: Community Briefing

February 28, 2024

Office of Clean Energy Demonstrations

U.S. Department of Energy

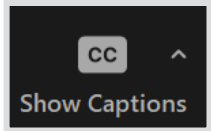
Welcome & Meeting Objectives

- The Office of Clean Energy Demonstrations (OCED) at DOE recently announced the selection of four Carbon Capture Large-Scale Pilot Projects, including one in Vicksburg, Mississippi.
- We at DOE want to share more information on this project and the opportunities to plug in and help shape your community's energy future.
- Engage with DOE and the partners involved in this project.



Briefing Logistics

How do I turn on live captions?

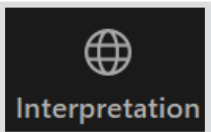


Click on the “**Show Captions**” button in the control panel at the bottom of your screen.

Is this briefing being recorded?

No, this briefing is not being recorded in order to encourage open dialogue and participation from all attendees.

How do I turn on Spanish or ASL interpretation?



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 & Objectives
- OCED Overview
- Carbon Capture Large-Scale Pilot Projects Program Overview
- Carbon Capture Pilot at Vicksburg Containerboard Mill Overview
- Next Steps & Resources
- Feedback Session
- Wrap-up & Close



OCED Overview



John Brown,
Stakeholder Engagement
Lead, Carbon Capture,
OCED

OCED Mission

Deliver clean energy technology **demonstration projects at scale** in partnership with the **private sector** to **accelerate deployment, market adoption**, and the **equitable transition** to a decarbonized energy system.



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.

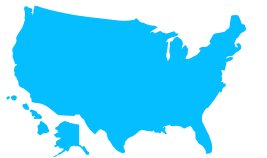
Community & Labor Engagement



Diversity, Equity, Inclusion, & Accessibility



Investing in the American Workforce



Justice40 Initiative



OCED
Office of Clean Energy Demonstrations

Carbon Capture Large-Scale Pilot Projects



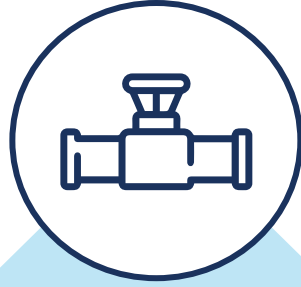
Todd Shrader,
Deputy Director, Project
Management, OCED

How Does Carbon Capture, Utilization, and Storage Work?



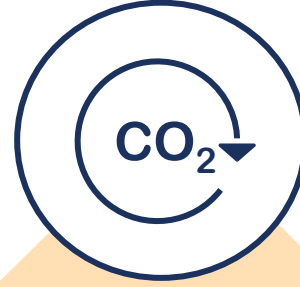
CAPTURE

- Power plants, industrial facilities
- Reduces CO₂ emissions



TRANSPORT

- Compressed CO₂
- Transported by pipelines, road, rail, or ships



UTILIZATION

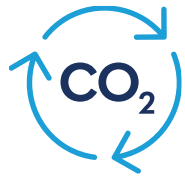
- CO₂ is used to make products
- E.g., fertilizer, building materials, chemicals, fuels



STORAGE

- CO₂ stored safely and permanently
- Deep geologic formations underground

Deploying Carbon Capture 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 SO₂, NO_x, 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.



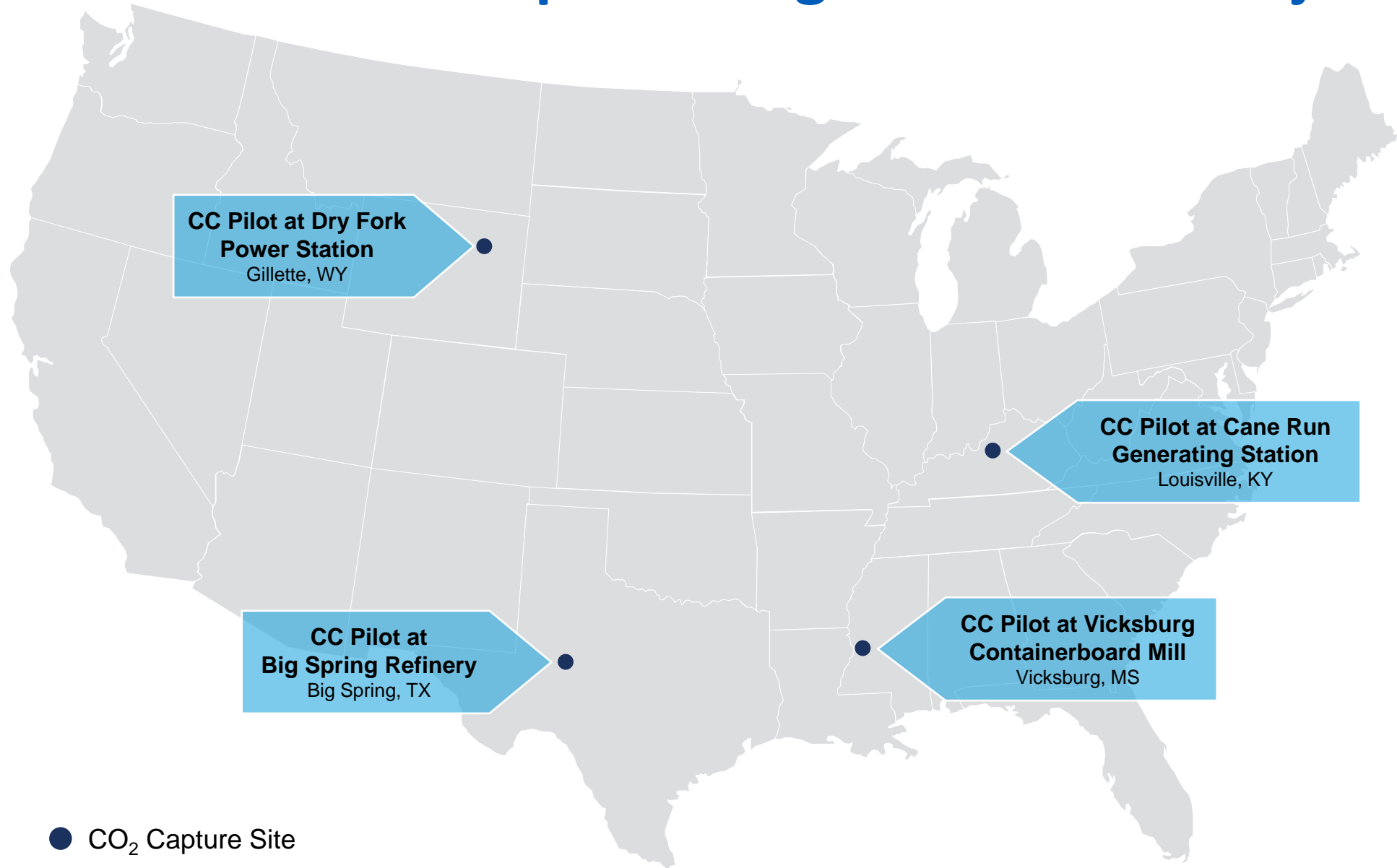
Carbon Capture Large-Scale Pilot Projects Program

Establish and test innovative carbon capture pilot projects large enough to support new processes and technology improvements at scale.

Carbon Capture Pilots Current Status

- February 2023: Announced funding opportunity for Carbon Capture Large-Scale Pilot Projects.
- May 2023: Responded to concept papers.
- July 2023: Received full applications.
- **February 2, 2024: OCED announced four projects selected for award negotiation.**
- DOE is considering another FOA for more Carbon Capture Large-Scale Pilot Projects.

Selected Carbon Capture Large-Scale Pilot Projects





Carbon Capture Pilot at Vicksburg Containerboard Mill Overview

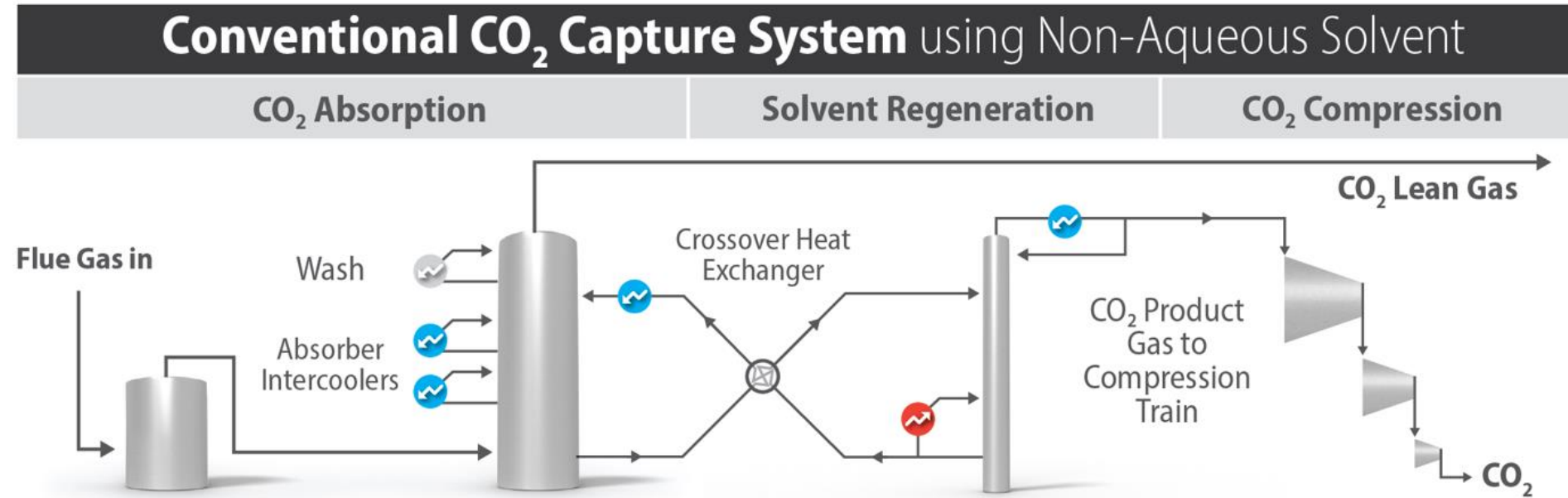
Carbon Capture Pilot at International Paper's Vicksburg Containerboard



**International
Paper**



Project Overview



Large pilot for 90% efficient CO₂ capture from power boiler at IP's Vicksburg Containerboard mill using RTI's Non-aqueous solvent technology

Partners

- RTI International – Technology developer
- International Paper – Host site
- SLB – Technology licensor and deployment partner
- Amazon – End-user for decarbonized paper product

Host site



Host site in Vicksburg, MS. Plot site (100,000 ft²) for pilot plant shown in red.

Industrial Host Site

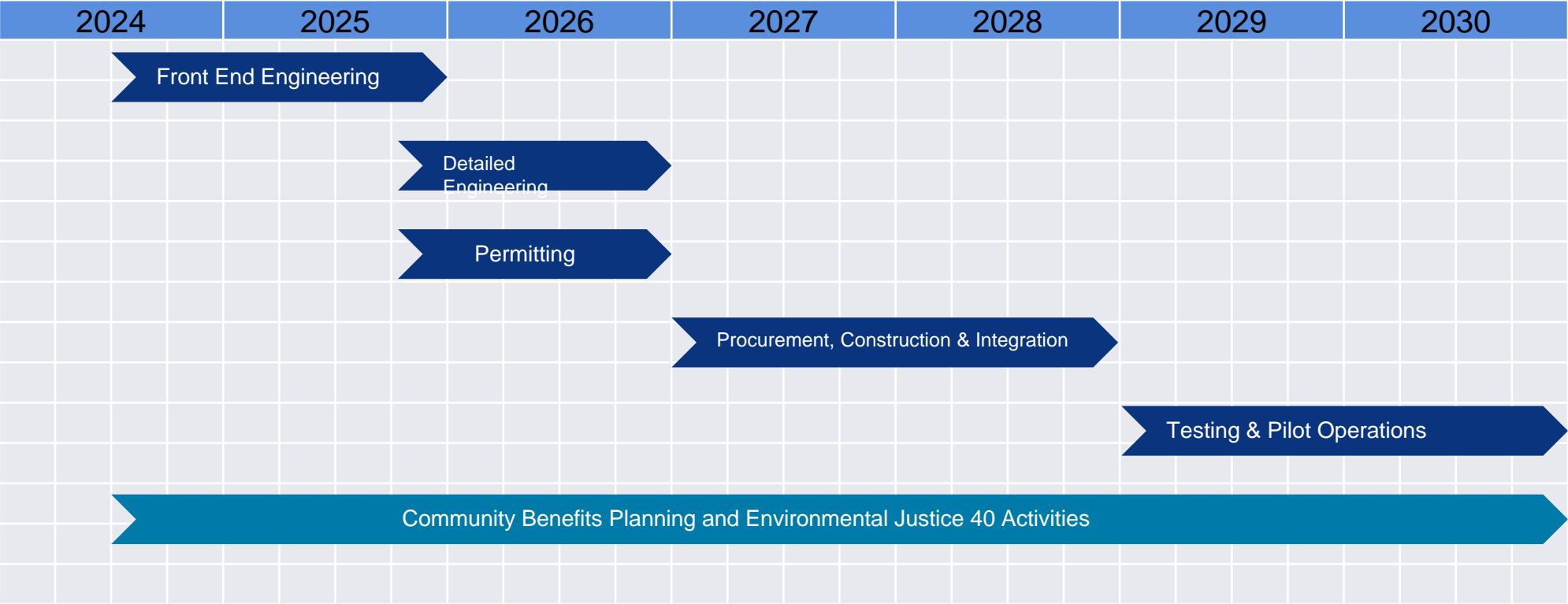
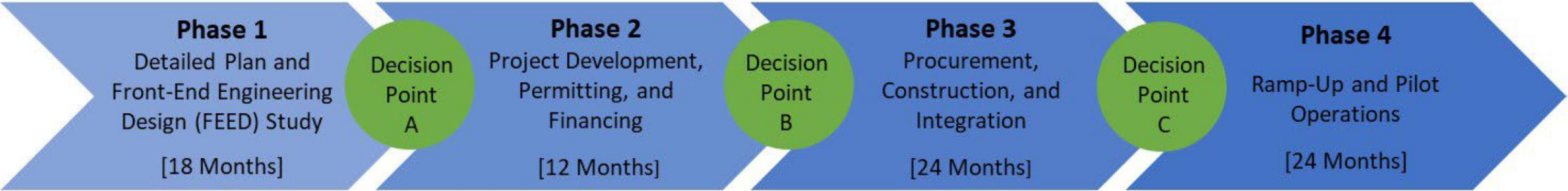
- CO₂ emissions from power boiler at IP's containerboard mill at Vicksburg, MS
- 120,000 t-CO₂/year capture
- 45% is GHG, 55% is biogenic

Market Potential**

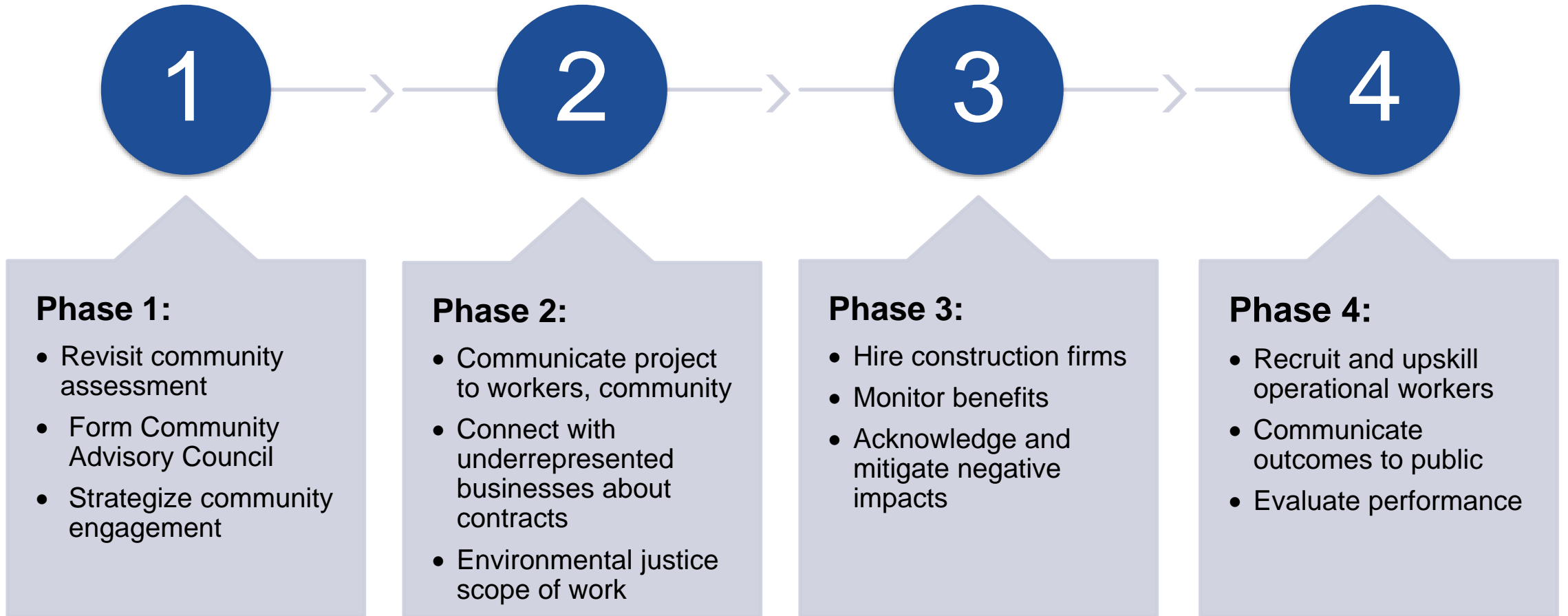
- In 2021, P&P industry reported 34.3 MMT of CO₂, mainly from the combustion of natural gas (76%) and coal (15.2%) in steam boilers and lime kilns
- 100.1 MMT biogenic emissions generated from the combustion of spent black liquor and wood waste

** US EPA, 2011-2021 Greenhouse Gas Reporting Program Sector Profile: Pulp and Paper

Project Schedule (Planned)



Community Benefit Plan Process



Community Benefit Plan Elements



Local community outreach:
Build upon IP's existing community engagement to strengthen communication and participation



Workforce and entrepreneurship: Provide opportunities for local workforce and minority owned/small businesses



Upskilling certification plan:
Build upon IP's career pathways program to train workers for career advancement operating the CCS facility



Safe Construction and Operation: Prepare IP workers, local fire department, and others for emergency response

Next Steps & Resources



John Brown,
Stakeholder Engagement
Lead, Carbon Capture,
OCED

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
- 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
Framework →

Is there a CC Pilots
project near me?

Learn more about the
selected projects here →

Project
selected



WE ARE HERE

What is a CC Pilot?

Learn more →

Project
awarded



NEPA engagement
during phase 2 →

1

~18 months



Phase 1: Project Planning
Community Benefit Commitments Public

Ongoing community
engagement throughout
each phase

2

Up to 12
months



Phase 2: Project Development
Community Benefit Commitments Public

3

Up to 24
months



Phase 3: Install, Integrate, Construct
Community Benefit Commitments Public

4

Up to 24 months



Phase 4: Ramp-Up & Operate
Community Benefit Commitments Public

How do I stay informed?

Sign up for updates →

Learn more about project phases →



OCED
Office of Clean Energy Demonstrations



Community Benefit Commitments Public



Go/No-Go Decisions

Carbon Capture Large-Scale Pilot Projects Resources

Carbon Capture Large-Scale Pilot 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](#)
- [Industrial Decarbonization Pathways to Commercial Liftoff Reports](#)
- [Interactive Diagram of DOE's Carbon Management Provisions](#)



Feedback Session



Emmanuel Taylor,
Facilitator

Ground Rules for Discussion

- Submit questions using the Q&A feature.
 - You can also see and upvote other questions that have been asked.
- Reserve judgement
- One idea at a time
- It is okay to build on the ideas of others
- Clarifying questions are okay





Stay Connected

- Reach DOE OCED about this project at Vicksburg_CCPilot@hq.doe.gov
- OCED Website & Newsletter energy.gov/oced

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Thank you!



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