



THE OFFICE OF CLEAN ENERGY DEMONSTRATIONS



South Texas DAC Hub Direct Air Capture Hub Community Briefing

9/20/2023

Office of Clean Energy Demonstrations
U.S. Department of Energy

Welcome!



Emmanuel Taylor,
Facilitator

Welcome & Meeting Objectives

- The Office of Clean Energy Demonstrations (OCED) at DOE recently announced the selection of two Regional Direct Air Capture (DAC) Hubs, including one in Kingsville
- We at DOE wanted to connect to help clarify our process and the opportunities to plug in and help shape your community's energy future
- We would like to introduce key personnel involved in the effort at DOE, and how to contact them
- We invite you to engage with DOE and the commercial partners involved in this commercial-scale, direct air capture demonstration project

Guiding Principles & Ground Rules for Discussion

Guiding Principles

Respect	Community of peers
Inclusion	All voices are welcome
Diversity	We all benefit from different perspectives
Timeliness	We only have so much time together
Limitations	We won't solve every problem today
Follow Up	Let's keep the conversation going!

Ground Rules

Be concise in making remarks
Reserve judgement
One person speaks at a time
It is okay to build on the ideas of others
Clarifying questions are okay





Who's In the Room - Show of Hands

Opening Remarks



Kelly Cummins,
*Acting Director
OCED*



Marcela Mulholland,
*Stakeholder Engagement
Lead - DAC Hubs
OCED*

Tonight's Agenda

- 5:30 – 6:00 | Community Meet and Greet
- 6:00 – 6:15 | Welcome
- 6:15 – 6:20 | OCED Overview
- 6:20 – 6:30 | Carbon Management and Regional DAC Hubs
- 6:30 – 6:35 | Community Benefits Plan
- 6:35 – 6:50 | South Texas DAC Hub Overview
- 6:50 – 6:55 | Next Steps & Opportunities for Engagement
- 6:55 – 7:30 | Q&A Session
- 7:30 | Wrap-Up & Close



OCED Overview



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.



OCED Mandate



SCALE EQUITABLE, CLEAN ENERGY

Help enable 100% clean electricity by 2035 and net zero emissions by 2050 through an equitable energy transition



UNLOCK NEW INVESTMENT

Unlock and scale trillion-dollar clean energy follow on investment from the private sector and other sources of capital



DE-RISK TECHNOLOGY

Maintain risk-based, balanced, and defensible portfolio of investments



SERVE AS CENTER OF EXCELLENCE

Serve as primary DOE office to deliver full scale clean energy demonstration projects and project management oversight excellence



ENGAGE & COLLABORATE

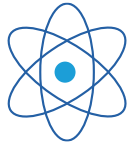
Leverage private sector and broader energy ecosystem to inform OCED and DOE technology commercialization efforts



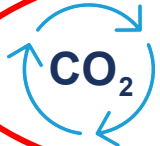
OCED Scope



Regional Clean Hydrogen Hubs (\$8 billion)



Advanced Reactor Demonstrations (\$2.5 billion)



Carbon Management (\$7 billion)



Industrial Demonstrations (\$6.3 billion)



Long-Duration Energy Storage Demonstrations (\$505 million)



Energy Improvements in Rural or Remote Areas (\$1 billion)



Clean Energy Demonstrations on Mine Land (\$500 million)



Other Initiatives (\$133 million)





Carbon Management and Regional Direct Air Capture (DAC) Hubs



Todd Shrader,
*Director, Project
Management,
OCED*



Carbon Management and Regional Direct Air Capture Hubs

Carbon Management: Development and investment in technologies to reduce past and current carbon dioxide emissions

Regional Direct Air Capture

Hubs: Develop four regional Direct Air Capture Hubs to capture and sequester, utilize, or sequester and utilize at least 1,000,000 metric tons of CO₂ annually from a single unit or multiple interconnected units

Current Status:

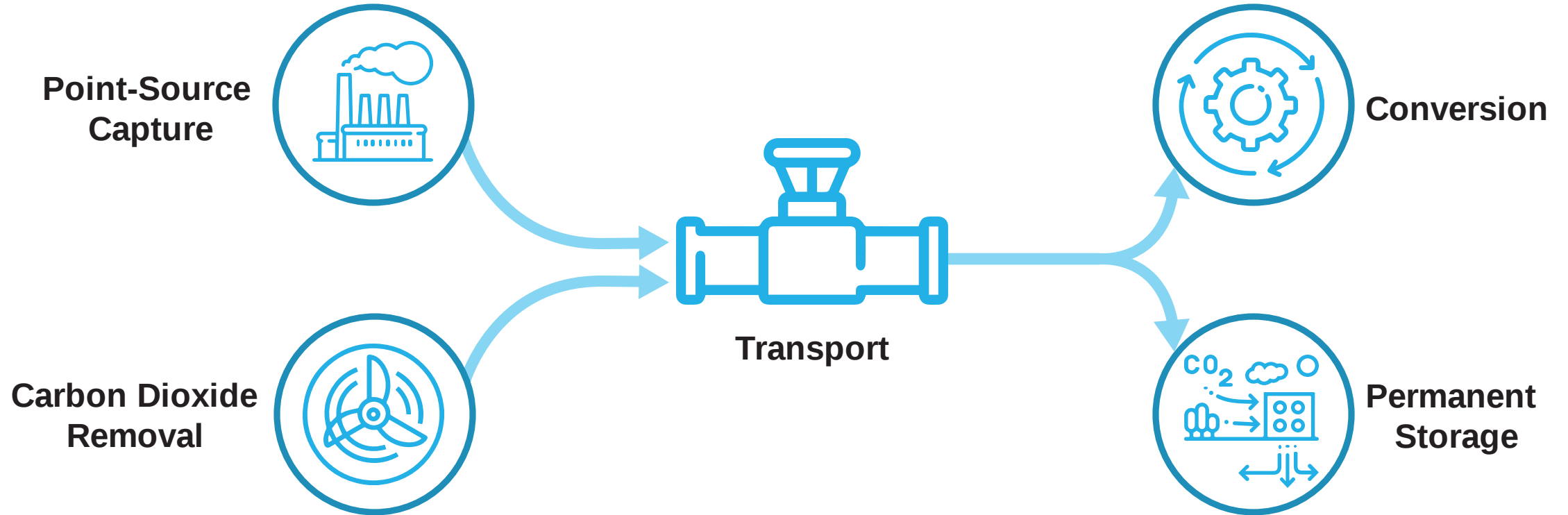
- December 13, 2022: \$1.2B Funding Opportunity Announcement
- **August 11, 2023: DOE announced two projects selected for award negotiations**

Direct Air Capture (DAC) vs. Carbon Capture & Storage (CCS)

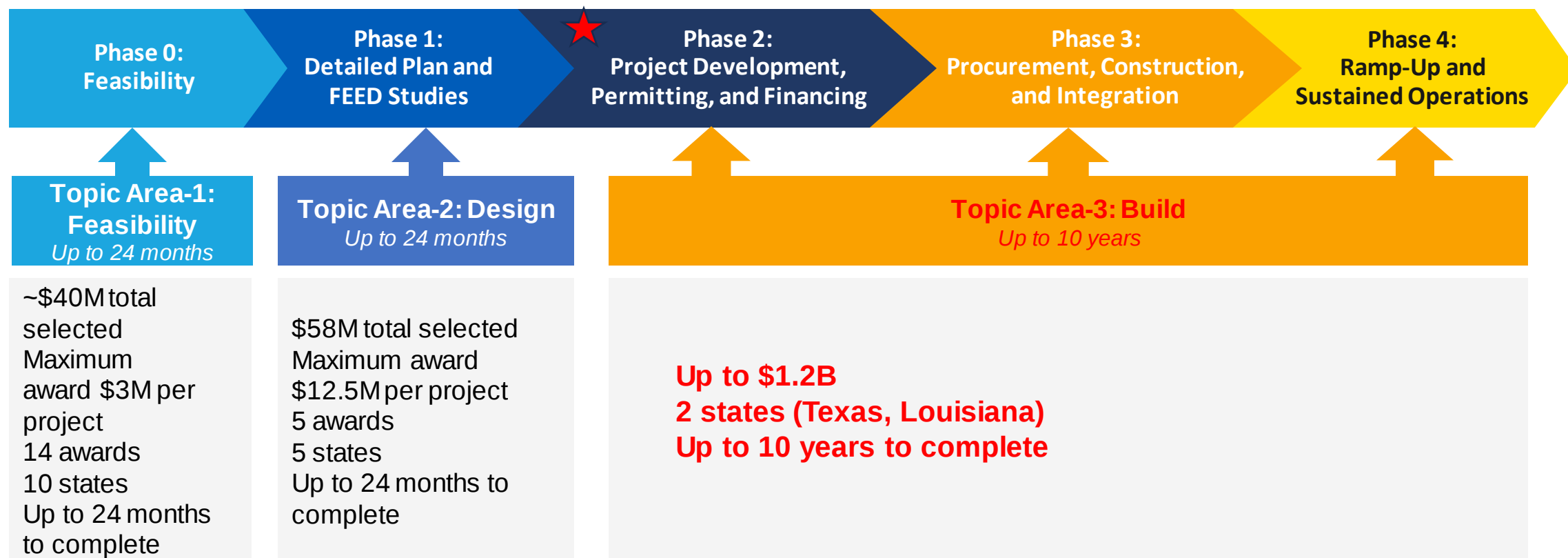
- **Direct air capture (DAC):**
 - A carbon dioxide removal process that separates CO₂ directly from the atmosphere.
 - The separated CO₂ can then be converted into components of products like concrete or stored safely and permanently deep underground.
- **Carbon capture, utilization, and storage (CCS):**
 - Technology used to capture the CO₂ produced by a facility before it enters the atmosphere.
 - This CO₂ can then be used to make other valuable products, or can be stored safely, deep underground.
- Unlike CCS, DAC is not a form of point-source capture.
 - **Rather than removing new CO₂ emissions, DAC technology addresses the carbon pollution that already exists in our atmosphere.**



Carbon management is a system of technologies



Recent Regional DAC Hubs Announcements & Phases



Community Benefits Plan



Julia Jeanty,
*Community Engagement
Specialist,
OCED*

Prioritizing Community Benefits in OCED Projects

OCED **requires** applicants to include a Community Benefits Plan (CBP) 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.

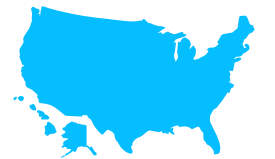
Community & Labor Engagement



Diversity, Equity, Inclusion, & Accessibility



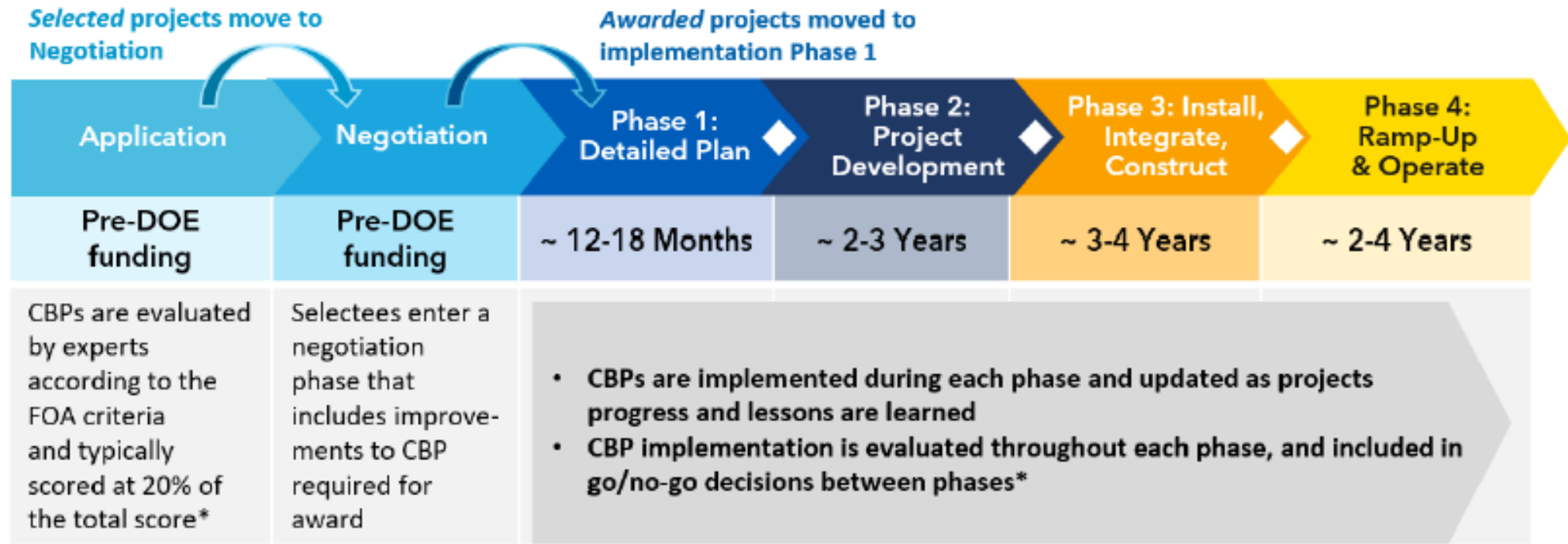
Investing in the American Workforce



Justice40 Initiative



CBP Implementation Requirements at Each Project Phase

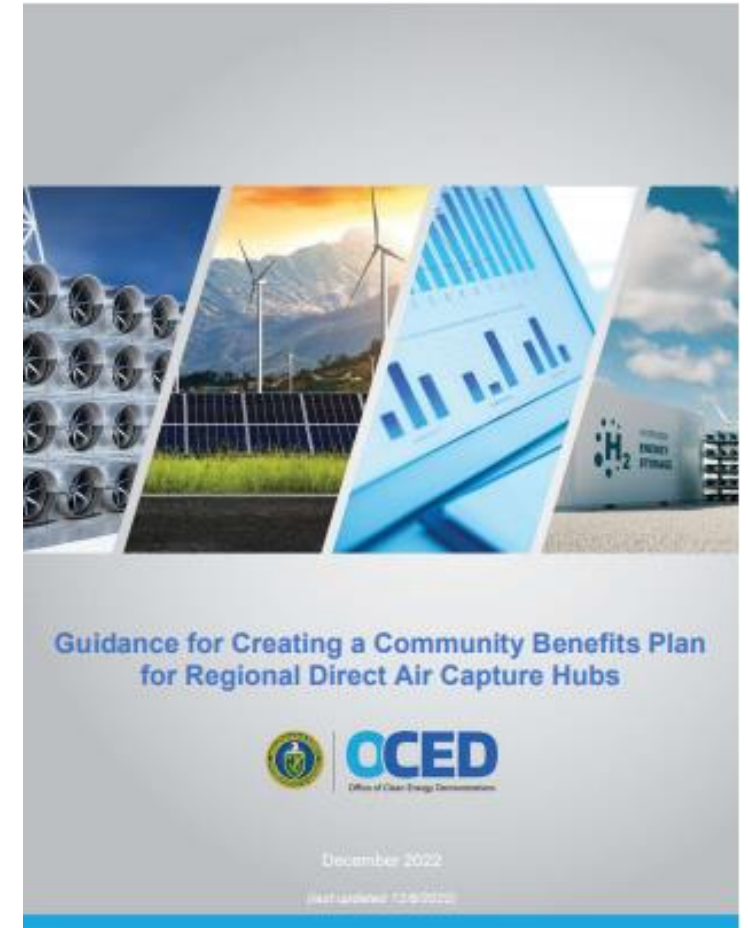


**CBPs are considered alongside assessments of engineering, procurement, and construction; business development and management; permitting and safety; and technical data and analysis.*

◊ Go/No-Go Decisions

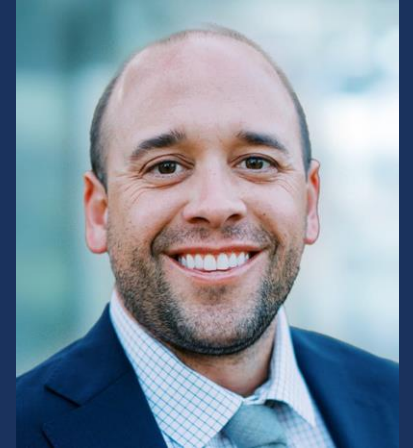
Strong CBPs

- Demonstrate moving beyond a vision or assessment into **actionable goals, outcomes, and implementation steps** supported by adequate money, people, and time resources
- Include mechanisms for **accountability to and transparency with** impacted communities
- Propose clear **metrics** to measure success
- Match proposed actions to the **needs and priorities** of impacted communities
- Robustly address **all four topic areas**
- **Minimize and mitigate negative impacts** and harm, especially to already overburdened communities
- **Create good-paying jobs**, equitable access, and invest in workforce development



OCED FOA CBP Guidance docs available with each FOA at:
<https://oced-exchange.energy.gov/>

South Texas DAC Hub Project Overview



Trey Fournier,
Director of Projects,
1PointFive

1POINTFIVE SOUTH TEXAS DAC HUB

MAKE A DIFFERENCE.



A HISTORY OF INNOVATION AND EXECUTION

OXY FORMED 1POINTFIVE TO DEVELOP
AND DEPLOY INTEGRATED CARBON
MANAGEMENT SOLUTIONS.

50+ years carbon management experience

Experts in CO₂ separation, transportation, utilization and storage

Experience developing successful multi-billion dollar projects

Developing integrated solutions to address climate change



CARBON ENGINEERING'S DAC TECHNOLOGY



PROVEN EQUIPMENT & PROCESSES

- Economic advantage
- Supply chain strength
- Improved scalability



GLOBAL DEPLOYMENT

- No geographic limitations
- Decoupled from emitter
- Strategic locations



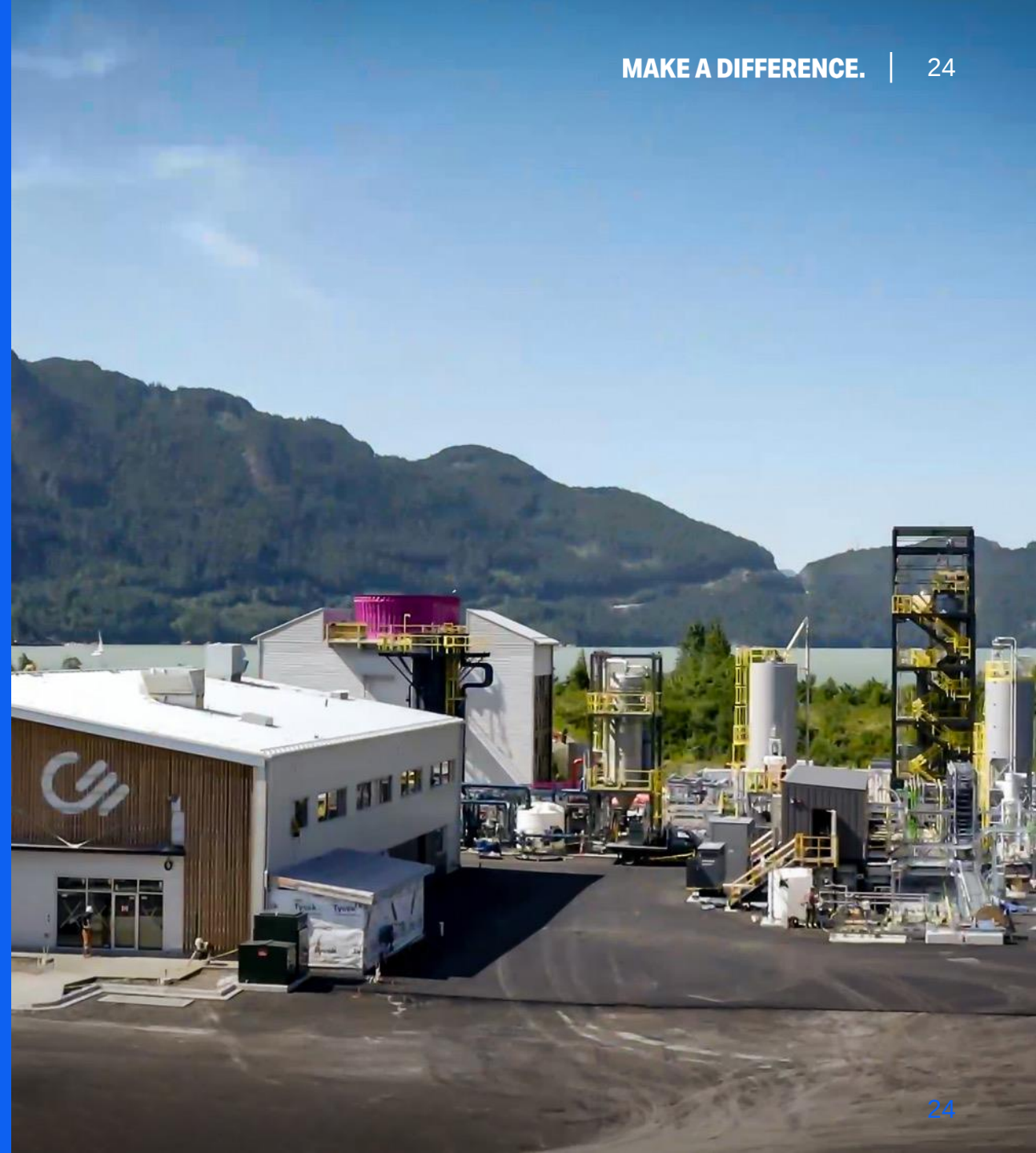
24/7 OPERATION

- Enables megaton scale

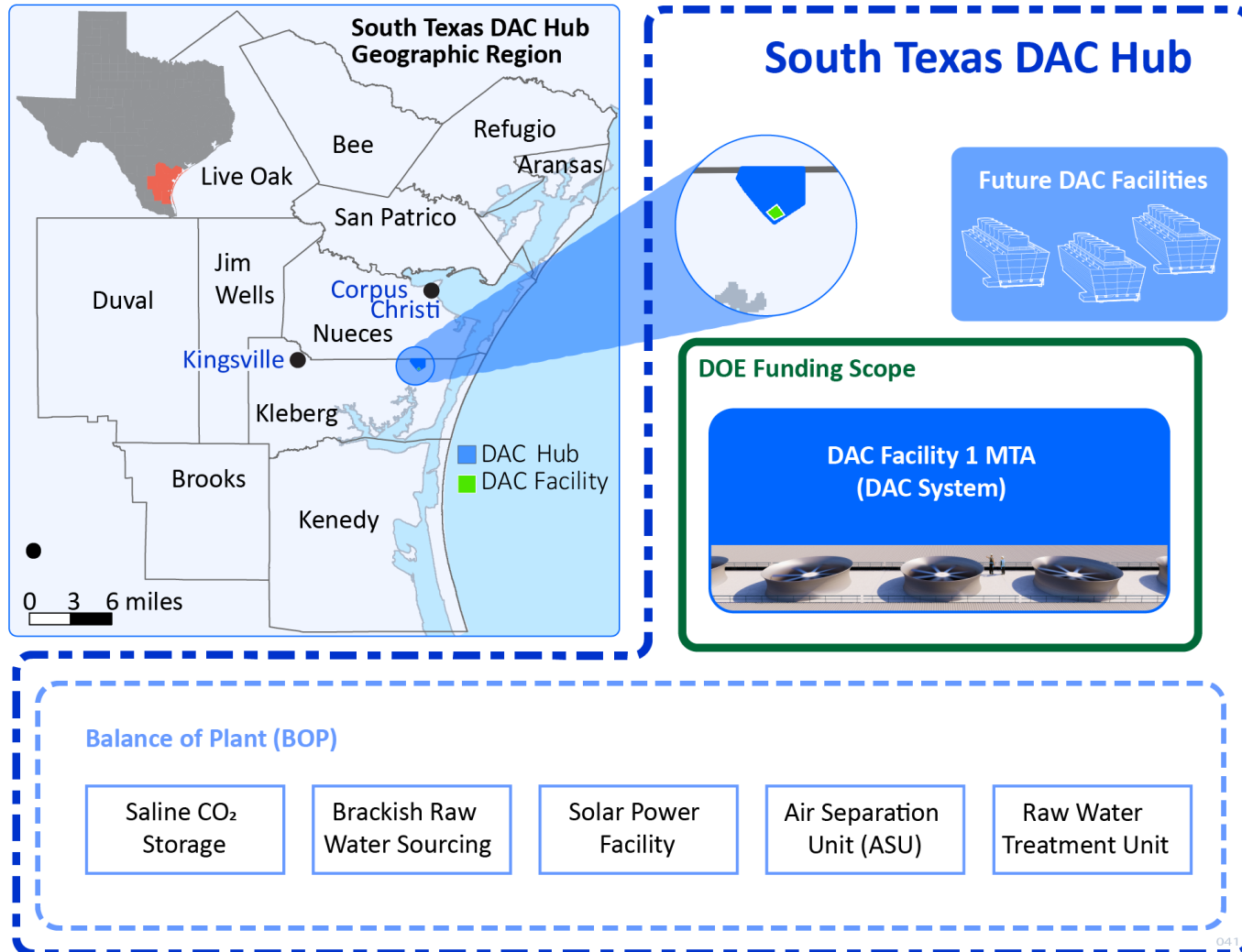


CLOSED-LOOP

- Resource efficient
- Minimal waste



South Texas DAC Hub



Design Capacity of Initial Direct Air Capture Facility: 1 Million Tonnes Per Annum (MTA)

Utilizing Carbon Engineering DAC Technology

Located in Kleberg County, Texas

Current Status:

Updating STRATOS FEED to operate the process at South Texas conditions

DOE DAC Hub Award Phase:

- Detailed design of a 1 MTA DAC facility at the required maturity to proceed into procurement and construction
- NEPA compliance
- Early long-lead procurement
- Establishment of community partnerships, programs, and Community Advisory Board

Community Benefits Overview

Since November 2022, we have conducted over 35 in-person meetings with key stakeholders within 50 miles of the Hub's location, including community-based organizations, labor and workforce organizations, environmental advocacy organizations, and academic institutions.

Our Community Benefits Plan Focus:

- Meaningful Engagement with the Community
 - Establishment of Community Advisory Board
 - Active Stakeholder Engagement
- Workforce Development with a focus on creation of local jobs
- Education initiatives at local school districts, colleges, and universities





Next Steps & Opportunities for Engagement

Next Steps

- **Award Negotiations:** DOE OCED will continue negotiations with project selectee (1PointFive)
- **After Award:** *IF the project is given an award*
 - Award workshop to share scope details and start defining the community input process
- **Opportunities for Engagement Now:**
 - Reach out to the South Texas DAC Hub or OCED teams with any questions or concerns, or to learn more
 - Selectee community engagement activities

National Environmental Policy Act

- If a Cooperative Agreement is finalized, the activities authorized under the Agreement will consist of analysis, documentation, and community engagement.
- **Does NEPA Apply?** DOE will complete a National Environmental Policy Act (NEPA) review for the activities and may determine that the activities fall within an established categorical exclusion.
 - **What is a Categorical Exclusion?** Categorical exclusions are categories of actions that DOE has determined, by regulation, do not individually or cumulatively have a significant effect on the human environment and for which, therefore, neither an environmental assessment nor an environmental impact statement normally is required.
 - **Categorical exclusions do not involve public review/comment.**
 - **Categorical exclusions are posted for public review once they are complete.**



Q&A Session



Questions for Discussion

Are there any items that you heard here today that you would like to take a few minutes to further discuss?



Questions for Discussion

Are there topics that you haven't heard here today that you believe are important regarding the proposed project?



Questions for Discussion

Are there specific concerns that you have concerning this project, that DOE should prioritize considering in the near-term, before a contract is awarded for this project?



Questions for Discussion

Are there specific concerns that you believe should be addressed within the project Community Benefits Plan (CBP)?



Staying Connected with OCED + South Texas DAC Hub

- To reach DOE OCED about this DAC Hub project:
 - Email: southtexas_dac@hq.doe.gov
- To reach 1PointFive about this DAC Hub project:
 - Email: Stakeholder@1PointFive.com
- Subscribe to receive OCED news and updates
 - Visit energy.gov/oced/ and scroll to the bottom to sign up.

Sign Up for OCED News & Alerts

Subscribe and stay up-to-date on all upcoming funding opportunities, news announcements, upcoming events, and more.



Staying Connected with OCED DAC Hubs Program

- OCED DAC Hubs Program Page
energy.gov/DACHubs
- OCED DAC Hubs Factsheet
energy.gov/media/298147
- Justice40 Initiative
energy.gov/diversity/justice40-initiative



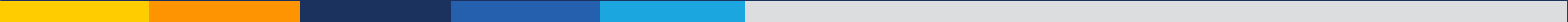
For more information, please contact: OCED@hq.doe.gov



Thank you!



OCED
Office of Clean Energy Demonstrations



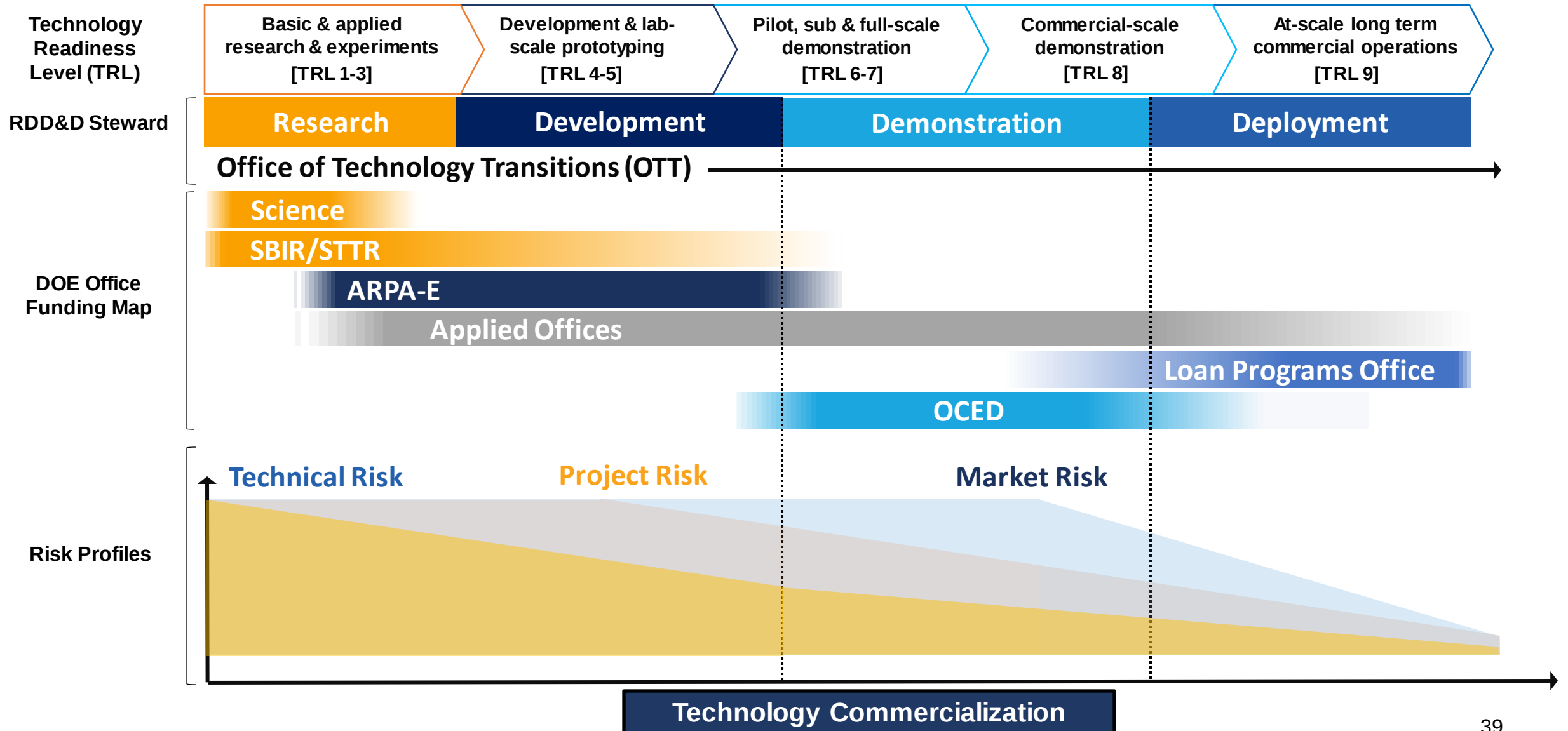
For more information, please visit energy.gov/OCED

Additional Resources

- **Justice40 Initiative**
<https://www.energy.gov/diversity/justice40-initiative>
- **Energy Justice Dashboard (BETA)**
<https://energyjustice.egs.anl.gov/>
- **Climate and Economic Justice Screening Tool**
<https://screeningtool.geoplatform.gov/en/#3/33.47/-97.5>



OCED's Role Across Research, Development, Demonstration & Deployment (RDD&D) Continuum



CBP Merit Review Criteria, Topic Area 3 – DAC Hub Build

Overall Approach

- Enforceable agreements
- Sufficient resources
- CBP is integrated into project in a manner that can impact project decisions
- Above & beyond

Community & Labor Engagement

- Robust plan for engaging local community-based stakeholders, labor, and tribes
- Impacted communities and workforce organizations are partners in and/or support project

Investing in the American Workforce

- Quality job creation, plan to attract, train, and retain skilled workers, & workers rights
- Investment in workforce education & training

Diversity, Equity, Inclusion, & Accessibility

- Specific and high-quality goals, e.g. support for workers facing systemic barriers
- Partnerships or contracts with MSIs, MBEs, Tribal Nations, etc.

Justice40 Initiative

- Benefits to disadvantaged communities; minimization/mitigation of negative impacts
- Support for overall goals of Justice40 Initiative

CBP Requirements, Topic Area 3 – DAC Hub Build

Community & Labor Engagement

- Background
- Social Characterization (Community history & dynamics)
- Stakeholder Analysis
- Engagement Methods & Timeline
- Two-way engagement
- Project Agreements
- Evaluation Strategy
- Resources

Investing in the American Workforce

- Background
- Quality Jobs
- Workforce Development
- Worker Rights
- Strategies, Milestones, and Timelines
- Resources

Diversity, Equity, Inclusion, & Accessibility

- Background
- Strategies, Milestones, and Timelines
- Resources

Justice40 Initiative

- Background
- Impacted communities and groups
- Benefits & where they flow
- Negative impacts & where they flow
- Milestones & timelines to maximize benefits, minimize negative impacts, and track and report
- Barriers to benefits and impact mitigation
- Information Gaps
- Resources

Project Cypress

- **Location:** Calcasieu Parish, LA
- **DAC Hub Owner:** Battelle
- **Technology Providers:** Climeworks, Heirloom Carbon Technologies
- **CO₂ Removal:** Aims to capture more than 1 million metric tons of CO₂ annually
- **CO₂ Storage:** Deep saline aquifer, through an offtake agreement with Gulf Coast Sequestration
- **CBP Highlights:** Creation of ~2,300 jobs, with a goal to hire workers formerly employed by the fossil fuel industry for 10% of the overall workforce; robust two-way community engagement towards developing a Community Benefits Plan.



South Texas DAC Hub

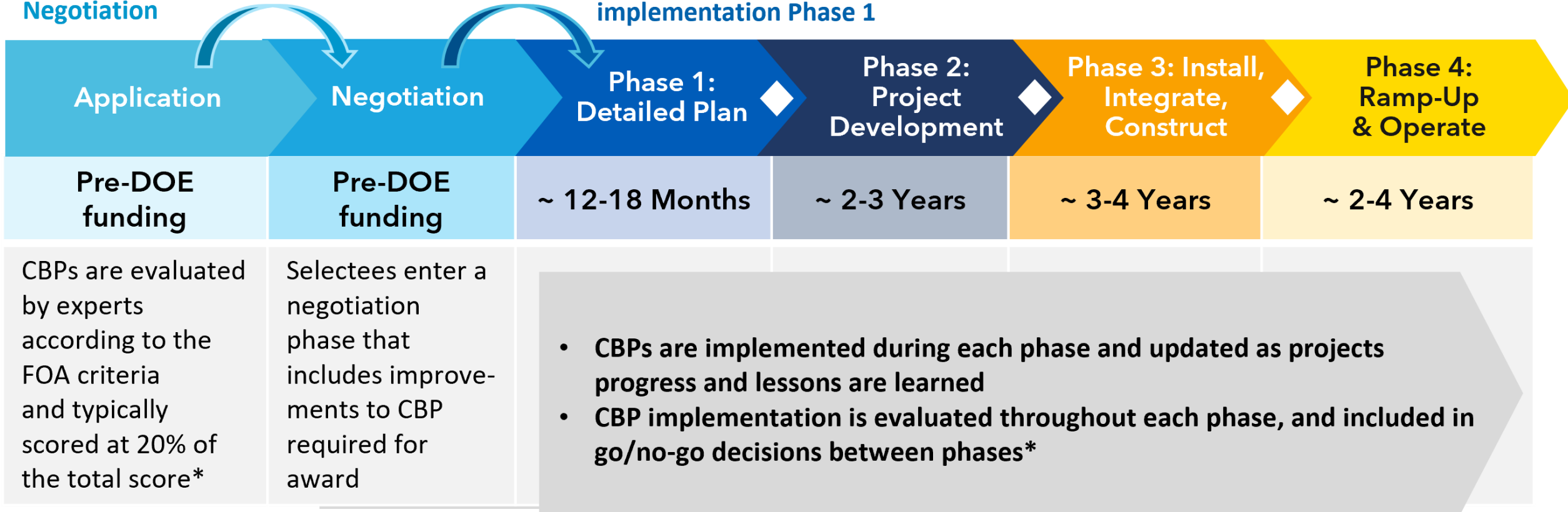
- **Location:** Kleberg County, TX
- **DAC Hub Owner:** 1PointFive
- **Technology Provider:** Carbon Engineering Ltd.
- **CO₂ Removal:** Designed to capture up to 1 million metric tons of CO₂ annually
- **CO₂ Storage:** Saline geologic CO₂ storage site
- **CBP Highlights:** Creation of ~2,500 jobs in construction, operations, and maintenance with existing agreements for local hiring—including a target quota for local construction and operations; creation of a Citizen Advisory Board to ensure meaningful community engagement.



CBPs in the OCED Project Lifecycle

Selected projects move to Negotiation

Awarded projects moved to implementation Phase 1



**CBPs are considered alongside assessments of engineering, procurement, and construction; business development and management; permitting and safety; and technical data and analysis.*

◇ Go/No-Go Decisions