

# WELCOME

**This webinar is being recorded and  
will be published on the FECM website**

**We will begin momentarily**



U.S. DEPARTMENT OF  
**ENERGY**

Fossil Energy and  
Carbon Management

# WELCOME TO THE CARBON MANAGEMENT DAY WEBINAR



**December 1, 2022 at 12:01 p.m. EST**



Fossil Energy and  
Carbon Management



U.S. DEPARTMENT OF  
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# Introduction to Carbon Management Day

**Brad Crabtree**

Assistant Secretary

Office of Fossil Energy and Carbon Management



# Robust Federal Policy Framework for Carbon Management

- **Bipartisan Infrastructure Law** - \$12 billion in federal carbon management investments over 5 years
  - Includes commercial-scale carbon capture demos, direct air capture and hydrogen hubs, regional geologic storage sites and CO<sub>2</sub> transport infrastructure
  - Expands federal funding to include commercial scale demonstration and infrastructure
- **Inflation Reduction Act** – Transformative enhancements to the 45Q tax credit to stimulate private investment in carbon capture, carbon conversion and direct air capture projects
  - Available for projects beginning construction by 2032; direct payments for first 5 years of operation
  - \$85/tCO<sub>2</sub> for carbon capture from industrial facilities and power plants with dedicated storage; \$180/tCO<sub>2</sub> for direct air capture
  - Reduced minimum project size to 1,000 tons for direct air capture, 12,500 tons for industrial facilities, and 18,750 tons for power plants

# Agenda

- Carbon Management Overview
- Domestic and International Stakeholder Engagement
- Fireside Chat with FECM Project Awardees
- Public Q&A





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# Carbon Management Overview

**Dr. Jennifer Wilcox**

Principal Deputy Assistant Secretary  
Office of Fossil Energy and Carbon  
Management



## FECM: Our Mission

FECM supports the research, development, demonstration, and deployment of critical technologies and infrastructure to manage carbon emissions and reduce the environmental impacts of fossil fuel production and use, with the goal of achieving net-zero greenhouse gas emissions economy-wide by midcentury.

# FECM Strategic Vision

## Advancing Carbon Management Approaches Toward Deep Decarbonization

*Priorities: Carbon capture, carbon dioxide conversion, carbon dioxide removal, and carbon dioxide transport and storage*

## Advancing Technologies that Lead to Sustainable Energy Resources

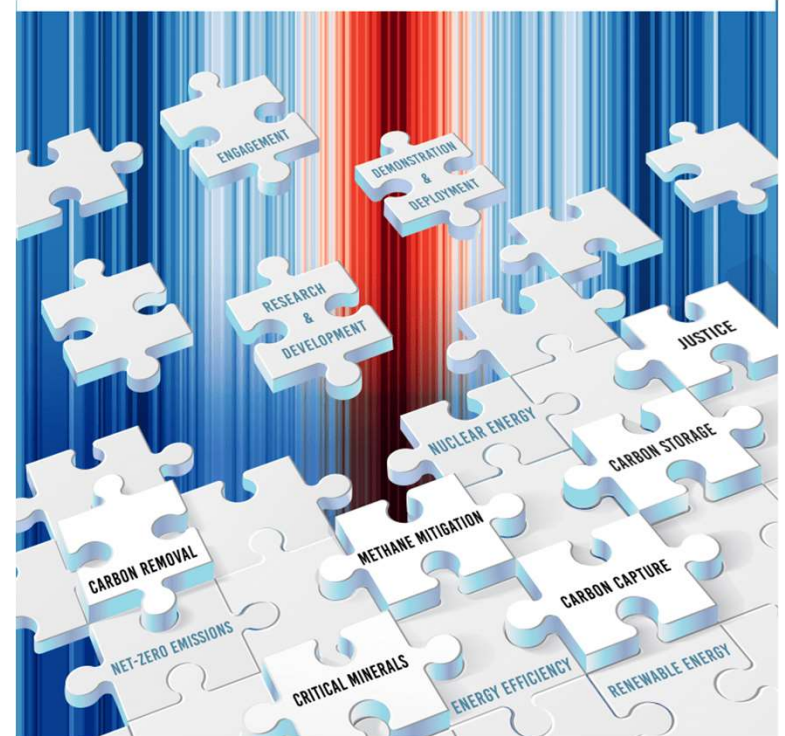
*Priorities: Hydrogen with carbon management, domestic critical minerals production, and methane mitigation*

## Advancing Justice, Labor, and Engagement

*Priorities: Justice, labor, and international and domestic partnerships*

## STRATEGIC VISION

The Role of Fossil Energy and Carbon Management  
in Achieving Net-Zero Greenhouse Gas Emissions



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# Carbon Negative Shot



*Achieving the Carbon Negative Shot goal will spur innovation and position U.S. enterprises as leaders in research, manufacturing, and deployment in a carbon dioxide removal industry that must have rapid, global ramp-up by mid-century.*

Carbon Negative Shot is an **all-hands-on-deck call** for innovation in pathways to carbon removal from the atmosphere.

This effort is being deployed to **counterbalance hard-to-decarbonize sectors** and after achieving net-zero, can tackle legacy emissions in the atmosphere.

1. Less than **\$100/net metric ton CO<sub>2</sub>e**
2. Robust accounting of full lifecycle emissions
3. High-quality, durable storage with costs demonstrated for monitoring, reporting, and verification
4. Enables scaling to giga-ton

# FECM Carbon Management Investments

**Total funding opportunities:**  
~\$ 3.3 billion

**Total project selections:**  
~\$ 346 million

*Since January 2021*

FECM launched a **new webpage** that features a list of the current funding opportunities, along with a **Carbon Matchmaker tool**.

This serves as a 'one stop shop' for all potential FOAs, RFIs, and NOIs.



*Visit [FECM.energy.gov](https://www.energy.gov/fecm) to access these tools. They can be found under the 'Resources' and 'Services' tab.*

# Solicitations and Business Opportunities

## FUNDING OPPORTUNITIES, REQUESTS FOR INFORMATION, AND NOTICES OF INTENT

Below are the current FECM prizes, funding opportunities announcements (FOA), requests for information (RFI), and notices of intent (NOI) to issue a funding opportunity, including funding from the Bipartisan Infrastructure Law (BIL). Visit [FedConnect](#) to see past opportunities.

FECM Program	Announcement Title	Estimated Total Federal Funding	Open Date	Close Date	Status
Carbon Management	<a href="#">Carbon Management Collegiate Competition</a>	\$25,000	1/2/23	4/14/23	Competition Website Launched
Carbon Management	<a href="#">RFI: Carbon Storage Technology Operations &amp; Research (CarbonSTORE)</a>	N/A	12/1/22	1/9/23	Accepting RFI Input
Carbon Management	<a href="#">RFI: Carbon Dioxide Transportation Infrastructure Finance and Innovation (CIFIA) Program: Future Growth Grants</a>	N/A	12/1/22	1/17/23	Accepting RFI Input
Resource Sustainability	<a href="#">BIL NOI for FOA 2846: Front-End Engineering Design (FEED) Studies for Production of Critical Minerals and Materials (CMM) from Coal-Based Resources</a>	\$32 Million	N/A	N/A	NOI Released
Carbon Management	<a href="#">FOA 2614: Carbon Management</a>	\$30 Million	9/30/22	11/30/22	Closed



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<https://www.energy.gov/fecm/solicitations-and-business-opportunities>

# Become an FECM All-Star

*FECM is looking for **enthusiastic, driven professionals** to join our team and be a part of the clean energy revolution.*

We have a lead role in the clean energy transition and are seeking highly skilled individuals who are passionate about helping FECM achieve its mission.

**If you or anyone you know are interested in joining our team, visit [FECM.energy.gov](https://www.energy.gov/fecm) and click the ‘Services’ tab—we have many opportunities!**

#CleanEnergyJobs #FECMAllStar

Job  
Opportunities

Careers at Energy

National Energy  
Technology Laboratory

▣

NETL Research  
Fellowships▣

Mickey Leland Energy  
Fellowship Program▣

Science, Technology  
and Policy Program

Research Experience in  
Carbon Sequestration▣





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# Stakeholder Engagement Update



**Dr. Holly Buck**



**Matt Antes**

Management and Program Analysts  
Strategic Engagement, Office of Carbon Management





# FECM Engagement in 2022 – and What We Learned From It

1. Implemented Societal Considerations and Impacts Plans in our Funding Opportunity Announcements
2. Developed Engagement Framework
3. Piloted Community Carbon Interactive Workshop Series

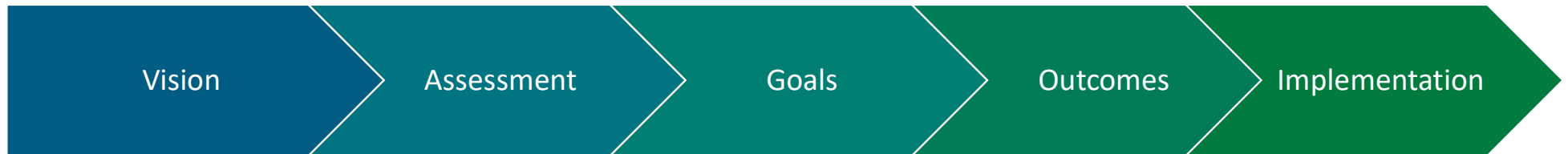
## Four Big Challenges

1. There is a **lack of diversity in STEM** — which can lead to **continued inequality**, as well as lost opportunities for both workers and firms
2. The **benefits, harms, and risks** from innovation and industrial development are often **unevenly distributed**
3. The **public is often left out of decision-making** on energy infrastructure, which can lessen trust between decision-makers and experts and the public, and inhibit deployment
4. Many communities are struggling with a **lack of quality jobs** that pay a family-sustaining wage

# Societal Considerations and Impacts / Community Benefits Plans

1. Diversity, Equity, Inclusion, and Accessibility (DEIA)
2. Justice40 Initiative
3. Community, Labor, and Stakeholder Engagement
4. Quality Jobs

# Key point: Plans are Action-Oriented



**Vision:** We affirm we care about justice/engagement/DEIA

**Assessment:** We mapped or assessed underserved communities/stakeholders/DEIA

**Goals:** From our assessment, we know X is lacking, so we want to improve in X

**Outcomes:** We know we have succeeded when Y (specific target) is reached

**Implementation:** To achieve Y, [specific actor] has to do Z [in specific timeframe]

# FECM Engagement Framework

## Guiding principles

- Two-way
- Proactive and early
- Place-based
- Community-based knowledge, including technical assistance
- Engagement that scales

## Focus areas

- Energy and industrial communities
- Tribes and Alaska Native Communities
- Environmental Justice Communities
- Labor
- States
- Rural communities

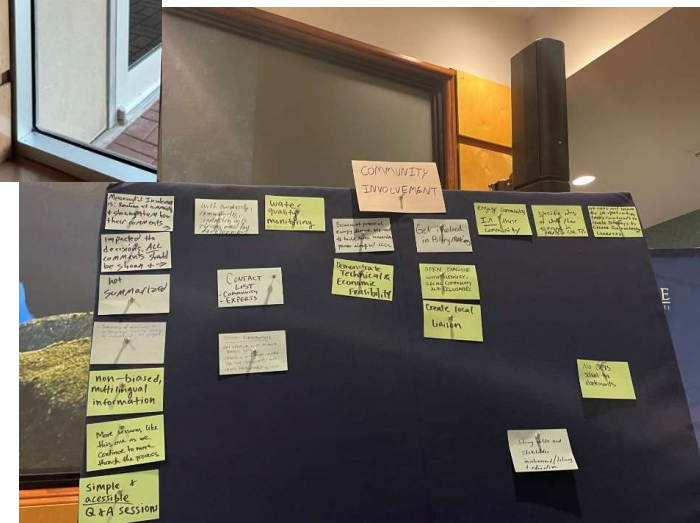


# Two-Way Model of Engagement

MOVE FROM...	TOWARD...
Engagement as one-way informing or educating	Two-way model of engagement as dialogue and relationship
Engagement with goal of securing acceptance	Engagement as listening to ideas in order to make adaptations
Defining engagement in terms of project footprint	“Communities” as both geographic areas and broader groups that could be impacted
Engagement focused upon physical infrastructure	Engagement that also encompasses data, including community-based monitoring and science

# Community Carbon Interactive Workshops

- For DOE/USG to learn about community concerns, questions, and how they want to be involved
- For communities to learn about carbon capture, utilization, and storage technologies and how the government mitigates risks
- Tulsa, OK; Corpus Christi, TX; Tri-cities, WA; Pittsburgh, PA; Virtual
- Partnering with other federal agencies on this and additional engagement initiatives



# International Engagement

- Scaling up carbon management technologies and approaches represents *global* challenge
- Opportunity to responsibly implement carbon management projects domestically and advance global industry

## New Collaborations

- Africa Center of Excellence for Carbon Management Technology and Innovation
- Collaboration Agreement: Decarbonizing Cement with Carbon Capture, Utilization, and Storage
- Carbon Dioxide Removal Launchpad





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# Fireside Chat With FECM-Funded Projects

**Mark Ackiewicz**

Director  
Office of Carbon Management  
Technologies







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## Fireside Chat



**Dr. Raghbir Gupta**

President & Co-founder, Susteon



**John Northington**

Director, National Carbon  
Capture Center







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# ANY QUESTIONS?

*Submit them through the chat feature!*

**...And, if you haven't already,  
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## Closing Remarks

**Brad Crabtree**

Assistant Secretary

Office of Fossil Energy and  
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