Regional Carbon Conversion Procurement Grants Workshop

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The Role of CCUS: Critical to addressing the challenge

- CCUS will need to form a key pillar for efforts to put the world on a path to net zero emissions
- Reaching net zero will be virtually impossible without CCUS
- CCUS tackles emissions from existing infrastructures – power, heavy industry
- CCUS is one of two pathways to low carbon hydrogen
- Remove carbon from the atmosphere
- Moving the de-carbonization goal from 2070 to 2050 requires increasing CCUS by 50% over past applications
Fossil Energy and Carbon Management (FECM)

Office of Fossil Energy and Carbon Management

DOE-FE is now DOE-FECM

New name for our office reflects our new vision

- President Biden’s goals:
  - 50% emissions reduction by 2030
  - CO₂ emissions-free power sector by 2035
  - Net zero emissions economy by no later than 2050

FEBCM Mission: Deep Decarbonization and Environmental Justice

Minimize environmental and climate impacts of fossil fuels from extraction to use

Priority Technology Areas

1. Point source carbon capture
2. Carbon dioxide (CO₂) removal
3. CO₂ conversion into products
4. Reliable CO₂ storage
5. Hydrogen production
6. Critical mineral production from industrial and mining waste
7. Methane mitigation

Office of Carbon Management (FEBCM-20)

Office of Resource Sustainability (FEBCM-30)

Enacting Justice and Supporting Legacy Communities

- Good-paying jobs
- Job growth acceleration
- Healthy economic transitions
- Improve community conditions
A Vision for Carbon Management

A carbon management framework that will guide FECM’s engagement with offices across the Department, Federal agencies, tribal and international governments, industry, non-governmental organizations, and communities

Advancing Justice, Labor, and Engagement

Priorities: Justice, labor, and international and domestic partnerships

Advancing Carbon Management Approaches Toward Deep Decarbonization

Priorities: Point-source carbon capture (PSC), carbon dioxide conversion, carbon dioxide removal (CDR), and reliable carbon transport and storage

Advancing Technologies that Lead to Sustainable Energy Resource

Priorities: Hydrogen with carbon management, domestic critical minerals (CM) production, and methane mitigation
### Bipartisan Infrastructure Law (BIL)

FECM - **$6.5 billion** in new carbon management funding over 5 years through the Infrastructure Investment and Jobs Act (Bipartisan Infrastructure Law).

<table>
<thead>
<tr>
<th>Category</th>
<th>Funding Details</th>
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| **Carbon Dioxide Removal - Direct Air Capture** | **Regional Direct Air Capture Hubs:** $3.5 billion  
**DAC Technology Prize Competition:** $115 million |
| **Carbon Dioxide Utilization and Storage**    | **Carbon Storage Validation and Testing:** $2.5 billion  
**Carbon Utilization Program:** $310 million |
| **Front-End Engineering Design Studies**      | **Carbon Capture Technology Program:** $100 million                              |
| **Critical Minerals and Materials**          | **Rare Earth Element Demonstration:** $140 million  
**Rare Earth Mineral Security:** $127 million |
Office of Clean Energy Demonstrations (OCED)

OCED established December 2021
• Builds on existing DOE investments in clean energy research and development
• Increases DOE’s partnership with industry leaders

OCED Projects Areas:
• Clean hydrogen
• Carbon capture – thoughtful siting w/ focus on hard to avoid sectors (e.g., industry and committed emissions)
• Grid-scale energy storage
• Small modular reactors and more

FECM-OCED Project Coordination

Hydrogen Hubs
• $8 billion (for at least four projects, including at least one using fossil fuels with carbon management)

Carbon Capture Demonstrations and Large Pilots
• $3.5 billion

Carbon Dioxide Transportation Infrastructure Finance and Innovation Program Account
• Loan Programs Office: $2.1 billion
## Inflation Reduction Act – 45Q Modifications

<table>
<thead>
<tr>
<th></th>
<th>Old</th>
<th>New</th>
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<tbody>
<tr>
<td>Commence Construction</td>
<td>January 1, 2026</td>
<td>January 1, 2033</td>
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<tr>
<td>DAC Facility</td>
<td>100,000 metric tons/year*</td>
<td>1,000 metric tons/year</td>
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<tr>
<td>Electric Generator</td>
<td>500,000 metric tons/year*</td>
<td>18,750 metric tons/year</td>
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<tr>
<td>All other facilities</td>
<td>100/000 metric tons/year*</td>
<td>12,500 metric tons/year</td>
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<td>Saline Storage Credit</td>
<td>$50/metric ton</td>
<td>$85/metric ton (industry and power); $180/metric ton (DAC)</td>
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<tr>
<td>EOR and Conversion Credit</td>
<td>$35/metric ton</td>
<td>$60/metric ton (industry and power); $130/metric ton (DAC)</td>
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* Non-EOR Conversion facilities were previously 25,000 metric tons/year regardless of facility/source.

Notes: New Modifications allows up to 5 years for direct pay (up to 12 years certain entities)
Questions?