SECTION 45 CARBON SEQUESTRATION TAX CREDITS

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# Carbon Utilization Research Council (CURC) Members

## Coal Producers
- Arch Coal, Inc.
- Cloud Peak Energy Resources LLC *
- Lignite Energy Council
- Peabody Energy *

## Equipment Suppliers
- B&W Power Generation Group, Inc.
- Caterpillar Global Mining
- General Electric *
- Mitsubishi Heavy Industries America, Inc. (MHIA)

## Labor Unions
- United Mine Workers of America
- International Brotherhood of Boilermakers
- International Brotherhood of Electrical Workers

## NGOs
- ClearPath Action
- CoalBlue Project

## Research Organizations
- Battelle
- Electric Power Research Institute (EPRI)
- Gas Technology Institute
- University of North Dakota Energy & Environmental Research Center

## State Organizations
- Energy Industries of Ohio
- Greater Pittsburgh Chamber of Commerce
- Illinois Coal Association
- Kentucky Energy & Environment Cabinet
- Southern States Energy Board
- West Virginia Coal Association
- Wyoming Infrastructure Authority

## University
- Lehigh University
- Ohio State University
- Pennsylvania State University
- Southern Illinois University
- University of Kentucky/CAER
- University of Wyoming
- West Virginia University

## Trade Associations
- American Coal Council
- American Coalition for Clean Coal Electricity (ACCCE)
- Edison Electric Institute (EEI)
- National Rural Electric Cooperative Association (NRECA)

## Technology Developers
- NET Power

## Utilities
- American Electric Power (AEP)
- Basin Electric Power Cooperative *
- Duke Energy Services
- LG & E and KU Services Company
- Southern Company *
- Tri-State Generation & Transmission Association

*Companies in orange indicate
Steering Committee Members

*CURC Leadership Council
Why 45Q Credits are Necessary

- CCUS technology currently costs too much and has yet to be adequately demonstrated on large-scale electric generating systems.
- As witnessed by the deployment curve with renewable energy technologies, we know that development of improved CCUS technologies and successive application will reduce the cost of these technologies over time.
- 45Q credits will help offset the costs of adding CO₂ capture to a power generation facility.
45Q Background

Originally enacted as part of the Energy Improvement and Extension Act of 2008

Credit is equal to:

• $20 per metric ton for qualified CO2 that is captured and disposed of in secure geological storage or

• $10 per metric ton for qualified CO2 that is captured and used as a tertiary injectant in a qualified EOR project

Program is capped at 75 million tons
Challenges with Original 45Q Program

- ~45 to 50 million of the authorized 75 million tons have already been claimed
- Cap creates financial uncertainty because it is unknown if remaining credits will be available when a project begins to inject CO$_2$
- Credit amounts are insufficient to cover costs of CCUS on power generation and do not stimulate financing of CO$_2$ capture projects
- Eligibility criteria can be restrictive and limiting
FUTURE Act, S. 1535

- CURC advocated for enactment of the “Furthering carbon capture, Utilization, Technology, Underground storage, and Reduced Emissions (FUTURE) Act
- S. 1535 included in Bipartisan Budget Act of 2018
- Effort led by Senators Heitkamp (D-ND), Capito (R-WV), Whitehouse (D-RI) and Barrasso (R-WY)
Changes Made through the FUTURE Act

- Removes cap
- Makes credit available through 2024 (commence construction)
- Credit claiming period is 12 years
- Increases credit values over a 10 year escalation period to:
  - $35/ton for EOR
  - $35/ton for CO₂ used in non-EOR applications (CO₂ Utilization)
  - $50/ton for geologic storage
- Direct air capture an allowable technology
- Proposes assignability to other entities involved in the project
- Modifies eligibility criteria:
  - Shifts from industrial emitter to CO₂ capture equipment owner
  - CO₂ Thresholds
    - Maintains 500,000 tons of CO₂ for EGUs
    - 100,000 tons for industrial emitters
    - 25,000 tons for pilot projects in which the CO₂ is sequestered in a utilization project
GHG Reporting Requirements

- Original 2008 statute requires that the CO₂ must be used in "secure geologic storage"
- To be eligible for 45Q tax credits, IRS requires entities to report through the Subpart RR requirements
- EPA Subpart RR monitoring requirements apply to:
  - Class VI wells under the Safe Drinking Water Act;
  - Existing power plants affected under the CPP; and
  - New power plants subject to the Carbon Pollution Standards
- Subpart UU monitoring requirements apply to Class II wells where the CO₂ is injected for enhanced oil or gas recovery (EOR).
- Subpart RR considered to be extremely stringent and have prescriptive CO₂ monitoring requirements that are not conducive for many EOR operations.
THANK YOU & QUESTIONS

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