

# 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

## Technology Developers

NET Power

## Trade Associations

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

## Universities

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

## 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

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Companies in orange indicate  
Steering Committee Members

\*CURC Leadership Council

# Why 45Q Credits are Necessary

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- 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 CO<sub>2</sub> capture to a power generation facility.

# 45Q Background

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- Originally enacted as part of the Energy Improvement and Extension Act of 2008
- Credit is equal to:
  - \$20 per metric ton for qualified CO<sub>2</sub> that is captured and disposed of in secure geological storage or
  - \$10 per metric ton for qualified CO<sub>2</sub> 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

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- ~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<sub>2</sub>
- Credit amounts are insufficient to cover costs of CCUS on power generation and do not stimulate financing of CO<sub>2</sub> capture projects
- Eligibility criteria can be restrictive and limiting

# FUTURE Act, S. 1535

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- CURC advocated for enactment of the “**F**urthering carbon capture, **U**tilization, **T**echnology, **U**nderground storage, and **R**educed **E**missions (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

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- 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 CO<sub>2</sub> used in non-EOR applications (CO<sub>2</sub> 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 CO<sub>2</sub> capture equipment owner
  - CO<sub>2</sub> Thresholds
    - Maintains 500,000 tons of CO<sub>2</sub> for EGUs
    - 100,000 tons for industrial emitters
    - 25,000 tons for pilot projects in which the CO<sub>2</sub> is sequestered in a utilization project

# GHG Reporting Requirements

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- Original 2008 statute requires that the CO<sub>2</sub> 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 CO<sub>2</sub> is injected for enhanced oil or gas recovery (EOR).
- Subpart RR considered to be extremely stringent and have prescriptive CO<sub>2</sub> monitoring requirements that are not conducive for many EOR operations.



# THANK YOU & QUESTIONS

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