

FEDERAL POLICY BLUEPRINT SUMMARY

The members of the Carbon Capture Coalition work together to achieve a common goal: Economywide deployment of carbon capture from industrial facilities, power plants and ambient air through financial incentives and other policies that drive private investment, innovation and cost reductions in carbon capture and utilization technology and pipeline transport.

The Coalition's mission is to advance policies and actions that will accelerate deployment of:

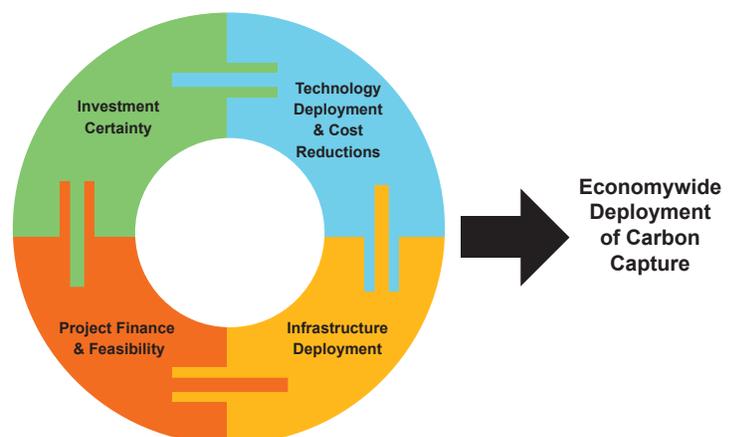
- **Capture** of carbon dioxide (CO₂) and carbon monoxide (CO) from power plants and industrial facilities;
- **Utilization** of captured CO₂ and CO to produce low-carbon fuels, chemicals, materials and other useful products;
- **Carbon removal** technologies, including direct air capture, bio-energy with carbon capture, and other advanced technologies that remove CO₂ already in the atmosphere.
- **Storage** of CO₂ in secure geologic formations, such as oil fields, saline storage and other geologic reservoirs; and
- **Transportation Infrastructure** to carry CO₂ via pipeline from where it is captured to where it can be geologically stored or put to beneficial use.

The United States is the global leader in carbon capture. In order to maintain that leadership and achieve economywide deployment of these important technologies, a broad suite of policies will be required to broaden and accelerate commercial deployment of carbon capture, utilization, removal and storage projects.

The reformed and expanded 45Q tax credit provides a solid foundation for the emerging US industry; however, additional policies are needed – just as a broad portfolio of federal policies has already helped scale up other low and zero carbon technologies.

To achieve economywide deployment of carbon capture, a critical mass of commercial-scale capture projects must be developed in key industrial sectors and power generation between now and 2030 to enable the scaling of the technology needed by midcentury to reach decarbonization goals. In parallel, robust CO₂ pipeline infrastructure networks must be built out across different regions of the country, expanding on the roughly 5,000 miles of CO₂ pipelines in the U.S. today.

Coalition participants have developed a consensus policy blueprint to articulate a comprehensive and ambitious federal policy agenda that can help achieve the goal of economywide carbon capture deployment. This blueprint reflects the consensus federal policy priorities of the Coalition. It is not intended to represent a complete compilation of policies of relevance and importance to carbon capture, utilization, removal and



storage. As the issues and Coalition discussions evolve over time, we will periodically update this policy blueprint with additional ideas and priorities as the situation merits.

The policy blueprint focuses on federal policy priorities. It does not address state-level policies, which have an important role to play in complementing federal policies to support commercial carbon capture deployment.

Looking Ahead: Reaching Economywide Deployment of Carbon Capture

With the federal policy foundation in place through 45Q, the Coalition continues to advocate for additional policy mechanisms and incentives that will build out the full policy structure needed to realize the full potential of carbon capture. This blueprint outlines the broader federal policy agenda needed to achieve that.

The Carbon Capture Coalition's strategic vision for future policy action is to:

- Ensure effective implementation of 45Q by the U.S. Treasury to provide the investment certainty and business model flexibility intended by Congress;
- Provide additional federal incentives to complement, expand and build upon 45Q in financing carbon capture, utilization, removal and storage projects;
- Incorporate carbon capture, transport, utilization, removal and storage into broader national infrastructure policy; and
- Expand, retool and prioritize federal funding for research, development, demonstration and deployment (RDD&D) of the next generation of carbon capture, utilization, removal and geologic storage technologies and practices.

Reform of the 45Q tax credit is a significant accomplishment and provides a foundation for the full portfolio of policies needed to scale commercial deployment of carbon capture, similar to what has benefitted other low and zero-carbon technologies. To that end, the Coalition has developed this policy blueprint to guide our efforts in seeking widespread adoption and deployment of carbon capture and related technologies. Economywide deployment of carbon capture will require policy and administrative action in the following areas:

INVESTMENT CERTAINTY

Effective implementation of the 45Q tax credit is crucial to providing the financial certainty and flexibility needed to leverage the intended private investment in projects to achieve the full carbon emissions

reduction, energy and industrial production, and job creation benefits of the policy. Federal agencies have a critical role to play through guidance and regulatory policy.



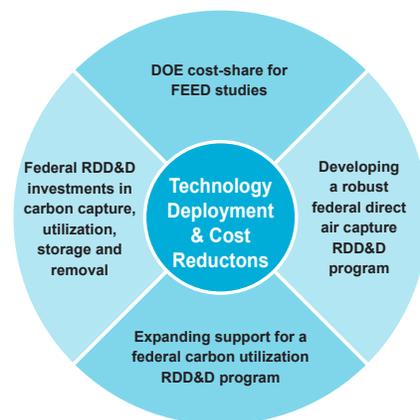
Investment Certainty Policy Priorities

- Ensuring Timely and Effective Development of 45Q Guidance by Treasury
- Providing Additional Equivalent Pathways for Demonstrating Secure Geologic Storage through CO₂-EOR
- Facilitating CO₂ Pipeline Infrastructure Planning, Siting and Permitting

TECHNOLOGY DEPLOYMENT & COST REDUCTIONS

Just as federal RDD&D has successfully helped scale up deployment of wind, solar and other energy technologies, expanding, retooling and prioritizing

federal investments in transformational carbon capture, utilization, storage and removal technologies will be a critical component of driving down costs to accelerate economywide commercial deployment.



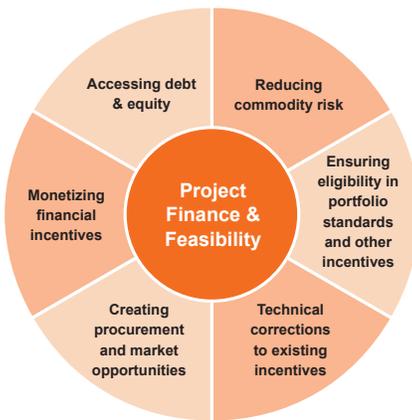


Technology Deployment & Cost Reductions Policy Priorities

- Ensuring Robust Federal Appropriations for Carbon Capture, Utilization, Removal and Storage
- Retooling & Expanding Federal RDD&D Programs
 - USE IT Act
 - DOE Fossil Energy Program Reauthorization
 - Developing a Robust Federal Direct Air Capture RDD&D Program
 - Expanding Support for a Federal Carbon Utilization RDD&D Program
- DOE Cost Share for Front-End Engineering & Design (FEED) Studies

PROJECT FINANCE & FEASIBILITY

An expanded portfolio of policies will ultimately be necessary to achieve economywide deployment by making more projects economic, particularly those involving higher-cost carbon capture from



power generation and industrial processes such as the manufacture of steel and cement. This expanded portfolio includes improvements to 45Q and other tax incentives that enhance monetization, technical

corrections to 45Q and other federal incentives that broaden eligibility and access, and complementary policies that contribute to overall financial feasibility by lowering the cost of debt and equity, reducing commodity risk and expanding markets for low-carbon electricity, fuels and products produced through carbon capture.

Project Finance & Feasibility Policy Priorities

- Monetizing Financial Incentives
 - Preventing the Disallowance of 45Q under the BEAT Tax
 - Expanding 45Q Transferability
 - Providing a Revenue-Neutral Refundable Option for 45Q
 - Establishing a 45Q Bonding mechanism
- Technical Corrections to Expand Eligibility and Access
 - Eliminating the 25,000-Ton Threshold in 45Q for Carbon Utilization Projects
 - Fixing the 48A Tax Credit to Enable Carbon Capture Retrofits of Existing Power Plants
- Federal Policies to Complement 45Q
 - Making Carbon Capture Projects Eligible for Tax Exempt Private Activity Bonds (PABs)
 - Providing for Eligibility of Carbon Capture Projects for Master Limited Partnerships (MLPs)
 - Reforming the DOE Loan Program
- Providing Predictable Markets for Carbon Capture & Utilization
 - Developing Federal Procurement Policies
 - Reducing Commodity Risk through Contract for Differences (CfDs)
 - Incentivizing Commercial Production
 - Ensuring Eligibility for Carbon Capture in Electricity Portfolio Standards
- Commercializing Transformational Carbon Capture Technologies
 - Providing an Enhanced Investment Tax Credit (ITC)

INFRASTRUCTURE DEPLOYMENT

To achieve the full potential of carbon capture as a national strategy for reducing carbon emissions, enhancing energy independence and protecting and creating high-wage jobs, we must responsibly scale up this infrastructure to create a nationwide network



for transporting CO₂ captured from industrial facilities, power plants and ambient air to locations around the country where it can be put to beneficial use or safely and permanently stored in geologic formations. This

buildout will include capacity expansions and extensions of existing pipeline networks, as well as the construction of long-distance, large-volume interstate trunk lines to serve states and regions that currently lack CO₂ transport infrastructure.

Infrastructure Deployment Policy Priorities

- Federal Financing of Extra Pipeline Capacity to Achieve Economies of Scale
 - Access to Federal Low and Zero-Interest Loans
 - Enact Legislation for Common Carrier CO₂ Pipeline Infrastructure
- Additional Federal Policies to Foster the Buildout of CO₂ Pipeline Infrastructure Networks
 - Facilitating Planning, Siting and Permitting of CO₂ Pipeline Infrastructure
 - Providing Eligibility for Tax-Exempt Private Activity Bonds and Master Limited Partnerships

A comprehensive and robust federal policy agenda can help the U.S. sustain its position as a global leader in the commercialization and deployment of these crucial energy and industrial technologies and infrastructure. The Coalition's policy blueprint underscores the foundational importance of bipartisan passage of the reformed and extended 45Q tax credit in 2018. Complementary policies and incentives that provide investment certainty, spur technology deployment and provide cost reductions, enhance project finance and feasibility and encourage infrastructure deployment will be needed to ensure that carbon capture, storage, utilization and removal achieves economywide deployment in the next ten years.



CARBON CAPTURE COALITION

The Carbon Capture Coalition is a nonpartisan partnership of over 70 energy, industrial, and technology companies, labor unions, and conservation, environmental, clean energy and agricultural organizations that supports commercial adoption of carbon capture technology.

To view the Coalition's federal policy blueprint, please visit www.carboncapturecoalition.org.

The Great Plains Institute convenes the Carbon Capture Coalition.

carboncapturecoalition.org