CARBON CAPTURE COALITION

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Carbon Capture Coalition Statement for the Record

United States Senate Energy and Natural Resources Committee Hearing on "The Infrastructure Needs of the U.S. Energy Sector, Western Water and Public Lands, and Consideration of a Legislative Proposal"

June 24, 2021

The Carbon Capture Coalition appreciates the opportunity to submit this statement for the record for the Senate Energy and Natural Resources Committee hearing on the infrastructure needs of the U.S. energy sector. As our nation begins to look beyond the COVID-19 pandemic, we have a responsibility to rebuild and retool our nation's domestic energy, industrial and manufacturing sectors in ways that put our economy on a path to net-zero emissions by midcentury. Carbon capture must be central to the effort to achieve emissions reduction goals, while preserving and creating middle class jobs that pay family-sustaining wages, providing environmental and other benefits to communities, and supporting regional economies across our country.

The Carbon Capture Coalition is a nonpartisan collaboration of more than 80 businesses and organizations dedicated to building federal policy support to enable economywide commercial scale deployment of the full suite of carbon management technologies, which includes carbon capture, removal, transport, utilization, and storage. Widespread adoption of carbon capture at industrial facilities, power plants and future direct air capture facilities is critical to **achieving net-zero emissions to meet midcentury climate goals, strengthening and decarbonizing domestic energy, industrial production and manufacturing, and retaining and expanding a high-wage jobs base**. Convened by the **Great Plains Institute**, Coalition membership includes industry, energy, and technology companies; energy and industrial labor unions; and conservation, environmental, and clean energy policy organizations.

This statement outlines key components of the proposed *Energy Infrastructure Act* that are critically important to realizing economywide deployment of carbon capture, utilization, removal, transport and storage, including:

- Implementation of the **Storing CO_2 and Lowering Emissions (SCALE) Act (S.799/H.R.1992)**; and
- Increased investment in large-scale carbon capture pilot projects and carbon capture demonstration projects program.

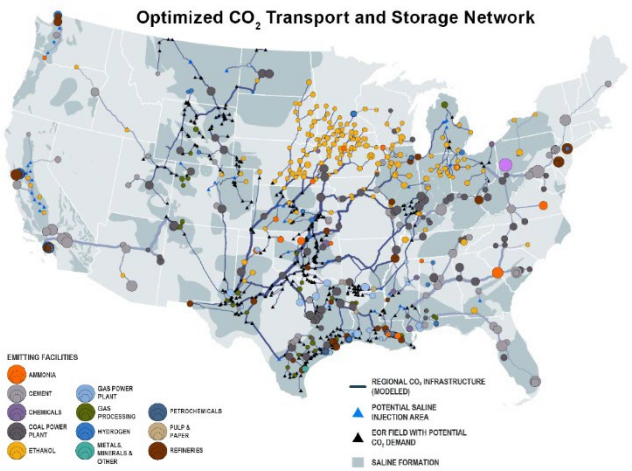
Implementation of the Storing CO_2 and Lowering Emissions (SCALE) Act (S.799/H.R.1992)

The COVID-19 pandemic wreaked havoc on much of the economy, and the energy sector was no exception. Carbon capture, removal, utilization, transport and storage have a unique role to play in the broader economic recovery – both as a jobs creator and as an emissions reduction tool.

Building out regional interconnected CO_2 transport and storage infrastructure networks serving multiple industries will play an essential role in achieving net-zero emissions economywide, while preserving existing jobs and creating new, highly-skilled jobs in energy and industrial sectors that consistently pay above prevailing wages. Thanks to the bipartisan leadership of Sens. Chris Coons (D-DE) and Bill Cassidy (R-LA) and Reps. Marc Veasey (D-TX) and David McKinley (R-WV), the *SCALE Act*, introduced in March, would enable deployment of the essential backbone CO_2 transport and storage infrastructure needed for deployment of large-scale carbon management

Modeled after other successful federal infrastructure funding mechanisms, the SCALE Act would provide low-interest loans and grants to leverage existing private capital to finance the regional and national buildout of shared CO_2 transport infrastructure networks and saline geologic storage hubs that achieve economies of scale and reduce overall system costs. This would, in turn, enable the scale-up of carbon capture and removal from our nation's industrial facilities, power plants and future direct air capture facilities. In addition, the legislation would provide cost share to support development of large-scale commercial saline geologic storage sites, as well as increased funding for the Environmental Protection Agency (EPA) to support federal and state permitting of such storage projects.

The *Decarb America Research* Initiative finds that the SCALE Act would create approximately 13,000 direct and indirect jobs per year through the bill's five-year authorization. While the *Rhodium Group* estimates that the buildout of a carbon capture industry across a 21-state region has the potential to create 70,000 to 100,000 jobs per year over the next 15 years. Additionally, a separate *Rhodium Group* analysis projects that the buildout of the direct air capture industry could create hundreds of thousands of new direct and indirect jobs by 2050.



Optimized CO_2 transport and storage modeling from the Great Plains Institute finds that, under the federal 45Q tax credit, a shared, interconnected CO_2 transport and storage system could capture, transport and store 300 million metric tons of CO_2 per year by 2035 from industrial facilities and power plants.

Robust infrastructure to safely transport and store captured CO_2 in secure geologic formations is an essential component of any broader strategy to put America firmly on a path toward net-zero emissions reductions. We applaud the inclusion of key elements of the bipartisan SCALE Act in the draft legislative text of the proposed *Energy Infrastructure Act*.

Increased Investment in Large-Scale Carbon Capture Pilot Projects and Carbon Capture Demonstration Projects

The International Energy Agency (IEA) predicts that 15 percent of emissions reductions by 2070 must come from carbon capture, with the largest relative emissions reduction contributions coming from carbon capture at industrial facilities. A faster transition to net-zero by would require 50 percent more carbon capture deployment.

There are long lead times in advancing capital-intensive technologies from concept to demonstration to commercialization, which makes federal investments during the next decade critical to scaling up carbon capture technologies (including capture, removal, transport, utilization and storage) to achieve net-zero emissions. Department of Energy (DOE) funding has played a crucial role in the success of recent large-scale carbon capture and storage projects and has already provided cost share to over a dozen engineering studies (front-end engineering and design studies), the final step before a project can proceed to construction.

In the three years since Congress revamped and expanded the federal Section 45Q tax credit, project developers and investors have publicly announced 36 carbon capture projects under development, with many more in the development pipeline. They span multiple industrial sectors, electric power, transportation fuels, direct air capture and CO_2 transport and storage infrastructure. These carbon capture projects represent an essential early down payment on long-term deployment on a scale sufficient to meet midcentury climate goals. However, to meet these goals, the IEA estimates that the carbon management industry will need to scale up to well over 2,000 facilities, capturing 2.8 gigatons (billion metric tons) of CO_2 per year to limit warming to 2°C.

Despite this recent progress, the federal government still has a significant role to play in funding less commercially mature and next generation carbon capture technologies across sectors, including heavy industry (cement, steel, chemicals, hydrogen production and other industrial processes), power generation and direct air capture. Carbon capture technologies have suffered a significant lack of federal investment compared to historic levels of support for other clean energy technologies. For example, of the money allocated to clean energy technologies in the American Recovery and Reinvestment Act, only four percent was dedicated to carbon capture technologies.

The Department must now build on earlier success in developing carbon capture technologies and significantly ramp-up efforts needed to commercialize carbon capture economywide. Within the 2020 Energy Act, Congress reauthorized, expanded and updated the DOE Office of Fossil Energy and Carbon Management's activities to include historic funding levels for technology demonstrations in industry, power and direct air capture. Providing appropriations at the authorized levels will ensure that the carbon management industry can scale over the next decade to meet net-zero emissions targets; particularly crucial is providing funding for large-scale commercial demonstrations in a variety of industries. Demonstration projects cost shares can range from $150 million to well over $200 million per project, depending on the industry sector and other factors. Therefore, to see significant deployment of carbon capture, reaching the authorized levels for demonstrations in the 2020 Energy Act is crucial.

We are encouraged to see that the draft legislation includes full funding, as authorized by the 2020 Energy Act, for the large-scale carbon capture pilot project and carbon capture demonstration project programs. Large-scale pilot and demonstration projects are key to achieving our emissions reduction objectives and to driving near-term jobs creation and economic activity, while spurring additional project development. Thus, it is essential that Congress fully appropriate these critical programs.

Conclusion

In summary, the groundbreaking provisions to scale deployment of carbon capture, removal, utilization and associated CO_2 transport and storage infrastructure outlined in the proposed *Energy Infrastructure Act* and included in bipartisan bills before Congress are essential to placing America's energy, industrial and manufacturing sectors on track to reach net-zero emissions by 2050. Analyses by the Rhodium Group reveals the potential for creating tens of thousands and hundreds of thousands of jobs and generating hundreds of billions in investment from carbon capture and direct air capture deployment, respectively, if these technologies are deployed at levels needed to meet net-zero targets. At the same time, Congress will be ensuring the long-term viability of vital industries that provide millions of existing high-wage jobs, which represent the lifeblood of American workers, their families and communities, and regional economies.

The Carbon Capture Coalition appreciates the support of the Committee in advancing legislation to enable greater deployment of carbon management technologies and infrastructure to meet midcentury climate goals. We look forward to working with the Committee on a bipartisan basis to advance the policy priorities outlined in this statement, whether in the proposed *Energy Infrastructure Act* or other moving legislative vehicles in Congress. Should you have any questions about the outlined provisions noted in this statement, please contact Madelyn Morrison, External Affairs Manager, Carbon Capture Coalition at mmorrison@carboncapturecoalition.org.