



CREATING GOOD JOBS, A CLEAN ENVIRONMENT, AND A FAIR AND THRIVING ECONOMY

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## **DE-FOA-0003478 Opportunities for Additional Support for Commercial Direct Air Capture (DAC) Demonstration Facilities**

### **Introduction**

The BlueGreen Alliance (BGA) unifies labor unions and environmental organizations into a powerful force that fights climate change, protects the health of people and the environment, stands against economic and racial inequality, and creates and maintains good-paying, union jobs in communities across the country.

In service of those same goals, the Department of Energy (DOE) should seek to maximize community benefits along with emissions reductions by ensuring that current and future DAC programs also support high-road labor standards and domestic manufacturing throughout the supply chain. The DAC Hubs program—established under the Bipartisan Infrastructure Law (BIL)—represents a historic public investment in carbon dioxide removal (CDR). It demonstrates the United States’ commitment to building an American-made CDR industry, and DOE must implement the funds carefully if they are to effectively catalyze responsible DAC development.

While leading on CDR, there can be no delay in efforts to rapidly reduce emissions in all sectors of the economy. The United States must continue to also lead in investing in clean energy and clean industry. Reaching net-zero requires decisive, immediate action from policymakers and industry to pull emissions down throughout the economy as much as possible. The more progress we can make on emissions reductions, the less we will have to lean on expensive alternatives like CDR in the future.

However, our path to 1.5°C warming is growing increasingly narrow. Historical cumulative emissions are already amplifying extreme weather with devastating consequences, and a few of the most challenging-to-abate sectors of the economy will continue emitting some CO<sub>2</sub> into the atmosphere into the latter half of the century. Developing and deploying DAC responsibly offers a critical tool for reaching net-zero emissions. DOE holds a key role in guiding the growth of the DAC industry to ensure it scales responsibly and benefits both workers at DAC facilities and the communities where projects are located.

DOE must require that projects deliver clear economic, health, and environmental benefits, especially for workers and the communities hosting or impacted by them. Carbon management infrastructure must distribute benefits and risks equitably and avoid perpetuating or worsening environmental injustices.

As noted in DOE's introduction and by the questions posed in this RFI, additional programs are needed to support the development of DAC—and of CDR more broadly. Federal initiatives aimed at advancing CDR—including direct government procurement of CDR services—could be crucial for the growth and development of this industry. However, any public investment in CDR must prioritize worker welfare and equity. As public dollars are directed towards the CDR industry, it is imperative that explicit worker agreements and union preferences are incorporated into any federal procurement contracts. This will ensure that the benefits of this emerging industry are shared equitably with the workforce, promoting fair wages and benefits, safe working conditions, and opportunities for collective bargaining.

DOE has a critical role to play in shaping the future of the CDR industry. By leveraging its procurement power, DOE can establish a strong precedent for a pro-worker, equitable CDR industry that benefits climate, communities, and the workforce. We urge the DOE to prioritize these considerations as it develops any CDR procurement strategies.

BGA welcomes the opportunity to contribute to discussions on catalyzing DAC technology commercialization and provides the following responses to the questions posed.

**3. To what extent do 45Q tax credits enable the continued operation of DAC projects post-construction? What are the pros and cons of subsidization via 45Q tax credits for prospective DAC projects?**

The 45Q tax credit provides important support for DAC projects, but its limitations present a few challenges that hinder the goal of supporting DAC development. One key issue is the political uncertainty surrounding the tax code, which poses a significant threat to the stability and predictability that DAC projects require for sustained operation. Any proposal to make cuts to 45Q's DAC incentive should be fiercely defended against and uniformly rejected. If the United States is to lead on manufacturing and deploying a world-leading CDR industry, 45Q will play a vital role.

Additionally, the production tax credit structure of 45Q provides necessary project support, but it may not always lead to enough financing on the front end of project development. 45Q is a world-leading incentive for DAC and will continue to be necessary for DAC to deploy economically. However, the tax credit is only received after carbon dioxide is sequestered—post-construction and once projects are operational. Future policies should also ensure that projects are able to deploy by addressing the capital-intensive nature of the industry on the front end. Introducing demand-side support mechanisms for CDR such as advanced market commitments alongside the 45Q credit could help bridge this gap, providing a stronger foundation for scaling DAC to levels of climate relevance. Without additional measures, 45Q

alone is unlikely to enable the industry to reach the scale required to meaningfully contribute to climate goals.

#### **4. What other obstacles may hinder investment in DAC projects?**

Investment in DAC projects faces significant obstacles beyond the challenges of upfront capital. One major factor is the need for ancillary infrastructure to transport and sequester captured carbon dioxide, the development of which can be a bottleneck for project development. Ancillary transport and storage projects create more points of necessary and vital community outreach, and they increase the number of stakeholders that must be engaged to successfully deploy a project. In addition to stakeholder consultation, ensuring the safety of this infrastructure will be vital to the success of the DAC projects. The Pipeline and Hazardous Materials Safety Administration (PHMSA) must enhance its pipeline safety regime to clarify that they have authority to regulate all forms of CO<sub>2</sub> moved by pipeline and to ensure that these pipelines are constructed and maintained to the highest safety standards. PHMSA must finalize rules that provide modern and comprehensive oversight for CO<sub>2</sub> pipelines. Concurrently, funding for the U.S. Environmental Protection Agency's (EPA) Class VI well permitting program for the geologic storage of carbon must be strengthened (e.g., to develop strategies for more timely leak detection and response, improve materials compatibility, etc.).

Another significant hurdle is securing community acceptance and social license for DAC projects, particularly in communities with a legacy of industrial pollution. Community acceptance and social license for DAC remains far from secure. The DAC industry must take proactive steps to address community concerns by developing legally binding community agreements that ensure direct and equitable benefits to hosting communities. DOE should require DAC hubs to commit to binding agreements, engage proactively with communities from the outset to address concerns, provide clear and direct benefits, and take steps to minimize any potential harm. The DAC industry must actively and transparently address community concerns and demonstrate intentional commitment to operate as partners with their host community.

In partnership with the Responsible Carbon Management Initiative and DOE's Office of Energy Justice and Equity, developers should track cumulative impacts on environmental justice communities and address them during project planning and evaluation.

Developers should also work proactively with labor unions and DOE's Office of Energy Jobs to develop the necessary workforce and establish high-quality, high-wage jobs in the industry. The DAC industry will require a substantial number of skilled workers to construct and staff facilities, and a shortage of skilled workers poses a significant threat to scalability. Partnering with unions can address workforce gaps by facilitating recruitment, training, and the placement of employees with the necessary skillsets. By building these partnerships, the DAC industry can attract and retain the right talent, ensuring the creation of good-paying, sustainable jobs.

## **7. What terms and conditions should be standardized to facilitate a broader marketplace for DAC credits?**

To effectively scale DAC, standardized terms and conditions must address the company's plans to create community and workforce agreements that address stakeholder input and embeds it into their development plans. These agreements are essential to ensure accountability and will help to build the trust needed for the DAC industry to gain social license.

Robust monitoring, reporting, and verification (MRV) protocols must also ensure accurate CO<sub>2</sub> accounting and apply to all DAC projects. MRV is needed in the near-term to provide transparency and accountability around removal claims, and MRV standards will be important to direct taxpayers' dollars to the most effective DAC projects to maximize the climate benefit of these investments.<sup>i</sup>

DOE's Responsible Carbon Management Initiative should lay the groundwork for standardized best practices for DAC developers. The BlueGreen Alliance submitted [comments](#) to inform the effort.<sup>ii</sup>

The Responsible Carbon Management Initiative should lay the groundwork for environmentally rigorous, community-first, and worker-centered standards. By embedding these principles into the foundation of the industry, DAC projects can foster trust and cooperation with host communities and scale more smoothly across the U.S. When DAC projects deliver tangible benefits—such as local, high-quality job creation, improved infrastructure, and environmental protection—communities are more likely to support their development. Integrating these provisions into the marketplace for DAC purchase agreements can help create a foundation for growth that aligns with community and workforce priorities. In addition to the appropriate MRV, DAC credits that include robust worker and community protections as informed by the Responsible Carbon Management Initiative could be considered more robust and secure in the marketplace.

## **15. Are there unique equity, environmental, and energy justice considerations and tradeoffs OCED should be aware of when evaluating a potential demand-side program or other non-capex program to support commercial DAC facilities?**

When evaluating a potential demand-side program or other non-capex initiatives to support commercial DAC facilities, DOE should ensure that a variety of DAC technologies can access funds. It is still far from certain which technologies will be most effective, efficient, and scalable. DOE should avoid directing a disproportionate amount of funding to any one carbon removal method or company. By diversifying demand-side funds, DOE can offer targeted support where it is needed, without prematurely favoring a single technology.

DOE should also carefully consider support for key DAC hub infrastructure, such as carbon dioxide transport and storage networks. When evaluating this support, DOE must ensure that hub developers include communities potentially impacted by infrastructure in planning

conversations, even if those communities are not near the DAC project itself. Communities must be engaged early and frequently, prior to project funding and throughout development. Involving these communities in creating a DAC project's community benefit plans, while clearly and transparently communicating the potential risks and impacts of the project, and co-creating strategies to address and mitigate those harms, can help facilitate quality project development. In addition, robust third-party monitoring should be instated at DAC facilities in order to ensure local pollution impacts are tracked and monitored throughout technology deployment. These efforts can help address concerns amongst local communities.

## **Conclusion**

DAC offers a critical opportunity to foster U.S. innovation and industry, and we urge DOE to adopt policies that emphasize environmental protections, worker protections, and meaningful community benefits as the industry develops. By supporting diverse technologies, and ensuring inclusive decision-making, DOE can guide the growth of a DAC industry that serves both the climate and the public good. Prioritizing the consideration of local impacts in these efforts will ensure that on our path to net-zero, the DAC industry advances our climate goals while also directing benefits and mitigating adverse negative affects to communities historically burdened by environmental injustice and deindustrialization.

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<sup>i</sup> World Resources Institute, High-Quality Carbon Removal Requires Credible and Consistent MRV — Government Oversight Can Help, June 2024. <https://www.wri.org/technical-perspectives/measurement-reporting-verification-of-carbon-removal>

<sup>ii</sup> BlueGreen Alliance, The Bluegreen Alliance Responds to the Office of Fossil Energy and Carbon Management's Request for Information on the Creation of the Responsible Carbon Management Initiative, September 29, 2023. <https://www.bluegreenalliance.org/resources/the-bluegreen-alliance-responds-to-the-office-of-fossil-energy-and-carbon-managements-request-for-information-on-the-creation-of-the-responsible-carbon-management-initiative/>