

September 29, 2023

Brad Crabtree  
Assistant Secretary  
Office of Fossil Energy and Carbon Management  
U.S. Department of Energy  
1000 Independence Avenue, SW  
Washington, DC 20585

Submitted via *email*  
*Reference Number: 88 FR 54608*

### **Comments to the Office of Fossil Energy and Carbon Management on Launching a Responsible Carbon Management Initiative**

Dear Assistant Secretary Crabtree:

Taxpayers for Common Sense (TCS) respectfully submits the following comments in response to the Office of Fossil Energy and Carbon Management's Notice of Intent and Request for Information regarding the launch of the Responsible Carbon Management Initiative.

TCS is a national nonpartisan budget watchdog that has been serving the interests of the nation's taxpayers since 1995. TCS strives to ensure that taxpayer dollars are spent responsibly, and that the government operates within its means. This includes working to ensure that federal energy policy does not create short- or long-term liabilities for taxpayers.

TCS has long been concerned with federal subsidies for carbon capture and sequestration (CCS). There is mounting evidence that CCS is neither economically viable nor an efficient solution for emissions reduction in addressing climate change. Moreover, federal support provided to the industry has often lacked transparency, oversight, and accountability.

From FY2010 to FY2023, Congress allocated over \$2.8 billion (in nominal dollars) in annual appropriations for CCS research, development, and demonstration (RD&D) at the Department of Energy (DOE). The American Recovery and Reinvestment Act (ARRA) added an extra \$3.4 billion specifically for CCS demonstration projects through the end of FY2015. The Infrastructure, Investment and Jobs Act (IIJA) recently allocated another \$12.1 billion for various CCS programs.

In general, TCS supports DOE's efforts to encourage responsible carbon management, particularly efforts to increase transparency and data accessibility regarding CCS projects. However, given DOE's mismanagement of CCS programs – as documented by the GAO<sup>1</sup> – along with the industry's repeated failures, it is critical to enforce transparency and accountability. This will help ensure IIJA funds and other recent spending are allocated to projects that will not squander taxpayer dollars.

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<sup>1</sup> Government Accountability Office, "Carbon Capture and Storage: Actions Needed to Improve DOE Management of Demonstration Projects," December 20, 2021. <https://www.gao.gov/products/gao-22-105111>

To ensure that the proposed DOE Principles for Responsible Carbon Management Projects (Principles) exemplify the highest levels of safety, environmental stewardship, accountability, community engagement, and societal benefits in carbon management projects, all DOE funding recipients must adhere to these principles. We believe any additional federal funding in Phase II directed at implementing these principles is unnecessary given the already high level of federal support for CCS and the need for better oversight of those funds. By setting appropriate and necessary principles, DOE will encourage other stakeholders and project developers to improve outcomes for future CCS projects.

TCS urges the Department of Energy to consider the following in relation to the specific questions from the Request for Information below:

**1. Would the Initiative and the Principles be likely to meaningfully advance responsible carbon management? If not, what changes could be made to better advance this goal?**

To meaningfully advance responsible carbon management, CCS projects must be held to high standards. Not only is the effectiveness of CCS technology in reducing greenhouse gas emissions still largely unproven, it also poses unknown long-term risks that could create future liabilities for taxpayers. Furthermore, serious questions still exist regarding the viability of the CCS industry in the open market. Despite receiving millions of dollars in federal support, many CCS projects have been delayed or canceled due to their high capital requirements and associated risks.

Our policy preference is to withhold additional federal spending for CCS and ensure the large sums of already allocated funds meet their intended goals. DOE must ensure that CCS projects receiving federal support adhere to the proposed Principles. Projects that do not commit to complying with the proposed Principles should not be eligible for federal funding. To best utilize taxpayers dollars, DOE should also consider incorporating the following areas into the Principles:

Net Emissions Reduction

The efficacy of CCS technology as a greenhouse gas reduction strategy is still unproven. A report from the Intergovernmental Panel on Climate Change in 2022 ranks CCS as one of the least effective, most expensive options for reducing greenhouse gas emissions.<sup>2</sup> The Government Accountability Office (GAO) also found that many carbon dioxide (CO<sub>2</sub>) based products “lack a standardized method for ensuring they effectively reduce CO<sub>2</sub> emissions.”<sup>3</sup>

The short-lived Petra Nova project also illustrates the failure of CCS to deliver meaningful emissions reductions. During its operation, the CCS system captured only 7 percent of the power plant’s total CO<sub>2</sub> emissions, well below the company’s promise to reduce CO<sub>2</sub> emissions by 90 percent.

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<sup>2</sup> The Intergovernmental Panel on Climate Change (IPCC), Figure SPM.7: Overview of mitigation options and their estimated ranges of costs and potentials in 2030, April 2022. <https://www.ipcc.ch/report/ar6/wg3/figures/summary-forpolicymakers/figure-spm-7/>

<sup>3</sup> Government Accountability Office, “Decarbonization: Status, Challenges, and Policy Options for Carbon Capture, Utilization, and Storage,” September 2022. <https://www.gao.gov/assets/gao-22-105274.pdf>

Moreover, much of the current CCS technology is used for enhanced oil recovery (EOR). Of the 13 commercial carbon capture projects currently operating in the United States, 11 are capturing and injecting CO<sub>2</sub> for enhanced oil recovery, as most CCS projects will do in the near future.<sup>4</sup> It is still unknown if using captured carbon oxides for EOR results in a net reduction in emissions. Some academic literature suggests that EOR projects do not have net emissions reduction throughout the entire life of the project.<sup>5</sup> Specifically, most EOR projects using captured CO<sub>2</sub> have an initial negative carbon footprint (net emissions reduction) because a high portion of the CO<sub>2</sub> pumped underground becomes trapped. However, as projects continue, increasingly less CO<sub>2</sub> is trapped underground, and the carbon footprint becomes positive.

Although the Principles include clauses like Environmental Responsibility, which covers energy use and greenhouse gas tracking, DOE should also clarify that responsible carbon management must result in net emissions reduction.

### Market Feasibility

Most federally subsidized CCS demonstration projects have either failed or been withdrawn because they are not economically viable or could not attract private investors. CCS technology remains prohibitively expensive, as extracting, pumping, and compressing CO<sub>2</sub> are both energy and capital intensive. In 2021, the GAO examined 11 CCS demonstration projects funded through Round 3 of the Clean Coal Power Initiative and American Rescue and the Reinvestment Act. They found that only 3 of the 11 projects were completed, primarily due to a lack of economic viability, but also partially due to DOE mismanagement of the program. In total, DOE spent \$1.12 billion on these demonstration projects – of the \$501 million spent on 8 projects that were never completed, just 4 projects received a total of \$472 million, \$300 million more than initially planned.<sup>6</sup>

One of these failed projects, FutureGen 2.0, received more than \$200 million for power plant and pipeline and storage projects. The work was eventually abandoned because the designated power plant could not complete the necessary procurement and construction negotiations or secure private funding.<sup>7</sup>

For DOE, responsible carbon management should mean selecting funding recipients that can compete in the open market. Federal funding of projects that carry too much risk not only shifts these risks from the private market to federal taxpayers, it will also be a waste of taxpayer dollars if the projects eventually end in failure, which also diverts resources away from more effective climate solutions.

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<sup>4</sup> Global CCS Institute, “Global Status of CCS 2020,” March 2021.

<https://www.globalccsinstitute.com/wpcontent/uploads/2021/03/Global-Status-of-CCS-Report-English.pdf>

<sup>5</sup> Núñez-López and Moskal, “Potential of CO<sub>2</sub>-EOR for Near-Term Decarbonization,” *Frontiers in Climate*, Sept 27, 2019.

<https://doi.org/10.3389/fclim.2019.00005>; Sekera, J. & Lichtenberger, A. (2020) Assessing Carbon Capture: Public Policy, Science, and Societal Need: A Review of the Literature on Industrial Carbon Removal. *Biophysical Economics and Sustainability*. <https://link.springer.com/article/10.1007/s41247-020-00080-5>

<sup>6</sup> Government Accountability Office, “Carbon Capture and Storage: Actions Needed to Improve DOE Management of Demonstration Projects,” December 20, 2021. <https://www.gao.gov/products/gao-22-105111>

<sup>7</sup> TCS, “Pricey and Problematic: Carbon Capture and Storage Remains Elusive Despite Decades of Taxpayer Subsidies,” May 2023. <https://www.taxpayer.net/climate/pricey-and-problematic/>

### Post-Injection Liability

There are public health, safety, environmental and ecosystem risks associated with the geological storage of CO<sub>2</sub> if it escapes from the sequestration site. This liability issue intersects with various proposed Principles, such as Air and Water Quality, Health and Safety, Emergency Response, and Long-Term Stewardship. To date, there is no comprehensive legal or regulatory framework specifically governs carbon storage. However, the Environmental Protection Agency (EPA) administers the Underground Injection Control (UIC) program, established under the Safe Drinking Water Act (SDWA) of 1974. CCS demonstration projects receive permits under UIC programs.<sup>8</sup> States can also take primary responsibility for implementing UIC requirements within their jurisdiction, provided the state project adheres to EPA regulations. Although the regulatory framework to govern carbon storage does not exist yet, the Principles should encourage participants to adhere to the highest standards for long-term liabilities. They should exceed statutory or regulatory minimums to protect taxpayers and the public from risks associated with carbon storage. The Principles should clarify how liability is determined, establish a monitoring system, and identify enforceable actions in the event of CO<sub>2</sub> leakage.

### **3. In what ways, if any, could the Principles be revised to better reflect responsible carbon management?**

TCS supports the Initiative's efforts to formulate such Principles, especially given CCS's history of fraud and failure. The Principles should be strengthened in the following areas to increase oversight and promote more detailed reporting.

#### Community Engagement

The proposed Principles state that project developers "will include robust two-way community engagement plans, including training on carbon management technology risks and benefits," as well as "provide clear mechanisms for modifying aspects of their projects in response to community priorities and concerns raised through engagement."

TCS supports these provisions in the Principles. Community education of "carbon management technology risks and benefits" must be thorough so that informed and meaningful community education can occur. This education must include a comparison with the risks and benefits of other, non-CCS emission reductions tools and include long term risks of the course of the project's lifetime, integrating potential physical changes – such as increased extreme weather and rising sea levels – to the project location.

TCS also advocates for ongoing community engagement throughout the project development, from initial design and operation to closure and long-term monitoring. Besides offering clear mechanisms to modify projects in response to community concerns, DOE must ensure that the opportunity to provide feedback on CCS projects is widely distributed to the community and community members are given adequate time to engage.

This need is particularly pressing given recent reporting on community outreach in advance of Battelle Memorial Institute and Occidental Petroleum Corp's direct air capture (DAC) hubs in Calcasieu Parish,

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<sup>8</sup> De Figueiredo, Reiner, et al, "The Liability of Carbon Dioxide Storage," [https://sequestration.mit.edu/pdf/GHGT8\\_deFigueiredo.pdf](https://sequestration.mit.edu/pdf/GHGT8_deFigueiredo.pdf)

Louisiana, and Kleberg County, Texas, respectively.<sup>9</sup> These projects, the first candidates for DOE's \$3.5 billion direct air capture program, are in negotiation to receive upward of \$500 million in federal dollars. Yet communities members have reported feeling unsatisfied with the DOE's implementation of its promise of "two-way" engagement. For example, community members raised concern over DOE's failure to make the projects' community benefit plans public until negotiations conclude, instead leaving this decision up to project managers' discretion. Community members also expressed disappointed in the minimal advanced notice provided before DOE-led public meetings on the projects.

The Principles must ensure that community members can meaningfully engage in CCS projects.

#### Environmental Responsibility

The proposed Principles state that "project developers will publish environmental impact analyses and project monitoring data in a way that is timely and easy for the public to access." Additionally, the Principles further specify that environmental analysis includes "energy use and life-cycle environmental impacts, including greenhouse gases (GHGs)."

TCS supports these provisions in the Principles. Environmental analyses, like GHG analysis, are vital for assessing project impacts and directing future spending. These analyses and data must be publicly accessible and regularly updated. However, as previously addressed, the Principles should clarify that participating projects must commit to achieving net negative emissions over the lifetime of the project.

#### Air and Water Quality

The proposed Principles state that project developers will "monitor and mitigate potential non-greenhouse gas air and water emissions." Specifically, the Principles specify that this monitoring and reporting must "be inclusive of N-amines and changes in co-pollutants" and, for carbon dioxide storage projects, "evaluate risks and avoid impacts to groundwater and other subsurface resources."

TCS endorses this provision but suggests expanding it to require timely and accessible public disclosure of this data, similar to the Environmental Responsibility Principle.

#### Regulatory Requirements

The proposed Principles state that project developers "will rigorously and transparently adhere to all applicable regulatory requirements."

TCS believes regulatory oversight should extend beyond siting, permitting, and ROW issuance regulated by EPA and other agencies. DOE should also partner with the Internal Revenue Service (IRS) which oversees the administration of the carbon oxide sequestration tax credit (45Q), especially given the history of 45Q tax fraud. It is imperative that all federal funding recipients adhere to regulations set forth by the IRS, EPA, and other relevant agencies.

In 2020, the Treasury Inspector General for Tax Administration reported that between Tax Years 2010 and 2019, \$1.026 billion worth of 45Q credits were claimed, and \$1.024 billion, or 99.86% of the total, were claimed by only 10 taxpayers. The IRS audited the 10 companies that claimed over \$100 million each in credits and found that \$894 million worth of the credits claimed by these companies did not

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<sup>9</sup> Jean Chemnick, "'False promise': DOE's carbon removal plans rankle community advocates," *E&E News*, September 25, 2023. <https://subscriber.politicopro.com/article/eenews/2023/09/25/false-promise-does-carbon-removal-plans-rankle-community-advocates-00116624>

comply with EPA monitoring, reporting, and verification requirements for sequestered carbon. The companies had insufficiently documented whether the carbon for which they were claiming credits remained underground. The IRS has reported on their examination of 68% of these cases and has subsequently disallowed 59% of the noncompliant credits, worth approximately \$531 million. No further update has been released since April 2020.

The Principles should clarify that projects in violation of regulatory requirements or have previously violated regulatory requirements should not be eligible for federal funding.

#### Transparency

The proposed Principles state that project developers will “ensure that the siting process is open to public input and transparent with respect to how decisions are made” and “will work with communities to identify the types of data that will be collected and shared with the public.”

TCS supports these provisions in the Principles. The decisions of these companies affect taxpayers: CCS projects benefit from taxpayer subsidies and may create future liabilities that will strain public finances. Improving access to data on CCS would enhance the public’s understanding of this technology and allow better accounting of how federal tax dollars are being spent.

In addition to the types and levels of data requested by communities, DOE should impose its own baseline requirements on the specific data project developers must report, how to ensure this data is publicly accessible, and the frequency with which the data must be updated.

#### Long-Term Stewardship

The proposed Principles state that “project developers of carbon dioxide storage projects will develop closure and post-operational monitoring and reporting plans and ensure financial responsibility for any future stewardship.”

TCS supports these provisions in the Principles. To guarantee that captured carbon provides a real, measurable, and enduring benefit for greenhouse gas emissions reduction and the climate, the DOE should encourage long record retention periods and enhanced recapture mechanisms in case stored or injected carbon leaks. These practices should also be required as a condition of receiving financial support. As noted above, DOE should ensure project developers monitor and report for a reasonably long period to address any long-term liability issues associated with CO2 leakage.

### **6. Would the technical assistance envisioned in Phase 2 be helpful to advance responsible carbon management projects? Would you take advantage of this service or encourage others to take advantage? If not, why not?**

As mentioned above, TCS is concerned with additional federal spending as proposed in Phase 2. While TCS supports the DOE in developing detailed guidance and metrics to turn these principles into well-recognized industry standards, the burden of compliance should fall on those participating, not on taxpayers.

If the Department of Energy pursues Phase II of the Initiative, it is critical that implementation seeks to minimize environmental liabilities and limit waste, fraud, and abuse of this and other federal supports.

Any funding in Phase II must be tied to strict guidelines and reporting requirements to minimize waste and protect taxpayers from long-term liabilities.

We thank you for considering our comments on launching a Responsible Carbon Management Initiative. Please let us know if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "SE" followed by a stylized flourish.

Steve Ellis  
President