

Revised Policy Recommendations of the CCS Alliance on EPA’s Work Shops on Underground Injection Control Program and Carbon Dioxide Injections for Carbon Sequestration

The mission of the CCS Alliance is to ensure that draft legislation and regulations related to carbon capture and sequestration (CCS) promote the mobilization of capital for investment in CCS projects and that existing barriers created by the patchwork quilt of laws and regulations are reduced or eliminated. The suggestions of the CCS Alliance that follow are intended as constructive proposals to augment the usefulness of the Underground Injection Control (UIC) program in encouraging the development of commercial CCS projects.

A. Financial Assurance

1. Apply Site-specific Risk Tailoring

The financial assurance provisions of the proposed UIC amendment should be tailored to the risks presented by specific sites. Converted enhanced oil recovery (EOR) reservoirs in which carbon dioxide (CO₂) has been injected safely for many years should not require the same level of financial assurance as a new reservoir. Similarly, formations for which significant data exists would not require that same amount of financial assurance as one for which less data and/or experience was available. The volume of CO₂ stored and the pressure at which it needed to be injected, would also be variables affecting the level of financial assurances required. EPA should therefore be flexible on the level of financial assurances required, including providing for rebuttable presumptions regarding specific reservoirs.

2. Allow for a Broad Array of Financial Assurance Mechanisms

The CCS Alliance would also recommend that financial assurances not be limited to financial instruments such as letters of credit and insurance bonds or the financial rating of the project owner/developer, but that more creative financial assurance mechanisms also be considered. For example, a state with the geological formations conducive to development of carbon sequestration could allow for the incorporation of a state-chartered Carbon Mutual Trust, to act as a “first loss” reserve for multiple storage reservoirs, beyond the damages to be covered by the operator through private, negotiated insurance programs. Requiring an operator to have private commercial insurance coverage ensures better site review, selection, management and monitoring and avoids the potential moral hazard for governments. However, given the high cost of CCS projects and the potential for liability exposure under a variety of scenarios and statutes, risk sharing with the State and federal government is warranted. A Carbon Mutual Trust is one such risk-sharing mechanism that can be envisaged. This trust could be capitalized from pooled contributions by multiple projects, royalty revenues from coal, carbon credits from verified carbon emission reductions, tax rebates from property taxes paid by storage projects or other sources. EPA should therefore be flexible on the type of financial assurances that can be provided for injections of CO₂.

3. Set Financial Assurance Period to Encourage, Not Discourage, CCS

Finally, EPA raised the question in its workshops as to the time period that a project owner/operator must provide financial assurances and suggested a number of options, ranging from a site-by-site approach (either at the Director's discretion or keyed to the reservoir pressure die-off or until the plume no longer poses a danger), to a fixed time period (from 5-10 or up to 30 years or a multiple of the operating life of the storage facility). In order to provide businesses with a level of certainty on which they can base rational decisions about CCS investments, EPA needs to establish a limited time period for financial assurances for each project, based on specific site characteristics. However, EPA also should consider setting an outside time limit for all projects which meet certain minimum criteria, beyond which a developer/owner/operator would no longer be required to tie up capital to guard against decreasing risks. In addition, EPA should provide the flexibility of a shortened financial assurance period if the risks of harm to underground drinking water sources are determined to be particularly low, based on certain site factors. This approach would encourage the early development of optimum sites.

Recommendation: The CCS Alliance recommends that EPA propose site-specific and flexible financial assurance approaches.

B. Liability Risks

The CCS Alliance is concerned about potential liability for CO₂ storage developers, owners, operators, investors and others under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA), the Clean Air Act (CAA) or other federal laws related to environmental damage or contamination which are implemented by EPA. While CO₂ would not currently be considered a "hazardous substance" pursuant to Section 101(14) of CERCLA, the definition of "hazardous substance" under CERCLA includes "hazardous air pollutants" under Section 112 of the CAA. Following the Supreme Court's decision last year in *Massachusetts v. EPA*, it is possible that CO₂ could be classified as a "hazardous air pollutant" under Section 112, which could trigger the CERCLA "hazardous substance" definition. The potential for such action being brought by groups opposed to the use of coal could be a significant deterrent to investment in CCS projects, absent some protection. Unless owners and operators know the limits on their liability, and investors and lenders can be assured of a return on their investment, the needed capital will not be mobilized and private insurance carriers will be unwilling to provide sufficient insurance coverage.

The CCS Alliance therefore requests that, to the extent EPA has the current statutory authority to do so, EPA clarify that CERCLA and RCRA do not apply to CO₂ injections pursuant to the UIC program if the injections comply with EPA's regulations. We suggest that any clarification address the quality and characteristics of the CO₂ injectate that may affect the Agency's decision.

If EPA finds that it does not have the authority to make such finding, the CCS Alliance requests that EPA consider issuing a policy memorandum, jointly from the General Counsel's Office, Office of Solid Waste and Emergency Response, and Office of Water, regarding this issue. To

the extent that additional federal legislation is needed, EPA's policy memorandum should provide guidance as to the measures needed to provide the necessary protection.

In addition, EPA should provide regulatory guidance in the proposed rulemaking with respect to the "federally permitted release" provision of Section 107(j) of CERCLA.¹ Guidance from EPA that this provision applies to CO₂ injected in accordance with its UIC regulations would provide some assurance that EPA will not seek to impose liability under CERCLA.

Recommendation: EPA should provide guidance in the proposed regulation regarding the scope of applicability to CO₂ underground storage injections of CERCLA, RCRA, CAA and other statutes under its purview.

C. Area of Review

The issue of defining the area of review (AOR) was raised in EPA's workshops, with several proposals being discussed. The CCS Alliance agrees with the workshop participants and EPA that a fixed radius AOR is not appropriate for CO₂ storage facilities, because of the different characteristics of CO₂ as compared to other liquids traditionally regulated under the UIC program. The CCS Alliance favors an incremental approach that does not calculate the AOR based on the completion date of the storage facility, but rather allows for an initial AOR based on the first few years of operation, with expanding AOR radii as more and more CO₂ is injected over the life of the power plants or coal-to-liquids facilities producing the CO₂. This approach, combined with effective monitoring and modeling of the CO₂ plume and the elevated pressure in the storage formation, ensures the safety of drinking water while lowering the up-front cost of developing the project site.

Recommendation: EPA should use an adaptive, incremental approach to defining the AOR.

D. State v. Federal Regulation

Currently, EPA permits States to request "primacy" in regulating well injections under the UIC program and has provided such primacy to oil and gas producing States for Class II wells. The CCS Alliance believes that the opportunity for such primacy should be extended to States that currently do not have EOR operations but have the geological formations appropriate to CO₂ storage, provided uniform minimum standards related to safety, plugging, closing and abandoning wells are established by EPA under the Safe Drinking Water Act (SDWA). States will then be able to tailor site-specific requirements based on the particular geological factors present at a particular storage site. State primacy is also appropriate if State-chartered carbon

¹ Section 107j states:

Recovery by any person . . . for response costs or damages resulting from a federally permitted release shall be pursuant to existing law in lieu of this section. Nothing in this paragraph shall affect or modify in any way the obligations or liability of any person under any other provision of State or federal law, including common law, for damages, injury, or loss resulting from a release of any hazardous substance or for removal or remedial action or the costs of removal or remedial action of such hazardous substances.

trusts are established to take on some of the liability risks associated with such storage facilities, as suggested above.

Recommendation: States hosting CO₂ storage projects should be allowed to have primacy with regard to any new class of wells associated with CO₂ injections for sequestration purposes, similar to the EOR states that currently regulate Class II wells in accordance with EPA's UIC program.

E. Resource v. Waste

The IOGCC Report and other commentators have urged potential regulators to treat CO₂ as a resource and not a waste product. The CCS Alliance endorses this view for several reasons. First, CO₂ has a commercial value for EOR operators. A number of commercial operations exist solely for the extraction and sale of natural CO₂. Second, anthropogenic CO₂ will have a commercial value for traders in carbon emissions reductions credits, once the CO₂ is captured and stored. While the reason for capturing the CO₂ may be to eliminate it from entering the earth's atmosphere, it nonetheless will have a commercial value when stored. Third, States that currently regulate CO₂ injections for EOR operations do so under a resource management framework and the Surface Transportation Board, which is responsible for the economic regulation of CO₂ interstate pipelines, also views CO₂ as a commodity.

Viewing CO₂ as a waste could have a chilling effect on the development of CO₂ storage projects. Use of terminology that implicates other environmental statutes may raise red flags in the minds of developers and investors and reduce the probability of widespread deployment of storage projects. While EPA is clearly within its authority to prescribe regulations under the SDWA that protect potable water from carbonization and contaminants in anthropogenically-produced CO₂ (such as hydrogen sulfides), this obligation does not necessitate the view of CO₂ itself as a waste product.

Recommendation: EPA should treat the injection of CO₂ into underground storage facilities as storage of a commodity and not a waste.