

TEAM PENNSYLVANIA

PA Energy Horizons Cross-Sector Collaborative *Fact Sheet: CO2 Storage Facility Oversight and Liability*

Overview

Carbon capture, utilization and storage (CCUS) is identified as a critical component to achieve the goal of emissions reduction globally and is anticipated to be a particularly relevant approach for sectors of the economy where few other clean technology pathways exist. The geology of Pennsylvania's subsurface makes the state a potentially strong candidate for various CCUS applications. As interest in CCUS grows nationally, Pennsylvania regulators have expressed their intention to expand the regulatory capacity required to permit and oversee carbon storage facilities in the commonwealth.

Background & Definitions

Regulatory authority for CO2 storage is established by the U.S. Environmental Protection Agency's (EPA) Underground Injection Control (UIC) Program. There are six classes of UIC classifications, and CO2 storage falls primarily under Class VI. Class VI wells are used to inject CO2 into deep geologic formations solely for the permanent or dedicated storage of CO2. The EPA established this as a separate well class in 2010 to provide specific regulations for projects where the purpose is dedicated geologic storage.

Class VI UIC program rules ensure that wells are appropriately sited, constructed, tested, monitored, funded, and closed once injection activities are completed. There are only two Class VI wells in operation today (both in Illinois), but as of March 29, 2023, there are applications pending for nearly 70 Class VI wells in nine states.

Permitting Authority: Class VI Primacy

EPA can delegate permitting and oversight authority – or primacy – over different classes of UIC wells to an individual state, territory, or tribe. A state can only be approved for UIC primacy if state regulations meet or exceed the federal UIC requirements; EPA is also factoring new guidance and criteria pursuant to the Infrastructure Investment and Jobs Act (IIJA) and the Inflation Reduction Act (IRA). EPA has delegated primacy over Class VI wells to only two states – North Dakota and Wyoming. Pennsylvania declared its intention to pursue funding from EPA to apply for Class VI UIC primacy in March 2023. Several other states are at various points in the process of applying for Class VI primacy. A state with Class VI primacy would potentially be able to review and permit Class VI wells more quickly than the EPA, but this requires the state to develop and maintain the technical expertise, capacity and funding to take on the permitting and oversight processes.

Fact Sheet: Property Rights in Pore Space

Liability Considerations

Permitting a Class VI UIC well also entails several management and liability considerations; regular site facility monitoring is required even after the CO₂ injection ends and the facility is permanently plugged. Some potential liabilities include the leakage or sudden release of CO₂, groundwater contamination, displacement of resources, and seismicity. The EPA currently equires owners or operators of injection wells to ensure that underground sources of drinking water remain safe from endangerment and specifies that well owners/operators are subject to liability for enforcement, including after the closure of a site. However, some states are considering statute or regulation that would allow Class VI well owners/operators, after site closure, to transfer liability and long-term monitoring requirements to the state. States considering taking on post-closure liability relief will need to consider how regulatory violations incurred by prior facility operators will be handled, as well as the cost for the state to fulfill both the administration of long-term monitoring duties and remedial action in the event of a mechanical issue at the facility.

Policy Considerations

Now that Pennsylvania has begun the process of applying to EPA for Class VI primacy, the state will need to demonstrate that it has the administrative capacity and that its UIC program will meet or exceed the minimum federal requirements. Each of the aforementioned liability issues will require careful consideration, and Pennsylvania must develop clear guidance on liability and management for Class VI wells, including whether or not well owners/operators can transfer liability and long-term monitoring requirements to the state once a well has closed. Pennsylvania's bid for Class VI UIC primacy will also need to include approaches to environmental justice through strong engagement with the community and a means of explaining addressing potential local impacts – both positive and negative.

Resources

- Great Plains Institute, [EPA's Class VI Well Program Key to Deploying CO₂ Geologic Storage](#), February 17, 2022
- [EPA Report to Congress: Class VI Permitting](#), October 28, 2022
- U.S. Government Accountability Office, [Decarbonization: Status, Challenges, and Policy Options for Carbon Capture, Utilization, and Storage](#), September 29, 2022
- International Energy Agency, [Legal and Regulatory Frameworks for CCUS: An IEA CCUS Handbook](#), August 18, 2022

The work products and areas of focus are the result of collaboration, and while they reflect the broadest possible set of views they do not imply a full endorsement by every participant of the Pennsylvania Energy Horizons Cross-Sector Collaborative.