

## Carbon Storage Liability Transfer & Pore Space Unitization: Statute Survey and Background

### Carbon Storage Liability Transfer

#### BACKGROUND:

In the Ohio River Valley, long term liability for geologic storage of carbon is a significant part of the Class VI primacy conversation as state statutes allowing for liability transfer will shape how states administer the Class VI program in their respective jurisdictions.

Under the Safe Drinking Water Act, liability of geologic storage projects remains with the operators indefinitely and cannot be transferred:

*Although the owners or operators are not required to demonstrate financial responsibility after the post injection site care period has ended, owners or operators are still financially liable for the site. Safe Drinking Water Act (SDWA) does not provide EPA with the authority to indefinitely release owners or operators from long-term responsibility for potential impacts to [underground sources of drinking water (USDWs)] after the post-injection site care period has ended (e.g., for unanticipated migration that endangers a USDW). Under current SDWA provisions EPA does not have the authority to transfer liability from one entity to another.<sup>1</sup>*

The push for public assumption of long term liability for carbon storage projects is in part due to the long timelines involved with geologic sequestration as well as the uncertainties with the technology, which commercial stakeholders say pose financial risks to operators and investors.<sup>2</sup>

The Ohio River Valley region is already overwhelmed by legacy issues from the oil and gas industry, including orphaned and abandoned gas wells and abandoned mine lands, and the additional responsibility for the ongoing maintenance and monitoring of long term carbon storage projects would only further burden regulators.<sup>3</sup>

As stated by the Environmental Defense Fund in a letter to the EPA regarding Louisiana's Class VI primacy application,

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<sup>1</sup>Environmental Protection Agency. [Underground Injection Control \(UIC\) Program Class VI Financial Responsibility Guidance.](#)

<sup>2</sup> Interagency Task Force on Carbon Capture and Storage. [Report of the Interagency Task Force on Carbon Capture and Storage.](#)

<sup>3</sup> Ohio River Valley Institute. [Repairing the Damage: Cleaning up the land, air, and water damaged by the coal industry before 1977](#); Ohio River Valley Institute. [Repairing the Damage from Hazardous Abandoned Oil & Gas Wells: A Federal Plan to Grow Jobs in the Ohio River Valley and Beyond](#)

*The risk of liability acts as a powerful motivator for high quality operations. Project developers who do not face commensurate consequences for negligent behavior will tend to behave negligently to save money. Elimination or transfer of liability introduces a moral hazard that potentially endangers workers, community members, and the environment<sup>4</sup>*

Another memo prepared for Environmental Defense Fund further elaborated on this point:

*Ensuring the potential of liability even after a well has been closed, therefore, helps deter pre-closure errors and ensures that owners and operators are not incentivized to cut corners by, for example, using cheaper and weaker materials with little regard to long-term consequences. It also ensures that owners and operators are not incentivized to continuously provide the relevant regulatory agency with sloppy or incomplete information, which could delay discovery until after a well has been closed. In addition, if remediation is necessary, owners and operators are generally best equipped to quickly remedy regulatory issues in light of the superior knowledge they have with respect to their own wells.<sup>5</sup>*

Lastly, the significance of liability is reinforced by the fact that regulators in the U.S. have little practical experience with long term geologic sequestration of carbon dioxide, especially when compared to the timescales involved with these projects. In the nearly thirteen years since the Class VI rules were finalized, only six Class VI permits have been issued by the EPA and four of these were never constructed, leaving only two active federally-permitted storage projects.<sup>6</sup> Geologic sequestration of carbon dioxide is expected to take place over hundreds of years, reinforcing the many uncertainties involved with these projects.<sup>7</sup>

A recent report from the Institute for Energy Economics and Financial Analysis highlights some of the practical unknowns associated with these projects.<sup>8</sup> In their study of the Sleipner and Snøhvit projects in Norway, they note that despite being located in two of the most studied geological formations in the world, “the security and stability of the two fields have proven difficult to predict” and the researchers go on to detail incidents of unintended carbon migration, previously unidentified storage formations, and alarming pressure levels indicating that the geology was insufficiently porous to accept the carbon dioxide.

*What the Norwegian projects demonstrate is that each CCS project has unique geology; that geologic storage performance for each site can change over time; and that a high-quality monitoring and engineering response is a constant, ongoing requirement.*

The Class VI rules are intended to account for the unique and dynamic characteristics of geologic storage of carbon dioxide and ensuring operator responsibility for the long term liability of carbon storage projects is essential to ensuring successful geologic sequestration.

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<sup>4</sup> Environmental Defense Fund. [Letter from Adam Peltz Senior Attorney, Energy Environmental Defense Fund to Stephen Lee Director, Injection and Mining Division Office of Conservation Louisiana Department of Natural Resources.](#)

<sup>5</sup> Gupta Wessler, prepared for Environmental Defense Fund. [Legal analysis of EPA's UIC program and primacy requirements under the Safe Drinking Water Act](#)

<sup>6</sup> U.S. EPA. [EPA Report to Congress: Class VI Permitting.](#)

<sup>7</sup> Congressional Research Service. [Injection and Geologic Sequestration of Carbon Dioxide: Federal Role and Issues for Congress.](#)

<sup>8</sup> Institute for Energy Economics and Financial Analysis. [Norway's Sleipner and Snøhvit CCS: Industry models or cautionary tales?](#)

## SURVEY OF STATUTES:

Numerous states have passed legislation allowing for the transfer of liability for carbon sequestration projects from operators to the state.

In West Virginia and North Dakota, the state assumes liability for carbon storage projects as early as ten years after injection of carbon dioxide has ended.<sup>9</sup>

Wyoming passed five bills pertaining to geologic sequestration of carbon between 2008 and 2010.<sup>10</sup> However, the state declined to address liability until 2022, when legislation passed transferring liability to the state following the issuance of a certificate of completion, which can occur as early as twenty years after the carbon dioxide objection ends.<sup>11</sup>

Montana allows operators to petition to be released from liability, with the state assuming responsibility for storage projects, as early as thirty years following the end of carbon dioxide injection.<sup>12</sup>

Kansas explicitly prohibits the transfer of liability to the state.<sup>13</sup>

In 2009, Louisiana passed legislation allowing operators to be released from liability for their geologic sequestration projects as early as ten years after injection of carbon dioxide has ended.<sup>14</sup> However, state legislators updated this statute in June of 2023 allowing for ownership of the storage project and the associated liability to transfer to the state after fifty years.<sup>15</sup>

Pennsylvania has yet to pass any legislation regarding transfer of liability for carbon storage projects. However, two proposals have emerged with different approaches to this liability question. SB 831, introduced in June of 2023, allows for the transfer of liability from the operator to the state as early as ten years following the completion of the injection operations.<sup>16</sup> An earlier bill introduced in October of 2022 did not allow for liability transfer.<sup>17</sup> A co-sponsor memo was issued in January of 2023 expressing interest in re-introducing this second bill but this legislation has not materialized.<sup>18</sup>

No legislation has been introduced in Ohio regarding geologic sequestration of carbon dioxide.

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<sup>9</sup>West Virginia Code. [§22-11B-12. Certificate of project completion, release, transfer of title and custody, filing](#); North Dakota Century Code. [38-22-17. Certificate of project completion - Release - Transfer of title and custody](#).

<sup>10</sup> Holly Javedan. [Regulation for Underground Storage of CO2 Passed by U.S. States](#).

<sup>11</sup> Sixty-sixth Legislature Of The State Of Wyoming, 2022 Budget Session. [SF0047 - Carbon storage and sequestration-liability](#); Wyoming Statutes. [35-11-319. Certificate of project completion; release; transfer of title and custody](#).

<sup>12</sup> Montana Code Annotated. [82-11-183. Certificate of completion -- department of environmental quality participation -- transfer of liability](#).

<sup>13</sup> Kansas Statutes. [Chapter 55. Article 16. Section 37. Definitions; commission powers; liability limitation](#).

<sup>14</sup> Louisiana State Legislature, 2009 Regular Session. [HB 661](#).

<sup>15</sup> Louisiana State Legislature, 2023 Regular Session. [HB 571](#).

<sup>16</sup> Pennsylvania House of Representatives, Regular Session 2023-2024. [Senate Bill 831 Carbon Capture and Sequestration Act](#).

<sup>17</sup> Pennsylvania House of Representatives, Regular Session 2021-2022. [House Bill 2889](#).

<sup>18</sup> Pennsylvania House of Representatives, Regular Session 2023 - 2024. [Hydrogen Hubs memo](#).

<b>Length of time following cessation of CO2 injections after which state law allows for the transfer of liability</b>	<b>States</b> <i>(Italics indicate states with proposed policies for liability transfer.)</i>
Not allowed	Kansas, <i>Pennsylvania</i>
No applicable statute	Ohio, <i>Pennsylvania</i>
50 years	Louisiana (previously 10 years)
30 years	Montana
20 years	Wyoming
10 years	North Dakota, West Virginia, <i>Pennsylvania</i>

## PORE SPACE UNITIZATION

### BACKGROUND:

Similar to ‘forced pooling’ of natural gas mineral rights, compulsory unitization is the practice of allowing a single operator to aggregate adjacent pore space in order to develop a geologic storage project.<sup>19</sup> Provisions for unitization, which vary state to state, set a requirement for how many pore space owners in a proposed unit must consent before the proposed geologic storage project can advance and outline how nonconsenting pore space owners should be compensated.

Unitization is intended to ensure that no single pore space owner or a minority of owners can block the development of a geologic storage project.<sup>20</sup> However, the practice can have significant ramifications for the rights of pore space owners.

For example, an owner(s) of pore space adjacent to a carbon sequestration project underlying a large tract of public land would be significantly disadvantaged and smaller pore space owners would have little say in whether their pore space would be consolidated with a larger storage project. Recent developments show that this is a real possibility. Earlier this year, West Virginia passed legislation allowing the leasing of pore space underlying state forests, natural and scenic areas, and wildlife management areas.<sup>21</sup> It later granted a \$62.5M forgivable loan to a carbon storage project that intends to utilize pore space under public lands.<sup>22</sup>

### SURVEY OF STATUTES:

<b>State</b>	<b>Percentage of pore space acreage required for approval of</b>
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<sup>19</sup> Earthworks. [Forced Pooling](#); Holly Javedan. [Regulation for Underground Storage of CO2 Passed by U.S. States](#);

<sup>20</sup> Center for Energy Studies. [Expanding Carbon Capture in Texas](#); Interagency Task Force on Carbon Capture and Storage. [Report of the Interagency Task Force on Carbon Capture and Storage](#).

<sup>21</sup> West Virginia Code. [§20-1-22. Authorizing the director to lease and develop pore spaces](#).

<sup>22</sup> Parkersburg News and Sentinel. [Justice to announce Point Pleasant hydrogen project Wednesday](#); West Virginia Economic Development Authority. [Mountaineer GigaSystem, LLC - Final Approval](#).

<i>(Italics indicate states where unitization requirements have been proposed.)</i>	<b>unitization</b>
Montana <sup>23</sup>	60%
Nebraska <sup>24</sup>	60%
North Dakota <sup>25</sup>	60%
<i>Pennsylvania<sup>26</sup></i>	60%
<i>Oklahoma<sup>27</sup></i>	63%
Indiana <sup>28</sup>	70%
Utah <sup>29</sup>	70%
West Virginia <sup>30</sup>	75%
<i>Pennsylvania<sup>31</sup></i>	80% (75% with approval).
Wyoming <sup>32</sup>	80% (75% with approval)
Illinois	State law does not address unitization.
Kansas	State law does not address unitization.
Louisiana <sup>33</sup>	State law does not specifically address unitization but allows for the use of eminent domain for carbon storage and pipeline transport. Legislation to repeal this was introduced in early 2023 but failed to pass out of committee.
Ohio	State law does not address unitization.
Oklahoma	State law does not address unitization.
Pennsylvania	State law does not address unitization.
Texas	State law does not address unitization.

<sup>23</sup> Montana Code Annotated. [Section 82-11-204 Hearing On Operation Of Pool As Unit.](#)

<sup>24</sup> Nebraska Revised Statute. [57-1610. Permit; issuance; findings.](#)

<sup>25</sup> North Dakota Century Code. [Chapter 38-22 Carbon Dioxide Underground Storage.](#)

<sup>26</sup> Pennsylvania House of Representatives, Regular Session 2023-2024. [Senate Bill 831 Carbon Capture and Sequestration Act.](#)

<sup>27</sup> The Oklahoma Office of the Secretary of Energy & Environment has recommended that unitization of pore space follow the existing statutes for oil and gas pooling, which requires consent of 63% of lease owners. See Oklahoma Office of the Secretary of Energy & Environment. [SB 200: Oklahoma Carbon Capture & Geological Sequestration Report](#); Oklahoma Statutes. [Title 52 §52-287.5.](#)

<sup>28</sup> Indiana Code. [14-39-2-4 Integration of interests to develop pore space.](#)

<sup>29</sup> Utah Code. 40-11-6. [Permit application requirements.](#)

<sup>30</sup> West Virginia Code. [§22-11B-19. Co-tenants, ownership of pore space by multiple co-tenants and collective storage.](#)

<sup>31</sup> Pennsylvania House of Representatives, Regular Session 2021-2022. [House Bill 2889.](#)

<sup>32</sup> Wyoming Statutes. [35-11-316. Unitization of geologic sequestration sites; hearings on application, order; modifications.](#)

<sup>33</sup> Louisiana Revised Statutes. [30 §1108. Eminent domain; expropriation](#); Louisiana State Legislature, 2023 Regular Session. [House Bill 10.](#)