

**TESTIMONY OF
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HEARING ON CARBON CAPTURE AND STORAGE

**BEFORE THE
COMMITTEE ON ENERGY AND NATURAL RESOURCES
U.S. SENATE**

November 2, 2023

Good morning, Chairman Manchin, Ranking Member Barrasso, and Members of the Committee. I am Bruno Pigott, Principal Deputy Assistant Administrator for Water at the U.S. Environmental Protection Agency. Thank you for the opportunity to testify before this Committee today on the critical topic of carbon capture and storage, and to do so alongside Brad Crabtree, my colleague at the Department of Energy along with other distinguished experts in this field.

The Biden-Harris Administration has set a goal of reducing greenhouse gas emissions 50 percent by 2030, and net-zero emissions economy-wide by 2050. Carbon capture utilization and storage will be central to achieving those goals.

Moreover, the growth of the carbon capture, utilization, and storage market, widely known as CCUS, is expected to produce between 390,000 and 1.8 million good-paying jobs, especially in those communities most affected by the transition to a net-zero economy. CCUS, then, holds enormous environmental and economic potential.

Congress provided historic funding for CCUS through the Bipartisan Infrastructure Law and the Inflation Reduction Act, and the Biden-Harris Administration is hard at work to expeditiously implement this funding to accelerate carbon reduction efforts to help achieve our climate goals, ensure energy reliability, create good jobs, and improve the lives of people and communities.

Background

CCUS is a proven technology and process that has been used for decades to trap carbon dioxide emissions from industrial sources (or more recently, to pull carbon dioxide directly from the atmosphere) and permanently store it to prevent its release into the atmosphere. The Federal Government has an existing regulatory framework that is rigorous and capable of managing permitting and review actions while protecting the environment, public health, and safety as CCUS projects move forward. Key guidance documents and best practices have been developed by the Federal Government and non-governmental organizations to assist CCUS project developers in moving CCUS efforts forward responsibly and efficiently. As with any industrial activity, the applicable permits and reviews will depend on the characteristics of the particular project. EPA has a responsibility in this process under the Safe Drinking Water Act (SDWA) to ensure that these activities do not contaminate underground sources of drinking water. EPA administers the Underground Injection Control, or “UIC,” program, to issue permits for wells that serve a variety of underground injection needs, including sequestration of carbon.

EPA’s UIC program developed appropriate and stringent federal requirements for injecting CO₂ in underground wells – called Class VI wells. These requirements protect underground sources of drinking water from contamination, and as a result, protect public health. The Class VI requirements are described in the regulations which were promulgated in 2010 and are supported by guidance and training.

Like many of EPA’s programs, states may apply for and EPA may grant primary enforcement responsibility, often called “primacy,” to a state, territory, or Tribe. If a state, territory, or Tribe does not obtain primacy, EPA implements the program directly through its regional offices. Activities performed by the primacy agency include, but are not limited to, reviewing and issuing permits, ensuring compliance, and conducting enforcement where appropriate. EPA retains oversight of UIC programs implemented by states, territories, and Tribes. Currently, North Dakota and Wyoming have primacy for

Class VI, and EPA implements the Class VI UIC program everywhere else in the country.

Primacy

EPA supports efforts by states, Tribes, and territories to seek primacy for Class VI UIC programs. The primacy application process has four phases: Phase I: pre-application activities, Phase II: completeness review and determination, Phase III: application evaluation, and Phase IV: rulemaking and codification. EPA carefully reviews each primacy application pursuant to the SDWA to ensure the application is complete; the applicant has the capacity, funding, staffing, and expertise to run the program; and the applicant's UIC Class VI permitting regulations are as stringent as the federal regulations. These activities require specialized legal and technical staff at our headquarters and regional offices, and we are grateful for increased appropriations over the last five years to support these essential activities. As a result, the agency has a team of more than 8 FTEs dedicated to the state primacy development process.

Louisiana, Texas, West Virginia, and Arizona are all actively pursuing primacy. EPA expects to make a decision regarding Louisiana's application after reviewing all public comments on EPA's proposed rule. Texas, West Virginia, and Arizona are all in Phase I, the pre-application phase, and EPA is working with these states to get them to the next phase. EPA is also aware that 21 other states and two Tribes have expressed an interest in Class VI primacy. States, Tribes, and territories obtaining Class VI primacy in accordance with the SDWA will help with the processing of the expected increase in Class VI permit applications.

Permitting

Where states have not obtained Class VI primacy, EPA is the Class VI permitting authority. EPA is committed to reviewing UIC Class VI permits as expeditiously as possible when the agency is the

permitting authority. Reviewing a Class VI permit application entails a multidisciplinary evaluation to determine whether the application includes the required information, is technically accurate, and supports a risk-based determination that underground sources of drinking water will not be endangered by the proposed injection activity. A wide variety of technical experts – from geologists to engineers to physical scientists – review permit applications submitted to EPA. We are continuously working to develop staff expertise and increase capacity, and we have effectively deployed appropriated resources over the last five years to scale our expert team from just a few people to more than 25 FTEs across our headquarters and regional offices. Additionally, through an interagency agreement with the Department of Energy, several National Laboratories with deep expertise in carbon storage contribute to capacity building activities and conduct technical reviews of the subsurface modeling portions of permit applications.

These additional resources and staff capacity have been invaluable as the number of applications submitted to EPA for review continues to grow quickly. Most of the permits submitted to the agency have been in the last 8 months. EPA’s goal is to make a permit determination 24 months after receipt of a complete application. This number of permit applications underscores the importance of this program, the growing interest from industry, and the importance of funding that Congress has appropriated to EPA to build the staff capacity in our headquarters and regional offices to implement this essential program.

Environmental Justice, and Grants to Assist States, Tribes, and Territories

In implementing all aspects of EPA’s UIC program, our goal is to ensure all people are fully protected from disproportionate and adverse environmental and human health effects and hazards and have equitable access to a healthy, sustainable, and resilient environment in which to live, learn, and play. This is consistent with the Biden-Harris Administration’s goal of advancing environmental justice, which means the just treatment and meaningful involvement of all people—regardless of income, race,

color, national origin, Tribal affiliation, or disability—in agency decision-making and other Federal activities that affect human health and the environment. With respect to the UIC program, EPA has taken several actions in the last year to fulfill this commitment.

In December 2022, EPA sent a letter to state governors recommending that states which are seeking Class VI primacy incorporate environmental justice (EJ) into their proposed UIC Class VI programs, including in permitting. On August 18, 2023, the agency finalized its Environmental Justice Guidance, which serves as EPA’s operating framework for identifying, analyzing, and addressing EJ concerns when reviewing, implementing, and overseeing UIC Class VI permitting and primacy actions.

EPA is committed to working with states to set a strong foundation of practices that will protect affected communities, including communities with environmental justice concerns, from bearing a disproportionate health and environmental burden while encouraging the development of Class VI UIC state primacy programs.

Most recently, on October 31, 2023, EPA announced over \$48 million in grant funding from the Bipartisan Infrastructure Law to help states, Tribes, and territories develop and implement UIC Class VI programs. EPA requires applicants to the new Class VI UIC grant program to demonstrate how environmental justice and equity considerations will be incorporated into their Class VI UIC primacy programs; for example, grant recipient commitments could include enhancing public involvement, enhancing transparency throughout the permitting process, and minimizing adverse effects to public health and the environment.

Next Steps

EPA, and our growing Class VI team at our headquarters and regional offices are committed to supporting both our program and state programs to ensure that we all achieve our dual goals of protecting drinking water and the health of all communities, while building carbon management solutions necessary to achieve America’s greenhouse gas reduction goals. EPA appreciates the funding

Congress has provided in both EPA's annual appropriation and the Bipartisan Infrastructure Law for Class VI work. We are hard at work implementing this program, working hand in hand with states, communities, and permittees to drive this process forward while ensuring all stakeholder needs are appropriately considered. Thank you for the opportunity to testify before you today, and I look forward to our discussion.