

## **Ambitious EPA Rules to Face Stark Permitting Reality**

By Anna Littlefield, Brad Handler and Morgan Bazilian

In early May, the EPA proposed major new carbon emissions standards for coal and many gas-fired electric power plants. Prominent among the options is carbon capture and storage (CCS)—this represents a unique and significant possibility for the technology. The proposal highlights the pressing need to accelerate permitting of CO<sub>2</sub> pipelines and injection wells.

The EPA has proposed carbon emissions standards and technology pathways for existing and future fossil fuel-fired electric power generating units. The agency notes that its process is consistent with its authority under section 111 of the Clean Air Act. States would submit plans to the EPA for meeting these standards with some latitude to include trading and averaging to optimally meet their requirements.

The operating and investment requirements vary based on the type of unit, how frequently it operates, and how long it is to be in operation. The requirements are also phased in, such that for the next decade plants must only operate at a “highly efficient generation” standard. Coal-fired units that commit to close by 2032 (or by 2035 depending on how much they operate), need just to perform “routine methods of operation and maintenance.”

With limited exceptions, it would be not until 2032 that mandated investments to significantly change operations take effect. The proposal offers plants two pathways to achieve emissions reductions. The first, applicable largely to natural gas-fired plants, is to co-fire low greenhouse gas (GHG) Hydrogen (H<sub>2</sub>) for 30% of its volume starting by 2032 (rising to 96% by 2038). The second pathway uses CCS, with the requirement to capture 90% of the emitted CO<sub>2</sub> beginning in 2035. Both offer enormous potential for growth for these nascent technology options.

## THE PERMITTING LOGJAM

Should these rules be implemented, it is reasonable to expect a dramatic increase in the deployment of capture technology in the U.S. However, the ability to permanently store CO<sub>2</sub> must also dramatically increase. This will require a streamlining of the permitting process to approve CO<sub>2</sub> injection wells and of the pipelines required to transport the CO<sub>2</sub> to locations with suitable subsurface conditions.

The EPA mandates that operators obtain Class VI permit to inject CO<sub>2</sub> into the subsurface for permanent storage (rather than enhanced oil recovery, for which a Class II well is acceptable). Class VI well approvals involve significant technical rigor to establish that the subsurface exhibits proper geological characteristics for permanent (i.e., >1,000 years) storage. Such rigor points to at least some lengthening of lead-times.

However, recent experience suggests the EPA's capacity to issue enough permits needs to be greatly enhanced. As of May 2023, the EPA has issued 6 Class VI permits, all in Illinois. Only 2 of those permits are active (the other 4 were issued for wells that were never constructed) and those 2 permits took an average of 6 years to be approved. Meanwhile, the EPA [webpage](#) tracking Class VI permits lists 74 pending permits, spanning 9 states and that is before any of the incremental demand that may come from the proposed EPA rule.

Recognizing the challenge that approval time periods represent, the EPA delivered a [report](#) to Congress outlining the state of Class VI permitting process and proposed action in response to stakeholder feedback. Such feedback fell broadly into two areas: shortening permitting timeframes and revising regulations.

The other approach to speeding up permitting injection wells involves outsourcing their approval from the EPA to the states, a process known as granting primacy. Wyoming and North Dakota are the only two states that hold primacy, though Louisiana's application has been approved by the EPA, pending a public hearing June 15th, 2023, and several other states have filed. North Dakota has approved 4 permits with one pending (after having primacy since 2018), suggesting primacy may speed up approval rates and alleviate some of the burden on EPA regional offices.

Turning to CO<sub>2</sub> pipeline approval, the issue relates to challenges associated with the approval of interstate (natural gas) pipelines and power transmission, which [threatens](#) to derail the nation's efforts to transition to cleaner energy. Encouragingly, the problem is well understood and there have been executive and legislative branch proposals to coordinate involvement by the various federal agencies and shorten the window to raise environmental objections. Nevertheless, some of the recent proposals have been coupled with so-called partisan interests of promoting [fossil fuel development](#), which threatens to stall Congressional enactment.

The new EPA targets reflect ambitious goals to decarbonize the power industry with the continued use of fossil fuel-fired power plants. Yet the new rules will be effective only so far as industry is able to implement them. That will require significant improvements to the permitting process across the industry, and a refocusing of legislators, regulators, and stakeholders alike on the realities of implementation, the imperative of action and the need for compromise.

## **ABOUT THE AUTHORS**

### **Anna Littlefield**

#### **Payne Institute CCUS Program Manager and Research Associate**

#### **PhD Student, Geology and Geological Engineering, Colorado School of Mines**

Anna Littlefield is the Program Manager for Carbon Capture Utilization and Sequestration for the Payne Institute at the Colorado School of Mines. As a current PhD student in the Mines geology department, her research focuses on the geochemical impacts of injecting CO<sub>2</sub> into the subsurface as well as the overlap of geotechnical considerations with policy-making. Anna joins the Payne Institute with 8 years' experience in the oil and gas industry, where she worked development, appraisal, exploration, new ventures, and carbon sequestration projects. Her academic background is in hydrogeology with an M.S. in geology from Texas A&M University, and a B.S. in geology from Appalachian State University. Anna is passionate about addressing both the societal and technical challenges of the energy transition and applying her experience to advance this effort.

### **Brad Handler**

#### **Payne Institute Program Manager, Sustainable Finance Lab, and Researcher**

Brad Handler is a researcher and heads the Payne Institute's Sustainable Finance Lab. He is also the Principal and Founder of Energy Transition Research LLC. He has recently had articles published in the Financial Times, Washington Post, Nasdaq.com, Petroleum Economist, Transition Economist, WorldOil, POWER Magazine, The Conversation and The Hill. Brad is a former Wall Street Equity Research Analyst with 20 years' experience covering the Oilfield Services & Drilling (OFS) sector at firms including Jefferies and Credit Suisse. He has an M.B.A from the Kellogg School of Management at Northwestern University and a B.A. in Economics from Johns Hopkins University.

### **Morgan Bazilian**

#### **Director, Payne Institute and Professor of Public Policy**

Morgan Bazilian is the Director of the Payne Institute and a Professor of public policy at the Colorado School of Mines. Previously, he was lead energy specialist at the World Bank. He has over two decades of experience in the energy sector and is regarded as a leading expert in international affairs, policy and investment. He is a Member of the Council on Foreign Relations.

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