August 8, 2023

Submitted via Regulations.gov

Michael S. Regan
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Ave, N.W.
Washington, DC 20460

Dear Administrator Regan,

Thank you for the opportunity to comment on the Environmental Protection Agency’s [hereinafter referred to as “EPA” or “Agency”] proposal for regulating New Source Performance Standards for GHG Emissions from New and Reconstructed EGUs; Emission Guidelines for GHG Emissions from Existing EGUs; and Repeal of the Affordable Clean Energy Rule (EPA Docket ID No. EPA-HQ-OAR-2023-0072) [hereinafter “the proposal” or “the proposed rule”].

We, the undersigned, are staff with the Center for Progressive Reform (the Center), a nonprofit research and advocacy organization that conducts independent scholarly research and policy analysis, and advocates for effective, collective solutions to our most pressing societal challenges. Guided by a national network of scholars and professional staff with expertise in governance and regulation, we convene policymakers and advocates to shape legislative and agency policy at the state and federal levels and advance the broad interests of today’s social movements for the environment, democracy, and racial justice and equity.

On May 5, 2023, the EPA proposed five separate actions under section 111 of the Clean Air Act (CAA) addressing greenhouse gas (GHG) emissions from fossil fuel-fired electric generating units (EGUs). These comments focus on a number of critical areas in which the proposal should be strengthened. Specifically, we propose ways in which the rule can be improved to advance energy democracy and climate justice, modifications in the current parameters proposed by EPA as guidelines for determining plant coverage under the rule, and important safeguards that the proposed Best System of Emission Reductions (BSER) should...
incorporate. This rule represents a meaningful step that builds on EPA’s historic pollution control practices and that will help crystallize the current energy transition that is well underway. Thus, it is especially important that this rule achieves and reflects the Agency and the Biden Administration’s goals as defined by Executive Orders 14096\(^1\) (Revitalizing Our Nation’s Commitment to Environmental Justice for All) and 14008\(^2\) (Tackling the Climate Crisis at Home and Abroad).

As currently drafted, though, this proposed rule falls well short. The proposal can be strengthened in terms of plant coverage - by modifying critical parameters such as capacity and capacity factor thresholds-, and proposed BSER, which would enhance the EJ implications of the rule. Our comments below include specific recommendations for how these flaws can be addressed in the final rule.

1. Introduction

According to the Energy Information Administration (EIA), in 2022, emissions of carbon dioxide (CO2) by the U.S. electric power sector were equal to 1,539 million metric tons (MMmt), or about 31 percent of total U.S. energy-related CO2 emissions\(^3\). From this total, coal and gas account for 98 percent of emissions (55% for coal and 43% for gas). It is in this context that we welcome EPA’s decision to update and establish more protective NSPS for GHG emissions from new and reconstructed fossil fuel-fired stationary combustion turbine EGUs that are based on highly efficient generating practices, hydrogen co-firing, and Carbon Capture and Storage (CCS). EPA is also proposing to establish new emission guidelines for existing fossil fuel-fired steam generating EGUs that reflect the application of CCS and the availability of natural gas co-firing\(^4\).

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A. The Rule Will Help Steer the Energy Transition Already Underway.

Annually, the oil and gas industry releases about 9 million tons of methane gas and other toxic chemicals into the atmosphere. This pollution contributes to myriad environmental -the most critical being anthropogenic climate change-, economic, and health problems that are not felt equally across communities in the United States. Energy generation via fossil fuels has been characterized by the "disproportionate and racialized effects of climate change, fossil fuel extraction, transportation, processing, and consumption on Black, Brown, Indigenous and poor populations." These burdens are not random. They are the result of systemic oppression perpetuated by the fossil fuel energy industry, which exposes communities to health, economic, and social hazards. When it comes specifically about fossil fuel energy generation, research has shown that stationary sources of air pollution -such as fossil-power EGUs- are disproportionately located in communities of color.

The proposed rule builds on EPA's historic pollution control practices and will help guide the current transition the energy sector is already experiencing. These changes have been largely driven by other forces. Clean energy costs have fallen precipitously in the last decade, aided by rapidly evolving technology that allows for better control and planning on intermittent resources, and historic incentives included in the Inflation Reduction Act (IRA) and the Infrastructure Investment and Jobs Act (IIJA).

We commend EPA's efforts to achieve a well-balanced approach. However, by strengthening this draft in certain ways, the final rule would strike a better balance between the goal of achieving meaningful emission reductions without going beyond what is technologically achievable. We urge EPA to consider the following points in order to guarantee that the final rule accomplishes these goals.

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5 Fleischman, Lesley, and Marcus Franklin. "Fumes across the fence-line: The health impacts of air pollution from oil and gas facilities on African American Communities." (2017).
7 Fleischman, Lesley, and Marcus Franklin. "Fumes across the fence-line: The health impacts of air pollution from oil and gas facilities on African American Communities." (2017).
8 Cushing, Lara J., Shiwen Li, Benjamin B. Steiger, and Joan A. Casey. "Historical red-lining is associated with fossil power plant siting and present-day inequalities in air pollutant emissions." Nature Energy 8, no. 1 (2023): 52-61.

In its current form, the rule fails to deliver environmental justice to all communities, given the disproportionate impacts this rule is likely to have on structurally marginalized groups. The unequal impacts of the rule stem from the combination of thresholds, timelines (for plant retirements and/or compliance), and proposed BSER for some EGUs. The following section summarizes the main building blocks of the rule, that form the basis for our recommendations.

i. Rule’s Main Building Blocks

In the proposed rule\textsuperscript{13}, EPA establishes the following thresholds to determine plant coverage and specify the necessary abatement pathways that apply to each source:

- For new and reconstructed fossil fuel-fired combustion turbines, the EPA is proposing to create three subcategories based on the function the combustion turbine serves: a low load (“peaking units”) subcategory that consists of combustion turbines with a capacity factor of less than 20 percent; an intermediate load subcategory for combustion turbines with a capacity factor that ranges between 20 percent and a source-specific upper bound that is based on the design efficiency of the combustion turbine; and a base load subcategory for combustion turbines that operate above the upper-bound threshold for intermediate load turbines.[...]. This revised approach to subcategories is consistent with the fact that utilities and power plant operators are building new combustion turbines with plans to operate them at varying levels of capacity, in coordination with existing and expected energy sources"

- For the low load subcategory, the EPA is proposing that the BSER is the use of lower emitting fuels (e.g., natural gas and distillate oil) with standards of performance ranging from 120 lb CO2/MMBtu to 160 lb CO2/MMBtu, depending on the type of fuel combusted.

- For the intermediate load and base load subcategories, the EPA is proposing an approach in which the BSER has multiple components: (1) highly efficient generation; and (2) depending on the subcategory, use of CCS or co-firing low-GHG hydrogen

- Affected facilities— which are facilities that commence construction or reconstruction after the date of publication in the Federal Register of this

proposed rulemaking—must meet the first phase of the standard of performance, which is based exclusively on application of the first component of the BSER (highly efficient generation), by the date the rule is promulgated.

- Affected sources must also meet the second and in some cases third and more stringent phases of the standard of performance, which are based on the continued application of the first component of the BSER and the application of the second and in some cases third component of the BSER.

- For base load units, the EPA is proposing two pathways as potential BSER:
  - (1) the use of CCS to achieve a 90 percent capture of GHG emissions by 2035, and
  - (2) the co-firing of 30 percent (by volume) low-GHG hydrogen by 2032 and, ramping up to 96 percent by volume low-GHG hydrogen by 2038.

- d. With respect to existing coal-fired steam EGU that will operate in the long term (those that plan to operate past December 31, 2039), the EPA is proposing that the BSER is CCS with 90 percent capture of CO2. The EPA has determined that CCS satisfies the BSER criteria for these sources because it is adequately demonstrated, achieves significant reductions in GHG emissions, and is highly cost-effective.

In order to provide recommendations that are consistent with the Agency’s legal authority as well as being achievable, we focus on the proposed thresholds for the parameters under consideration, as well as BSER for base-load categories. In doing so, we highlight the EJ implications of implementing the rule in its current form. The following sections address each one of these issues in detail.

2. Plant Coverage Given Current Proposed Parameters

Despite EPA’s efforts in incorporating much needed nuance into the regulation in terms of defining multiple plant categories, the current rule does not go far enough. EPA can impose tighter restrictions (adjusting capacity and capacity factor thresholds), and still achieve system-wide financial, environmental, and health benefits. The National Renewable Energy Laboratory (NREL) published an extensive report in 2022 evaluating a variety of scenarios that achieve 100% clean electricity by 2035 (which does not include the impacts of the RIA and IIJA, due to the timing of the analysis and release). NREL highlights that achieving 100% clean electricity produces benefits that, in most of the evaluated scenarios and sensitivities, outweigh the additional direct costs relative to a reference, business-as-usual scenario. This fossil fuel reduction associated with a 100% clean electricity supply leads to a 54% reduction in GHG emissions compared to 2020. In addition, associated reduction of “particulates, SO2, and other

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emissions in the electric sector leads to an estimated 40,000–130,000 avoided premature deaths between 2020 and 2035 due to improved air quality” (Denholm et. al., 2022: xv).

As explained in the previous subsection, EPA uses 3 key parameters to determine which plants will fall under the rule. These parameters are capacity, capacity factor, and remaining lifespan of the facility. EPA should seize the moment to strengthen these components and enhance the positive impact of the rule. We urge EPA to lower capacity and capacity factor thresholds to expand plant coverage in the final rule.

A. Capacity and Capacity Factor

Table 1 summarizes the parameters proposed by EPA in terms of EGU capacity and capacity factor, as well as the different types of generating units under consideration.

<table>
<thead>
<tr>
<th>EGU Type</th>
<th>BSER Component 1 (Starting at Effective Date)</th>
<th>BSER Component 2 (Starting 2032)</th>
<th>BSER Component 3 (Starting 2038)</th>
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<tbody>
<tr>
<td>New and Reconstructed Combustion Turbines</td>
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<tr>
<td><em>Base Load</em></td>
<td>Highly efficient generation</td>
<td>30% (by volume) low-GHG hydrogen co-firing</td>
<td>96% low-GHG hydrogen co-firing</td>
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<td></td>
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<td>90% CO2 capture by 2035</td>
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<tr>
<td>New and Reconstructed Combustion Turbines</td>
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<td></td>
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<tr>
<td><em>Intermediate Load</em></td>
<td>Highly efficient generation</td>
<td>30% low-GHG hydrogen co-firing</td>
<td>Seeking input on current stringency levels.</td>
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<td>New and Reconstructed Combustion Turbines</td>
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<tr>
<td><em>Low Load</em></td>
<td>Use lower GHG-emitting fuels</td>
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<tr>
<td>Existing Combustion Turbines</td>
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<td></td>
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<tr>
<td>- Capacity &gt;= 300 megawatts (MW)</td>
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<td>- Capacity Factor &gt; 50%</td>
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<td>30% low-GHG hydrogen co-firing</td>
<td>96% low-GHG hydrogen co-firing</td>
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<td>90% CO2 capture by 2035</td>
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<td>Existing Combustion Turbines</td>
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<td>- Capacity &gt;= 300 megawatts (MW)</td>
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<td>- 20 &lt; Capacity Factor &gt; 50%</td>
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<td>30% low-GHG hydrogen co-firing</td>
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<td>Existing Combustion Turbines</td>
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<tr>
<td>- Capacity &gt;= 300 megawatts (MW)</td>
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<td></td>
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<tr>
<td>- Capacity Factor &lt; 20%</td>
<td></td>
<td></td>
<td>Most efficient design</td>
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</tbody>
</table>
We believe that the use of a combination of capacity and capacity factor to establish a more nuanced categorization of EGUs is appropriate, as it allows to match different plants with different requirements. However, these cutoffs are inadequate based on the number of plants and volume of emissions that will escape regulation. In the current draft, EPA is proposing a threshold of 300 MW and capacity factor of 50% for existing combustion turbines as cutoff capacity and capacity factor to determine the most stringent category in need for compliance under the rule. This threshold is overly generous towards fossil-fired EGUs, and it doesn’t reflect the administration’s aims regarding the carbon-free electricity embedded in EO 14057 (Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability).\(^\text{15}\)

Based on analysis from NRDC of *S&P Global Market Intelligence* data, EGUs that meet these criteria account for 7% of existing gas units and represent less than 30% of the CO2 emissions from gas-fired units in the power sector\(^\text{16}\). The United States has been experiencing a shift from coal to gas-fired generation for the past 20 years, with natural gas already powering close to 40% of the power grid. This concedes gas-powered plant operators with the option of shifting generation to smaller and currently less-frequently run gas plants that are not covered by the standard if they seek to avoid upgrades to comply with the rule. The same NRDC analysis indicates that “moving to a threshold between 100-150 MW and a 40% capacity factor would result in much broader coverage with far fewer units available for operators to shift generation to and would cover more emissions, jumping from less than 30% of gas-fired carbon emissions under the proposal to over 80% of emissions”.

Moreover, if we consider power plants not yet operational but that are expected to come on line between the end of 2023 and 2027, the implications of the proposed thresholds are even more consequential because these plants mean additional decades of carbon lock-in. Our own analysis of the U.S. Energy Information Administration Form EIA-860 data (Generator-level Specific Information About Existing and Planned Generators, years 2020-2022) and the most recent monthly update available (May 2023) shows that a 300 MW cutoff would allow for 109 new fossil-fuel generators to be built and operate without abatement measures, representing a nameplate capacity of 7272.1 MW of carbon intensive generation. On the other hand, lowering the threshold to 200 MW would drop the associated fossil buildout to 92 new generators, representing 3348.9 MW. Establishing a cutoff of 100 MW would drop it even further, to 83 new generators, representing a total of 1824.5 MW of built generation. We’ve included these data as a .xlsx file with its corresponding data source for further examination from EPA.

Beyond the proposed cutoff regulating the largest plants, the rules set less stringent standards for an intermediate subcategory of plants that would operate less frequently (the bottom two rows in Table 1) that’s based on partial co-firing with clean hydrogen, and then even less stringent standards for plants that operate only a small percentage of the time, based on the


most efficient design. This can create a perverse scenario defined by the existence of disincentives to run bigger base-load plants and incentives to run smaller, intermittent plants instead. This can be problematic when the fleet of small plants in existence, under construction, and planned is as large as in the U.S., as the current thresholds can end up shifting pollution rather than reducing it. Critically, smaller plants tend to be more polluting and less efficient than base-load plants, and they tend to be located closer to population centers given their smaller size and general function in the grid. **Given the current incentives, we could see some of these large base load plants will start operating less shifting their load to smaller units which -given plant location- would actually push pollution into communities.**

In its current form, the rule creates a scenario that would leave peaker plants (‘peakers’) unregulated. According to an issue brief from the Sandia National Laboratory in 2020, utilizing peaker plants to smooth out the distribution of energy creates more pollution than the plants that are burning fossil fuels for the utility’s base-load energy demands. Peakers are designed to fire up quickly in response to spikes in energy demand, making them responsive but incredibly inefficient. According to research from RMI, it takes 50 percent more natural gas to operate peaker plants compared to cleaner combined-cycle plants that provide much of the grid’s base load power17.

Across the country, peaker plants tend to be located closer to population centers and in low-income or minority communities, which are then disproportionately impacted by peakers’ pollution18. An analysis conducted by the Clean Energy Group using data from the EPA’s Power Plants and Neighboring Communities Mapping Tool shows this trend. These impacts are felt most strongly in low-income and minority communities19, which reproduces historical trends of environmental and structural racism. In the U.S. Native American, Black, Hispanic and Asian communities face higher exposures to hazardous and criteria ambient air pollutants and are more likely to live near polluting industries than White communities, even when accounting for income and education levels20,21,22,23. **It is imperative that EPA expands power plant coverage in the final rule, to address these unintended effects and ensure that all communities will benefit from these rules.**

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17 Dyson, Mark. “4 Ways Demand Flexibility Can Enable a Low-Carbon Grid”. RMI. (2015). Available at: https://rmi.org/blog_2015_10_01_4_ways_demand_flexibility_can_enable_a_low_carbon_grid/


B. EPA’s Environmental Justice Analysis of the Proposal

As drafted, the rule is likely to cause a variety of disparate impacts on environmental justice communities. EPA’s Policy Impact Analysis states that “(d)emographic proximity analyses were performed for all plants with at least one coal-fired unit greater than 25 MW without retirement or gas conversion plans before 2030 that are affected by these proposed rulemakings. Due to retirement plans of some plants, the following subsets of affected facilities were separately evaluated:

- All coal plants (140 facilities) with units potentially subject to the proposed 111 rules: Comparison of the percentage of various populations (race/ethnicity, age, education, poverty status, income, and linguistic isolation) living near the facilities to average national levels.
- Coal plants retiring by January 1, 2032 (3 facilities) with units potentially subject to the proposed 111 rules: Comparison of the percentage of various populations (race/ethnicity, age, education, poverty status, income, and linguistic isolation) living near the facilities to average national levels.
- Coal plants retiring between January 1, 2032, to January 1, 2040, (19 facilities) with units potentially subject to the proposed 111 rules: Comparison of the percentage of various 140 populations (race/ethnicity, age, education, poverty status, income, and linguistic isolation) living near the facilities to average national level.

 [...] This EJ air quality analysis concludes that there are disparities across various populations in the pre-policy baseline scenario (EJ question 1) and infer that these disparities are likely to persist after promulgation of this proposed rulemaking (EJ question 2). This EJ assessment also suggests that this action is unlikely to mitigate or exacerbate PM2.5 exposure disparities across populations of EJ concern analyzed"\(^{24}\).

EPA’s demographic proximity analysis highlights the benefits of the proposed rule. However, the analysis focuses exclusively on the potential impacts of retiring coal-fired power plants, which ignores the potential of displaced generation from larger base-load plants (which covers most coal-fired power plants) to smaller gas-fired power plants. As we’ve shown above, these plants tend to be located closer to population centers and tend to affect minority communities the hardest. **Any EJ analysis that tries to estimate the impact of the rule must account for these dynamics to the largest extent possible.** If it’s unfeasible to provide high-confidence estimates, EPA could provide a few scenarios that capture likely outcomes and assess their implications (beyond just coal plants).

The proposed rule addresses alignment with key Executive Orders (EO): EO 12898\textsuperscript{25} (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) and EO 13985\textsuperscript{26} (Advancing Racial Equity and Support for Underserved Communities Through the Federal Government), but it does not evaluate recent executive orders related to environmental justice, including EO 14096 (Revitalizing Our Nation’s Commitment to Environmental Justice for All) and EO 14008\textsuperscript{27} (Tackling the Climate Crisis at Home and Abroad). For example, EO 14096 mandates agencies to build upon and strengthen its commitment to deliver environmental justice to all communities across America through an approach that is informed by scientific research, high-quality data, and meaningful Federal engagement with communities with environmental justice concerns\textsuperscript{28}. \textbf{This proposal is inconsistent with mandates imposed by these EOs that mandate agencies to address disproportionate impacts on environmental justice communities.}

\textbf{C. Remaining Lifespan and Timelines For Compliance.}

In its efforts to provide flexibility and nuance in the rule, the proposed rule accounts for power plants’ remaining lifespan. This is evidenced in Table 1: the most stringent element is a requirement for coal-fired power plants to reduce their emissions rate by 90\% using CCS by 2030, unless they voluntarily commit to a legally binding retirement date no later than 2040. These plants -that operate beyond 2031 but commit to retire by 2040- would be subject to a less stringent requirement, having to reduce their emission based on co-firing with 40\% natural gas.

New natural gas power plants that operate with more than a 50\% capacity factor -base load plants-, would have two alternatives to achieve emission rate reductions: to use CCS to reduce 90\% of its emissions starting in 2035, or alternatively co-firing 30\% of its gas by volume with clean hydrogen by 2032 and 96\% of it with clean hydrogen by 2038. The same standards apply for large existing base load gas plants (capacity > 300 MW).

In the case of new gas plants that operate between a 20\% and 50\% capacity factor, they would be required to meet an emissions rate based on co-firing with 30\% clean hydrogen by 2032, but would be exempted from meeting the more stringent standards that apply to base load plants in 2035 (for CCS) or 2038 (for hydrogen co-firing).

These timelines mean that, in many cases, affected units will not need to achieve significant emission rate reductions before 2032. These timelines are overly generous and do not reflect the responsibility or the tools available to the power sector to achieve much more aggressive goals. **EPA should establish earlier timelines for compliance, which can be achieved without impacting costs or reliability.**

### 3. Proposed Best System for Emissions Reductions (BSER) for Intermediate and Base-load categories: Carbon Capture and Sequestration (CCS) and Low-carbon Hydrogen Co-firing.

#### A. Carbon Capture and Sequestration (CCS) as BSER.

EPA is proposing CCS as BSER for base load plants that aim to continue operation in the long-term. The EPA is proposing that for units that expect to operate past December 31, 2039, the BSER is the use of CCS with 90 percent capture of CO2 with an associated degree of emission limitation of an 88.4 percent reduction in emission rate (lb CO2/MWh-gross basis), to be achieved by 2025. Furthermore, EPA claims that CCS with 90 percent capture of CO2 is adequately demonstrated, cost reasonable\(^29\), and achieves substantial emissions reductions from these units\(^30\).

These claims, however, merit further scrutiny. A recent Center for Progressive Reform report\(^31\) reviewing the existing literature on CCS and carbon capture and utilization (CCU) highlights the uncertainties that still exist in this field. Each component associated with CCS (physical, regulatory, institutional, economic, etc.) carries uncertainties and risks related with spillover effects, availability, safety, and reliability. We have detailed this discussion in the report mentioned above, which we have also made available as an attachment. In addition to the unknowns and risks associated with CCS and CCU’s impact on the environment, public health, and society detailed in the report, we want to highlight two additional issues in this comment that the EPA must consider.

The first one relates to the structure of 45Q credits, with incentives placed on ‘storing’ more tonnes of CO2 but not necessarily reducing overall CO2 emissions. As Grubert and Sawyer

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\(^{29}\) EPA highlights that CCS has become cost-reasonable due to technology advancements as well as new policies including the expansion of the Internal Revenue Code section 45Q tax credit for CCS in the Inflation Reduction Act (IRA) (Proposed Rule RIA, 1-11).


\(^{31}\) Hannah Klaus and Katlyn Schmitt. Uncertainties and Gaps in Research on Carbon Capture and Storage in Louisiana. Center for Progressive Reform. (June 28, 2023.)
point out, the 45Q tax credit “is still issued per tonne of CO or CO2 utilized and/or stored rather than tonne of life cycle CO2 abated or removed relative to some baseline” (Grubert and Sawyer, 2023:3). This provision interacts with the fact that power plants that are suitable for 45Q credits are disproportionately in the electric utility sector, which often includes strong incentives to maximize capital expenditures over other investments, making a ‘retire-and-replace’ strategy unlikely (despite clean sources like wind and solar being notably cheaper options). This would increase the attractiveness of using the CCS retrofit to extend the plant’s lifespan, delaying retirement and extending carbon lock-in and exposure to harmful gasses. Moreover, since CCS require a non-negligible amount of supplemental energy to run, overall energy production at the plant level will likely increase in order to run CCS mechanisms. This energy translates into additional coal or gas being used to power CCS, which will increase system-wide carbon emissions (or upstream methane emissions in the case of gas). **EPA must address this issue and explain what regulatory pathways exist to fulfill the rule’s goal if this scenario materializes in the near or medium term.**

The second point has to do with the role of CCS&U in enhanced oil recovery (EOR). Currently, about 70% of captured carbon is used to further retrieve more fossil fuels in the form of EOR, which undermines the point of having a carbon capture and storage system in place. **Relying on CCS as core BSER can become an indirect fossil fuel subsidy for an industry that already enjoys ample federal subsidies.**

### B. Plant Co-firing with Low-carbon Hydrogen as BSER

For base load units that are adopting the low-GHG hydrogen co-firing pathway (instead of the CCS pathway), the EPA is proposing a BSER that includes co-firing 30 percent (by volume) low-GHG hydrogen with an associated standard of 680 lb CO2/MWh-gross, starting in 2032, and co-firing 96 percent (by volume) low-GHG hydrogen by 2038, which corresponds to a standard of performance of 90 lb CO2/MWh-gross. For the intermediate load subcategory, the EPA is proposing that the BSER includes co-firing 30 percent by volume low-GHG hydrogen with an associated standard of 1,000 lb CO2/MWh-gross, compliance with which would be required starting in 2032.

The Inflation Reduction Act includes a tax credit for hydrogen production under section 45V of the tax code. Crucially, the value of the tax credit is based on the lifecycle emissions of the hydrogen production, with a limit of 4 kg CO2e/kg H2 for receiving credits. In order for this limit to be meaningful and achieve EPA’s goals, calculating life-cycle emissions from electricity consumption becomes critical. A faulty or incomplete methodology for estimating emissions

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33 ibid.

34 McGlade, Christoph. “Can CO2-EOR really provide carbon-negative oil?” IEA Commentary. (2019). Available at: [https://www.iea.org/commentaries/can-co2-eor-really-provide-carbon-negative-oil](https://www.iea.org/commentaries/can-co2-eor-really-provide-carbon-negative-oil)
associated with each kg of H2 can make credits available to H2 production that should not qualify.

In this scenario, the role of the Treasury Department is critical. A recently published analysis from Energy Innovation Policy & Technology LLC points out that the Treasury’s design of the 45V tax credit will greatly determine the level of greenhouse gas (GHG) emissions caused by (electrolytic) hydrogen production. The report estimates that setting up weak guidelines could multiple hydrogen production emissions by five, severely undermining the gains of the rule. The risk lies in the possibility that by diverting existing clean electricity to make hydrogen, this will cause emissions to increase by forcing grid operators to draw energy from polluting energy sources to make up the difference. Moreover, because of the current plant coverage in EPA’s rule, this could lead to a major resurgence in carbon emissions as smaller plants will be used to cover up the deficit, and will be able to do so without any abatements whatsoever.

In order to ensure that emissions reductions are achieved and that the federal government sets up the right conditions for a thriving hydrogen industry, the standard must comply with three principles: additionality, deliverability, and hourly-matching, ensuring that generation is able to account for grid power emissions. The coexistence of these principles in one single regulatory framework is not unheard of. The recent European Union’s proposed rule firmly upheld all three pillars as necessary to demonstrate that hydrogen has zero-carbon emissions.

In addressing this issue, EPA must elucidate what its plans are if the criteria outlined above is not included in the directives from Treasury, revising the rule as needed to meet the goals of the Biden Administration. The agency could also proceed to specify better guidelines in a later rulemaking, ensuring that these principles are upheld in a future action related to the production of low-GHG hydrogen, as well as the accounting of emissions related to its production.

4. Conclusion

In its current form, the proposed rule fails to provide the necessary safeguards to deliver environmental justice to structurally marginalized communities, while being overly generous towards fossil-fired EGUs, not reflecting the responsibility or the tools available to the power sector to achieve much more aggressive reduction goals. As explained in greater detailed above, the EPA must address the deficiencies in the proposed rule by taking the following actions:

37 Letter submitted by 18 environmental and business groups on Feb.23, 2023 regarding the implementation of the IRA 45V clean hydrogen tax credits as it relates to guidelines for emissions accounting of grid-connected electrolyzers. Available at: https://aboutblaw.com/7ku
● Expand power plant coverage in the final rule, to address these unintended effects and ensure that all communities will benefit from the regulation. This should be done by lowering capacity and capacity factor thresholds.

● Establish earlier timelines for compliance, which can be achieved without impacting costs or reliability.

● Explain what regulatory pathways exist to fulfill the rule’s goal if the Treasury’s directives regarding ‘low-GHG hydrogen’ don’t incorporate the three principles outlined above: hourly matching, additionality, and deliverability.

● Incorporate, to the extent possible, generation shifting from coal to gas in the Environmental Justice Analysis of the rule.

To better achieve the benefits of a just transition, we urge EPA to incorporate the above recommendations in the Final Rule. We believe that adopting these changes will yield a final rule that will continue to steer the ongoing energy transition in a way that is much more aligned with energy and racial justice.

We appreciate your attention to these comments. If you have any questions regarding the foregoing, or if we can be of further assistance in this effort, please do not hesitate to reach out to us.

Sincerely,

Federico Holm  
Clean Energy Policy Analyst  
Center for Progressive Reform

James Goodwin  
Senior Policy Analyst  
Center for Progressive Reform