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nationalgrid

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Internal Revenue Service
U.S. Department of Treasury
Room 5203
P.O. Box 7604
Ben Franklin Station
Washington, DC 20044

Re: Section 45V Credit for Production of Clean Hydrogen; Section 48(a)(15) Election to Treat Clean Hydrogen Production Facilities as Energy Property, Notice of Proposed Rulemaking and Notice of Public Hearing, 88 Fed. Reg. 89,220 (Dec. 26, 2023)

National Grid appreciates the opportunity to respond to this Notice of Proposed Rulemaking on the Section 45V Credit for Production of Clean Hydrogen. As members of the following associations, National Grid also supports elements of the comments filed by the Edison Electric Institute, American Clean Power Association, American Gas Association, Business Council for Sustainable Energy, American Biogas Council, Northeast Gas Association, the Coalition for Renewable Natural Gas, and the Downstream Natural Gas Initiative. The attached comments intend to provide National Grid's perspective based on our unique expertise in the Northeast U.S. as an energy delivery company committed to a clean and affordable energy future.

National Grid is a gas and electric utility delivering power and heat to more than 20 million people in New York and Massachusetts. With almost 9,000 miles of electric transmission lines, 70,000 miles of electric distribution circuits, and 36,000 miles of gas pipelines in the U.S., we help heat and power homes and businesses and connect communities to the energy they need. Our 17,000 employees, two-thirds of whom belong to a union, are at the heart of transforming our electricity and natural gas networks with smarter, cleaner, and more resilient energy solutions.

In addition to our core regulated business, National Grid also owns and operates National Grid Ventures. National Grid Ventures is our competitive business that operates outside of National Grid's core regulated businesses in the U.K. and U.S., where it develops, operates, and invests in energy projects, technologies, and partnerships to accelerate the development of our clean energy future.

All areas served by National Grid have adopted policies to achieve deep decarbonization, and National Grid unequivocally supports these policies.[1] Aligned to state goals, National Grid has developed our own plan to eliminate fossil fuels from our U.S. gas and electric systems by 2050.[2]

Clean hydrogen is an important component of National Grid's vision for decarbonizing the Northeast. Our analysis shows that hydrogen has the potential to contribute meaningfully to economy-wide decarbonization, and that utilities like National Grid are uniquely positioned to help bridge the gap between clean hydrogen producers and end users across sectors to enable the market for clean hydrogen.

Today, heating is the largest segment of the energy economy in Massachusetts and New York, responsible for 39% of the states' greenhouse gas (GHG) emissions – more than the electric power sector or the transportation sector. Heat is essential for life, especially in cold climates like the Northeast. Natural gas networks deliver the majority of heat energy to the roughly 10 million households in Massachusetts and New York, where nearly 6 million (57%) have a gas furnace or boiler, 2.5 million (25%) use an oil or propane-fueled boiler, and just 1.4 million (14%) use electricity.[3] On a peak day in winter, natural gas networks deliver three times as much energy as the electric grid. Decarbonizing heat will be a monumental task but reaching net zero by 2050 will be impossible if we fail to accomplish it.

There is a significant role for natural gas infrastructure to play in meeting energy needs due to its scale and ability to integrate diverse sources of energy. This includes hydrogen and renewable natural gas (RNG), which will be critical to reaching ambitious GHG reduction goals.[4] According to a report by the Center on Global Energy Policy at Columbia University School of International and Public Affairs (SIPA), "[w]hile it may seem counterintuitive, investing more in the domestic natural gas pipeline network could help the U.S. reach net-zero emission goals more quickly and cheaply," and "the natural gas grid should be viewed as a way to enable increasingly low-carbon molecules to be transported."[5]

National Grid is a supporter of the U.S. Department of Energy (DOE) HyBlend Hydrogen Blending Cooperative Research and Development Agreement (CRADA), and the Clean Hydrogen Technology Alignment Cooperative (CHyTAC) led by the National Renewable Energy Laboratory (NREL). We are also working to implement HyGrid, National Grid's hydrogen production and utilization demonstrations in New York.[6]

National Grid is at the forefront of the clean energy transition and, as a key part of the RNG and hydrogen ecosystem in the Northeast, we have a vested interest in enabling the development of these new markets. With that background in mind, we respectfully submit the following comments on Section 45V for your consideration.

Respectfully submitted,

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[1] “Massachusetts Clean Energy and Climate Plan for 2050,” Executive Office of Energy and Environmental Affairs, Commonwealth of Massachusetts, available at https://www.mass.gov/info-details/massachusetts-clean-energy-and-climate-plan-for-2050 (last visited February 26, 2024); “New York’s Nation-Leading Climate Targets,” The Climate Leadership and Community Protection Act, New York State, available at https://climate.ny.gov/our-impact/our-progress/ (last accessed February 26, 2024).

[2] "Our clean energy vision,” National Grid, April 2022, available at https://www.nationalgrid.com/document/146251/download (last accessed February 26, 2024).

[3] “Our vision for a fossil-free future,” National Grid, available at https://www.nationalgrid.com/us/fossilfree (last accessed February 26, 2024).

[4] “Pathways to Carbon-Neutral NYC,” NYC Mayor’s Office of Sustainability (MOS), Con Edison, and National Grid., April 2021, available at https://www.nyc.gov/assets/sustainability/downloads/pdf/publications/Carbon-Neutral-NYC.pdf (last accessed February 26, 2024); “Decarbonizing Heat in the U.S. Northeast: Workshop Insights and Key Takeaways,” EFI Foundation, May 2023, available at https://efifoundation.org/wp-content/uploads/sites/3/2023/05/NECF-FINAL-Layout-1.pdf (last accessed February 26, 2024).

[5] “Investing in the U.S. Natural Gas Pipeline System to Support Net-Zero Targets,” Center on Global Energy Policy at Columbia University SIPA, April 2021, available at https://www.energypolicy.columbia.edu/research/report/investing-us-natural-gas-pipeline-system-support-net-zero-targets (last visited February 25, 2024).

[6] “One of the US' first green hydrogen blending projects launches on Long Island,” National Grid, 15th December 2021, available at https://www.nationalgrid.com/stories/journey-to-net-zero-stories/hygrid-green-hydrogen-blending-project-launches (last accessed February 26, 2024).

National Grid Comments

National Grid appreciates the efforts of the U.S. Department of the Treasury (Treasury) to establish regulations governing the use and applicability of the Section 45V Hydrogen Production Tax Credit. National Grid views hydrogen and RNG as important tools for decarbonization, particularly in the Northeast, where temperatures can be low and energy costs are higher than other regions. As such, the tax credit is a key driver to reduce costs for early-stage projects that will help build the hydrogen economy at scale, and ultimately deliver a clean energy future that is affordable for customers.

Underlying Principles for Consideration:

Three Pillars
It is crucial that the regulations balance the need to ensure GHG emissions do not rise while also empowering this nascent industry. As drafted, we are concerned that temporality, specifically hourly time-matching, and incrementality requirements will increase costs and make green hydrogen production uneconomic in the short term. Requirements without a sufficient transition period that provides an exemption for early projects would hinder the growth of the green hydrogen industry before it reaches scale.

Project Financing
Due to the realities of project financing, it is imperative that annual matching requirements be locked in for the life of the tax credit for early projects. Failure to do so would result in significant future changes in economics and project design and, as a result, projects would need to be financed from the start as if operating under stricter requirements, which would increase costs and hinder industry development at the outset.

Administrative Burden
National Grid encourages Treasury to issue final regulations that provide certainty and clarity for developers. Overly complex and burdensome regulations will result in added system costs to the very projects the regulations intend to incentivize.

Siting & Permitting Challenges and Project Timelines
Site selection, permitting, interconnection, and construction timelines for renewable energy projects are typically longer than three years, as recognized by the Treasury's four-year window for the continuity requirements for most onshore renewables (and even longer for offshore renewables), from the beginning of the planning process to the commercial operations date (COD). The final rule should provide flexibility to account for challenges in building large scale energy infrastructure.

Regional Costs of Renewable Electricity Treasury should consider the fact that, generally, states with ambitious climate policies (including in the Northeast) have higher costs of renewable electricity than states without such policies. The tax credit rules should avoid unfairly disadvantaging those states that are actively trying to reduce the emissions in their electricity systems and their broader economies.

Recommendations:

National Grid recommends the following adjustments to the proposed regulations on temporality (time-matching), incrementality (additionality), and deliverability (regionality) – and provides our perspective on the proposed updates to the GREET model.

Align Phase-in Dates for Temporality and Incrementality

Because hourly matching and incrementality are going to be very difficult to achieve in the near term, we recommend Treasury align the phase in of both the hourly matching and incrementality requirements in 2028 and apply a four-year continuity safe harbor to both requirements. In other words, Treasury should allow annual matching for the full term of the Section 45V credit for any hydrogen production facility that begins construction prior to January 1, 2028, as determined under existing IRS start of construction guidance, including a four-year continuity safe harbor. Similarly, incrementality would be required for hydrogen production facilities that begin construction after December 31, 2027, as determined under existing IRS start of construction guidance, including a four-year continuity safe harbor. A final rule should also exempt early projects (i.e., those qualified projects placed in service before 2032) from the hourly matching requirements.

Temporality (Time-Matching)

a) ***Storage – Time Stamp Correlation:*** In an hourly matching regime, electricity storage will be critical to ensure that zero-emissions renewable electricity can be used to power the electrolyzer in an efficient manner. Adequate storage capacity is crucial for balancing energy availability with the demands of power generation and electrolyzer operation. Treasury should clarify that stored electricity has a time stamp that correlates to the time such electricity is withdrawn from storage for use in the production of clean hydrogen rather than when the electricity was initially generated or stored.

b.) ***Feasibility Study:*** Given the uncertainty around the mechanics of the hourly time-matching regime, Treasury should commit to undertake a study to examine the feasibility of hourly time-matching and its impact on clean hydrogen development to inform the transition. This should include the solicitation and consideration of public comment, with study results to be issued at least six (6) months before imposing the switch to hourly matching. These modifications would balance the Treasury Department's concerns and goals with the congressional intent that the credit promote and not hinder development of a clean hydrogen economy.

Incrementality (Additionality)

a.) ***Renewable Portfolio Standards (RPS) / State Policies:*** Many states, including New York and Massachusetts, have a RPS that obligate utilities to purchase renewable energy. When RPS policies are binding (i.e., they are incenting the development of new renewable energy projects) utilities buy Renewable Energy Certificates (RECs), or Energy Attribute Certificates (EACs) as Treasury calls them, at a positive price. In markets with a binding RPS, there is diminished need for incrementality, because whenever EACs are repurposed for a hydrogen project, the RPS mechanism induces additional demand to replace those EACs. Treasury should consider how Taxpayers might comply with incrementality by buying EACs from states with binding RPS policies regardless of when the generating plant was commissioned.

b.) ***Hydroelectric Generation in the Northeast:*** Power from hydroelectric generation is an ideal source of electricity for the production of green hydrogen (especially with hourly matching), as it allows for electrolyzers to be utilized more consistently than when powered by solar or wind. In 2022, 21% of New York's power came from hydropower.[1] However, under the current definition of incrementality, that power could not be used to qualify for the PTC, even if new solar and wind power were built to replace the carbon-free power from hydroelectric generation. Treasury should provide clarity on how existing hydroelectric generation could qualify as a source of clean

electricity production for the purposes of the incrementality requirements (outside of a formulaic allowance).

Deliverability (Regionality)

a.) ***Flexibility:*** Treasury should account for several circumstances in which these regional boundaries (from the National Transmission Needs Study) might be overly restrictive, and not reflective of actual deliverability.

b.) ***Interregional Transmission*****:** Treasury should consider inter-regional transmission and allow flexibility to prove electricity can be acquired from another region in a credible way (i.e., transmission customers should be permitted to use proof of service on these facilities, along with capacity interconnection service for the source of EACs, to be deemed deliverable).

GREET & Lifecycle Emissions Analysis:
National Grid in past comments to Treasury on the 45V credit requested use of the GREET Model and continues to support use of the GREET Model to calculate emissions intensity for the purposes of determining whether a hydrogen source is "clean." However, introducing new GREET Models without an appropriate safe harbor for the taxpayer will create unnecessary controversy and taxpayer uncertainty. To support market certainty, Treasury should allow taxpayers to elect for the life of the credit to use the latest version of 45VH2-GREET model that was in effect at the time the taxpayer began construction of the hydrogen facility.

[1] "New York," State Profile and Energy Estimates, U.S. Energy Information Administration, available at https://www.eia.gov/state/analysis.php?sid=NY (last accessed February 26, 2024).