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Re: Request for Comments on Notice of Proposed Rulemaking for Section 45V Credit for Production of Clean Hydrogen

Fit-for-purpose qualifications for clean hydrogen key to secure America's competitiveness on the global hydrogen scene

Going hand in hand with renewable power and carbon capture, clean hydrogen, and its derivatives are critical enablers for decarbonisation of the US economy that can create good-paying jobs and socio-economic opportunity for communities in every pocket of America.

The Hydrogen Council welcomes the launch of the Treasury Department's Notice of Proposed Rulemaking (NPRM) outlining the proposed requirements for clean hydrogen production facilities to receive production tax credits (PTC) under the Inflation Reduction Act (IRA).

To unlock the hydrogen potential for the US economy and citizens we believe it remains essential to ensure:

A. **Simplicity and certainty** of the enabling framework for hydrogen. This is key for successful PTC implementation and for strengthening the US positioning and competitiveness on the global hydrogen map. We have already seen how complexity and prolonged uncertainty in some jurisdictions can have a profound impact and re-direct investment flows to other parts of the world.

B. **Fit-for-purpose future-proof qualifications for clean hydrogen – incrementality, temporal matching and deliverability –** that allow unlocking the energy system-wide decarbonization and flexibility benefits, boosting resilience and cost-efficiency of the US energy system.

There is an opportunity to boost investor certainty in hydrogen production projects, support first movers, and maximise whole-system benefits of hydrogen by clarifying and revising the following requirements introduced in the NPRM.

1. Requirements related to the use of the GREET model

1.1. Definition of "the recent GREET model"

Lock the definition of "the recent GREET model" to the year in which the final investment decision was made for a given project. Lack of visibility and certainty for investors and lenders with regards to the reference GREET model used for a given project risks discouraging financial commitments and increasing capital costs.

1.2. Reference background and foreground data

- Put in place a mechanism for taxpayers to demonstrate methane emissions/ carbon footprint lower than the industry average (including by way of indicating the provisional emissions rate (PER) of a given project) would support transparency and deployment of best available technologies.
- Address differentiated natural gas in the 45VH2 GREET model – this will ensure that the taxpayers are not limited in their ability to accurately reflect and be rewarded for the carbon intensity of the hydrogen produced.
- Qualify co-product steam as foreground data: for all pathways, taxpayers should be able to input excess steam as measured by meters. To best represent actual carbon intensity, co-product steam should be foreground data, similar to carbon capture efficiency and hydrogen yield.

1.3. Revision of 45VH2 GREET

Ensure visibility of the 45VH2 GREET model review processes and lead times, including application process to national labs for inclusion of different hydrogen pathways not covered by the recent model.

2. The three-pillar approach: incrementality, temporal matching and deliverability

2.1. Incrementality

Introduce grandfathering provisions for the incrementality requirement to support early movers

Support investments in renewable hydrogen in the US and early mover projects by ensuring that the incrementality requirement does not apply to projects that come online before 1 January 2030 for the duration of the tax credit period. This is an opportunity to consider the grandfathering provisions for the incrementality requirement in the US similar to those laid out for the "additionality" requirement in the EU legislation for renewable hydrogen.[1]

Recognize the avoided retirements approach as satisfying the incrementality requirement

Recognize an avoided retirements approach that would treat EACs from an existing electricity generating facility as satisfying the incrementality requirement if the facility is likely to avoid retirement because of its relationship with a hydrogen production facility. Appropriate criteria to assess retirement risk of a facility include financial losses, projected electricity market conditions, incentives received by the facility, as well as relicensing decisions.

Provide an opportunity to demonstrate zero or minimal induced grid emissions through modelling or other evidence under specific circumstances, including

- Periods of curtailment or zero or negative pricing
- Islanded electricity generation systems
- Carbon pricing/ emissions caps that may be introduced at State level

[1] EU requirements for qualifying renewable hydrogen towards the targets laid out in the Renewable Energy Directive (REDIII) as per the Commission Delegated Regulation (EU) 2023/1184

Introduce an allowance approach of at least five percent for incrementality to reduce the administrative burden and costs for taxpayers associated with the requirements to demonstrate avoided retirement and avoided curtailment.

2.2 Deliverability: ensure the requirements are fit-for-purpose and consider State-specific circumstances

Expand the pool of renewable assets that electrolysers can contract with, considering the differences in technology and resource endowments at State level, as well as the availability of interstate power interconnections, and the existing and planned hydrogen infrastructure (pipelines, storage).

2.3 Temporality: ensure a phase-in approach to hourly matching

Consider the need for the development of robust, reliable, and competitive technologies for hourly matching before introducing the mandatory hourly matching requirement for taxpayers. A market review could be carried out in 2030 to determine the overall effectiveness of temporal matching and consider the evolution and availability of tracking technologies. As, well, Treasury should provide taxpayers the flexibility to calculate the carbon intensity for the periods during which the credit is being claimed.

Treasury should also continue to emphasize a technology inclusive approach to drive hydrogen deployment. As such, use of renewable natural gas (RNG) should be allowed with mass balancing for processes that use RNG. A robust and transparent monitoring, reporting and verification system already exists within the RNG industry today.

Overall system thinking around clean hydrogen integration bridging the silos between power, gas and liquid fuels' infrastructure will play an important role in unlocking both the environmental and cost-efficiency gains associated with clean hydrogen deployment. It is critical to allow electrolyzers to respond to system price signals. Taking Texas as an example, energy system modelling shows that integrating electrolyzers with the power grid and allowing them to respond to system prices can unlock some $2.5 bn annually.[2]

We look forward to our continued dialogue and to supporting the U.S. Department of the Treasury and the Internal Revenue Service with the development of a successful enabling framework boosting the competitiveness of US hydrogen at global level.

[2] Hydrogen in Decarbonised Energy Systems, Hydrogen Council, 2023, available at https://hydrogencouncil.com/wp-content/uploads/2023/12/Hydrogen-in-Decarbonized-Energy-Systems.pdf