



Comments for the New Guidance of Credit for Production of Clean Hydrogen, Election to Treat Clean Hydrogen Production Facilities as Energy Property

To : Department of the Treasury and Internal Revenue Service
From : Dean Girdis, CEO, Green H2
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RE : Comments regarding hydrogen pathways

The Department of Treasury and the Internal Revenue Service of the United States are currently seeking public input on several issues related to implementing the proposed regulation 45V Tax Credit for Clean Hydrogen Production Standard (CHPS). This memo focuses on three key issues: CHPS establishment of the pathway for the production of by-product hydrogen, GREET model discrepancies, and the process for applying for a provisional emission rate for pathways not included in the currently proposed regulations.

CHPS Established By-product Hydrogen as a Source of Low Carbon Hydrogen

The DOE's Clean Hydrogen Production Standard (CHPS) included waste (by-product) hydrogen as a source of and pathway for clean hydrogen production. Specifically, the DOE sought guidance in June of 2023 regarding the treatment of GHG emissions associated with production of by-product hydrogen:

“How should GHG emissions be allocated to hydrogen that is a by-product, such as in chlor-alkali production, petrochemical cracking, or other industrial processes? How is by-product hydrogen from these processes typically handled (e.g., venting, flaring, burning onsite for heat and power)?”

Model Discrepancies: Argonne R&D GREET Model vs 45VH2-GREET

The latest version of the R&D GREET model identifies by-product hydrogen produced from a chlor-alkali process as a source of hydrogen and provides a methodology for calculating the lifecycle emissions associated with its production. However, the US Treasury 45VH2-GREET model version chose to exclude the by-product hydrogen pathway despite the establishment of a clear methodology for calculating the lifecycle emissions associated with its production in the Argonne R&D GREET model, the standard accepted nationally and used by my environmental agencies, including the California CARB.

A pathway for by-product hydrogen should be included by US Treasury in the 45VH2-GREET model.

Petition for Provisional Emission Rate

As it currently expressed in the Treasury guidance, hydrogen producers for whom there is no current GREET pathway can petition the government for a provisional emissions rate. The hydrogen producer must first petition the DOE, with the window expected to open on April 1, 2024. DOE requires FEED (front-end engineering credits and design) or other studies sufficient to make a financial investment decision to have been completed. The producer must then attach the DOE analytical assessment of its hydrogen pathway and a copy of its request to DOE for an emissions rate to its first annual tax return on which hydrogen tax credits are claimed.

DOE should clearly articulate that all pathways not currently included in the 45VH2-GREET, including by-product hydrogen, have a right to apply to the DOE for a provisional emission rate until a formal pathway for by-product hydrogen, and other sources, are established.