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Treasury Department and IRS Release Final Regulations for Section 45V Clean Hydrogen Production Tax Credit

Update

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On January 3, 2025, the Treasury Department and the Internal Revenue Service issued final regulations under Internal Revenue Code (Code) Section 45V (the Final Regulations) with respect to credits for the production of clean hydrogen (the 45V Credit). The Final Regulations generally retain the requirements set forth in the proposed regulations under Code Section 45V (the Proposed Regulations)[1] with respect to the "three pillars" (incrementality, temporal matching and deliverability) for hydrogen produced using clean power but provide leniency with respect to each pillar. The Final Regulations also provide critical new guidance on hydrogen produced using methane reformation technologies. Taxpayers may rely on the Final Regulations as of January 10, 2025.

Background

Code Section 45V provides a tax credit for the production of clean hydrogen at a qualified clean hydrogen production facility for 10 years beginning on the date the facility is placed in service. The 45V Credit is technology agnostic in that qualification for the credit is not dependent on how the clean hydrogen is produced. The 45V Credit is generally calculated as the product of the kilograms of qualified clean hydrogen produced at a qualified clean hydrogen production facility and the applicable rate. The applicable rate is based on the lifecycle greenhouse gas (GHG) emissions rate of the hydrogen production process. Taxpayers qualify for an increased 45V Credit amount if the construction, alteration and repair of the qualified clean hydrogen production facility complies with the prevailing wage and apprenticeship requirements.

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The Final Regulations generally retain the requirements of the three pillars set forth in the Proposed Regulations regarding the utilization of energy attribute certificates (EACs) to establish a GHG emissions rate. As compared to the Proposed Regulations, the Final Regulations provide leniency with respect to each pillar.

Incrementality. The incrementality requirement is met if the electricity generating facility that produced the electricity has a commercial operation date, or increase in rated nameplate capacity, no more than 36 months before the relevant hydrogen production facility was placed in service. The Final Regulations include three new sources of electricity generation that will be considered incremental regardless of whether the 36-month requirement is satisfied: (i) electricity generated at certain nuclear facilities (with a cap of 200 megawatt-hours per operating hour per reactor); (ii) electricity generated in states with GHG emissions policies meeting certain criteria (such as California and Washington); and (iii) electricity generated at a facility that added carbon capture and sequestration (CCS) equipment within 36 months prior to the date the hydrogen production facility is placed in service.

Temporal Matching. The temporal matching requirement is met if the electricity is generated (i) until 2030, in the same year as, or (ii) beginning in 2030, in the same hour as, the taxpayer's hydrogen production facility uses electricity to produce hydrogen. The Proposed Regulations provided that hourly matching described in clause (ii) would be required beginning in 2028.

Deliverability. The deliverability requirement is met if the electricity is generated by a facility in the same region as the hydrogen production facility. The Final Regulations provide flexibility for demonstrating certain electricity transfers between regions and allow taxpayers to import clean power from other regions under certain circumstances.

Methane Used in Hydrogen Production

The Final Regulations provide rules for how taxpayers can claim the 45V Credit for hydrogen produced using methane reformation technologies, including those using CCS, renewable natural gas (RNG) and fugitive sources of methane (e.g., from wastewater, animal waste, landfill gas and coal mine operations). The Final Regulations provide rules on how to calculate lifecycle GHG emissions from these sources.

Alternative Fate Standard. The Final Regulations do not include a "first productive use" requirement contemplated by the Proposed Regulations, which would require hydrogen produced using RNG and coal mine methane systems

to originate from the first productive use. Instead, the Final Regulations take into account the "alternative fate" of feedstocks.

Gas EACs. The Final Regulations introduce the "gas energy attribute certificate" (Gas EAC), which is defined as a tradeable contractual instrument, issued through a qualified Gas EAC registry or accounting system, that represents the attributes of a specific unit of RNG or coal mine methane. Hydrogen producers using RNG or coal mine methane will be able to acquire and retire Gas EACs as a mechanism for establishing such sources were used in the production of clean hydrogen.

Temporal matching and deliverability requirements similar to those described in the context of hydrogen produced using electricity apply to Gas EACs. The Final Regulations require monthly matching for a Gas EAC to satisfy the temporal matching requirement, and require geographic matching within the contiguous United States to satisfy the deliverability requirement.

Book-and-Claim. The Final Regulations endorse a book-and-claim framework for hydrogen produced using RNG or coal mine methane systems. Book-and-claim systems will enable taxpayers to claim use of RNG or coal mine methane despite the absence of a direct exclusive pipeline connection to a facility that generates RNG or from which fugitive methane is being sourced. Taxpayers will be able to begin using book-and-claim systems no earlier than in 2027, after the Secretary of Treasury determines when a system meets the requirements set forth in the Final Regulations.

GREET Model

The Final Regulations require that lifecycle GHG emissions be measured "well-to-gate" as determined under the most recent Greenhouse gases, Regulated Emissions, and Energy use in Technologies (GREET) model. Well-to-gate emissions are the aggregate lifecycle GHG emissions related to the hydrogen produced at the hydrogen production facility during the taxable year through the point of production. Well-to-gate emissions include emissions associated with feedstock growth, gathering, extraction, processing and delivery to a hydrogen production facility.

The Final Regulations allow hydrogen producers to use the version of the 45VH2-GREET model that was in effect when the hydrogen production facility began construction for the duration of the credit. This provision enhances investment certainty by ensuring that hydrogen producers are not subject to unexpected changes to the 45VH2-GREET model over the credit period.

The Final Regulations provide that upstream methane leakage rates will be based on default national values in the 45VH2-GREET model. Future releases of the 45VH2-GREET model, however, are expected to incorporate facility-

specific upstream methane leakage rates based on data provided by the Environmental Protection Agency.

[1] We discussed the Proposed Regulations in a previous client alert.