

CLIENT ALERT

Treasury and the IRS Issue Proposed Regulations under Code Section 45V Relating to Clean Hydrogen Production

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On December 22, 2023 the U.S. Department of the Treasury and the Internal Revenue Service released proposed regulations (the “[45V Proposed Regulations](#)”; available [here](#)) under Section 45V of the Internal Revenue Code regarding the production tax credit (PTC) for hydrogen (the “[45V PTC](#)”). The 45V PTC, enacted as part of the Inflation Reduction Act of 2022, has generated substantial commentary from interested constituents, including taxpayers and environmentalists. Accordingly, the release of the 45V Proposed Regulations has been highly anticipated. Comments on the 45V Proposed Regulations are due February 26, 2024.

45V PTC Background

The 45V PTC is available for each kilogram of qualified clean hydrogen produced by a qualified clean hydrogen facility during the first 10 years after the hydrogen generation facility is placed into service, which must occur after December 31, 2022 (subject to the “80/20 Rule” discussed below). The construction of a qualified clean hydrogen facility must begin before 2033. The amount of 45V PTC equals \$3 (adjusted for inflation) per kilogram of hydrogen produced (assuming either the facility began construction before January 29, 2023 or the prevailing wage and apprenticeship requirements are satisfied; otherwise the \$3 is reduced to \$.60), multiplied by the applicable percentage. The applicable percentage varies based on the lifecycle greenhouse gas emissions rate of the hydrogen produced (i.e., the lower the lifecycle greenhouse gas emissions rate of the hydrogen produced, the higher the applicable percentage).

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45V Proposed Regulations

The 45V Proposed Regulations provide guidance on (i) determining lifecycle greenhouse gas emissions rates resulting from hydrogen production processes; (ii) petitioning for provisional emissions rates; (iii) verifying production and sale or use of clean hydrogen; (iv) modifying or retrofitting existing qualified clean hydrogen production facilities; (v) using electricity from certain renewable or zero-emissions sources to produce qualified clean hydrogen; and (vi) electing to treat part of a specified clean hydrogen production facility instead as property eligible for the investment tax credit.

Willkie attorneys are continuing to analyze the 45V Proposed Regulations, but below is a preliminary summary of certain aspects of these regulations.

Determination of Lifecycle Greenhouse Gas Emissions

- The term “lifecycle greenhouse gas emissions” includes emissions only through the point of production (well-to-gate), which encompasses emissions associated with (i) feedstock growth, gathering, extraction, processing, and delivery to a hydrogen production facility and (ii) the hydrogen production process, inclusive of the electricity used by the hydrogen production facility and any capture and sequestration of carbon dioxide generated by the hydrogen production facility.
- In making this determination taxpayers generally are required to use the most recent Greenhouse gases, Regulated Emissions, and Energy use in Transportation model (commonly referred to as the “GREET model”) developed by Argonne National Laboratory that is publicly available on the first day of the taxpayer’s taxable year in which the qualified clean hydrogen for which the taxpayer is claiming the 45V PTC was produced.
- A taxpayer may not file a petition for a provisional emissions rate unless a lifecycle greenhouse gas emissions rate has not been determined under the most recent GREET model for hydrogen produced by the taxpayer at a hydrogen production facility (e.g., if either the feedstock (such as green hydrogen) used by the facility or the facility’s hydrogen production technology is not included in the most recent GREET model).
- If a taxpayer determines a lifecycle greenhouse gas emissions rate for hydrogen produced at a hydrogen production facility using the most recent GREET model or a provisional emissions rate, then the taxpayer may reflect such hydrogen production facility’s use of electricity as being from a specific electricity generating facility rather than being from the regional electricity grid only if the taxpayer acquires and retires a qualifying energy attribute certificate (“EAC”) for each unit of electricity that the taxpayer claims from such source.

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- A qualifying EAC must meet the requirements of incrementality, temporal matching and deliverability.
 - For incrementality, the electricity generating facility must have achieved commercial operation no more than 36 months before the hydrogen facility is placed in service.
 - For temporal matching, qualifying EACs must represent electricity produced in the same time period in which the hydrogen production facility consumes electricity in the production of hydrogen. Annual time matching is permitted prior to January 1, 2028, but hourly time matching is required thereafter.
 - For deliverability, qualifying EACs must represent electricity that was produced by an electricity generating facility that is in the same region as the relevant hydrogen production facility.
- To claim the 45V PTC, a taxpayer must determine the lifecycle greenhouse gas emissions rate for all hydrogen produced at a qualified clean hydrogen production facility during the taxable year. For many developers, this analysis is expected to be a relatively costly undertaking, requiring expert consultants who must assess technical issues such as those associated with the production of “grey hydrogen” at night.

Meaning of “Facility”

- The term “facility” means a single production line that is used to produce qualified clean hydrogen. A “single production line” generally includes all components of property that function interdependently to produce qualified clean hydrogen. Components of property are functionally interdependent if the placing in service of each component is dependent upon the placing in service of each of the other components to produce qualified clean hydrogen.
- Notably, a facility does not include (i) equipment used to condition or transport hydrogen beyond the point of production or (ii) electricity production equipment used to power the hydrogen production process, including any carbon capture equipment associated with the electricity production process.

Verification of 45V PTC Amount

- The 45V PTC for any taxable year is determined with respect to the qualified clean hydrogen produced by the taxpayer during a given taxable year, although the verification of the production and sale or use of such hydrogen may occur in a later taxable year.
- Note that the verification process must be completed by the due date (including extensions) of a taxpayer’s tax return. If the verification does not occur until after the extended return filing deadline for the taxable year in which the hydrogen was produced, the taxpayer would need to file an amended return or an administrative adjustment request to claim the 45V PTC for such hydrogen.

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Retrofit of an Existing Facility

- An existing facility may establish a new date on which it is considered originally placed in service for purposes of the 45V PTC, even though the facility contains some used property, provided the fair market value of the used property is not more than 20 percent of the facility's total value (the "80/20 Rule").
- If a facility satisfies the requirements of the 80/20 Rule, then the date on which such facility is considered originally placed in service for purposes of the 45V PTC is the date on which the new property added to the facility is placed in service.

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