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Regulatory Update

IRS and Treasury Release Final Rules for Technology-Neutral Clean Electricity Credits Under Sections 45Y and 48E

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The Inflation Reduction Act of 2022 introduced the Code Section 45Y production tax credit (CEPTC) for facilities that generate clean electricity with zero greenhouse gas (GHG) emissions and the Code Section 48E investment tax credit (CEITC) for investments in energy storage technology and electricity generation facilities with zero GHG emissions rate to the Internal Revenue Code of 1986, as amended (Code).

On January 7, 2025, the U.S. Department of the Treasury (Treasury) and the Internal Revenue Service (IRS) issued final regulations for Code Sections 45Y and 48E (the Final Regulations). These Final Regulations clarify and expand on the proposed regulations released on June 3, 2024, as corrected by the notice of proposed regulations 119283-23 on July 18, 2024 (the Proposed Regulations). The Final Regulations provide rules for determining the GHG emissions rate from electricity generating facilities and clarify the rules for determining eligibility for CEPTC and CEITC.

The Treasury and IRS adopted many of the positions taken in the Proposed Regulations in the Final Regulations but introduced some significant changes and clarifications, some of which are outlined below.

GHG Emissions Rate

Code Sections 45Y and 48E require facilities to achieve a zero GHG emissions rate to qualify for CEPTC and CEITC. IRS and the Treasury clarify that if a facility initially exceeds this threshold but later achieves zero emissions during its 10-year credit period, it can regain eligibility for the remaining years in the credit period. The Final Regulations also clarify rules for retrofitted or improved facilities, confirming that facilities achieving compliance after their initial operation can still qualify, but only for the remaining years within the 10-year period from their placed-in-service date.

On January 15, the IRS released the first annual table in Revenue Procedure 2025-14 (Annual Table), which includes a list of non-combustion or gasification facilities deemed to have GHG emissions rate of not greater than zero for purposes of CEPTC and CEITC. These include:

- Wind
- Hydropower
- Marine and hydrokinetic

- Solar
- Geothermal
- Nuclear fission
- Fusion energy
- Waste energy recovery property that derives energy from any of the sources in the list above.

The Annual Table is effective until the effective date of a subsequent annual table.

The Final Regulations also provide rules for petitioning for provisional emissions rates (PER). If a facility is not included on the Annual Table, the owner of the facility may petition the IRS for a PER. To file a PER petition, a taxpayer must submit a PER petition attached to the taxpayer's federal income tax return for the first taxable year in which the taxpayer claims the CEPTC or CEITC, and the petition must contain an emissions value and, if applicable, the associated Department of Energy letter. The IRS is deemed to have accepted the emissions value included in a PER petition upon acceptance of the relevant tax return, but the taxpayer remains responsible for maintaining accurate supporting documentation subject to IRS review.

Combustion and Gasification Facilities

For facilities producing electricity through combustion or gasification (C&G Facilities), the Proposed Regulations defined them as those that directly use these processes or rely on input energy sources created through combustion or gasification. The Final Regulations revised this definition, specifying that a facility qualifies as a C&G Facility if it uses an input energy source created through a "fundamental transformation" of one energy source into another by combustion or gasification.

Sections 45Y and 48E state that the GHG emissions rate for a C&G Facility is equal to the net rate of GHG emitted into the atmosphere by the facility in the production of electricity while taking into account lifecycle GHG emissions. The Proposed Regulations provided technical rules for determining a GHG emissions rate for C&G Facilities and required that a GHG emissions rate for C&G Facilities be determined by a lifecycle analysis (LCA) that meets certain requirements. An LCA must take into account emissions from major activities throughout the facility's lifespan, including: (i) feedstock generation, production and extraction; (ii) feedstock and fuel transport; (iii) transportation and distribution of fuels to electricity production facility; (iv) handling, processing, upgrading and/or storing feedstocks, fuels and intermediate products; and (v) combustion and gasification at the electricity generating facility. However, an LCA may not take into account emissions from facility construction, citing or decommissioning, facility maintenance, infrastructure associated with the facility and distribution of electricity to customers.

The Final Regulations require an LCA to (a) be based on a future anticipated baseline that must be updated as necessary to capture material regulatory, economic, supply chain or environmental changes and be updated at least every 10 years but not more often than every five years; (b) not take into account any offsets or offsetting activities; and (c) take into account direct emissions and significant indirect emissions. The Final Regulations also state that an LCA may consider alternative fates and account for avoided emissions, including for the fuels and feedstocks consumed in the fuel and feedstock supply chain and at the electricity generating facility.

The Final Regulations also addressed facilities that use biogas, renewable natural gas (RNG) and fugitive methane, providing definitions for each of these terms as well as rules relating to lifecycle GHG emissions and methane management. While the Proposed Regulations for these types of facilities included a "first productive use" requirement, which required the biogas, RNG and fugitive methane used in the production of electricity to originate from the first productive use of the relevant methane, the Final Regulations do not adopt this first productive use requirement. The Treasury and the IRS rejected the use of the book and claim method because Sections 45Y and 48E require determining eligibility based on the facility's actual operations. They explained that, by its nature, book and claim cannot establish which fuel or feedstock is physically used to produce a facility's input. The Final Regulations require that when calculating the lifecycle GHG emissions for facilities using methane to produce electricity, several factors must be considered.

These include the alternative ways the methane could be used, the emissions that could be avoided, the risk that tax credits might encourage more methane production or cause additional emissions and changes over time in how waste is managed and disposed of.

Combined Heat and Power Property

To be eligible for CEPTC, a combined heat and power property must have an energy efficiency percentage exceeding 60 percent. Unlike the Proposed Regulations, the Final Regulations permit the use of a nuclear reactor's thermal output to serve as the functional equivalent of the lower heating value of fuel sources for purposes of calculating the energy efficiency percentage. The Final Regulations also state that the Treasury may prescribe additional methodologies in future guidance for other qualified facilities that do not use combustion.

Energy Storage Technologies

The Final Regulations make several important changes to the treatment of qualifying energy storage technologies, refining the approach outlined in the Proposed Regulations. The Final Regulations clarify the criteria for thermal energy storage property to enhance practical applications. They specify that qualifying systems must be designed with the particular purpose of substantially altering the time profile of when heat added to or removed from the system can be used to heat or cool the interior of a residential or commercial building. Technologies such as heat pumps and storage tanks that store and deliver energy for subsequent use meet these criteria, while equipment that transforms other forms of energy into heat in the first instance, such as electric boilers, do not qualify. To clarify eligibility, the Final Regulations introduce a safe harbor that automatically qualifies systems capable of storing sufficient energy for at least one hour of heating or cooling of the interior of a residential or commercial building.

In addition, the Final Regulations clarified the definition of hydrogen energy storage property by including specific components, such as hydrogen liquefaction equipment and gathering and distribution lines within a hydrogen energy storage property, as part of qualifying hydrogen energy storage systems.

One-Megawatt Exception and Integrated Operations

The base applicable percentage of CEPTC and CEITC is multiplied by five if a qualified facility has a maximum net output of less than one megawatt (One-Megawatt Exception). The Final Regulations provide that the determination of whether a qualified facility has a maximum net output of less than one megawatt is determined based on the nameplate capacity of such facility. The Final Regulations provide rules on measuring the nameplate capacity for purposes of the One-Megawatt Exception, including rules on measuring nameplate capacity of qualified facilities with integrated operations with other qualified facilities.

The Final Regulations specify that facilities are considered to have integrated operations if they are owned by the same or related taxpayers, placed in service in the same taxable year, and transmit electricity through the same point of interconnection or serve the same end user if not grid connected. For facilities with integrated operations with other qualified facilities, the aggregate nameplate capacity of all such qualified facilities is used for purposes of determining if the qualified facility satisfies the One-Megawatt Exception. In addition, the Final Regulations introduce a definition of "related taxpayers," treating members of a group under common control as a single taxpayer for evaluating integrated operations. To accommodate facilities already under construction or nearing completion, the Final Regulations include a 60-day delayed applicability date.

Removal of the "End Use" Requirement

The Proposed Regulations required hydrogen energy storage property to store hydrogen used exclusively for energy purposes, such as electricity production, and prohibited its use for other purposes, like producing

end products such as fertilizer. In response to commenters' feedback, the Final Regulations remove this restriction.

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