

These Comments were jointly submitted with feedback from the Lung Association and Physicians for Social Responsibility.

Request for Comments on the Credit for Carbon Oxide Sequestration, Notice 2022-57

IRS' BACKGROUND (Excerpts)

Section 45Q was enacted by § 115 of the Energy Improvement and Extension Act of 2008, Division B of Pub. L. No. 110-343, 122 Stat. 3765 (October 3, 2008), to provide a credit for the sequestration of carbon dioxide. Section 45Q was amended significantly by § 41119 of the Bipartisan Budget Act of 2018, Pub. L. No. 115-123 (February 9, 2018), to apply to carbon oxides, and most recently by § 13104 of the IRA.

Generally, the IRA modifies § 45Q by adjusting credit amounts;¹ extending the deadline for beginning construction of a qualified facility from January 1, 2026 to January 1, 2033; broadening the definition of a “qualified facility” by reducing the required carbon capture thresholds; modifying the rules applicable to direct air capture (DAC) facilities and electric generating units; and providing a new election to restart the § 45Q credit period for qualified facilities at which carbon capture equipment is placed in service in an area subsequently affected by a federally declared disaster (as defined by § 165(i)(5)(A) of the Code).

SECTION 3. REQUEST FOR COMMENTS

.06 Please provide comments on any other topics related to § 45Q credit that may require guidance.

Physicians for Social Responsibility:

Cost calculations in regard to carbon capture should include the costs associated with transport of the sequestered carbon. These costs must include direct costs of planning, land acquisition, construction and long-term maintenance of pipelines and compressor stations. They must also include the costs of remediation of negative impacts on the physical environment due to land clearing, deforestation, erosion, siltation and other degradation of waterways, and loss of habitat, as well as protection of human health. Given the potential for asphyxiation in case of a pipeline rupture, a fund should be established for care and treatment of exposure victims.

American Lung Association:

Carbon capture and sequestration does not guarantee that all dangerous co-pollutants are reduced alongside carbon – continuing to extract, transport and combust fossil fuels results in ongoing air pollution. We urge IRS to, to the extent possible, take into account the conventional air pollutant impacts alongside carbon impacts when considering CCS tax credits and avoid awarding credits to projects that increase conventional air pollution. Further, tax credits for CCS must not be utilized to build new fossil fuel-fired power plants, or otherwise facilitate the ongoing development of fossil fuel resources.

Request for Comments on Credits for Clean Hydrogen and Clean Fuel Production

Notice 2022-58

IRS' BACKGROUND (Excerpts)

.01 Credits for Clean Hydrogen.

The § 45V credit is allowable for qualified clean hydrogen produced after 2022 at a qualified clean hydrogen production facility during the 10-year period beginning on the date the facility is originally placed in service. The § 45V credit is calculated by multiplying the applicable amount by the kilograms of qualified clean hydrogen produced based on the lifecycle greenhouse gas emissions rate that results from the production of qualified clean hydrogen.

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Qualified clean hydrogen is defined in § 45V to include hydrogen that is produced through a process that results in a lifecycle greenhouse gas emissions rate of not greater than 4 kilograms of carbon dioxide equivalent (CO₂-e) per kilogram of hydrogen. To be eligible for the § 45V credit, the qualified clean hydrogen must be produced in the United States within the meaning of § 638(1) of the Code (or a U.S. possession within the meaning of § 638(2)) in the ordinary course of the taxpayer's trade or business for sale or use. Additionally, the production and sale or use by the taxpayer must be verified by an unrelated party. A taxpayer may not claim a § 45V credit for qualified clean hydrogen produced at any facility that includes carbon capture equipment for which a credit is allowed to any taxpayer under § 45Q for the taxable year or any prior taxable year.

SECTION 3. REQUEST FOR COMMENTS

.01 Credit for Production of Clean Hydrogen.

(1) *Clean Hydrogen.* Section 45V provides a definition of the term “qualified clean hydrogen.” What, if any, guidance is needed to clarify the definition of qualified clean hydrogen?

Physicians for Social Responsibility:

Qualified clean hydrogen should be limited entirely and explicitly to so-called green hydrogen, produced from water molecules via the process of electrolysis, and powered exclusively by 100% renewable energy. Hydrogen generated in this manner is the only hydrogen that is a zero-carbon fuel and that therefore merits the term “clean.”

So-called blue hydrogen should under no circumstances be qualified as “clean” hydrogen. Blue hydrogen is produced from methane using a process called Steam Methane Reformation (SMR), with the addition of technologies that capture and store or reuse some – not all - of the waste carbon dioxide. In addition to the carbon that is not captured from the SMR process by the carbon capture technology (current capture rates are well below 90 percent), the production of blue hydrogen results in the release of still more carbon dioxide as the result of the inherent processes. Carbon dioxide is a by-product of the SMR process, and the heavy industrial facility used in carbon capture requires additional energy to be used, thus increasing carbon dioxide emissions and greater climate impacts.

Furthermore, the process of producing blue hydrogen results in the emission of methane at numerous points in the methane-to-hydrogen lifecycle. This is of paramount concern, as methane is a powerful greenhouse gas that traps 83 times more heat over its first 20 years in the atmosphere than does carbon dioxide. Methane is known to leak across its

supply chain: at the point of extraction, i.e. the wellhead; where it is processed for transport; from pipelines and compressor stations; and from distribution lines. Indeed, some of this leakage of methane is inevitable and necessary: Compressor stations are built to release methane whenever pipeline pressure increases to the point that it must for reasons of safety be reduced.

As a result, for every tonne of blue hydrogen gas that is produced, between one and four tonnes of carbon or carbon-equivalent pollution is created. Should blue hydrogen be used for home heating, it has a higher carbon impact than heating buildings directly with methane alone.

For all of these reasons, blue hydrogen inflicts damage to the climate and should not be considered a “clean” form of hydrogen.

(a) Section 45V defines “lifecycle greenhouse gas emissions” to “only include emissions through the point of production (well-to-gate).”³ Which specific steps and emissions should be included within the well-to-gate system boundary for clean hydrogen production from various resources?

Physicians for Social Responsibility:

All emissions of methane across the gas supply chain should be included, including at the points of extraction, well-site processing, transport, storage facilities and final distribution. These are to include accidental leaks at the well site, both from the well itself and from drilling equipment and processing equipment at the site; deliberate venting and flaring at the well site; blowdowns from pipelines and compressor stations, where gases are vented to control pressure and empty the system and can be accidental or a scheduled part of maintenance; and from distribution lines.

In addition, as is referenced above, emissions of carbon dioxide generated by the hydrogen production process itself, such as Steam Methane Reformation, should be counted, as well as the carbon emissions from the carbon capture and storage process.

(7) Please provide comments on any other topics related to § 45V credit that may require guidance.

American Lung Association:

Truly clean hydrogen – “green” hydrogen whose production is powered by non-combustion energy sources – represents an opportunity to ensure emissions reductions from hard-to-decarbonize sectors. Other sources of hydrogen simply perpetuate the use of fossil fuel in its production, and must not be incentivized. We urge IRS to quantify the full lifecycle emissions of any hydrogen production to adequately account for its impact, particularly on communities located near facilities involved in its production and transport.