N. Hunter Johnston
202 429 6404
hjohnston@steptoe.com

1330 Connecticut Avenue, NW
Washington, DC 20036-1795
202 429 3000 main
www.steptoe.com

Steptoe

March 31, 2023

*Via Federal eRulemaking Portal at www.regulations.gov*

Internal Revenue Service
CC:PA:LPD:PR (REG-112339-19), Room 5203
P.O. Box 7604
Ben Franklin Station
Washington, DC 20044

Re: Comments of Carbon Capture Coalition to Notice 2022-57 Request for Comments on the Credit for Carbon Oxide Sequestration

To Whom It May Concern:

We write, on behalf of our client the Carbon Capture Coalition, to submit the following comments in response to Notice 2022-57, Request for Comments on the Credit for Carbon Oxide Sequestration. We appreciate the work of staff at the Department of the Treasury (Treasury) and Internal Revenue Service (IRS) as guidance related to Inflation Reduction Act (IRA) is issued.

The Carbon Capture Coalition is a nonpartisan collaboration of more than 100 companies, labor unions, and conservation and environmental policy organizations, building federal policy support to enable economy-wide, commercial-scale deployment of carbon management technologies to meet midcentury climate goals, strengthen and decarbonize domestic energy, industrial production, and manufacturing, while at the same time retaining and expanding a high-wage jobs base.

For several months, members of the Carbon Capture Coalition have engaged in a collaborative effort to develop the following consensus recommendations to inform and assist Treasury and the IRS in their development of regulations and guidance to implement the expansion of the section 45Q tax credits under the IRA that will encourage the deployment of carbon capture, utilization, and storage projects.

We appreciate your consideration of the recommendations discussed below and look forward to the issuance of regulations that will facilitate much-needed investment in carbon capture technology. If you have any questions, please do not hesitate to contact us at: N. Hunter Johnston, hjohnston@steptoe.com; Lisa M. Zarlenga, lzarlenga@steptoe.com; John E. Cobb, jcobb@steptoe.com; Nicholas J. Sutter, nsutter@steptoe.com.

Sincerely,

N. Hunter Johnston

cc: Hon. Lily Batchelder, Assistant Secretary (Tax Policy), Department of the Treasury
Thomas West, Deputy Assistant Secretary (Tax Policy), Department of the Treasury
Krishna P. Vallabhaneni, Tax Legislative Counsel, Department of the Treasury
Shelley de Alth Leonard, Deputy Tax Legislative Counsel, Department of the Treasury
Kimberly A. Wojcik, Attorney-Advisor, Department of the Treasury
Jennifer C. Bernardini, Attorney-Advisor, Department of the Treasury
Sarah R. Haradon, Attorney-Advisor, Department of the Treasury
Jacob Goldin, Office of Tax Policy, Department of the Treasury
William M. Paul, Principal Deputy Chief Counsel and Deputy Chief Counsel (Technical), Internal Revenue Service
Holly Porter, Associate Chief Counsel (Passthroughs & Special Industries), Internal Revenue Service
David A. Selig, Senior Counsel (Passthroughs & Special Industries), Internal Revenue Service
Maggie Stehn, Attorney (Passthroughs & Special Industries), Internal Revenue Service
Brad Crabtree, Assistant Secretary for Carbon Management and Fossil Energy, Department of Energy
Noah Deich, Deputy Assistant Secretary Office of Carbon Management, Department of Energy

CARBON CAPTURE COALITION

March 31, 2023

Internal Revenue Service
CC:PA:LPD:PR (REG-112339-19), Room 5203
P.O. Box 7604
Ben Franklin Station
Washington, DC 20044

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

To Whom It May Concern:

We write to provide comments in response to Notice 2022-57, Request for Comments on the Credit for Carbon Oxide Sequestration. We appreciate the opportunity to provide comments as the Department of Treasury and the Internal Revenue Service (IRS) (hereinafter collectively referred to as Treasury) begin to implement guidance related to the expansion of section 45Q under the Inflation Reduction Act (IRA), which will further incentivize new carbon capture technology, reduce emissions to address climate change, and support good-paying jobs.

The Carbon Capture Coalition is a nonpartisan collaboration of more than 100 companies, labor unions, and conservation and environmental policy organizations, building federal policy support to enable economy-wide, commercial-scale deployment of carbon management technologies to meet midcentury climate goals, strengthen and decarbonize domestic energy, industrial production, and manufacturing, while at the same time retaining and expanding a high-wage jobs base.

Since the inception of the federal section 45Q tax credit, members of Congress across the political spectrum have increasingly recognized the program's essential value in bolstering the economy-wide adoption of carbon management technologies to address our changing climate. This includes support for the full value chain of carbon management technologies, carbon capture, removal, transport, utilization, and storage.

The Bipartisan Budget Act of 2018 significantly restructured the section 45Q credit to incentivize the development and deployment of carbon management technologies across sectors. Congress further expanded and increased the section 45Q credits in the IRA to make the program more easily accessible for sectors that must deploy carbon management to meet net-zero targets, such as industry, energy and manufacturing, as well as to make projects utilizing earlier stage technologies like direct air capture more economical. Together with the federal investments made in carbon management in the Infrastructure Investment and Jobs Act, this framework is now

recognized as the most comprehensive and robust federal policy support for carbon management technologies in the world.

We applaud Treasury's work in beginning to implement the enhancements to section 45Q in the IRA and the previous work on guidance related to the credit. The Carbon Capture Coalition appreciates the opportunity to submit these comments to Treasury related to section 45Q.

## I. Executive Summary

Congress enacted significant changes to section 45Q in the IRA to enhance and expand the incentives for carbon capture technology and provided a seven-year extension of the credit.[1] Further, the IRA significantly increased the amount of the credits available for carbon oxide (CO) that is (1) captured and disposed of in secure geological storage, (2) captured, used for enhanced oil recovery, and disposed of in secure geological storage, and (3) captured and utilized. The IRA provides a credit of up to $85 per metric ton of CO captured and disposed of in secure geological storage; a credit of up to $60 per metric ton of CO captured and utilized for an allowable use by the taxpayer.[2] The IRA further provides a credit for direct air capture (DAC) facilities of up to $180 per metric ton of CO captured and disposed of in secure geological storage and up to $130 per metric ton of CO captured and utilized for an allowable use by the taxpayer.[3] The increased credit amounts are conditioned upon the taxpayer satisfying prevailing wage and apprenticeship requirements with respect to the qualified facility and carbon capture equipment.[4]

The IRA also reduced the annual minimum capture requirements for qualifying for the section 45Q credit.[5] Under the IRA, to qualify for the credit, a DAC facility must capture no less than 1,000 metric tons of CO per year; an electricity generating facility must capture no less than 18,750 metric tons of CO per year; and all other facilities must capture no less than 12,500 metric tons of CO per year.[6] The IRA added a new requirement that an electricity generating facility must have a "capture design capacity" of not less than 75 percent of the "baseline carbon oxide production of such unit."[7]

The IRA's provisions are critical for growing investment in carbon capture technology and will require clear guidance to meet the Congressional intent of incentivizing and deploying additional carbon capture technology. Timely implementation is critical to allow taxpayers to plan and quickly bring new projects

---

[1] *See* section 45Q(d)(1).

[2] *See* section 45Q(b)(1)(A)(i)(I)-(II); *see also* section 45Q(h)(1).

[3] *See* section 45Q(b)(1)(B)(i)-(ii); *see also* section 45Q(h)(1).

[4] *See* section 45Q(h)(1), (h)(2).

[5] *See* section 45Q(d)(2)(A)-(C).

[6] *Id*.

[7] *See* section 45Q(d)(2)(B)(ii).

online. Therefore, if it is not possible to issue comprehensive proposed regulations soon, the Carbon Capture Coalition recommends adopting sub-regulatory guidance as soon as practicable, even if such guidance is not issued all at once.

Specifically, the Carbon Capture Coalition recommends the following guidance to implement or clarify the changes in section 45Q made by the IRA:

With respect to DACs:

- Guidance should retain the current flexible definition of a DAC facility to continue to ensure that current DAC technology can qualify for the section 45Q credit, as well as allow future DAC technology to qualify for the credit.[8]

- Guidance should clarify that a DAC facility that captures CO from the surrounding air qualifies for the higher credit applicable to DAC facilities under section 45Q(b)(1)(B) – notwithstanding close proximity of the DAC facility to an industrial facility that emits CO into the atmosphere.[9]

- Guidance should adopt the existing Environmental Protection Agency (EPA) Subpart RR and Subpart PP (once finalized) reporting requirements to verify the qualified CO captured by a DAC facility (qualifying for a higher credit), and CO captured from industrial sources within the facility (qualifying for a lower credit).[10]

With respect to Electric Generating Units:

- Guidance should clarify the mechanism by which operators of electricity generating facilities should measure annual capture volumes. Guidance should clarify that annual minimum capture requirements apply to a whole facility rather than each individual unit. Guidance should allow taxpayers that report under the EPA's Subpart PP to use that report to establish that the CO captured at their facilities exceeds the minimum capture requirement.[11]

- Guidance should clarify the means by which a taxpayer can show that an electricity generating facility meets the design capture requirement under section 45Q(d)(2)(ii) and allow taxpayers to rely on business records related to the project that show that the capture design capacity of the carbon capture

[8] Response to Section 3.01(1), Notice 2022-57.

[9] Response to Section 3.01(1), Notice 2022-57.

[10] Response to Section 3.01(2), Notice 2022-57.

[11] Response to Section 3.03(5), Notice 2022-57.

equipment exceeds 75 percent of the baseline CO production of the electric generating unit.[12]

- Guidance for modifications to baseline CO production for electricity generating facilities should define significant increase or decrease in CO production as more than 20-percent change in CO of an applicable electric generating unit that already has carbon capture equipment installed.[13]

- Guidance should clarify that dedicated electricity and heat generating facilities that are not subject to depreciation under the Modified Accelerated Cost Recovery System (MACRS) asset classes listed in regulation section 1.45Q-2(e), and that otherwise meet the definition of an "other facility" under section 45Q(d)(2)(C), are not electricity generating facilities and are not subject to the capture design capacity requirement.[14]

With respect to Qualified Facilities and Other Requested Guidance

- Guidance should affirm that a municipal solid waste landfill facility using a flare as a fuel combustion source producing a stream of CO should qualify as an industrial facility under section 45Q.[15]

- Guidance should include clear guidelines on what is considered a facility for purposes of the overlap provisions that prevent a taxpayer from claiming a credit for clean hydrogen under section 45V or clean fuel under section 45Z produced at a facility that also claimed a credit for carbon capture equipment under section 45Q. Guidance should include an elective disaggregation safe harbor for multiple process trains at an individual facility.[16]

- Guidance should provide taxpayers with an option to either obtain Department of Energy (DOE) pre-approval of a lifecycle analysis (LCA) report before claiming section 45Q credits or submit the LCA with their tax return claiming the credits and address any issues on audit.[17]

These recommendations are described in more detail below.

---

[12] Response to Section 3.02(1), Notice 2022-57.

[13] Response to Section 3.03(6), Notice 2022-57.

[14] Response to Section 3.02(1), Notice 2022-57.

[15] Response to Section 3.05, Notice 2022-57.

[16] Response to Section 3.06, Notice 2022-57.

[17] Response to Section 3.06, Notice 2022-57.

## II. Direct Air Capture

### a. Guidance Should Retain the Current Flexible Definition of a Direct Air Capture Facility

Section 45Q defines a DAC facility as a "facility which uses carbon capture equipment to capture CO directly from the ambient air."[18] A DAC facility does not include "any facility that captures carbon dioxide (i) which is deliberately released from naturally occurring subsurface springs or (ii) using natural photosynthesis."[19] Current examples of DAC technology that meet this definition include solid sorbent-based air capture technologies; liquid solvent-based air capture technologies; and electrochemical air capture technologies.

This current definition of a DAC facility provided in the statute and regulations ensures flexibility by defining what a DAC facility does not include. This flexible definition will continue to ensure that current DAC technology can qualify for the section 45Q credit, as well as allow future DAC technology to qualify. This definition will continue to promote innovation and ensure the industry can continue to grow as new techniques and processes are identified and developed to capture CO from the ambient air.

### b. Guidance Should Clarify that a DAC Facility that Captures CO from the Surrounding Air Qualifies for the Higher Credit Applicable to DAC Facilities

Section 45Q defines a "direct air capture facility" as any facility that captures carbon dioxide directly from the ambient air.[20]

Guidance should specify that a DAC facility that captures CO from the air surrounding the facility qualifies for the higher credit under section 45(b)(1)(B), regardless of the DAC facility's proximity to an industrial facility that releases CO into the atmosphere. However, guidance should state that a DAC facility does not qualify for the higher credit under section 45(b)(1)(B) where the carbon capture equipment is physically connected to the exhaust stream of an industrial facility that captures CO prior to release into the atmosphere.

### c. Existing EPA Regulations Should be Used to Verify the Qualified CO Captured by a Direct Act Capture Facility

Subpart RR of the EPA's Greenhouse Gas Reporting Program (GHGRP) requires reporting on CO sequestration, including the amount of CO received for

---

[18] *See* section 45Q(e)(3)(A); *see also* Treas. Reg. § 1.45Q-2(f).

[19] *See* section 45Q(e)(3)(B)(i)-(ii).

[20] *See* section 45Q(e)(3)(A).

injection; development of a monitoring, reporting, and verification plan; and the amount of CO sequestered using a mass balance approach.[21]

Similar to Subpart RR, the EPA proposed amendments to Subpart PP to the GHGRP in April 2022 that would require reporting of CO captured by DAC facilities.[22] The proposed Subpart PP amendments also would require operators of DAC facilities with on-site sourced electricity, heat, or combined heat and power to report the mass of $CO_2$ captured from these on-site energy sources. If the proposed GHG reporting rules are finalized, operators of DAC facilities will be required to report the mass of CO captured from the ambient air, and the mass of CO captured from on-site energy sources at the DAC facility.

The Carbon Capture Coalition supports the EPA's proposed amendments to Subpart PP of the GHGRP.[23] Guidance should adopt the Subpart PP framework (once finalized) for verifying the amount of CO captured by a DAC for the purposes of section 45Q, and the existing EPA Subpart RR framework for purposes of verifying the amount of CO disposed of in secure geological storage. Specifically, guidance to determine and verify the amount of CO captured for the section 45Q credits for DAC facilities should consider:

- DAC - Dedicated Storage: Subpart PP of the EPA's Greenhouse Gas Reporting Program (GHGRP) to measure qualified CO captured (and Subpart RR of GHGRP for storage);
- DAC - EOR Storage: Subpart PP of GHGRP to measure qualified CO captured (and Subpart RR of GHGRP for storage) or the ISO 27916 and Subpart VV of GHGRP;
- DAC - Utilization: Subpart PP of GHGRP to measure qualified CO captured, and for utilization a lifecycle analysis of CO captured and permanently isolated from the atmosphere or displaced from being emitted into the atmosphere, according to the rules and guidelines laid out in Treas. Reg. § 1.45Q-4.

### d. Guidance Should Require Taxpayers to Separately State the CO Captured From Ambient Air and the CO Captured From Industrial Sources Within the Same Facility

A DAC facility that captures CO from the ambient air may also include carbon capture equipment applied to industrial sources of CO within the same facility, such as fuel combustion from heating or electricity generation. The EPA has proposed

---

[21] *See* 40 C.F.R. § 98.440 et seq. (Subpart RR); *see also* Environmental Protection Agency, "Geologic Sequestration of Carbon Dioxide: Subpart RR" (November 2011) *available at* https://www.epa.gov/sites/default/files/2015-07/documents/carbondioxideinjectiongeologicsequestrationinformationsheet.pdf.

[22] *See* Notice of Proposed Rulemaking, *Revisions and Confidentiality Determinations for Data Elements Under the Greenhouse Gas Reporting Rule*, 87 Fed. Reg. 36,920, 37,113 (June 21, 2022).

[23] *See* Proposed 40 C.F.R. § 98.422(e)(1) and (2), 87 Fed. Reg. 37,113 (June 21, 2022).

amendments to Subpart PP of the Greenhouse Gas Reporting Regulations that would require DAC facilities to report both (1) the mass of CO captured from the ambient air, and (2) the mass of CO captured from on-site energy sources, such as heaters and power generation.

Treasury and IRS should issue guidance clarifying that a taxpayer operating a DAC facility that includes other industrial sources of CO emissions can claim section 45Q credits with respect to both the CO captured from the ambient air, and the CO captured from other industrial sources within the DAC facility, at the "applicable dollar amount" for each source. The guidance should require taxpayers to separately state the CO captured from ambient air, and the CO captured from industrial sources within the same facility. The guidance should specify that only the CO captured from the ambient air qualifies for the higher credit under section 45Q(b)(1)(B). The guidance should allow taxpayers to rely on the amounts reported under the EPA's proposed amendments to Subpart PP, once finalized, when computing their credits under section 45Q.

## III. Electric Generating Units

For an electricity generating facility to be considered a "qualified facility" it must (1) capture not less than 18,750 metric tons of CO, and (2) have carbon capture equipment that has a capture design capacity of not less than 75 percent of the baseline CO production of such unit.[24]

### a. Guidance Should Clarify the Measurement of Annual Minimum Capture Requirements for an Electricity Generating Facility

Guidance should clarify the nature of the records that are required for purposes of substantiating (1) the amount of section 45Q credits generated by an electricity generating facility, and (2) compliance with the 18,750 metric ton minimum annual capture requirement under section 45Q(d)(2)(B)(i) (the "minimum annual capture requirement"). The determination of the section 45Q credit amount and the minimum annual capture requirement are at the facility level and not the individual electric generating unit level. This follows from the facts that the credit computations under section 45Q(a) are determined based on carbon capture equipment that is "placed in a service at a qualified facility,"[25] and section 45Q(d)(2)(B)(i) sets the minimum capture requirement "in the case of an electricity generating facility" and not the individual unit level. As a result, taxpayers should only be required to substantiate captured CO from a qualified electricity generating facility, rather than individual electric generating units. Requiring unit-by-unit measurements and records would be unnecessary for tax administration.

---

[24] *See* section 45Q(d)(2)(B)(i)-(ii).

[25] *See, e.g.* section 45Q(a)(1)(A), (a)(2)(A), (a)(3)(A).

Furthermore, guidance should allow taxpayers that report under Subpart PP of the EPA's GHGRP to use that report to establish that the CO captured at their facilities exceeds the minimum capture requirement for section 45Q.[26] As discussed above, under the EPA's proposed amendments to Subpart PP, DAC facility operators will be required to report to EPA both the mass of CO captured from ambient air and the mass of CO captured from any on-site heat or electricity generation, if applicable.[27] Relying on the EPA's GHGRP rules under Subpart PP for DAC facilities would be consistent with the current section 45Q regulations that rely on the EPA's GHGRP rules under Subpart RR for complying with the requirements for secure geological storage.[28]

b. Treasury Should Issue Guidance for Meeting the Capture Design Capacity Factor for an Electricity Generating Facility

As discussed above, the IRA added a new requirement for an electricity generating facility to be a qualified facility. Under this new requirement (the "capture design capacity requirement"), any carbon capture equipment for the "applicable electric generating unit" at such facility must have a "capture design capacity" of not less than 75 percent of the "baseline carbon oxide production of such unit."[29] Thus, under the new requirement for electricity generating facilities, it is necessary to determine the (1) applicable electric generating unit, (2) capture design capacity of the carbon capture equipment for such unit, and (3) baseline carbon oxide production of such unit.[30] Taxpayers investing in new utility electric generating units are already incentivized to design their carbon capture equipment for that unit to exceed the 75 percent capture threshold to fully maximize their potential section 45Q tax credits.

Guidance should define the term "applicable electric generating unit" in accordance with the well-established and longstanding "unit of property" rules under the tax law that inquires whether the components represent a single, integrated property or separate property.[31] Thus, the electric generating unit should be determined using the functional interdependence standard that applies in various contexts under the tax law. Applying this standard, the electric generating unit should include only that property that is necessary for independent operation of the electric generating unit and should not include common equipment at the larger facility or auxiliary equipment. For example, an

---

[26] *See* 40 C.F.R. § 98.420.

[27] *See* Proposed 40 CFR § 98.422(e)(1) and (2), 87 Fed. Reg. 37,113 (Jun. 21, 2022).

[28] *See* Treas. Reg. § 1.45Q-3(b).

[29] *See* section 45Q(d)(2)(B)(ii).

[30] *See* section 45Q(d)(2)(B)(ii).

[31] *See* Treas. Reg. § 1.46-5(e)(3)(ii); *see also* Treas. Reg. § 1.167(a)-11(d)(2)(vi)(g) (in the context of depreciation), Treas. Reg. § 1.263A-10(c) (in the context of capitalization rules, components of tangible personal property are a single unit of property if the components are "functionally interdependent"), *FPL Group, Inc. & Subs. v. Commissioner*, T.C. Memo. 2005-208, 2005 WL 2090808 at *60 ("component parts constitute a single piece of property when the components are interdependent, essential, and integral to the operation of a unit at the time it is placed in service").

auxiliary boiler that is placed in service separately from that electric generating unit to power other equipment, including the carbon capture equipment, and/or is not necessary for the independent operation of the generating unit for purposes of generating electricity should not be included in determining the baseline emissions and 75 percent design efficiency standard.[32] Further, guidance should confirm, consistent with the statutory language, that carbon capture equipment may be separately planned and designed with respect to a specific electric generating unit at the facility, and that the carbon capture requirements under section 45Q(d)(2)(B) are applied with respect to that specific carbon capture equipment and electric generating unit.

To address the calculation of credit amounts for additional carbon capture equipment placed in service at an existing qualified facility, the current regulations look to "capture design capacity," but do not define the term.[33] The regulations state that increasing the amount of carbon dioxide captured without physically modifying existing carbon capture equipment or adding new equipment, but merely operating the existing carbon capture equipment above the carbon dioxide capture capacity, does not constitute the installation of additional carbon capture equipment.[34] For purposes of the regulations, the term "carbon dioxide capture capacity" means capture design capacity.[35] The regulations illustrate this concept through examples, but the examples assume capture design capacity without further explanation. Similar to the existing regulations, the IRA refers to "capture design capacity" for determining the capture design capacity requirement.[36]

Treasury should issue guidance under section 45Q(d)(2)(B)(ii) for determining when new units meet the capture design capacity requirement. Meeting this requirement involves comparing the "capture design capacity" and the "designed annual carbon oxide production," both of which can be established at the time the equipment is designed and installed without measurement of actual CO production from the applicable unit. Guidance should allow taxpayers to rely on business records related to the project to establish the capture design capacity and designed annual carbon oxide production of a unit, including (1) the specifications and plans accompanying the investor's front-end engineering design (FEED) decision, (2) the manufacturer or installation contractor's warranty, and (3) the nameplate capacity of the carbon capture equipment. Alternatively, the guidance should provide a safe harbor for taxpayers to

---

[32] *See, e.g.* Rev. Proc. 2013-24, 2013-21 I.R.B. 1142, Appx. A, sec. 2.04 (in the case of a coal-fired power station, "[e]ach auxiliary boiler constitutes a single unit of property. The auxiliary boiler is the equipment that supplies steam from a source independent of the main boiler. The auxiliary boiler is generally used to power the turbines during the process of starting the operation of the generating unit before the main boiler is operating.") and sec. 3.04 (in the case of a natural gas or oil fired power station, "[e]ach auxiliary boiler constitutes a single unit of property).

[33] *See* Treas. Reg. § 1.45Q-1(g).

[34] *See* Treas. Reg. § 1.45Q-1(g)(2).

[35] *Id*.

[36] *See* section 45Q(d)(2)(B)(ii).

provide a certification of the capture design capacity from a licensed engineer. For an applicable electric generating unit that was placed in service prior to the issuance of such guidance, taxpayers could present evidence that the equipment captured over 75 percent of the baseline CO production of the applicable electric generating unit over a 12-month period if the identified business records are unavailable.

For purposes of determining baseline CO production for an applicable electric generating unit already in service for more than one year, baseline carbon oxide production under section 45Q(e)(2)(A)(i) can be determined by the facility reports under Subpart D of the GHGRP or Continuous Emission Monitoring Systems (CEMS) regulations.[37] Section 45Q(e)(2)(A)(i) defines the "baseline carbon oxide production" as the average annual carbon dioxide production, by mass, from such unit during specified time periods.[38] For an applicable electric generating unit placed in service:

- More than one year but less than three years prior to the date on which construction of the carbon capture equipment begins, the baseline CO production is the average annual CO production for the "period beginning on the date the unit was placed in service and ending on the date on which construction of such equipment began;"
- More than three years prior to the date on which construction of the carbon capture equipment begins, the baseline CO production is the average annual CO production for the "3 years with the highest annual carbon oxide production during the 12-year period preceding the date on which construction of such equipment began."[39]

Further, electric generating units report their CO emissions by mass under 40 C.F.R. Part 98, Subpart D of the GHGRP or the 40 C.F.R. Part 75 CEMS regulations. These reports should be sufficient for substantiating the baseline CO production.

c. Guidance for Modifications to Baseline CO Production for Electricity Generating Facilities Should Define a Significant Increase or Decrease

The IRA authorized Treasury to issue regulations to adjust the baseline CO production for any applicable electric generating unit if modifications to such electric generating unit "result in a significant increase or decrease in carbon oxide production."[40] A significant increase or decrease in carbon oxide production is not defined in the statute.

Guidance should define a "significant increase or decrease" as more than a 20-percent change in the CO production of an applicable electric generating unit.

---

[37] *See* 40 C.F.R. §§ 98.40-98.48 (Subpart D); *see also* 40 C.F.R. § 75.1.

[38] *See* section 45Q(e)(2)(A)(i)(I).

[39] Section 45Q(e)(2)(A)(i)(I)-(II).

[40] Section 45Q(i)(3).

However, taxpayers are unlikely to make modifications that result in significant increases in CO from existing electric generating units that already have carbon capture equipment installed. Instead, they would likely install new carbon capture equipment to maximize their section 45Q credit. As a result, this guidance should be a lower priority for Treasury.

d. Guidance Should Clarify that CO Captured from Qualified Facilities that are Not Electricity Generating Facilities Are Not Subject to the Capture Design Capacity Requirement

The definition of a qualified facility in section 45Q includes (1) DAC facilities, (2) electricity generating facilities, (3) other facilities.[41] As described above, an electricity generating facility is further required to meet the capture design capacity requirement.[42] Further, the current regulations define an electricity generating facility based on the facility's MACRS asset class life under which the facility is depreciated—specifically MACRS Asset Class 49.11 (Electric Utility Hydraulic Production Plant), 49.12 (Electric Utility Nuclear Production Plant), 49.13 (Electric Utility Steam Production Plant), or 49.15 (Electric Utility Combustion Turbine Production Plant).[43]

Under a plain reading of the statute and regulations, the new capture design capacity requirement only applies to electricity generating facilities subject to depreciation under the enumerated MACRS asset classes in Treas. Reg. § 1.45Q-2(e). Other industrial facilities not depreciated under these MACRS asset classes are not subject to the capture design capacity requirement. As a result, guidance should clarify that dedicated electricity and heat generating facilities that are not depreciated under the MACRS asset classes in Treas. Reg. § 1.45-2(e), and that otherwise meet the definition of an "other facility" under section 45Q(d)(2)(C), are not electricity generating facilities and are not subject to the capture design capacity requirement.

IV. Qualified Facilities and Other Requested Guidance

a. Guidance Should Clarify the Definition of an Industrial Facility Related to a Fuel Combustion Source

Under the current definition of an industrial facility, a qualifying facility also includes facilities that produce a CO from a "manufacturing process" or "fuel combustion source." The current regulations define "manufacturing process," but do not define "fuel combustion source." Guidance should be issued to define a "fuel combustion source."

---

[41] *See* section 45Q(d)(2)(A)-(C).

[42] *See* section 45Q(d)(2)(B)(ii).

[43] *See* Treas. Reg. § 1.45Q-2(e).

Courts have recognized that untreated landfill gas is considered to be a "fuel."[44] As a result, guidance should affirm that a "fuel combustion source" includes a municipal solid waste landfill facility using a flare that produces a stream of CO.

b. Section 45Q Credit Overlap with Other Clean Energy Tax Incentives

The IRA prevents a taxpayer from claiming a credit for clean hydrogen production under section 45V for any clean hydrogen produced at a facility that claimed a credit for carbon capture equipment under section 45Q for the taxable year or any prior taxable year.[45] Section 45V(d)(2) states that no section 45V credit shall be allowed "with respect to any qualified clean hydrogen produced at a facility which includes carbon capture equipment for which a credit is allowed to any taxpayer under section 45Q for the taxable year or any prior taxable year."[46] Similarly, section 45Z(d)(4) excludes from the definition of a "qualified facility," for purposes of the clean fuel production credit, a facility for which a credit is allowed under section 45Q.

These statutory prohibitions in sections 45V and 45Z prevent a taxpayer from claiming a second credit for carbon capture that the taxpayer had to perform anyway to produce clean hydrogen or clean fuel. However, the term "facility" is not defined within the IRA. Guidance should adopt an interpretation of these sections that includes a narrow definition of the term "facility" to avoid disqualifying carbon capture equipment for which no double credit is claimed. An overly broad interpretation of the term "facility" in sections 45V(d)(2) or 45Z(d)(4) could encompass industrial plants that include multiple production trains, some of which produce clean hydrogen under section 45V or clean fuel under section 45Z, and other production trains that are co-located in the plant but employ separate processes to produce separate products (e.g., heating units, chemical synthesis, and DAC facilities). The guidance should create a bright line test that does not discourage the co-location of facilities. Without such guidance, taxpayers could be incentivized to create inefficiencies that will generate additional CO emissions, such as from hydrogen delivered by trucks rather than delivery occurring from a co-located facility.

Treasury should issue clear guidelines for what is considered a "facility" for the purposes of these overlap provisions. Without guidance, it is unclear, for example, whether a single unit of carbon capture equipment to capture CO from a blue hydrogen process train with respect to which a taxpayer claims the section 45V credit precludes the taxpayer from claiming the section 45Q credit for CO captured by equipment installed on separate sources within the same plant. The IRA does not define the scope of a facility for the purposes of section 45V or section 45Z and the overlap with section 45Q. However, the IRS and courts have considered whether a site contains a single

---

[44] *See Green Gas Del. Statutory Trust v. Commissioner*, 903 F.3d 138, 142 (D.C. Cir. 2018), ***aff'g*** *Green Gas Del. Statutory Trust v. Commissioner*, 147 T.C. 1, 41 (2016).

[45] *See* section 45V(d)(2).

[46] Section 45V(d)(2).

qualified facility or multiple qualified facilities in a variety of contexts under sections 45, 45K, and 48. These authorities can provide helpful guidance under section 45Q.

In general, sections 45V and 45Z, and the regulations under section 45Q, define "facility" to include property that is necessary for production. This is consistent with the definition of the term "facility" in Rev. Rul. 94-31, 1994-1 C.B. 16, which defined the term "facility" for purposes of a wind facility and defined the property within the boundaries of the "facility" to be quite narrow. Rev. Rul. 94-31 ruled that "each wind turbine together with its tower and supporting pad . . . is a separate facility" and "[e]ach of these facilities is a qualified facility. . . ." Rev. Rul. 94-31 explains:

> A wind turbine together with its tower and supporting pad comprise *the property on the windfarm necessary for the production of electricity from wind energy*. Moreover, each wind turbine on the windfarm can be separately operated and metered and can begin producing electricity when it is mounted atop a tower. Thus, the term "facility" under section 45(c)(3) means the wind turbine, together with the tower on which the wind turbine is mounted and the pad on which the tower is situated. [Emphasis added.]

Although Rev. Rul. 94-31 specifically lists the balance of the plant and other property, it determined that only the specific property above was part of the "facility." Any transformers, collection system, substation or transmission equipment is not part of the production "facility."

The IRS reached a similar conclusion with respect to a biomass facility under section 45 and defined the "qualified facility" for production of electricity from open-loop biomass to not include "property used for the collection, processing, or storage of open-loop biomass before its
use in the production of electricity."[47] The IRS followed the same narrow definition of the term "facility" as related to synthetic fuel production under former section 29 and explained that "preparation equipment, feedstock and product conveyors, and storage tanks" are excluded from a facility.[48]

Treasury should include a disaggregation rule, allowing for the capture of qualified CO at separate process trains at an individual facility so that section 45Q and, if applicable, section 45V or section 45Z are allowable with respect to separate facilities that may be co-located. For example, a single industrial plant may include (1) a carbon capture process train independent from hydrogen production; (2) a carbon capture process train that is part of a blue hydrogen process that depends on carbon capture to meet section 45V's lifecycle greenhouse gas emission rate; and (3) an independent electrolytic hydrogen production train that is not dependent on carbon capture to meet section 45V's lifecycle greenhouse gas emission rate. The Carbon Capture Coalition believes that, as long as process trains are separate and otherwise satisfy the

---

[47] Section 3.01, IRS Notice 2006-88, 2006-2 CB 686.

[48] ILM 200347024 (Jan. 21, 2003).

requirements of section 45Q or 45V, such process trains could qualify under (1) section 45Q, (2) section 45Q or section 45V but not both, and (3) section 45V, respectively.

To provide sufficient taxpayer certainty, guidance should include an elective disaggregation safe harbor for multiple process trains at an individual facility. Such a safe harbor could require taxpayers to identify the separate process trains.

c. Annual Department of Energy Technical Review for Section 45Q Lifecycle Analysis

Section 45Q credits for utilization must be "based upon an analysis of lifecycle greenhouse gas emissions and subject to such requirements as the Secretary, in consultation with the Secretary of Energy and the Administrator of the Environmental Protection Agency, determines appropriate."[49] DOE is not required under statute to conduct a new review of an LCA report for each taxpayer for each taxable year.

However, the effect of current Treasury regulations and informal DOE guidance interpreting the LCA requirement for utilization is to require an annual approval process for the section 45Q credit, which creates a significant barrier for utilization technologies to benefit from the section 45Q tax credit. In particular, Treasury regulations require the pre-approval of an LCA prior to claiming the section 45Q credits for such taxable year.[50] It is not clear from the regulatory language whether this requires a one-time approval or an annual report and approval. However, DOE has further clarified that a new LCA report must be submitted for review for each taxable year, and that it must use actual data.[51] As a result, taxpayers lack certainty that they will qualify for the section 45Q credit at the time a project is placed in service. As tax equity investors and potential tax credit transferees under section 6418 require certainty to make needed investments in projects to generate tax credits, this process will likely severely limit investment in utilization projects.

The Carbon Capture Coalition recommends that Treasury issue guidance to eliminate the current pre-approval requirement in Treas. Reg. § 1.45Q-4(c)(6) and give taxpayers an option to obtain pre-approval of the LCA before claiming section 45Q credits. This option could use estimates of future data as inputs, giving taxpayers confidence in the soundness of the LCA methodology. This LCA methodology could then be applied each year using actual data in taxpayer returns, with any residual issues with the LCA addressed during audit. Audit review would then normally be limited to issues with input data.

Such an approach would limit the uncertainty associated with annual reviews of each taxpayer's entire LCA methodology, and limit impediments to taxpayers placing utilization projects into service.

---

[49] *See* section 45Q(f)(5)(B)(i).

[50] *See* Treas. Reg. § 1.45Q-4(c)(6).

[51] NETL 45Q Toolkit at § 2.1.6.3.

IRS should also work with DOE and EPA to identify circumstances in which updates to LCA methodology would be warranted, in the event that significant new information becomes available calling into question the validity of a taxpayer's previously-approved LCA methodology, and procedures for resubmission and approval of an updated LCA methodology.

The Carbon Capture Coalition looks forward to working with Treasury on these critical issues. If you have any questions regarding this submission, please contact me at jstolark@carboncapturecoalition.org.

Sincerely,

Jessie Stolark
Executive Director
Carbon Capture Coalition