



CC:PA:LPD:PR (<u>REG-112339-19</u>) Room 5203 Internal Revenue Service P.O. Box 7604 Ben Franklin Station Washington, D.C. 20044

RE: Request for Comments on Carbon Oxide Sequestration Tax Credit Under Section 45Q of the Internal Revenue Code

Dear Sir or Madam:

This letter is a response to the request for comments with respect to the proposed regulations under section 45Q.¹

We believe the final regulations should address the following four items:

- Clarify that a "fuel combustion source" need not result in electrical or mechanical power;²
- 2. "Carbon capture equipment" includes only equipment the primary purpose and function of which is to capture or process carbon oxide;³
- 3. "Carbon capture equipment" may be owned by a taxpayer other than the taxpayer that owns the "industrial facility" at which the carbon capture equipment is placed in service;⁴
- 4. Carbon oxide captured by multiple sites will be aggregated for purposes of applying the metric-ton thresholds in the proposed regulation 1.45Q-2(g)(1) if the units of carbon capture equipment at the sites are operated as part of a single program.

The rest of this letter addresses these issues in more detail.

¹ Unless otherwise noted, all references to "section" or "§" are to sections of the current Internal Revenue Code or the Treasury regulations thereunder.

² Prop. Reg. § 1.45Q-2(d).

³ Prop. Reg. § 1.45Q-2(c).

⁴ See generally Prop. Reg. § 1.45Q-2(d), (g).

I. About Republic Services, Inc.

Republic Services, Inc. ("Republic") operates in 41 states and Puerto Rico and is the second largest provider of non-hazardous solid waste collection, transfer, disposal, recycling and environmental services in the United States. As of December 31, 2019, Republic operated 189 active landfills, was engaged in 75 landfill gas-to-energy and renewable energy projects and had post-closure responsibility for 130 closed landfills.

Republic, as one of the largest companies in the municipal solid waste landfill (MSWL) industry, submits this letter to the Internal Revenue Service (IRS) to assist in the development of the final regulations pertaining to the application of the section 45Q tax credit to MSWLs. Availability of the section 45Q tax credit to Republic, and the MSWL industry generally, would incentivize the MSWL industry to reduce its emission of carbon oxide into the atmosphere.

Republic would like its operations to be eligible for the section 45Q tax credit to spur investment in new technologies that would reduce the environmental impact of its MSWLs.

II. <u>About Municipal Solid Waste Landfills</u>

Landfill gas is a byproduct of decomposing municipal solid waste (MSW) in landfills.⁵ Landfill gas consists of about 50 percent methane (CH₄), 50 percent carbon dioxide (CO₂) and small amounts of non-methane organic compounds (NMOCs) (referred together as Biogas).⁶ NMOCs are required by federal air regulations to be treated and neutralized.

Biogas produced in a landfill is withdrawn via a network of collection wells and interconnecting piping. In some cases, withdrawn biogas is flared. In other cases, the biogas is thermally combusted to produce electricity or can be purified and distributed as pipeline quality biomethane or used as a substitute for fossil fuels in industrial processes. In each of these cases, the CO_2 portion of the landfill gas and the additional CO_2 generated in the combustion of landfill gas is released into the atmosphere.

⁵ EPA, LANDFILL METHANE OUTREACH PROGRAM (LMOP): BASIC INFORMATION ABOUT LANDFILL GAS, https://www.epa.gov/lmop/basic-information-about-landfill-gas#:.

⁶ *Id*.

III. Technical Issues to be Addressed in the Final Regulations

To qualify for the carbon oxide sequestration tax credit, qualified carbon oxide must be captured using carbon capture equipment that is originally placed in service at a qualified facility.⁷

1. The Definition of the Industrial Facility Should Be Clarified

One of the specified types of a "qualified facility" is an "industrial facility."⁸ An industrial facility is a facility that "produces a carbon oxide stream from a fuel combustion source or fuel cell, a manufacturing process, or a fugitive carbon oxide emission source that, absent capture and disposal, would otherwise be released into the atmosphere as industrial emission of greenhouse gas or lead to such release."⁹

a. Biogas as Fuel for Combustion Source

Biogas may be flared to reduce NMOCs and CH_4 contained in Biogas is used as a fuel for combustion. Combustion results in CO_2 release into the atmosphere. Therefore, a flare at a facility that utilizes CH_4 as a fuel to combust regulated NMOCs contained in the Biogas should qualify as an industrial facility as a producer of a carbon oxide stream from a fuel combustion source. However, it is unclear whether at least one purpose of the combustion must be to produce electrical or mechanic power for a productive purpose for a flare to be treated as an industrial facility. We believe the answer is no — energy does not need to be produced.

As described above, a facility that produces a carbon oxide stream from a "manufacturing process" is another definition of an industrial facility. A manufacturing process is defined as the manufacture of products that are "intended to be sold at a profit, or are used for a commercial purpose." The tension between the "manufacturing process" and the "fuel combustion source" definitions of an industrial facility shows that it is inconsistent to infer that a facility producing carbon oxide from a fuel combustion source must also produce power for a productive purpose to qualify as an industrial facility. Otherwise, the definition of an industrial facility as a facility that produces carbon oxide from a fuel combustion source would be superfluous as the combustion would already be covered by the manufacturing process.

⁷ I.R.C. § 45Q(a).

⁸ I.R.C. § 45Q(d); Prop. Reg. § 1.45Q-2(g).

⁹ Prop. Reg. § 1.45Q-2(d).

¹⁰ Prop. Reg. § 1.45Q-2(d).

¹¹ Prop. Reg. § 1.45Q-2(d)(3).

¹² Prop. Reg. § 1.45Q-2(d)(3).

Therefore, the regulations should clarify that a facility producing a carbon oxide stream from a fuel combustion source does not need to generate electrical or mechanic power for productive use to qualify as an industrial facility.

b. Biogas Purified to Produce Biomethane

On certain MSWL sites, Biogas is purified to produce a biomethane product for sale and distribution in natural gas pipelines or as a substitute for fossil fuel. The process used to purify Biogas also results in the release of CO₂ into the atmosphere. The biomethane facility that uses equipment to separate and process Biogas to produce biomethane is equipment used in a "manufacturing process" since the biomethane is a product, other than carbon oxide, that is intended to be sold or used for commercial purposes. This biomethane facility meets the definition of an "industrial facility" because it produces a carbon oxide stream from a manufacturing process.

Additional equipment would need to be installed at the biomethane facility to capture the CO₂ released in connection with the production of biomethane would be "carbon capture equipment" because it is equipment used to separate and capture carbon oxide in a manner such that the carbon oxide is of suitable quality for transport, sequestration, and utilization, and the carbon oxide would otherwise be released into the atmosphere from an industrial facility.

Proposal

We suggest the following changes to be made to the definition of the industrial facility under the proposed regulations section 1.45Q-2(d).

First, the definition of an "industrial facility" under section 1.45Q-2(d) should be updated as follows:

An industrial facility is a facility that produces a carbon oxide stream from a fuel combustion source (whether or not the combustion generates mechanical or electrical power) or fuel cell, a manufacturing process, or a fugitive carbon oxide emission source that, absent capture and disposal, would otherwise be released into the atmosphere as industrial emission of greenhouse gas or lead to such release.

Second, the following example should be provided in the proposed regulation section 1.45Q-2(d)(4):

Taxpayer A owns a landfill gas collection system that collects gas that is comprised of methane, carbon dioxide

and non-methane organic compounds (NMOCs). The gas has previously been combusted in a flare to thermally destroy NMOCs, combusted in a turbine or engine to thermally destroy NMOCs and turn a generator to produce electricity, and the carbon dioxide produced by combustion has been released into the atmosphere. Taxpayer B is unrelated to Taxpayer A and invests in new carbon capture equipment to capture the carbon dioxide after combustion (in a flare or engine/turbine directlycoupled generator). The flare engine/turbine/generator are industrial facilities as fuel combustion sources. Only the new equipment that separates or otherwise captures the carbon dioxide and processes it is carbon capture equipment.

Third, the following example should be provided as an alternative example to a manufacturing process that qualifies as an industrial facility in the proposed regulation section 1.45Q-2(d)(4)(i):

Taxpayer B owns a landfill gas collection system that collects gas that is comprised of methane, carbon dioxide and non-methane organic compounds (NMOCs). Taxpayer B sells the landfill gas to a processing facility owned by Taxpayer C, an unrelated party, to produce a biomethane product. As part of Taxpayer C's process, carbon dioxide is emitted into the atmosphere. Taxpaver B installs additional equipment to capture the carbon dioxide emitted by Taxpayer C's gas processing facility. Taxpayer C enters into contracts for the delivery of biomethane to a natural gas pipeline and the sale of biomethane to third party purchasers. Taxpayer C constructs process equipment that separates the carbon dioxide in connection with the production of biomethane. Because carbon dioxide is not the only product manufactured that is intended to be sold at a profit or used for a commercial purpose, the separation process applied to the gases is a manufacturing process within the meaning of paragraph (d)(3). Because the carbon dioxide stream is produced from a manufacturing process, the equipment that processes biogas to produce biomethane is an industrial facility within the meaning of paragraph (d). Because Taxpayer B captures the carbon dioxide, Taxpayer B is eligible to claim a carbon capture credit.

2. Carbon Capture Equipment Should Only Include Equipment the Primary Purpose of which is to Capture Carbon Oxide

The proposed regulations define "carbon capture equipment" as equipment that is used "to capture or process carbon oxide until the carbon oxide is transported for disposal, injection, or utilization." One of the three uses of carbon capture equipment is "[s]eparating, purifying, drying, and/or capturing carbon oxide that would otherwise be released into the atmosphere from an industrial facility." Carbon capture equipment that contains used components only qualifies for the section 45Q tax credit if the fair market value of the used components of the equipment is not more than 20 percent of the carbon capture equipment's total value ("80/20 Test"). Therefore, equipment that captures carbon oxide that would otherwise be released into the atmosphere but fails to satisfy the 80/20 Test is not eligible for the section 45Q tax credit, unless it was possible to prove the equipment qualified for the section 45Q tax credit at the lower level, which is available to carbon capture equipment placed in service prior to the enactment of the Bipartisan Budget Act of 2018.

Large MSWLs collect gas from landfills and transfer it to a centralized location to combust NMOCs. Equipment that is used by MSWLs to extract landfill gas out of the landfill collects CO_2 along with NMOCs. At that stage, equipment does not separate CO_2 from other gasses. Once the gas is combusted, CO_2 is generally released into the atmosphere. To capture CO_2 , as opposed to releasing the gas into the atmosphere, facilities need to install additional equipment following the point of combustion. This equipment is independent from the landfill gas collection system and serves the sole purpose of capturing and preparing carbon dioxide CO_2 for further transportation for disposal, injection or utilization.

Applying the definition of carbon capture equipment to MSWLs, it could be argued that equipment that is used to collect landfill gas could be considered carbon capture equipment because it collects CO_2 even though the CO_2 is later released into the atmosphere when NMOCs are combusted. The issue with treating the landfill gas collecting equipment as carbon capture equipment is that the 80/20 Test would unlikely be satisfied. The fair market value of equipment that collects NMOCs is likely much greater than 20 percent of the total value of the carbon capture equipment, including newly installed equipment to capture CO_2 at the point of combustion. Therefore, most MSWLs would be ineligible for the section 45Q tax credit, unless it was possible to prove the equipment qualified for the section 45Q tax credit at the

¹³ Prop. Reg. § 1.45Q-2(c).

¹⁴ Prop. Reg. § 1.45Q-2(c)(1) (emphasis added).

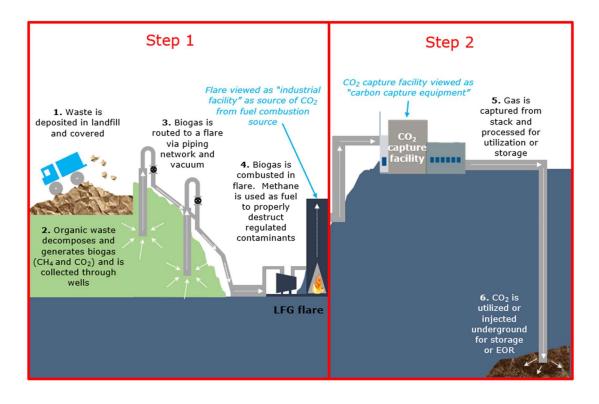
¹⁵ Prop. Reg. § 1.45Q-2(g)(5).

¹⁶ See I.R.C. §45Q(a)(2).

lower level, which is available to carbon capture equipment placed in service prior to the enactment of the Bipartisan Budget Act of 2018.¹⁷

In the context of a biogas processing facility, carbon capture equipment should be limited to the additional equipment installed to capture CO_2 released in connection with the production of biomethane. The current primary purpose of biogas processing facilities is to separate and capture CH_4 (biomethane) for utilization. The current biogas processing facility removes other constituents, further treats the constituents to render them safe for emission or disposal and emits all of the carbon dioxide from the process. The primary purpose of the proposed carbon capture equipment is to further separate and capture CO_2 in a manner such that the carbon oxide is of suitable quality for transport, disposal, and utilization, and reduce or eliminate the carbon oxide that would otherwise be released into the atmosphere. Carbon capture equipment should not include equipment upstream from the CO_2 separation equipment nor the equipment used to process the biomethane downstream from the CO_2 separation equipment as that equipment is primarily for the purpose of creating biomethane.

We propose only additional equipment, installed with the primary purpose to separate and capture CO2 in a manner such that the carbon oxide is of suitable quality for transport, disposal, and utilization, be treated as carbon capture equipment, as presented on the diagram below.



¹⁷ See I.R.C. §45Q(a)(2).

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Consequently, the 80/20 Test would be applied at Step 2. This interpretation of the definition of carbon capture equipment is reasonable as it considers the equipment that is used to capture, as opposed to incidentally collect, carbon oxide. Rather than treating all equipment that is capable of collecting carbon oxide as carbon capture equipment, it is more meaningful to treat equipment the primary purpose and function of which is to separate and capture carbon oxide for transport, disposal, or utilization.

<u>Proposal</u>

We propose the definition of carbon capture equipment under the proposed regulations section 1.45Q-2(c) to be updated as follows:

In general, carbon capture equipment includes all components of property the primary purpose and function of which is to capture or process carbon oxide as described in paragraph (c)(1) of this section until the carbon oxide is transported for disposal, injection, or utilization.

3. Carbon Capture Equipment May Be Owned by a Taxpayer other than a Taxpayer who owns the Industrial Facility

The proposed regulations are silent as to whether a qualified facility and carbon capture equipment that was placed in service at that facility must be owned by the same taxpayer. We believe the answer should be no.

By expressly permitting two different taxpayers to own a qualified facility and carbon capture equipment, the proposed regulations would provide certainty and encourage tax equity investment in carbon capture equipment.

This clarification is consistent with section 45Q(f)(3)(A) which provides the tax credit is attributable to the person that uses carbon capture equipment and does not reference the ownership of the qualified facility.

It is also consistent with the example in section 9.03 of Notice 2020-12 in which different taxpayers own the carbon capture equipment and the industrial facility.

Proposal

A new paragraph 1.45Q-2(c)(4) should be added to provide the following:

Carbon capture equipment may be owned by a taxpayer other than the taxpayer that owns the industrial facility

at which the carbon capture equipment is placed in service.

4. Carbon Oxide Captured by Multiple Sites Should Be Aggregated If the Units of Carbon Capture Equipment at the Sites Are Operated as Part of a Single Program.

Under the proposed regulation section 1.45Q-2(g)(1), a facility must emit and capture certain amounts of carbon oxide to be deemed a "qualified facility" ("Emissions and Capture Requirements").

Although there are about 2,600 MSWLs in the United States, there are only a handful of businesses that own and operate the landfills. Often, each landfill is owned by a separate corporation due to the high risk of premises liability and environmental impairment exposure. These corporations file a consolidated income tax return as an affiliated group within the meaning of section 1504. Therefore, even if a small MSWL does not satisfy the Emissions and Capture Requirements under the proposed regulations section 1.45Q-2(g)(1), it does not mean the enterprise as a whole releases a de minimis amount of carbon oxide into the atmosphere. In fact, with respect to each of the major owners, a group of small MSWLs that is operated as a single venture and run by the parent would satisfy the Emissions and Capture Requirements with ease.

Considering the intent of section 45Q is to limit the escape of carbon oxide into the atmosphere or underground sources of drinking water and Congress has been making attempts to ensure the tax credit is flexible and certain for investors, ¹⁹ it seems inconsistent with the legislative intent to exclude small sites that are operated as a single facility from qualifying for the tax credit. Instead, it seems reasonable to apply the Emissions and Capture Requirements test at the "single program" level. Factors similar to the ones applied for purposes of the "beginning of construction" determination under the proposed regulations section 1.45Q-2(c)(3), citing Notice 2020-12, could be adopted.²⁰

Applying the single project approach to multiple sites or units of equipment for purposes of qualifying for tax credits is a well-accepted approach. Under the guidance issued pursuant to Section 1603 of the American Recovery and Reinvestment Tax Act of 2009, to qualify for a cash grant in lieu of tax credits multiple renewable energy sites that are operated as part of a single project could be treated as a single facility

¹⁸ Per the Environmental Protection Agency, there are 2,627 landfills in various stages such as planning, under-construction, operational and shutdown as of March 2020. *See* EPA, LANDFILL METHANE OUTREACH PROGRAM (LMOP): PROJECT AND LANDFILL DATA BY STATE, https://www.epa.gov/lmop/project-and-landfill-data-state.

¹⁹ See e.g., 154 CONG. REC. S10251 (daily ed. Oct. 1, 2008) (statement of Rep. Boxer).

²⁰ Notice 2020-12, 2020-11 I.R.B. 495.

for purposes of determining when each site began construction. Additionally, for purposes of the phase-out of tax credits under sections 45 and 48, multiple sites that are operated as a single project can be aggregated. Importantly, Congress amended the Code multiple times since the American Recovery and Reinvestment Tax Act became law in 2009 without objecting the single project aggregation method. Accordingly, it should be concluded that Treasury and the IRS have authority to apply the Emissions and Capture Requirements to multiple sites that constitute a single project.

Notice 2020-12 permits aggregation of multiple sites or units of carbon capture equipment that are operated as a "single project" for purposes of determining when construction of a facility begun.²³ Factors indicating that sites are operated as a single project listed in Notice 2020-12 provide a helpful start for determining whether multiple landfills are operated under a single program.²⁴ However, not all of the beginning of construction factors are readily applied to multiple MSWL sites and should be modified for this purpose.

Proposal

We propose a new paragraph 1.45Q-2(g)(2) should be added to provide the following:

The carbon oxide captured by multiple sites will be aggregated for purposes of applying the metric-ton thresholds in paragraph (g)(1) of this section if the units of carbon capture equipment at the sites are operated as part of a single program. Whether units of carbon capture equipment are operated as part of a single program will depend on the relevant facts and circumstances.

Factors indicating that units of carbon capture equipment are operated as part of a single program include, but are not limited to:

- (a) the units of carbon capture equipment are owned by the same legal entity;
- (b) the units of carbon capture equipment are under common management or operational control;

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²¹ See U.S. TREASURY DEP'T, OFFICE OF FISCAL ASSISTANT SEC'Y, PAYMENTS FOR SPECIFIED ENERGY PROPERTY IN LIEU OF TAX Credits UNDER THE AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009 at § IV.D. (July 2009).

²² See American Taxpayer Relief Act of 2012, Pub. L. No. 112-240, 126 Stat. 2313. See also, Notice 2013-29, 2013-20 I.R.B. 1085, at § 4.04(2); Notice 2018-59, 2018-28 I.R.B. 196, at § 7.01(2).

²³ Notice 2020-12, 2020-11 I.R.B. 495, at § 8.01.

²⁴ Id.

- (c) the units of carbon capture equipment are operated under similar operations and maintenance protocols established by the owner of the equipment, taking into account differences attributable in resource utilization and expected use of captured carbon oxides;
- (d) the carbon oxide captured with the units of carbon capture equipment is transported, disposed of, utilized, or used as a tertiary injectant pursuant to a shared contract;
- (e) the units of carbon capture equipment are constructed pursuant to a single contract providing Front-End Engineering and Design (FEED) or similar services covering the full scope of the single program;
- (f) the units of carbon capture equipment are constructed pursuant to a single master construction contract; and
- (g) if there is debt financing for the construction of any unit of carbon capture equipment, the construction of all of the units of carbon capture equipment is financed pursuant to a single loan agreement.
- 5. An <u>Alternative</u> Approach to Aggregation of Carbon Oxide Captured by Multiple Sites

Alternatively, the Emissions and Capture Requirements test could be applied at the taxpayer level and treat an affiliated group within the meaning of section 1504 as a single taxpayer.

Applying the Emissions and Capture Requirements test at the taxpayer, rather than the facility level, does not put additional administrative burden on the IRS. Presumably, one of the reasons Congress excluded facilities that emit small amounts of carbon oxide from the scope of the section 45Q tax credit was to ensure that the administration of the tax credit is not overly burdensome. For instance, it could be problematic if numerous sites owned by numerous taxpayers that each claimed relatively small amounts of section 45Q tax credits as it would be inefficient for the IRS to conduct meaningful audits of the tax credits.

Allowing multiple sites filing a consolidated tax return to claim the tax credit does not disrupt the legislative intent. As discussed above, the number of businesses that own and operate landfills is fairly small. Thus, the number of tax returns claiming the section 45Q tax credit would not materially increase as the result of the

proposed regulations permitting aggregation of the carbon oxide captured by multiple sites that are owned by a single taxpayer for purposes of satisfying the Emissions and Capture Requirements test.

A similar approach is utilized by other regulations governing tax credits. For example, regulation section 1.1502-3 applies tax credit concepts on an affiliated group basis. For instance, the general business credit limitation in section 38(c)(1) is applied at the affiliated group level. Additionally, a sale of property between members of the same affiliated group does not alter the basis of the property for investment tax credit purposes. Finally, the transfer of property between members of an affiliated group does not result in investment tax credit recapture. If regulations can provide that a sale of investment tax credit property between two corporations does not result in recapture if the corporations are members of the same affiliated group, then regulations should be able to provide that the Emissions and Capture Requirements are applied on an affiliated group basis.

Further, the affiliated group final tax credit regulations were generally effective on May 25, 2020 and in the last twenty years tax credit provisions of the Code have been amended many times by Congress without any objection to the regulations applying the statutory tax credit rules on an affiliated group basis. Accordingly, it should be concluded that Treasury and the IRS have authority to apply the Emissions and Capture Requirements to affiliated groups on a combined basis.

Therefore, we propose the Emissions and Capture Requirements to be applied at the taxpayer level and treat an affiliated group within the meaning of section 1504 as a single taxpayer.

Proposal

We propose the following changes to be made to the Emissions and Capture Requirements under the proposed regulations section 1.45Q-2(g)(1).

First, a new paragraph 1.45Q-2(g)(2) should be added to provide the following:

The carbon oxide captured by multiple sites that are owned by a single taxpayer (treating corporations that are members of the same affiliated group, within the meaning of section 1504, as a single taxpayer) may be aggregated for purposes of applying the metric-ton thresholds in paragraph (g)(1) of this section.

²⁵ Treas. Reg. §1.1502-3(a)(3).

²⁶ Treas. Reg. §1.1502-3(g)(2).

²⁷ Treas. Reg. §1.1502-3(f).

Second, the following example should be provided in the proposed regulation section 1.45Q-2(g) as example (iv):

During the taxable year, two corporations that join in filing a consolidated federal income tax return or two entities that are disregarded subsidiaries of a common parent corporation or partnership each own a site that would emit carbon dioxide into the atmosphere absent carbon capture and disposal. Each site could capture 55,000 metric tons of carbon dioxide. Neither of the sites is a Section 45Q(d)(2)(A) facility or an electricity generating facility. The sites are treated as a single facility that is described in Section 45Q(d)(2)(C) for purposes of applying the metric-ton thresholds for disposal in paragraph (g)(1) of this section.

We appreciate the opportunity to provide these comments to the proposed regulations under section 45Q. Please do not hesitate to ask if you have questions or we can otherwise further clarify any concepts discussed in this letter..

Sincerely,

Lawrence Focazio Vice President, Taxes

cc: Maggie Stehn, Esq. and David Selig, Esq.

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