

Part III – Administrative, Procedural, and Miscellaneous

Section 45Z Clean Fuel Production Credit; Registration

Notice 2024-49

SECTION 1. PURPOSE

This notice provides guidance on the registration requirements for the clean fuel production credit determined under § 45Z of the Internal Revenue Code (§ 45Z credit).¹ A taxpayer must have a signed registration letter from the Internal Revenue Service (IRS) dated on or before January 1, 2025, for the taxpayer to be eligible to claim the § 45Z credit for production starting January 1, 2025. Thus, taxpayers should apply for registration as soon as possible to give the IRS sufficient time to process registration applications. See section 4.01(2) of this notice for additional information. The Department of the Treasury (Treasury Department) and the IRS intend to issue additional guidance on other aspects of the § 45Z credit at a later date.

SECTION 2. OVERVIEW AND BACKGROUND OF THE § 45Z CREDIT

.01 Section 45Z generally. Section 13704 of Public Law 117-169, 136 Stat. 1818 (August 16, 2022), commonly known as the Inflation Reduction Act of 2022 (IRA), added § 45Z and amended §§ 38(b) and 4101(a),² enacting the § 45Z credit for

¹ Unless otherwise specified, all references to “section” or “§” are references to sections of the Internal Revenue Code.

² Under section 13704(c) of the IRA, these amendments apply to transportation fuel produced after December 31, 2024. See also footnote 4.

transportation fuel produced in the United States by the taxpayer at a qualified facility after December 31, 2024, and sold by the taxpayer to an unrelated person in a manner described in § 45Z(a)(4) during the taxable year. For purposes of § 38, the § 45Z credit is an amount equal to the product of (A) the applicable amount per gallon (or gallon equivalent) with respect to any transportation fuel which is produced by the taxpayer at a qualified facility and sold in the manner described in § 45Z(a)(4) during the taxable year and (B) the emissions factor for such fuel as determined under § 45Z(b). See § 45Z(a)(1).

.02 Applicable amounts, emissions factors, emissions rates, and provisional emissions rates. Section 45Z(a)(2) and (3) provides the applicable amounts for transportation fuels. Section 45Z(b) generally provides the rules for emissions factors for transportation fuels used to calculate the amount of the § 45Z credit. Section 45Z(b)(1)(A) provides the rules for calculating the emissions factor for a transportation fuel by using the emissions rate for such fuel.

Section 45Z(b)(1)(B)(i) directs the Secretary of the Treasury or her delegate (Secretary), subject to § 45Z(b)(1)(B)(ii) and (iii), to publish annually a table that sets forth the emissions rate for similar types and categories of transportation fuels based on the amount of lifecycle greenhouse gas emissions as described in § 211(o)(1)(H) of the Clean Air Act (CAA) (42 U.S.C. 7545(o)(1)(H)), as in effect on August 16, 2022 (emissions rate table).

Section 45Z(b)(1)(B)(ii) provides that in the case of any transportation fuel that is not a sustainable aviation fuel (non-SAF transportation fuel), the lifecycle greenhouse gas emissions of such fuel is based on the most recent determinations under the

Greenhouse gases, Regulated Emissions, and Energy use in Transportation model developed by the Argonne National Laboratory,³ or a successor model (as determined by the Secretary).

Section 45Z(b)(1)(B)(iii) provides that in the case of any transportation fuel that is a sustainable aviation fuel (SAF), the lifecycle greenhouse gas emissions of such fuel is determined in accordance with (I) the most recent Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) which has been adopted by the International Civil Aviation Organization with the agreement of the United States, or (II) any similar methodology which satisfies the criteria under § 211(o)(1)(H) of the CAA, as in effect on August 16, 2022.

Section 45Z(b)(1)(D) provides that in the case of any transportation fuel for which an emissions rate has not been established under § 45Z(b)(1)(B), a taxpayer producing such fuel may file a petition with the Secretary for determination of the emissions rate with respect to such fuel (provisional emissions rate). The Treasury Department and the IRS will provide guidance regarding the emissions rate table and provisional emissions rate petition procedures at a later time.

.03 Registration and unrelated party certification requirements. Section 45Z(f)(1) generally provides that only registered production in the United States is taken into account for the § 45Z credit. Section 45Z(f)(1)(B) provides that, for purposes of § 45Z(f)(1), the term “United States” includes any territory of the United States.

Section 45Z(f)(1)(A)(i) provides that no § 45Z credit will be determined with

³ Section 45Z(b)(1)(B)(ii) refers to “the Greenhouse gases, Regulated Emissions, and Energy use in Transportation model developed by Argonne National Laboratory.” The name of that model was changed to “Greenhouse gases, Regulated Emissions, and Energy use in Technologies,” and as of December 2023, it is generally referred to as “R&D GREET.”

respect to any transportation fuel unless the taxpayer (1) is registered as a producer of clean fuel under § 4101 at the time of production, and (2) in the case of any SAF, provides (A) certification (in such form and manner as the Secretary prescribes) from an unrelated party demonstrating compliance with any general requirements, supply chain traceability requirements, and information transmission requirements established under the CORSIA described in § 45Z(b)(1)(B)(iii)(I), or in the case of any methodology described in § 45Z(b)(1)(B)(iii)(II), requirements similar to the requirements described in § 45Z(f)(1)(A)(i)(II)(aa)(AA), and (B) such other information with respect to such fuel as the Secretary may require for purposes of carrying out § 45Z.

The unrelated party certification required under § 45Z(f)(1)(A)(i)(II)(aa) is required as part of a claim for the § 45Z credit for the production and sale of SAF. The Treasury Department and the IRS will provide guidance regarding unrelated party certification for claims for the § 45Z credit at a later time.

SECTION 3. DEFINITIONS

.01 In general. This section provides definitions that apply for purposes of this notice. Section 3.02 of this notice provides generally applicable definitions. Section 3.03 of this notice provides definitions related to non-SAF transportation fuel. Section 3.04 of this notice provides definitions related to SAF.

.02 Generally applicable definitions.

(1) Applicable material. Section 45Z(d)(5)(B)(i) defines the term “applicable material” to mean (I) monoglycerides, diglycerides, and triglycerides, (II) free fatty acids, and (III) fatty acid esters.

(2) ASTM or ASTM International. References in this notice to “ASTM” or “ASTM

International” are references to specifications published by ASTM International (formerly ASTM). Additional information about ASTM International is available at <https://www.astm.org>.

(3) Biomass. Section 45Z(d)(5)(B)(ii) gives the term “biomass” the same meaning given such term in § 45K(c)(3). Section 45K(c)(3) defines the term “biomass” to mean any organic material other than (A) oil and natural gas (or any product thereof), and (B) coal (including lignite) or any product thereof.

(4) CO₂e. Section 45Z(d)(2) defines the term “CO₂e” to mean, with respect to any greenhouse gas, the equivalent carbon dioxide (as determined based on relative global warming potential).

(5) Greenhouse gas. Section 45Z(d)(3) gives the term “greenhouse gas” the same meaning given that term under section 211(o)(1)(G) of the CAA, as in effect on August 16, 2022.

(6) mmBTU. Section 45Z(d)(1) defines the term “mmBTU” to mean 1,000,000 British thermal units.

(7) Qualified facility. Under § 45Z(d)(4), the term “qualified facility” means a facility used for the production of transportation fuels, and does not include any facility for which one of the following credits is allowed under § 38 for the taxable year: (i) the credit for production of clean hydrogen under § 45V, (ii) the credit determined under § 46 to the extent that such credit is attributable to the energy credit determined under § 48 with respect to any specified clean hydrogen production facility for which an election is made under § 48(a)(15), and (iii) the credit for carbon oxide sequestration under § 45Q.

(8) Sale. Under § 45Z(a)(1)(A)(ii) and (a)(4), a sale for purposes of the § 45Z credit occurs when the transportation fuel is sold by the taxpayer to an unrelated person (A) for use by such person in the production of a fuel mixture, (B) for use by such person in a trade or business, or (C) who sells such fuel at retail to another person and places such fuel in the fuel tank of such other person.

(9) Transportation fuel. Section 45Z(d)(5)(A) defines the term “transportation fuel” to mean a fuel which (i) is suitable for use in a highway vehicle or aircraft, (ii) has an emissions rate which is not greater than 50 kilograms of CO₂e per mmBTU, and (iii) is not derived from co-processing an applicable material (or materials derived from an applicable material) with a feedstock which is not biomass. The term “transportation fuel” includes non-SAF transportation fuel and SAF.

.03 Definitions applicable to non-SAF transportation fuels.

(1) Low-GHG biodiesel. The term “low-GHG biodiesel” means the monoalkyl esters of long chain fatty acids that meet the specifications of ASTM International D6751 and that have an emissions rate that is not greater than 50 kg of CO₂e per mmBTU.

(2) Low-GHG butanol. The term “low-GHG butanol” means any mixture of n-butyl, sec-butyl, and iso-butyl alcohols that meets the specifications of ASTM International D7862 and that has an emissions rate that is not greater than 50 kg of CO₂e per mmBTU.

(3) Low-GHG diesel fuel. The term “low-GHG diesel fuel” means liquid fuel, including renewable diesel, that meets the specifications of ASTM International D975 and that has an emissions rate that is not greater than 50 kg of CO₂e per mmBTU.

(4) Low-GHG dimethyl ether. The term “low-GHG dimethyl ether,” which includes renewable dimethyl ether, means a gaseous fuel that meets the specifications of ASTM International D7901 and that has an emissions rate that is not greater than 50 kg of CO₂e per mmBTU.

(5) Low-GHG ethanol. The term “low-GHG ethanol” means ethyl alcohol that is a liquid fuel that meets the specifications of ASTM International D4806 for denatured fuel ethanol for blending with gasolines and that has an emissions rate that is not greater than 50 kg of CO₂e per mmBTU.

(6) Low-GHG gasoline. The term “low-GHG gasoline,” which includes renewable gasoline, means liquid fuel that meets the specifications of ASTM International D4814 and has an emissions rate that is not greater than 50 kg of CO₂e per mmBTU.

(7) Low-GHG hydrogen. The term “low-GHG hydrogen” means any gaseous or liquid fuel that meets the requirements of the Society of Automotive Engineers (SAE) J2719 standard and that has an emissions rate that is not greater than 50 kg of CO₂e per mmBTU. Information about SAE standards is available at <https://www.sae.org/standards>.

(8) Low-GHG liquefied petroleum gas (LPG). The term “low-GHG LPG,” which includes low-GHG propane, means low-GHG liquefied gases that meet the specifications of ASTM International D1835 and that has an emissions rate that is not greater than 50 kg of CO₂e per mmBTU.

(9) Low-GHG methanol. The term “low-GHG methanol” means a methyl alcohol that is a liquid fuel that meets the specifications of ASTM International D5797 and that has an emissions rate that is not greater than 50 kg of CO₂e per mmBTU.

(10) Low-GHG natural gas. The term “low-GHG natural gas,” which includes renewable natural gas, means compressed or liquefied gas that meets the specifications of ASTM International D8080-21 and that has an emissions rate that is not greater than 50 kg of CO₂e per mmBTU.

.04 Definitions applicable to SAF.

(1) General definitions.

(a) SAF or sustainable aviation fuel. Section 45Z(a)(3)(B) defines the term “sustainable aviation fuel” to mean the portion of liquid fuel that is not kerosene that is sold for use in an aircraft and (i) meets the requirements of either (I) ASTM International D7566 (further defined in section 3.04(2)(a) of this notice to mean the ASTM D7566 Annexes), or (II) the Fischer Tropsch provisions of ASTM D1655 Annex A1 (further defined in section 3.04(2)(b) of this notice to mean ASTM D1655 Annex A1 section A1.2.2.2); and (ii) is not derived from palm fatty acid distillates or petroleum. For purposes of the § 45Z credit, SAF is a type of transportation fuel that must also meet the requirements of § 45Z(d)(5)(A). A liquid fuel that meets the specifications of one of the ASTM D7566 Annexes or meets the specifications of ASTM D1655 Annex A1, but does not meet the requirements of § 45Z(d)(5)(A), is not SAF and is therefore ineligible for the § 45Z credit.

For purposes of the § 45Z credit, SAF may be categorized as either (A) a liquid fuel that meets the specifications of one of the ASTM D7566 Annexes (SAF synthetic blending component), or (B) a co-processed liquid fuel that was produced by co-processing petroleum with synthesized hydrocarbons derived from synthesis gas via the Fischer Tropsch process (FT hydrocarbons).

(b) SAF FT hydrocarbons. The term “SAF FT hydrocarbons” means the FT hydrocarbons that are derived from biomass, used to produce jet fuel described in section A1.2.2.2 of ASTM D1655 Annex A1, and not derived from palm fatty acid distillates or petroleum. See section 3.04(2)(b) of this notice.

(2) Definitions related to ASTM International specifications for SAF.

(a) ASTM D7566 Annexes. The term “ASTM D7566 Annexes” means any of the annexes in ASTM D7566 that provide the specifications for a pathway to create a synthetic blending component that can be blended with ASTM D1655 kerosene (as defined in section 3.04(2)(c) of this notice).

(b) ASTM D1655 Annex A1. The term “ASTM D1655 Annex A1” means the Fischer Tropsch provisions of ASTM D1655 Annex A1 that are contained in section A1.2.2.2, which provides a pathway for co-processing up to five percent of FT hydrocarbons with petroleum to make a liquid fuel that qualifies as jet fuel. For purposes of this definition, the term “petroleum” includes any conventionally sourced hydrocarbons permitted under ASTM D1655 Annex A1.

Liquid fuel produced under section A1.2.2.1 does not qualify for the § 45Z credit because section A1.2.2.1 defines a pathway for producing a liquid fuel from co-processing an applicable material (or materials derived from an applicable material) with a feedstock that is not biomass (for example, petroleum), which § 45Z(d)(5)(A)(iii) excludes from the § 45Z credit. See section 3.02 of this notice.

(c) ASTM D1655 kerosene and ASTM D1655 compliant SAF. The term “ASTM D1655 kerosene” means petroleum-based kerosene that meets the specifications set forth in ASTM D1655 and does not include liquid fuel co-processed with FT

hydrocarbons or the addition of a SAF synthetic blending component.

The term “ASTM D1655 compliant SAF” means ASTM D1655 kerosene that has been blended with a SAF synthetic blending component described in a specific ASTM D7566 Annex and meets the batch specifications described in ASTM D7566, Table 1. It also means kerosene produced by co-processing SAF FT hydrocarbons with petroleum under ASTM D1655 Annex A1. Once the mixture meets those batch specifications or is produced under ASTM D1655 Annex A1, the mixture may be regarded as jet fuel under ASTM D1655. ASTM D1655 compliant SAF is fully fungible with ASTM D1655 kerosene.

The terms “ASTM D1655 kerosene” and “ASTM D1655 compliant SAF” are not ASTM designations, but rather are used in this notice to distinguish between two types of fuel (for federal tax purposes) that qualify as jet fuel under the ASTM D1655 specifications for jet fuel.

(d) ASTM International D7566. The term “ASTM International D7566” means the batch specifications set forth under ASTM D7566, Table 1, which includes the blending requirements for each synthetic blending component and the overall specifications and requirements for the blended mixture to be regarded as ASTM D1655 compliant SAF. Blending percentage requirements for various synthetic blending components with ASTM D1655 kerosene are listed in section 6 of ASTM D7566 and range from 10 to 50 percent.

SECTION 4. REGISTRATION AS A PRODUCER OF CLEAN FUEL

.01 Registration generally.

(1) Statutory registration requirement. Section 45Z(f)(1)(A)(i)(I) provides that no clean fuel production credit can be determined under § 45Z(a) with respect to any transportation fuel unless the taxpayer is registered as a producer of clean fuel under § 4101 at the time of production.⁴ See § 48.4101-1 of the Manufacturers and Retailers Excise Tax Regulations for rules relating to registration under § 4101.⁵

(2) Registration letter; timing of applications for registration. A person is registered for purposes of § 45Z(f)(1)(A)(i)(I) only if the IRS has issued a registration letter to the person and the registration has not been revoked or suspended. To be eligible to claim the § 45Z credit for production starting January 1, 2025, a taxpayer must have a signed registration letter dated on or before January 1, 2025. For example, if a taxpayer receives a letter of registration dated June 30, 2025, the taxpayer cannot claim the § 45Z credit for any transportation fuel produced and sold by the taxpayer before June 30, 2025, even if all other statutory requirements for the § 45Z credit are satisfied prior to that date. That taxpayer can only claim the § 45Z credit for transportation fuel produced and sold on or after June 30, 2025.

⁴ Section 45Z(f)(1)(A)(i)(I) provides that “[n]o clean fuel production credit shall be determined under [§ 45Z](a) with respect to any transportation fuel unless the taxpayer is registered as a producer of clean fuel under § 4101 at the time of production,...”. Section 13704(b)(5) of the IRA provided that for transportation fuel produced after December 31, 2024, “Section 4101(a)(1), as amended by the preceding provisions of this Act, is amended by inserting the phrase ‘every person producing a fuel eligible for the clean fuel production credit (pursuant to section 45Z)’ after ‘section 6426(k)(3)).’” However, § 4101(a)(1) does not reference § 6426(k)(3). The Office of Law Revision Counsel of the U.S. House of Representatives, whose functions include preparing and publishing periodically a new edition of the United States Code, executed the provision by making the insertion after “section 40B,” to reflect the probable intent of Congress.

⁵ The Treasury Department and the IRS intend to update the regulations under § 4101 to reflect the registration requirement in § 45Z(f)(1)(A)(i)(I).

Given the requirement that a taxpayer must be registered at the time of production to claim the § 45Z credit, taxpayers are encouraged to apply for registration as soon as possible to give the IRS sufficient time to process registration applications for the § 45Z credit. The IRS intends to process completed applications for registration received by July 15, 2024, such that an eligible taxpayer can receive its letter of registration by January 1, 2025. The IRS intends to quickly process applications received after July 15, 2024, but cautions that a taxpayer that applies for registration after that date is less likely to receive its registration by January 1, 2025. In no event can the IRS guarantee that any application for registration will be processed by a certain date.

(3) Effect of registration letter. Registration is one of the requirements for a taxpayer to be eligible to claim the § 45Z credit. The taxpayer and the fuel(s) that the taxpayer produces must also meet the other § 45Z requirements for the taxpayer to be eligible to claim the § 45Z credit. A registration letter is not a determination by the IRS that the registrant may claim the § 45Z credit. For example, a registration for Activity Letter “CN” issued to a taxpayer producing biodiesel is not a determination that the biodiesel meets the definition of transportation fuel under § 45Z(d)(5) or that the facility where the taxpayer produces such biodiesel meets the definition of a qualified facility under § 45Z(d)(4).

(4) Procedures and information for registering generally. Application for registration is made on Form 637, “Application for Registration (for Certain Excise Tax Activities),” under Activity Letter “CN” (for a producer of non-SAF transportation fuel), or Activity Letter “CA” (for a producer of SAF), or both, in accordance with the instructions

for that form. The IRS is revising Form 637 to add Activity Letters “CN” and “CA.” An applicant may apply for registration under more than one Activity Letter on a single Form 637.

Until the revised Form 637 is released, applicants may use the current Form 637 by writing in Activity Letter “CN” or Activity Letter “CA,” or both, as applicable, and providing the corresponding information required by section 4.02 and 4.03 of this notice.

(5) Transportation fuel; feedstocks; co-processor registration. The information in this section 4.01(5) and Appendix A is provided solely for purposes of applications for registration and is not determinative of whether a fuel is transportation fuel.

Qualification of a fuel as transportation fuel depends on the specific facts and circumstances, including the emissions rate of such fuel.

(A) Non-SAF transportation fuel. In consultation with the Department of Energy (DOE), the Treasury Department and the IRS anticipate that low-GHG biodiesel, low-GHG butanol, low-GHG diesel fuel, low-GHG dimethyl ether, low-GHG ethanol, low-GHG gasoline, low-GHG hydrogen, low-GHG LPG, low-GHG methanol, and low-GHG natural gas may qualify as non-SAF transportation fuel taking into consideration the emissions rate threshold in § 45Z(d)(5)(A)(ii). See section 3.03 of this notice for definitions of these types of fuel. Most fuels derived from palm fatty acid distillates, petroleum, natural gas, and coal (including lignite) are not expected to qualify as non-SAF transportation fuel based on the § 45Z(d)(5)(A)(ii) emissions rate threshold. A producer of non-SAF transportation fuel not defined in section 3.03 of this notice should submit an application for registration if such producer anticipates such fuel to be eligible for the § 45Z credit.

(B) Co-processed SAF. For SAF produced by co-processing petroleum with SAF FT hydrocarbons, the co-processor is the party that applies for registration under this notice.

(C) Feedstocks used to produce transportation fuel; additional fuels and feedstocks. In Appendix A, the Treasury Department and the IRS, in consultation with the DOE, have identified the feedstocks and feedstock types associated with the varieties of fuel that may qualify as transportation fuel. The Treasury Department and the IRS may provide guidance at a later time about additional fuels (and the feedstocks for such fuels) that may be eligible for the § 45Z credit.

.02 Registration procedure and requirements for producers of non-SAF transportation fuel eligible for the § 45Z credit.

(1) Procedure for registering. Until the revised Form 637 is released, applicants producing non-SAF transportation fuel eligible for the § 45Z credit may use the current Form 637 by writing in Activity Letter “CN” and providing the following information:

(A) Each type of non-SAF transportation fuel and the annual volume of each type of non-SAF transportation fuel the applicant produces. If a type of non-SAF transportation fuel the applicant produces is not described in section 4.01(5)(A) of this notice, state “Other” and provide a description of the fuel;

(B) The feedstock(s) and country of origin of each feedstock used to produce each type of non-SAF transportation fuel the applicant produces;

(C) The location(s) and a description of the applicant’s production facilities;

(D) Each production facility’s annual fuel production capacity, and whether the applicant’s production facilities are operational and currently producing volumes of non-

SAF transportation fuel;

(E) The names and addresses of any person(s) acting for the applicant as an agent or broker in buying, selling, or transporting any non-SAF transportation fuel;

(F) The business entities to which the applicant sells non-SAF transportation fuel;

(G) The business entities from or with which the applicant buys, trades, transfers, or exchanges any non-SAF transportation fuel;

(H) The annual volume of non-SAF transportation fuel the applicant buys, sells, trades, transfers, or exchanges; and

(I) A statement indicating under which ASTM standard(s), SAE standard(s), or both, the applicant produces non-SAF transportation fuel.

(2) Requirements. The IRS will register an applicant with Activity Letter “CN” only if the IRS (A) concludes that the applicant is engaged as a producer of non-SAF transportation fuel that may be eligible for the § 45Z credit, or is likely to become so engaged within a reasonable time after being registered; and (B) is satisfied with the filing, deposit, payment, reporting, and claim history for all federal taxes of the applicant and any related person (as defined in § 48.4101-1(b)(5)).

.03 Registration procedure and requirements for producers of SAF eligible for the § 45Z credit.

(1) Procedure for registering. Until the revised Form 637 is released, applicants producing SAF eligible for the § 45Z credit may use the current Form 637 by writing in Activity Letter “CA” and providing the following information:

(A) A statement indicating whether the applicant produces SAF under an ASTM D7566 Annex or ASTM D1655 Annex A1, and if applicable, the specific ASTM D7566

Annex under which the SAF synthetic blending component is produced;

(B) The feedstock(s) and country of origin of each feedstock used to produce the SAF the applicant produces;

(C) The annual volume of SAF the applicant produces;

(D) The location(s) and a description of the applicant's production facilities;

(E) Each production facility's annual fuel production capacity, and whether the applicant's production facilities are operational and currently producing volumes of SAF;

(F) The names and addresses of any person(s) acting for the applicant as an agent or broker in buying, selling, or transporting any SAF;

(G) The business entities to which the applicant sells SAF;

(H) The business entities from or with which the applicant buys, trades, transfers, or exchanges any SAF; and

(I) The annual volume of SAF the applicant buys, sells, trades, transfers, or exchanges.

(2) Requirements. The IRS will register an applicant with Activity Letter "CA" only if the IRS (A) concludes that the applicant is engaged as a producer of SAF that may be eligible for the § 45Z credit, or is likely to become so engaged within a reasonable time after becoming registered; and (B) is satisfied with the filing, deposit, payment, reporting, and claim history for all federal taxes of the applicant and any related person (as defined in § 48.4101-1(b)(5)).

SECTION 5. INFORMATION ABOUT OTHER FUEL REGISTRATIONS

Section 4101(a)(1) requires that every person required to be registered with respect to the tax imposed by § 4041(a) or 4081, every person producing or importing

biodiesel (as defined in § 40A(d)(1) including agri-biodiesel and renewable diesel) or alcohol (as defined in § 6426(b)(4)(A)), every person producing or importing sustainable aviation fuel (as defined in § 40B), and every person producing second generation biofuel (as defined in § 40(b)(6)(E)), register under § 4101.

Section 4081(a)(1) imposes an excise tax on certain removals, entries, and sales of taxable fuel. Section 4083(a) defines taxable fuel as gasoline, diesel fuel, and kerosene. Section 4041(a) imposes an excise tax on certain sales and uses of diesel fuel and kerosene.

Depending on the type of transportation fuel being produced and sold, a person producing fuel eligible for the § 45Z credit may have additional registration obligations under § 4101 and § 48.4101-1 and thus may be required to be registered under other activity letters (in addition to Activity Letters “CN” and/or “CA”), including the following:

(A) Activity Letter “SA” (producers or importers of sustainable aviation fuel as defined in § 40B);

(B) Activity Letter “S” (enterer, position holder, refiner, terminal operator, or throughputter of gasoline, diesel fuel (including a diesel-water fuel emulsion), or kerosene, or industrial user of gasoline);

(C) Activity Letter “M” (blenders of gasoline, diesel fuel (including a diesel-water fuel emulsion) or kerosene, producing a taxable fuel outside the bulk transfer/terminal system, including blenders of alcohol fuel mixtures, alternative fuel mixtures, biodiesel mixtures, and renewable diesel mixtures);

(D) Activity Letter “AB” (producers and importers of agri-biodiesel);

(E) Activity Letter “AF” (producers and importers of alcohol);

(F) Activity Letter “NB” (producers and importers of biodiesel (other than agri-biodiesel) and renewable diesel); and

(G) Activity Letter “SB” (producers of second generation biofuel).

If a person is producing SAF eligible for the § 45Z credit and that SAF also meets the definition of sustainable aviation fuel under § 40B, such person must also be registered under Activity Letter “SA”.⁶

For additional guidance for fuel registrations, see Notice 2023-6 (guidance on sustainable aviation fuel credits under §§ 40B and 6426(k)), Notice 2008-110, 2008-51 I.R.B. 1298 (guidance on biodiesel and registration for the cellulosic biofuel producer credit),⁷ and Notice 2005-4, 2005-2 I.R.B. 289 (guidance on alcohol and biodiesel fuel tax credits and payments), *as modified by* Notice 2005-62, 2005-35 I.R.B. 443 (guidance for certain biodiesel issues not addressed in Notice 2005-4).

SECTION 6. PAPERWORK REDUCTION ACT

Section 4 of this notice sets forth collections of information to be provided to the IRS with Form 637. The collections of information will be reflected in the submission to the Office of Management and Budget (OMB) for review in accordance with the Paperwork Reduction Act (44 U.S.C. 3507(c)) that is associated with Form 637 (OMB control number 1545-1835). The revisions to Form 637 and the new activity letters to be submitted with Form 637, outlined in section 4 of this notice, will be submitted to

⁶ Section 40B(d) and § 45Z(b)(1)(B)(ii) define SAF in identical terms. However, the formulas used to qualify for and calculate the respective credits according to emissions are different. See Notice 2023-6, 2023-2 I.R.B. 328, Notice 2024-6, 2024-2 I.R.B. 348, and Notice 2024-37, 2024-21 I.R.B. 1191, for additional information regarding § 40B.

⁷ Section 404 of the American Taxpayer Relief Act of 2012, Public Law 112-240, 126 Stat. 2313 (January 2, 2013), modified and extended what was previously known as the cellulosic biofuel producer credit of § 40(b)(6), replacing the term “cellulosic biofuel” with “second generation biofuel” and expanding the list of qualifying feedstocks to include algae.

OMB for review and approval under the PRA procedures within 5 CFR 1320.10. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the collection of information displays a valid OMB control number.

SECTION 7. DRAFTING INFORMATION

The principal authors of this notice are Camille Edwards Bennehoff and Jennifer Golden of the Office of Associate Chief Counsel (Passthroughs & Special Industries). For questions regarding this notice, contact Ms. Edwards Bennehoff or Ms. Golden at (202) 317-6855 (not a toll-free number).

Appendix A – Table of Feedstocks* Used to Make Fuels that May Be Eligible for the § 45Z Credit

* Appendix A identifies primary feedstocks used to make transportation fuels that may be eligible for the § 45Z credit for purposes of applications for registration.

Producers should list the feedstock(s) that are sourced from one or more separate entities or facilities as the main input(s) to their fuel production process. For example, an alcohol-to-jet (ATJ) producer that imports ethanol from one or more separate ethanol production facilities may list ethanol as the feedstock, whereas an integrated ATJ facility with on-site ethanol production should list the feedstock used to produce the ethanol. Renewable natural gas (RNG) producers with on-site anaerobic digestion should list the inputs to the digester (for example, manure or food waste) as feedstocks, whereas RNG producers that import biogas from a separate site should list biogas as the feedstock.

** For purposes of Appendix A, “dedicated” means woody biomass grown for the purpose of being harvested for biofuel production.

Feedstock Type	Feedstock	Additional Information
Agricultural Residue	Barley straw	
Agricultural Residue	Corn stover	
Agricultural Residue	Cotton field residues	
Agricultural Residue	Oats straw	
Agricultural Residue	Orchard or vineyard residues	
Agricultural Residue	Rice straw	
Agricultural Residue	Sorghum stubble	
Agricultural Residue	Sugarcane bagasse	
Agricultural Residue	Wheat straw	
Agricultural Residue	Other agricultural residues	

Feedstock Type	Feedstock	Additional Information
Algae	Algal oil	
Biogas	Dairy/swine digester gas	
Biogas	High solid anaerobic digester gas	
Biogas	Landfill gas	
Biogas	Waste gases	
Biogas	Other biomethane	
Biomass Energy Crop	Biomass sorghum	
Biomass Energy Crop	Energy cane	
Biomass Energy Crop	Miscanthus	
Biomass Energy Crop	Switchgrass	
Biomass Energy Crop	Other biomass energy crop	
CO ₂	CO ₂ co-produced with hydrogen	Includes CO ₂ co-produced with hydrogen produced for use in the Haber-Bosch process
CO ₂	CO ₂ from biogas upgrading	Includes CO ₂ from landfill gas upgrading
CO ₂	CO ₂ from calcination of inorganic materials in cement production	
CO ₂	CO ₂ from direct air capture	
CO ₂	CO ₂ from ethanol fermentation	
CO ₂	CO ₂ from ore oxidation in iron and steel production	
CO ₂	Post-combustion captured biogenic CO ₂	Includes only CO ₂ captured from combustion of bio-based materials (for example, biomass, biogas)
CO ₂	Post-combustion captured fossil CO ₂	Includes only CO ₂ captured from combustion of fossil fuels
CO ₂	Other CO ₂ source	
Ethanol	Corn grain	Applicable for SAF only
Ethanol	Sugarcane	Applicable for SAF only

Feedstock Type	Feedstock	Additional Information
Ethanol	Other sugar crop	Applicable for SAF only
Ethanol	Other grain crop	Applicable for SAF only
Ethanol	Other feedstocks	Applicable for SAF only
Fats, Oils, and Greases	Tallow	
Fats, Oils, and Greases	Tall oil	
Fats, Oils, and Greases	Used cooking oil	
Fats, Oils, and Greases	Tallow	
Industrial Byproduct	Black liquor	
Industrial Byproduct	Corn kernel fiber	
Industrial Byproduct	Distillers corn oil	
Industrial Byproduct	Distillers sorghum oil	
Industrial Byproduct	Milling residues	
Industrial Byproduct	Nut hulls or shells	
Industrial Byproduct	Other byproduct	
Industrial Byproduct	Other food or beverage manufacturing wastes	This includes brewery, winery, and distillery waste, including spent grain
Isobutanol	Corn grain	Applicable for SAF only
Isobutanol	Sugarcane	Applicable for SAF only
Isobutanol	Other feedstocks	Applicable for SAF only
Isobutanol	Other grain crop	Applicable for SAF only
Isobutanol	Other sugar crop	Applicable for SAF only
Manure	Manure, beef	
Manure	Manure, dairy	
Manure	Manure, swine	
Mixed Organic Waste	Construction, demolition, or other urban wood waste	
Mixed Organic Waste	Mixed non-residential food waste	
Mixed Organic Waste	Mixed residential food waste	
Mixed Organic Waste	Municipal solid waste	
Mixed Organic Waste	Paper and paperboard	
Mixed Organic Waste	Wastewater treatment Sludge	

Feedstock Type	Feedstock	Additional Information
Mixed Organic Waste	Yard waste	
Mixed Organic Waste	Other mixed organic waste	
Natural Gas	Natural gas	
Natural Gas	Renewable natural gas	
Oilseed	Jatropha oil	
Oilseed	Palm oil	Potentially eligible feedstock for non-SAF transportation fuel. SAF derived from palm fatty acid distillates is explicitly prohibited
Oilseed	Rapeseed/canola oil	
Oilseed	Soybean oil	
Oilseed	Other oilseed	
Other Alcohols	Corn grain	Applicable for SAF only
Other Alcohols	Sugarcane	Applicable for SAF only
Other Alcohols	Other feedstocks	Applicable for SAF only
Other Alcohols	Other grain crop	Applicable for SAF only
Other Alcohols	Other sugar crop	Applicable for SAF only
Second or Intermediate Crop	Camelina	
Second or Intermediate Crop	Carinata	
Second or Intermediate Crop	Corn safrina	
Second or Intermediate Crop	Other second or intermediate crop	
Second or Intermediate Crop	Pennycress	
Starch Crop	Barley	
Starch Crop	Corn grain	
Starch Crop	Grain sorghum	
Starch Crop	Wheat	
Starch Crop	Other starch crop	
Sugar Crop	Sugarbeet	
Sugar Crop	Sugarcane	
Sugar Crop	Sweet sorghum	
Sugar Crop	Other sugar crop	
Woody Biomass	Forest slash	
Woody Biomass	Pre-commercial thinnings	

Feedstock Type	Feedstock	Additional Information
Woody Biomass	Dedicated short-rotation poplar**	
Woody Biomass	Dedicated short-rotation willow**	
Woody Biomass	Dedicated pine**	
Woody Biomass	Dedicated short-rotation eucalyptus**	
Woody Biomass	Other dedicated woody Biomass**	
Woody Biomass	Other woody biomass residues	
Other	A feedstock used to produce a fuel eligible for the § 45Z credit which is not listed in this table	On your Form 637, state "Other" and provide a description of the feedstock