Sustainable Aviation Fuel Credit; Lifecycle Greenhouse Gas Emissions Reduction Percentage and Certification of Requirements Related to the Clean Air Act; Climate Smart Agriculture; Safe Harbors

Notice 2024-37

SECTION 1. PURPOSE

This notice provides additional guidance and safe harbors regarding the sustainable aviation fuel (SAF) credits under §§ 40B and 6426(k) of the Internal Revenue Code (collectively, SAF credit or SAF credits).[1] The Department of the Treasury (Treasury Department) and the Internal Revenue Service (IRS) issued prior guidance regarding SAF credits in Notice 2023-6, 2023-2 I.R.B. 328, and Notice 2024-6, 2024-2 I.R.B. 34. The Treasury Department and the IRS developed the guidance in this notice in consultation with the Environmental Protection Agency (EPA), the Department of Energy (DOE), the Department of Agriculture (USDA), and the Federal Aviation Administration (FAA) of the Department of Transportation (DOT).

SECTION 2. BACKGROUND

.01 Overview. This section provides an overview of this notice and relevant background. Section 3 of this notice provides a safe harbor for calculating the lifecycle greenhouse gas emissions reduction percentage under § 40B(e)(2) using the modified version of the Argonne National Laboratory's Greenhouse gases, Regulated Emissions, and Energy use in Technologies (R&D GREET)[2] model that satisfies the requirements

[1] Unless otherwise specified, all references to "section" or "§" are references to sections of the Internal Revenue Code.

[2] As of the date of publication of this notice in the Internal Revenue Bulletin, the term "R&D GREET model" refers to the following lifecycle analysis model: Wang, Michael, et al. (2023). Greenhouse gases, Regulated Emissions, and Energy use in Technologies Model ® (2023 Excel). Computer Software. USDOE Office of Energy Efficiency and Renewable Energy (EERE). 09 Oct. 2023. Web.

of § 40B(e)(2) (40BSAF-GREET 2024). Section 3 of this notice also provides a safe harbor for certifying the related requirements under § 40B(f)(2)(A)(ii) for purposes of the 40BSAF-GREET 2024 model by using the California Air Resources Board's (CARB) Low Carbon Fuel Standard program (LCFS) accredited verifiers (CARB LCFS verifiers).

Section 4 of this notice provides a safe harbor for an additional reduction in calculating the lifecycle greenhouse gas emissions reduction percentage under § 40B(e)(2) using the 40BSAF-GREET 2024 model in conjunction with the USDA Climate Smart Agriculture Pilot Program (USDA CSA Pilot Program). The USDA CSA Pilot Program establishes climate smart agriculture (CSA) practices for cultivating domestic corn (CSA corn) and domestic soybeans (CSA soybean) (collectively, CSA crops) for use as SAF feedstocks. Section 4 of this notice also provides a safe harbor for certifying the related requirements under § 40B(f)(2)(A)(ii) for purposes of the USDA CSA Pilot Program by using an unrelated party certifier that meets the USDA CSA Pilot Program requirements for Eligible Unrelated Party Certification Bodies (CSA certifier).

Section 5 of this notice provides information about registration. Section 5 of this notice also provides guidance regarding claims for SAF credits that rely on the 40BSAF-GREET 2024 model and the USDA CSA Pilot Program to calculate the lifecycle greenhouse gas emissions reduction percentage.

.02 Applicable law. Section 13203 of Public Law 117-169, 136 Stat. 1818 (August 16, 2022), commonly known as the Inflation Reduction Act of 2022, added

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https://www.osti.gov/doecode/biblio/113174. Notice 2024-6 uses the term "ANL-GREET" and defines it in Footnote 2. DOE has since renamed ANL-GREET as R&D GREET. Argonne National Laboratory made this change on its website beginning in December 2023, to better distinguish between the different models and to draw a clear distinction between R&D GREET and the versions used for tax credit purposes. All references to R&D GREET in this notice are referring to the same model, including any subsequent updates, as references to ANL-GREET in Notice 2024-6.

§ 40B and amended §§ 38(b), 40A, 87, 4101(a), 6426, and 6427(e)(1), to establish the SAF credits, effective for certain fuel mixtures containing SAF sold or used after December 31, 2022, and before January 1, 2025. The SAF credit is equal to the product of (1) the number of gallons of SAF in a qualified mixture and (2) the sum of (A) $1.25 and (B) the "applicable supplementary amount" with respect to such SAF. In general, the applicable supplementary amount increases the $1.25 base credit by $0.01 for each percentage point by which the lifecycle greenhouse gas emissions reduction percentage of the SAF exceeds 50 percent, for a maximum increase of $0.50.[3] *See* §§ 40B(b) and 6426(k).

In addition to other requirements, under § 40B(d)(1)(D), SAF must be certified to have a lifecycle greenhouse gas emissions reduction percentage of at least 50 percent. Section 40B(e) defines the term "lifecycle greenhouse gas emissions reduction percentage" (emissions reduction percentage) to mean, with respect to any SAF, the percentage reduction in lifecycle greenhouse gas emissions achieved by such fuel, as compared with petroleum-based jet fuel, as defined in accordance with (1) the most recent Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) that has been adopted by the International Civil Aviation Organization (ICAO) with the agreement of the United States or (2) any similar methodology that satisfies the criteria under § 211(o)(1)(H) of the Clean Air Act (42 U.S.C. 7545(o)(1)(H)), as in effect on August 16, 2022 (CAA).

Section 40B(f)(2)(A) requires a producer or importer of SAF to provide certification (in the form and manner prescribed by the Secretary of the Treasury or her

[3] *See* sections 4.05 and 4.06 of Notice 2023-6 for instructions and an example of how to calculate the applicable supplementary amount for purposes of §§ 40B(b) and 6426(k).

delegate (Secretary)) from an unrelated party demonstrating compliance with (i) any general requirements, supply chain traceability requirements, and information transmission requirements established under CORSIA as described in § 40B(e)(1), or (ii) in the case of any similar methodology established under § 40B(e)(2), requirements similar to the requirements described in § 40B(f)(2)(A)(i). Section 40B(f)(2)(B) requires SAF producers or importers to provide such other information with respect to such fuel as the Secretary may require for purposes of carrying out § 40B.

.03 Notice 2023-6. Notice 2023-6 provides guidance on the SAF credits and related credit and payment rules under §§ 34(a)(3), 38, 87, 6426(k), and 6427(e)(1), and procedures for claiming the SAF credit. Notice 2023-6 also provides guidance related to the registration requirements under § 4101 for persons producing or importing SAF synthetic blending component, a type of SAF. *See* section 3.01 of Notice 2023-6 for the definition of SAF synthetic blending component, and *see* Notice 2023-6 generally for definitions of other terms used in this notice and Notice 2024-6. Sections 4.04 and 5.01(4) of Notice 2023-6 include CORSIA-based safe harbors for determining the emissions reduction percentage under § 40B(e)(1) and for providing an unrelated party certification for demonstrating compliance with the requirements under § 40B(f)(2)(A)(i).

.04 Notice 2024-6. Section 3 of Notice 2024-6 provides safe harbors for using the EPA's Renewable Fuel Standard (RFS) program to calculate the emissions reduction percentage under § 40B(e)(2), and for using RFS guidance to certify the corresponding unrelated party certification requirements under § 40B(f)(2)(A)(ii). Section 4 of Notice 2024-6 provides an updated Model Certificate for SAF Synthetic Blending Component to be used when submitting a claim for a SAF credit. Section 5 of

Notice 2024-6 informs the public that the existing R&D GREET[4] model and any other existing versions of GREET (for example, CA-GREET, ICAO-GREET) are methodologies that do not satisfy the requirements to calculate the emissions reduction percentage under § 40B(e)(2).

Section 6 of Notice 2024-6 announced that the DOE was collaborating with other Federal agencies to develop the 40BSAF-GREET 2024 model, and that it would be expected in early 2024. Section 6 of Notice 2024-6 also announced that subject to any further guidance from the Treasury Department and the IRS, it is anticipated that after the 40BSAF-GREET 2024 model is released, taxpayers will be able to use it to calculate the emissions reduction percentage for SAF sold or used after December 31, 2022, and prior to January 1, 2025.

SECTION 3. 40BSAF-GREET 2024 MODEL; CARB LCFS PROGRAM; SAFE HARBORS

.01 Calculating emissions reduction percentage under § 40B(e)(2); safe harbor.

(1) In general. Section 40B(e)(2) provides that the emissions reduction percentage may be calculated in accordance with any methodology that is similar to the most recent CORSIA and satisfies the criteria under § 211(o)(1)(H) of the CAA. Section 211(o)(1)(H) of the CAA defines the term "lifecycle greenhouse gas emissions" to mean "the aggregate quantity of greenhouse gas emissions (including direct emissions and significant indirect emissions such as significant emissions from land use changes), as determined by the [EPA] Administrator, related to the full fuel lifecycle, including all stages of fuel and feedstock production and distribution, from feedstock generation or extraction through the distribution and delivery and use of the finished fuel to the

[4] *See* footnote 2 of this notice for an explanation of the name change from "ANL-GREET" to "R&D GREET."

ultimate consumer, where the mass values for all greenhouse gases are adjusted to account for their relative global warming potential." *See* also 42 U.S.C. 7602(a).

(2) 40BSAF-GREET 2024 model. DOE released the 40BSAF-GREET 2024 model on April 30, 2024, and it is available at https://www.energy.gov/media/322677. DOE worked with the Treasury Department and other Federal agencies to develop the 40BSAF-GREET 2024 model, including specifications for and limitations on taxpayer inputs and background inputs to the model, to satisfy the statutory requirements of § 40B(e)(2); DOE and EPA have described the parameters of the model that were included to satisfy the statutory requirements, including to address the issues EPA identified in its December 2023 letter to Treasury.[5] The EPA has concluded that the 40BSAF-GREET 2024 model addresses the issues it previously identified that made the R&D GREET model insufficient for calculating lifecycle greenhouse gas emissions for purposes of § 211(o)(1)(H) of the CAA.[6] The 40BSAF-GREET 2024 model is a "similar methodology" to the CORSIA methodology as both evaluate the full fuel lifecycle, including all stages of fuel and feedstock production through to the end use of the

[5] Letter from Carla Frisch, Acting Executive Director, Principal Deputy Director, Department of Energy Office of Policy, and Jeffrey M. Marootian, Acting Assistant Secretary, Principal Deputy Assistant Secretary, Department of Energy, Efficiency & Renewal Energy, to Aviva Aron-Dine, Acting Assistant Secretary for Tax Policy, U.S. Department of Treasury (April 30, 2024), (DOE Letter), *available at* : https://home.treasury.gov/system/files/136/April-2024-DOE-letter-to-UST-on-SAF-signed.pdf. U.S. Department of Energy, *Guidelines to Determine Life Cycle Greenhouse Gas Emissions of Sustainable Aviation Fuel Production Pathways using 40BSAF-GREET 2024* (40BSAF-GREET 2024 User Manual), *available at* https://www.energy.gov/media/322899. Letter from Joseph Goffman, Assistant Administrator for the Office of Air and Radiation, U.S. Environmental Protection Agency, to Aviva Aron-Dine, Acting Assistant Secretary for Tax Policy, U.S. Department of Treasury (April 25, 2024), (EPA Letter), *available at* https://home.treasury.gov/system/files/136/April-2024-EPA-letter-to-UST-on-SAF-signed.pdf. *See also* Letter from Joseph Goffman, Principal Deputy Assistant Administrator for the Office of Air and Radiation, U.S. Environmental Protection Agency, to Lily Batchelder, Assistant Secretary for Tax Policy, U.S. Department of Treasury (December 13, 2023), (EPA December 2023 Letter) *available at* https://home.treasury.gov/system/files/136/Final-EPA-letter-to-UST-on-SAF-signed.pdf.

[6] See EPA April 2024 Letter.

finished fuel. For those reasons, including the analysis provided by DOE and EPA in their respective letters, the Treasury Department and the IRS have determined that it is appropriate to provide the safe harbor described in section 3.01(3) of this notice for using the 40BSAF-GREET 2024 model to calculate the emissions reduction percentage under § 40B(e)(2).

(3) Safe harbor for the 40BSAF-GREET 2024 model. With respect to any claim for a SAF credit for a SAF qualified mixture, as defined in section 3.02(2) of Notice 2023-6, that meets the requirements of ASTM International (ASTM) D7566,[7] the IRS will accept an emissions reduction percentage for the SAF synthetic blending component in the qualified SAF mixture that is calculated in accordance with the 40BSAF-GREET 2024 model, provided the certification requirements under § 40B(f)(2)(A)(ii) are satisfied. *See* section 3.02 of this notice for guidance regarding certification requirements under § 40B(f)(2)(A)(ii).

The 40BSAF-GREET 2024 model calculates lifecycle greenhouse gas emissions associated with SAF from two production pathways: (1) hydroprocessed esters and fatty acids (HEFA production pathway) and (2) alcohol-to-jet (ATJ-Ethanol production pathway). The HEFA production pathway corresponds to the ASTM-approved HEFA production pathway: HEFA-SPK, ASTM D7566, Annex A2 (approved in 2011 at a 50 percent blend limit with petroleum-derived jet fuel). The ATJ-Ethanol production pathway corresponds to the ASTM-approved alcohol-to-jet fuel pathway: ATJ-SPK, ASTM D7566, Annex A5 (approved in 2016 at a 30 percent blend limit). *See* 40BSAF-

[7] This notice primarily addresses the SAF credit requirements applicable to a qualified mixture produced under ASTM D7566. The Treasury Department and the IRS, in consultation with the DOT and the FAA, understand that no jet fuel is currently produced in the United States under ASTM D1655 Annex A1 that would qualify for the SAF credit.

GREET 2024 User Manual for further information on eligible SAF pathways available at https://www.energy.gov/media/322899.

.02 Unrelated party certification requirements under § 40B(f)(2)(A)(ii); safe harbor under CARB LCFS program.

(1) In general. Under § 40B(f)(2)(A)(ii), a producer or importer of a SAF synthetic blending component calculating the emissions reduction percentage under § 40B(e)(2), must provide certification from an unrelated party demonstrating compliance with requirements similar to those that apply with respect to the CORSIA methodology. *See* also § 6426(k)(3).

(2) CARB LCFS. The CARB LCFS program is part of a comprehensive set of programs used by California to cut greenhouse gas emissions and other smog-forming and toxic air pollutants by improving vehicle technology, reducing fuel consumption, and increasing transportation mobility options. The CARB LCFS program is designed to encourage the use of cleaner transportation fuels, encourage the production of those fuels, and as a result, reduce greenhouse gas emissions and decrease petroleum dependence in the transportation sector. Additional information about the CARB LCFS program is available at https://ww2.arb.ca.gov/our-work/programs/low-carbon-fuel-standard/about.

The CARB LCFS program relies on accurate data monitoring, reporting, and verification using CARB LCFS verifiers. Only CARB LCFS verifiers may provide verification for the CARB LCFS program. Additional information about the CARB LCFS program verification rules and CARB LCFS verifiers is available at https://ww2.arb.ca.gov/lcfs-verification.

(3) Safe harbor for certifications by CARB LCFS verifiers. With respect to any SAF qualified mixture that meets the requirements of ASTM D7566 and for which the 40BSAF-GREET 2024 model is used to calculate the emissions reduction percentage, the IRS will consider a registered producer or importer of a SAF synthetic blending component (registered SAF producer) as having met the certification requirements of § 40B(f)(2)(A)(ii) for the SAF synthetic blending component if such registered SAF producer obtains the requisite certification from a CARB LCFS verifier and such certification is provided in a format that is substantially similar to an LCFS Verification Statement (CARB certification). *See* section 5.01 of this notice for guidance on registration.

The registered SAF producer must record the CARB LCFS Verifier Executive Order number of the CARB LCFS verifier who provides the CARB certification on the Certificate for SAF Synthetic Blending Component Using the 40BSAF-GREET 2024 Model required under section 3.03 of this notice. The registered SAF producer also must provide a copy to the CARB LCFS verifier of the 40BSAF-GREET 2024 model Excel workbook used to calculate the emissions reduction percentage the registered SAF producer enters on the Certificate for SAF Synthetic Blending Component Using the 40BSAF-GREET 2024 Model. *See* Appendix C of this notice for the model certificate.

(4) Verification standards. CARB LCFS verifiers must certify the foreground data of the 40BSAF-GREET 2024 model Excel workbook and other requirements as provided in the 40BSAF-GREET 2024 User Manual (including all updates to the user manual made by DOE) in accordance with CARB LCFS verifier practices and

standards.[8]

(5) Additional verification guidelines. The registered SAF producer must make available certain information to assist the CARB LCFS verifier in certifying compliance pursuant to § 40B(f)(2)(A)(ii). The registered SAF producer may provide the CARB LCFS verifier with information consistent with that required in the proposed LCFS Tier 1 calculator Excel workbooks located at https://ww2.arb.ca.gov/resources/documents/lcfs-life-cycle-analysis-public-comment. For the HEFA production pathway, a registered SAF producer should use the Hydroprocessed Ester and Fatty Acid Fuels workbook. For the ATJ-Ethanol production pathway, a registered SAF producer should use either the Starch and Fiber Ethanol or Sugarcane Ethanol workbook. Alternatively, a registered SAF producer may, where applicable, provide a certified or CARB-approved Tier 2 pathway application to the CARB LCFS verifier.

.03 Certificate for SAF Synthetic Blending Component. For claims filed for SAF produced using the 40BSAF-GREET 2024 model, claimants must submit with their claim a Certificate for SAF Synthetic Blending Component Using the 40BSAF-GREET 2024 Model in. Such certificate must be in substantially the same form as the Model Certificate in Appendix C of this notice.

SECTION 4. CLIMATE SMART AGRICULTURE; USDA CSA PILOT PROGRAM USED WITH 40BSAF-GREET 2024; SAFE HARBORS

.01 Calculating emissions reduction percentage under § 40B(e)(2); safe harbor.

(1) USDA CSA Pilot Program. The USDA has determined that CSA practices can result in lower emissions and greater carbon sequestration than conventional

[8] *See* Cal. Code Regs. tit. 17, §§ 95480-95503; however, the requirement for CARB LCFS verifiers submit Conflict of Interest statements is waived for purposes of section 3.02 of this notice.

farming practices, but such practices are not incorporated into existing lifecycle greenhouse gas emissions models. The USDA CSA Pilot Program incorporates CSA practices for CSA crops that are used as feedstocks for SAF synthetic blending components, which results in estimated greenhouse gas reduction and carbon sequestration benefits. In recognition of the potential emissions reduction benefits of CSA but also of the limitations of currently available verification mechanisms, empirical data, and modeling, and to advance the development of such verification mechanisms, section 4.02 of this notice establishes a safe harbor for using CSA crops cultivated pursuant to the USDA CSA Pilot Program, as described in Appendix A, as feedstocks for SAF synthetic blending component.

For the ATJ-Ethanol production pathway using CSA corn, the USDA CSA Pilot Program requires that CSA farmers who qualify under the USDA CSA Pilot Program (USDA CSA Pilot Program farmers) and grow the CSA corn engage in three CSA practices on the same acreage: no-till farming, planting cover crops, and applying enhanced efficiency nitrogen fertilizer. For the HEFA production pathway using CSA soybean, the USDA CSA Pilot Program requires that USDA CSA Pilot Program farmers engage in two CSA practices on the same acreage: no-till farming and planting cover crops. In accordance with the USDA CSA Pilot Program, USDA CSA Pilot Program farmers must apply these practices to the entire acreage on which each CSA crop is grown and adhere to the definitions and practice requirements provided in the USDA CSA Pilot Program. *See* Appendix A of this notice. The USDA CSA Pilot Program may only be used in conjunction with the 40BSAF-GREET 2024 model for claims under §§ 40B and 6426(k).

(2) Safe harbor. The Treasury Department, in consultation with the USDA, has determined that for purposes of the USDA CSA Pilot Program, in lieu of a full lifecycle analysis incorporated into the relevant model, a SAF synthetic blending component produced from CSA corn or CSA soybean is eligible for an additional proxy reduction (CSA reduction) in the calculation of the emissions reduction percentage. The emissions reduction percentage is calculated for the SAF credit by multiplying a fraction, the numerator of which is the baseline for the lifecycle greenhouse gas emissions of petroleum-based jet fuel (LC) minus the lifecycle emissions value (LSf), and the denominator of which is the baseline (LC), by 100 percent ([(LC - LSf) / LC] × 100% = emissions reduction percentage).[9] The emissions reduction percentage must be rounded down to the nearest whole percent. *See* section 4 of Notice 2023-6.

The IRS will accept a CSA reduction for an LSf determined under the 40BSAF-GREET 2024 model, provided the requirements of the USDA CSA Pilot Program and this notice are met. Specifically, the CSA reduction for CSA corn is an additional 10 gCO2e/MJ reduction in the LSf, as calculated using the 40BSAF-GREET 2024 model. The CSA reduction for CSA soybean is an additional 5 gCO2e/MJ reduction in the LSf, as calculated using the 40BSAF-GREET 2024 model. The emissions reduction percentage formula accounting for CSA reduction is {[LC – (LSf - CSA reduction)] / LC} x 100%.

(3) Example. A registered SAF producer produces a SAF synthetic blending component via the ATJ-Ethanol production pathway using 100% CSA corn. Using the

[9] Until further notice, for purposes of calculating the emissions reduction percentage, the IRS will treat the lifecycle greenhouse gas emissions of petroleum-based jet fuel as equal to 89 grams of carbon dioxide equivalent per megajoule of energy or 89 gCO2e/MJ as the baseline. This is the standard adopted by the ICAO. *See* section 4.03 of Notice 2023-6.

40BSAF-GREET 2024 model, the SAF synthetic blending component produced via the ATJ-Ethanol production pathway has a calculated LSf of 51.8 gCO2e/MJ. This LSf can be reduced by the CSA reduction of 10 gCO2e/MJ. To calculate the emissions reduction percentage (rounding down to the nearest whole percent): [(89 gCO2e/MJ – (51.8 gCO2e/MJ – 10 gCO2e/MJ)) / 89 gCO2e/MJ] x 100% = 53.03%, rounded down to 53%.

.02 Certification of compliance with the USDA CSA Pilot Program.

(1) In general. The CSA practices incorporated into the USDA CSA Pilot Program are not a part of either the 40BSAF-GREET 2024 model or any CARB program including the LCFS program. Therefore, the Treasury Department and the USDA have developed additional unrelated party certification requirements for the USDA CSA Pilot Program.

(2) Safe harbor. To qualify for the CSA reduction, registered SAF producers using the ATJ-ethanol or HEFA production pathways must obtain unrelated party certification of compliance with the USDA CSA Pilot Program practice requirements (CSA certification) in addition to the CARB certification required under section 3.02 of this notice. The IRS will consider a registered SAF producer as having met the unrelated party certification requirements of § 40B(f)(2)(A)(ii) if it satisfies all the requirements of this section and the USDA CSA Pilot Program. *See* Appendix A of this notice.

(3) CSA certifier audit requirements. A CSA certifier must audit records from the USDA CSA Pilot Program farmers to verify compliance with the USDA CSA Pilot Program. The CSA certifier must also audit supply chain records and complete a mass

balance to verify traceability of the contracted quantity of CSA crops to the registered SAF producer.

(4) CSA certifier accreditation and other requirements. The CSA certifier must meet the requirements for Eligible Unrelated Party Certification Bodies in the USDA CSA Pilot Program. Generally, the CSA certifier must be accredited by the ANSI National Accreditation Board (ANAB) for ISO 14065. ISO 14065 specifies general principles and requirements for bodies performing validation and verification of environmental information, which is directly relevant to verifying reduced carbon intensity. In the United States, the ANAB Accreditation Program for Greenhouse Gas Validation and Verification Bodies operates according to ISO 14065.

In addition to being ISO 14065 accredited, the USDA CSA Pilot Program requires that the CSA certifier must demonstrate agricultural expertise by either assigning at least one individual to the CSA certification team who is a USDA Technical Service Provider, or by assigning at least one individual to the CSA certification team who is a Certified Crop Advisor. For more information concerning these requirements, *see* USDA CSA Pilot Program, Appendix A of this notice.

(5) Registered SAF producer requirements. Registered SAF producers who want to use the CSA reduction for producing SAF from CSA crops must: (i) contract directly with USDA CSA Pilot Program farmers for CSA corn or CSA soybean in accordance with the requirements of the USDA CSA Pilot Program described in Appendix A of this notice; (ii) collect and maintain from the USDA CSA Pilot Program farmer a Certificate for Climate Smart Agriculture Crops with respect to each CSA crop; (iii) maintain all records described in the Practice Recordkeeping Requirements and

Supply Chain Traceability Requirements and Recordkeeping sections of the description of the USDA CSA Pilot Program in Appendix A of this notice; (iv) make all such records available to the CSA certifier; and (v) maintain and make available for IRS inspection the CSA certification required by section 4.02(2) of this notice and the Certificate for Climate Smart Agriculture Crops. *See* section 4.03 of this notice for guidance regarding the Certificate for Climate Smart Agriculture Crops and Appendix B of this notice for the model certificate.

.03 Certificate for Climate Smart Agriculture Crops. The Certificate for Climate Smart Agriculture Crops required by section 4.02 of this notice (i) contains a statement acknowledging that the USDA CSA Pilot Program farmer understands that fraudulent use of the certificate may subject the USDA CSA Pilot Program farmer and all parties making such fraudulent use to a fine or imprisonment, or both, together with the costs of prosecution, (ii) is in substantially the same form as the model certificate in Appendix B of this notice, and (iii) contains all the information necessary to complete the certificate. The certificate identification number is determined by the USDA CSA Pilot Program farmer and must be unique to each certificate.

A USDA CSA Pilot Program farmer may, with respect to a particular sale of CSA corn or CSA soybean, provide multiple separate certificates, each applicable to a portion of the total volume of the CSA corn or CSA soybean sold. Thus, for example, a USDA CSA Pilot Program farmer that sells 5,000 bushels of CSA corn or CSA soybean in one transaction may provide its buyer with five certificates for 1,000 bushels each.

.04 Certificate for SAF Synthetic Blending Component. For claims that use the 40BSAF-GREET 2024 model and the USDA CSA Pilot Program safe harbors to

calculate the emissions reduction percentage, claimants must submit with their claim a Certificate for SAF Synthetic Blending Component Using the 40BSAF-GREET 2024 Model and the USDA CSA Pilot Program for Corn and Soybean. Such certificate must be in substantially the same form as the model certificate in Appendix D of this notice.

SECTION 5. REGISTRATION; CLAIMS FOR THE SAF CREDITS USING 40BSAF-GREET 2024 MODEL AND CSA REDUCTION

.01 Registration. For a claimant to qualify for the SAF credit, the producer or importer of the SAF synthetic blending component must be registered with the IRS under § 4101. *See* §§ 40B(f)(1) and 6426(k)(3). Application for registration is made on Form 637, *Application for Registration (For Certain Excise Tax Activities),* under Activity Letter "SA," in accordance with instructions for that form. *See* also section 5 of Notice 2023-6 for additional information about registration.

Pursuant to § 48.4101-1(h)(1)(v) of the Manufacturers and Retailers Excise Tax Regulations (26 CFR part 48), each registrant must notify the IRS of any change in the information the registrant submitted in connection with its application for registration within 10 days after the change occurs. For registrations issued prior to the issuance of this notice and applications for registration that are pending as of the date of this notice:

(1) If a registrant has an Activity Letter "SA" issued prior to the issuance of this notice, before making a claim for the SAF credits or amending a prior claim for the SAF credits using the 40BSAF-GREET 2024 model or the 40BSAF-GREET 2024 model with the USDA CSA Pilot Program, the registrant must first inform the IRS of this change of methodology and update its registration by contacting the IRS office with which the registrant is registered.

(2) If an applicant has a pending application for registration as of the date of this

notice and wishes to make claims for the SAF credits using the 40BSAF-GREET 2024 model or the 40BSAF-GREET 2024 model with the USDA CSA Pilot Program, the applicant must inform the IRS of this change of methodology by contacting the IRS office with which the applicant submitted its Form 637.

.02 Eligibility. A registered SAF producer that uses the safe harbors provided in this notice to calculate the emissions reduction percentage must meet all statutory requirements under § 40B, including registration, traceability, and unrelated party certification. The safe harbors for the 40BSAF-GREET 2024 model and the USDA CSA Pilot Program may be used in connection with §§ 40B, 6426(k), and 6427(e)(1) claims that relate to the sale or use of a SAF qualified mixture after December 31, 2022, and before January 1, 2025.

In cases where the registered SAF producer used the 40BSAF-GREET 2024 model to calculate the emissions reduction percentage, claimants must submit the Certificate for SAF Synthetic Blending Component Using the 40BSAF-GREET 2024 Model with their claim. *See* Appendix C of this notice for the model certificate. In cases where the registered SAF producer used the 40BSAF-GREET 2024 model in conjunction with the USDA CSA Pilot Program to calculate the emissions reduction percentage, the claimant must submit the Certificate for SAF Synthetic Blending Component Using the 40BSAF-GREET 2024 Model and the USDA CSA Pilot Program for Corn and Soybean with their claim. *See* Appendix D of this notice for the model certificate. *See* sections 3.02, 3.03, 4.01, and 4.02 of this notice, section 6 of Notice 2023-6, and section 4 of Notice 2024-6 for information about making claims for the SAF credits.

SECTION 6. PAPERWORK REDUCTION ACT

The Paperwork Reduction Act of 1995 (44 U.S.C. 3501-3520) (PRA) generally requires that a Federal agency obtain the approval of the Office of Management and Budget (OMB) before collecting information from the public, whether such collection of information is mandatory, voluntary, or required to obtain or retain a benefit. A Federal 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 control number.

Section 3 of this notice sets forth collections of information to be provided to the IRS with Form 637, and to determine whether a claimant qualifies for a SAF credit. The collections of information will be reflected in the submission to the OMB for review in accordance with the PRA that is associated with Form 637 (OMB control number 1545-1835). This submission will be updated in the ordinary course.

The collections of information proposed in section 4 of this notice would include reporting, third-party disclosure, and recordkeeping requirements. These collections are necessary in order for registered SAF producers to use the safe harbors provided in section 4 of this notice to calculate the emissions reduction percentage with respect to SAF synthetic blending component, for the IRS to validate that registered SAF producers have met the requirements of the safe harbors in section 4 of this notice, and for the IRS to verify that claimants are entitled to claim the SAF credit.

For the purposes of the collections of information proposed in section 4 of this notice, the IRS's PRA submission to the OMB for review in accordance with the PRA that is associated with Form 637 (OMB control number 1545-1835) and is pending with

OMB. Once the IRS's PRA submission is approved by OMB, the burden for these requirements will be included in the instructions for Form 637.

SECTION 7. DRAFTING INFORMATION

The principal authors of this notice are Danielle Mayfield and Camille Edwards Bennehoff of the Office of the Associate Chief Counsel (Passthroughs & Special Industries). For further information regarding this notice, please contact Ms. Mayfield or Ms. Edwards Bennehoff at (202) 317-6855 (not a toll-free call).

Appendix A – United States Department of Agriculture Climate Smart Agriculture Pilot Program (USDA CSA Pilot Program)

Pilot Program for Certain Climate-Smart Agriculture Practices

Practice Requirements, Definitions, Quantification of Greenhouse Gas Benefits, and Unrelated Party Certification Solely for Sustainable Aviation Fuel (SAF) Production

This document outlines the requirements to participate in the Climate Smart Agriculture (CSA) pilot for sustainable aviation fuel (SAF) production, as it applies to SAF producers registering and producing SAF under section 40B of the Internal Revenue Code (IRC) and SAF produced directly from domestic corn or domestic soybeans that meets the requirements of ASTM D7566 Annex 5 or ASTM D7566 Annex 2, respectively.

The CSA Pilot Program (CSA pilot) incorporates the greenhouse gas (GHG) and carbon sequestration benefits of climate-smart feedstock production into the carbon intensity calculation for the purpose of the IRC 40B SAF tax credit (40B credit) in certain feedstocks. Incorporating CSA practices into the production of SAF provides multiple benefits. These include lower overall GHG emissions associated with SAF production, improved accuracy of overall carbon intensity estimation, sustainable production of domestically-produced aviation fuel, and increased adoption of farming practices that are associated with other environmental benefits, such as improved water quality and soil health. The CSA pilot is specific to the calculation of GHG emissions using the safe harbor for the 40BSAF-GREET 2024 model for purposes of the 40B credit and should not be used for the calculation of GHG emissions for any other purpose.

Practice Requirements

The CSA pilot for sustainable aviation fuel production is limited to two feedstocks: domestic corn and domestic soybeans. For corn-based alcohol-to-jet using ethanol (ATJ-Ethanol), the CSA pilot requires that growers engage in three CSA practices: no-till, cover crops, and enhanced efficiency nitrogen fertilizer on the same acreage. For soybean HEFA (hydro-processed esters and fatty acids), there are only two relevant practices that must be applied on the same acreage to receive the full values of the CSA reduction: no-till and cover crops. The practices must be applied at the field scale (that is, the entirety of the field(s) on which domestic corn or domestic soy feedstocks are produced) and adhere to the definitions and practice requirements provided below starting no later than the relevant growing season. The practice definitions and requirements in this document are in alignment with United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) practice standards and enhancements. The NRCS standards corresponding to each practice are cited for reference only, except where otherwise noted. The requirements of the CSA pilot are specified in this document.

Domestic corn and domestic soybean feedstocks produced using the combined CSA practices that will be used to produce SAF must be traced through the supply chain and verified by an unrelated party according to the requirements of the CSA pilot. A participating farmer must contract directly with a registered SAF producer to provide the domestic corn and/or domestic soybeans which the SAF producer will use as a feedstock to produce SAF (*see* specific contract and traceability requirements in the section Supply Chain Traceability Requirements and Recordkeeping of this document). The contract must also include recordkeeping requirements as outlined in the sections Practice Recordkeeping Requirements and Supply Chain Traceability Requirements and Recordkeeping of this document, in addition to a farmer attestation, in substantially the same form as the model certificate in Appendix B of Notice 2024-37, declaring that the farmer implemented the practice(s) according to the CSA pilot implementation guidelines. If all requirements of the CSA pilot are met, registered SAF producers that produce SAF under ASTM D7566 Annex 5 or ASTM D7566 Annex 2 directly from domestic corn or domestic soybeans may be eligible to reduce the carbon intensity estimates for their fuel by pre-determined values for purposes of the 40B credit.

No-Till[10] (domestic corn and domestic soybean feedstocks)

Definition: Limiting soil disturbance to manage the amount, orientation and distribution of crop and plant residue on the soil surface year-round.

Annual Criteria (must be applied to the entire field):

- Residue must not be burned.
- Distribute all residues uniformly over the entire field. Removing residue from directly within the seeding or transplanting area prior to or as part of the planting operation is acceptable.
- This practice only allows an in-row soil disturbance operation during strip tillage, the planting operation, and a seed row/furrow closing device. Full-width soil disturbance is disallowed from the time immediately following harvest or termination of one cash crop through harvest or termination of the next cash crop in the rotation regardless of the depth of the tillage operation. The soil tillage intensity rating (STIR)[11] value must include all field operations that are performed during the crop interval between harvest and termination of the previous cash crop and harvest or termination of the current cash crop (includes fallow periods). The crop interval STIR value must be no greater than 20.

[10] Portions are extracted and slightly modified from: Conservation Practice Standard Residue and Tillage Management No Till (Code 329) (https://www.nrcs.usda.gov/sites/default/files/2022-09/Residue_And_Tillage_Management_No_Till_329_CPS_0.pdf).

[11] Natural Resources Conservation Service. (n.d.) *Soil Tillage Intensity Rating STIR*. Soil Tillage Intensity Rating STIR (https://www.nrcs.usda.gov/sites/default/files/2023-01/Soil-Tillage-Intensity-Rating-Fact-Sheet3-27-2020.pdf).

Cover Crop[12] (domestic corn and domestic soybean feedstocks)

Definition: Grasses, legumes, and forbs planted for seasonal vegetative cover.

Annual Criteria (must be applied to the entire field):

- Plant species, seedbed preparation, seeding rates, seeding dates, seeding depths, fertility requirements, and planting methods must be consistent with applicable local criteria and soil/site conditions.[13]
- Select species that are compatible with other components of the cropping system.
- Ensure herbicides used with crops are compatible with cover crop selections and purpose(s).
- Cover crops may be established during the fallow season prior to planting the feedstock crop, or companion planted or relay-planted into production crops.
- Must not burn cover crop residue.
- Determine the method and timing of termination to meet the grower's objective and the current NRCS Cover Crop Termination Guidelines.
- When a cover crop will be grazed or hayed, ensure the planned management will not compromise the soil health and organic matter content.
- Do not harvest cover crops for seed.
- If the specific rhizobium bacteria for the selected legume are not present in the soil, treat the seed with the appropriate inoculum at the time of planting.

Enhanced Efficiency Nitrogen Fertilizer (EENF) Practice Requirements[14] (domestic corn feedstocks)

Definition: Enhanced nutrient use efficiency technologies are utilized to improve nutrient use efficiency, reduce risk of nutrient losses to surface and groundwater, and reduce GHG emissions.

This CSA pilot applies to Land Grant University (LGU)[15] and Association of American Plant Food Control Officials (AAPFCO) definitions of Enhanced Efficiency Fertilizers (EEFs). EEFs are defined by AAPFCO as "fertilizer products with characteristics that allow increased plant uptake and reduce the potential of nutrient losses to the environment (for example, gaseous losses, leaching, or runoff) when compared to an

[12] Portions are extracted and slightly modified from: Conservation Practice Standard Cover Crop (Code 340) (https://www.nrcs.usda.gov/sites/default/files/2023-01/Soil-Tillage-Intensity-Rating-Fact-Sheet3-27-2020.pdf).
[13] Refer to USDA NRCS's Field Office Technical Guide documents by state for additional cover crop information relevant to practice code 340: Cover Crops (https://efotg.sc.egov.usda.gov/#/).
[14] Portions are extracted and slightly modified from: Conservation Enhancement Activity 590A (https://www.nrcs.usda.gov/sites/default/files/2023-10/E590A-May-2023-fy24.pdf).
[15] Participants should refer to the Land Grant University within their state on appropriate EENF use.

appropriate reference product."[16] For the purposes of this pilot, qualified EEFs include only Enhanced Efficiency Nitrogen Fertilizers (EENF), as nitrogen is the primary carbon intensity-relevant nutrient. The three following strategies are extracted and slightly modified from the NRCS Conservation Enhancement Activity 590A. These three strategies are acceptable for the EENF practice in the CSA pilot. The farmer must implement at least one of these three strategies to fulfill EENF requirements.

Annual Criteria (must be applied to the entire field):

- **Select at least one of the following EENF strategies for nutrient use efficiency. For all strategies, the EENF must serve as at least 50% of the nitrogen source for the production of the feedstock:**
- **Strategy 1:** EENF that contain nitrification inhibitor products resulting in delayed nitrification processes, by eliminating the bacteria *Nitrosomonas* in the area where ammonium is to be present.
    - Materials must be defined by the AAPFCO and be accepted for use by the State fertilizer control official, or similar authority, with responsibility for verification of product guarantees, ingredients (by AAPFCO definition) and label claims.
    - Application timing, method, nitrogen source, soil texture, and tillage regime are all factors that should be evaluated to determine where nitrification inhibitors should be used. Before buying an inhibitor make sure scientific evidence backs up all claims. Producers and/or consultants should be wary of any product that does not have solid scientific data demonstrating that the inhibitor activity matches the advertised benefit.
    - EENF products must be recommended by LGU and concurred with by NRCS on all treatment acres to supply at least 50% of the pre-emergent and early post emergent LGU recommended nitrogen budget requirements for the crop(s) grown. Common chemical products used to interrupt the nitrification process include dicyandiamide (DCD) and 2-chloro-6 (trichloromethyl) pyridine.
- **Strategy 2:** EENF products that contain urease inhibitor products to temporarily reduce the activity of the urease enzyme and slow the rate at which urea is hydrolyzed.
    - Materials must be defined by AAPFCO and be accepted for use by the State fertilizer control official, or similar authority, with responsibility for verification of product guarantees, ingredients (by AAPFCO definition) and label claims.
    - Application timing, method, nitrogen source, soil texture, and tillage regime are all factors that must be evaluated to determine where urease inhibitors should be used. Before buying an inhibitor make sure scientific

[16] Association of American Plant Food Control Officials. (2019, August 1). *Relationship Between Enhanced Efficiency Fertilizer Terms.* (https://www.aapfco.org/presentations/2019/2019_SA_slow_relationship.pdf).

evidence backs up all claims. Producers and/or consultants should be wary of any product that does not have solid scientific data demonstrating that the inhibitor activity matches the advertised benefit.
    - EENF products must be recommended by LGU on all treatment acres to supply at least 50% of the pre-emergent and early post emergent LGU recommended nitrogen requirements for the crop(s) grown.
    - Common chemical products that are known to affect urease formation are N-(n-butyl) thiophosphoric triamide (NBPT) and ammonium thiosulfate (ATS).
- **Strategy 3:** Slow-release or controlled release formulations of nitrogen fertilizer/EENF for at least 50% of the pre-plant and/or post emergent applications.
    - Use of slow-release or controlled-release nitrogen fertilizer products to improve nutrient use efficiency.
    - Uncoated Nitrogen Fertilizers include: ureaformaldehyde (UF) reaction products, ureaform and methylene ureas.
    - Coated Nitrogen Fertilizers include: sulfur-coated fertilizers, polymer-coated fertilizers and polymer/sulfur coated fertilizers.

Practice Recordkeeping Requirements

Farmers must maintain an attestation of intent and records specific to each CSA practice to demonstrate implementation of the CSA pilot practices. Farmers must provide all listed documentation and records to the entity registering with the Internal Revenue Service under section 40B(f) of the Internal Revenue Code.

The required records must include a farmer attestation, in substantially the same form as the model certificate in Appendix B of IRS Notice 2024-37, declaring the farmer implemented the CSA practice(s) according to these implementation guidelines. Specific recordkeeping requirements are outlined below.

General Requirements

Farmers must provide an attestation of implementation, in substantially the same form as the model certificate in Appendix B of IRS Notice 2024-37, to the SAF producer. This attestation must include:

- Agricultural/farm company name, address, and contact information.
- Farm owner name, address, and contact information.
- Type and amount of feedstock produced, including units.
- A declaration that the farmer has ownership or operational control of the land enrolled. Where land is leased, the lessee must sign the declaration indicating that they have operational control.
- A declaration that the applicable CSA practices have been implemented simultaneously according to the implementation guidelines.

- Longevity: Farmers undertaking this pilot will sign a letter of intent acknowledging they intend to continue to practice no-till and cover crops on the same acreage so that the soil carbon continues to be sequestered and stored, except for a periodic tillage (no more than once every five or ten years).
- A declaration that the farmer has provided the contracted amount of feedstock produced pursuant to these CSA practices exclusively for the registered fuel producer's SAF production, and that the farmer has not and will not sell a greenhouse gas offset credit or otherwise sell associated greenhouse gas benefits.
- A statement that all records provided with the attestation will be made available upon request to an unrelated party verifier for certification purposes.
- A statement that to the best of the farmer's knowledge all information included herein and records provided are accurate and true.

No-Till Recordkeeping Requirements

Farmers must:

- Prior to implementation, document the planned crop rotation and tillage operation(s) used for each crop.
- During implementation, document any changes in crops, crop rotation, or field operations to verify the system meets the no-till practice requirements.

Farmers must make management records available for unrelated party certification, demonstrating:

- Management rotation, as implemented. Records must indicate field number(s) and location(s), planted crop(s) in sequence, planting date for each crop, harvest/termination date for each crop.
- Field operations, as implemented, for each crop. Records must indicate field number(s) and location(s), crop, field operation, and timing of field operation (month/year).
- Total planted acreage, harvest, and yield for crops produced using a no-till system and then sold to refiner(s) as sustainable aviation fuel feedstock.

Farmers must provide, for unrelated party certification, additional documents to support the management records described above, including:

- Records of feedstock crop seed purchase, with sufficient information to show the acquisition, type, quantity, and date of feedstock seed received (purchase receipts, seed tags, delivery receipts).
- Records of seeding in no-till fields including dates and seeding rates.
- Records of field locations, planted acreage, harvested acreage, and yield (Farm Service Agency (FSA) field maps or other farm maps, records of contracted field operations, harvest records).
- Records demonstrating the amount of sustainable aviation fuel feedstock crop delivered to an elevator, miller, refiner, or other delivery point (bushels produced and receipt of sale).

Cover Crop Recordkeeping Requirements

Farmers must:

- Prior to implementation, document the current planned crop rotation, cover crop information, and field operation(s) used for each crop.
- Prior to implementation, read and follow current NRCS Cover Crop Termination guidelines.[17]
- During implementation, document any changes in crops, crop rotation, or unharvested areas to verify the system meets the cover crop practice requirements.

Farmers must provide, for unrelated party certification, documents demonstrating:

- Management rotation, as implemented, including cover crops. Records must indicate field number(s) and location(s), planned crop(s)/cover crops in sequence, planting date for each planned crop/cover crop, harvest/termination date for each planned crop/cover crop.
- Field operations, as implemented, for each crop. Records must indicate field number(s) and location(s), crop, field operation, and timing of field operation (month/year).
- Cover crop mix and seeding rate, including species, variety, seed size, typical seeding depth, seeding rate (lbs./acre), percent of mix.
- Establishment and management considerations applicable to seedbed preparation, seeding date, seeding depth, seeding method, fertilizer (as needed), weed management (as needed), termination date, termination method.
- Total planted acreage, harvest, and yield for crops produced in rotation and sold to refiner(s) as sustainable aviation fuel feedstock.

Farmers must provide, for unrelated party certification, additional documents to support the management records described above, including:

- Records of cover crop seed purchase, with sufficient information to show the acquisition, type, quantity, and date of cover crop seed received (purchase receipts, seed tags, delivery receipts).
- Records of field locations, planted acreage, harvested acreage, and yield (FSA field maps or other farm maps, records of contracted field operations, harvest records).
- Records demonstrating the amount of sustainable aviation fuel feedstock crop delivered to an elevator, miller, refiner, or other delivery point (bushels produced and receipt of sale).

[17] https://www.nrcs.usda.gov/sites/default/files/2023-03/cover-crops-termination-guidelines-designed-v4-2019-updated.pdf

Enhanced Efficiency Nitrogen Fertilizer (EENF) Recordkeeping Requirements

Farmers must:

- Prior to implementation, develop and document a planned nutrient budget, yield goal, and applications (pounds/acre active ingredient, nutrients must include, at a minimum, nitrogen, phosphorous, and potassium (N-P-K)).
- Prior to implementation, select one or more EENF strategies or technologies and document selection.
- During implementation, keep records to document actual nutrient applications (pounds/acre active ingredient, nutrient records must include at a minimum N-P-K.

Farmers must provide management records, for unrelated party certification, demonstrating:

- Planned nutrient budget and yield goal.
- Actual nutrient applications (pounds/acre active ingredient, nutrients must include at a minimum N-P-K) including application date, application rate, field number(s) and location(s), and total acreage treated.
- Total planted acreage, harvest, and yield for crops produced and sold to refiner(s) as sustainable aviation fuel feedstock.

Farmers must provide, for unrelated party certification, additional documents to support the management records described above, including:

- Records of EENF purchase, including sufficient information to demonstrate the product type and composition (receipts, photographs of product tags/labels). Include reference from the appropriate state LGU[18] demonstrating that the product is recommended for the crop and geography.
- Records of feedstock crop seed purchase, with sufficient information to show the acquisition, type, quantity, and date of cover crop seed received (purchase receipts, seed tags, delivery receipts).
- Records demonstrating field locations, planted acreage, harvested acreage, and yield (FSA field maps or other farm maps, records of contracted field operations, harvest records).
- Records demonstrating the amount of sustainable aviation fuel feedstock crop delivered to an elevator, miller, refiner, or other delivery point (bushels produced and receipt of sale).

Supply Chain Traceability Requirements and Recordkeeping

The supplying farmer participating in the CSA pilot must have a direct contract with the SAF producer. The contract must specify the quantity of domestic corn and/or domestic soybean feedstock produced using CSA pilot practices for the SAF producer.

[18] Participants should refer to the Land Grant University within their state on appropriate EENF use.

From each supplying farmer, the SAF producer must collect and maintain all records described in the Practice Recordkeeping Requirements section of this document (with the exception that farmers supplying only domestic soybean feedstock do not need to provide records related to EENF, as that practice is not relevant for soybean production to be eligible for the CSA reduction).

To ensure that domestic corn and domestic soybean feedstocks used for the production of SAF for the purposes of the CSA pilot were appropriately counted, records demonstrating full supply chain traceability are required.

The SAF producer and farmer may agree to use intermediary entities (such as grain elevators) to store the feedstock prior to delivery to the SAF producer. In this case, the SAF producer must collect and maintain the following records from each intermediary entity:

- Records demonstrating the amount of sustainable aviation fuel feedstock crop received by the elevator, miller, refiner, or other delivery point (bushels delivered and receipt of sale).
- Records demonstrating the amount of sustainable aviation fuel feedstock crop delivered to the next entity in the supply chain (bushels delivered and receipt of sale).

These records must be readily available to demonstrate full traceability of the quantity of contracted feedstock, from the farm to the SAF producer.

In addition, each intermediary entity that takes physical possession of the feedstock, including the registered SAF producer, must comply with traceability requirements aligned with Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). The traceability requirements are outlined in "Table 1 – Traceability Requirements" below. Table 1 is based on Table 3 of the CORSIA Eligibility Framework and Requirements for Sustainability Certification schemes[19], In Table 1, entities are referred to as "economic operators."

[19] https://www.icao.int/environmental-protection/CORSIA/Documents/ICAO%20document%2003%20-%20Eligibility%20Framework%20and%20Requirements%20for%20SCS.pdf

Table 1 – Traceability Requirements

#	THEME	REQUIREMENTS
1)	Traceability: Mass Balance	• Economic operators must use a mass balance system that: a) Allows batches of sustainable materials with differing sustainability characteristics to be mixed. b) Requires information about the sustainability characteristics and sizes of the physical quantity (batches) referred to in point (a) to remain assigned to the mixture. c) Provides for the sum of all consignments withdrawn from the mixture to be described as having the same sustainability characteristics, in the same quantities, as the sum of all consignments added to the mixture. d) Demonstrates that the product claims are linked correctly to the feedstock quantities claimed.
2)	Traceability: Mass balance system documentation	• Economic operator must include, as part of its documentation management system, a system for documenting the mass balance. • Economic operator must assign a unique reference/identification number to each batch of certified product sold (also known as batch number).
3)	Traceability: Mass balance level of operation	• Economic operator must operate the mass balance system at a site level. • If more than one legal entity operates on a site, then each legal entity that is an economic operator is required to operate its own mass balance.

4)	Traceability: Mass balance timeframe	• Economic operator must monitor the balance of material withdrawn from and added to the mass balance system. • Economic operators must specify a timeframe over which they will ensure that the mass balance is respected. ○ The operator ensures that the balance is achieved over an appropriate period of time no longer than three months. A deficit is not allowed at the end of the period. • At the end of the reporting period, a positive balance can be forwarded to the next reporting period as long as an equivalent physical stock is available.

Eligible Unrelated Party Certification Bodies

This section explains the accreditations and qualification that unrelated party certification bodies and their verifiers must have to be eligible to perform certification services for the purposes of the CSA pilot.

Unrelated party certification bodies, verifier, and verification team are defined as follows, in accordance with International Organization for Standardization (ISO) 14065.

An unrelated party certification body (more commonly referred to as a verification body) is the organization, or part of an organization, that provides verification.

A verifier is a "competent and impartial person with responsibility for performing and reporting on a verification." They serve as part of a verification team which is "one or more persons conducting validation/verification activities."

Minimum Requirements: International Organization for Standardization (ISO)

Unrelated party certifiers that verify CSA practices and supply chain traceability, for the purposes of the CSA pilot must have accreditation from the ANSI National Accreditation Board (ANAB) for ISO 14065. ISO 14065 specifies general principles and requirements for bodies performing validation and verification of environmental information, which is directly relevant to verifying reduced carbon intensity. In the United States, the ANAB Accreditation Program for Greenhouse Gas Validation and Verification Bodies[20] operates according to ISO 14065.

ISO 14065 requires accredited certification bodies to have a management process for the competence of personnel. This includes: "defining required competencies for each

[20] https://anab.ansi.org/accreditation/greenhouse-gas-validation-verification/.

[program] and sector in which it operates; ensuring that verifiers, validators, technical experts and reviewers have appropriate competencies; ensuring that there is access to relevant internal or external expertise for advice on specific matters relating to the environmental information [program], validation/verification activities, sectors or areas within the scope of their work."

In addition to being ISO 14065 accredited, unrelated party certifiers must demonstrate agricultural expertise in the verification team through one of the following two options:

Option 1: Technical Service Providers

Accredited certification bodies can demonstrate technical competency in agriculture by assigning at least one verifier who is a USDA Technical Service Provider (TSP).[21]USDA's Natural Resources Conservation Service (NRCS) maintains the TSP program, which requires training on agricultural conservation and aligns to NRCS practice standards. NRCS reviews and approves applications for TSP status and maintains a public database of TSPs.[22]

For the purposes of the CSA pilot, TSPs must be approved in the practice they are verifying. The relevant NRCS Practice Codes are 340 (cover crop), 329 (no-till), and 590 (nutrient management).

OR

Option 2: Certified Crop Advisors

Accredited certification bodies can demonstrate technical competency in agriculture by assigning at least one verifier who is a Certified Crop Advisor.[23] . The Certified Crop Adviser (CCA) and Certified Professional Agronomist (CPAg) programs of the American Society of Agronomy provide training and maintain certifications for agronomy professionals in the United States. The CCA program is widely recognized and provides expertise in sustainability and farm management.

Certification Requirements

Certification, by an eligible unrelated party certification body, occurs at the level of the SAF producer registering under section 40B of the IRC.

The SAF producer must make all records (as described in the Practice Recordkeeping Requirements and Supply Chain Traceability Requirements and Recordkeeping sections) available to the unrelated certification body. The unrelated certification body must audit records from supplying farms in the CSA pilot to verify compliance with the CSA practice requirements. Similarly, the unrelated certification body must audit supply chain records, including any mass balance, to verify traceability of the contracted quantity of feedstock produced with CSA practices from the farm to the SAF producer.

[21] https://www.nrcs.usda.gov/getting-assistance/technical-assistance/technical-service-providers.
[22] https://nrcs.my.salesforce-sites.com/FindaTSP.
[23] https://www.certifiedcropadviser.org/.

The unrelated certification body must also conduct on-site audits at a representative sample of supplying farms and intermediary entities.

Contact Information

For questions on the CSA pilot, please contact the USDA at SM.OCE.OEEP.40BCSAPilot@USDA.GOV.

Appendix B – Model Certificate for Climate Smart Agriculture Crops

CERTIFICATE FOR CLIMATE SMART AGRICULTURE CROPS

Certificate Identification Number: _____

(To support a claim related to sustainable aviation fuel (SAF) under §§ 40B and 6426(k) of the Internal Revenue Code.)

The undersigned climate smart agriculture crop producer ("CSA Farmer") hereby certifies the following:

1. _____
   _____
   _____
   CSA Farmer name, address, and contact information

2. _____
   _____
   _____
   Name, address, and EIN of SAF producer buying the climate smart agriculture crops (CSA crops) from CSA Farmer

3. _____
   Date and location of sale to buyer

4. This certificate applies to:
   _____ bushels of domestic corn CSA crop.
   _____ bushels of domestic soybean CSA crop.

CSA Farmer certifies that the CSA crop to which this certificate relates meets the following criteria:

- Applicable CSA practices have been implemented simultaneously and according to the implementation guidelines found in *USDA CSA Pilot Program/Appendix A of Notice 2024-37.*
- CSA Farmer intends to continue to practice no-till and cover-crops on the same acreage so that the soil carbon mitigation is retained, except for a periodic tillage (no more than once every five or ten years).
- CSA Farmer has provided the contracted amount of CSA crop produced pursuant to these CSA practices exclusively for the registered fuel producer's SAF production.
- CSA Farmer will not participate in a greenhouse gas offset or other similar market to sell associated greenhouse gas benefits for the CSA crop covered in this certificate.
- All records provided with this certificate will be made available upon request to an unrelated party certifier for certification purposes. (*See USDA CSA Pilot*

Program/Appendix A of Notice 2024-37 for more information on unrelated party certifiers.)

This certificate applies to the following sale:

_____ Invoice or delivery ticket number

_____ Total number of bushels of CSA crop sold under that invoice or delivery ticket number (including CSA crop not covered by this certificate)

_____ Total number of certificates issued for that invoice or delivery ticket number

CSA Farmer declares that such CSA Farmer has ownership or operational control of the land used to produce CSA crop. Where the land is leased, the lessee must sign the declaration indicating that the CSA Farmer has operational control.

CSA Farmer declares that the information included herein and attached records are accurate and true to the best of the CSA Farmer's knowledge.

CSA Farmer understands that the fraudulent use of this certificate may subject CSA Farmer and all parties making any fraudulent use of this certificate to a fine or imprisonment, or both, together with the costs of prosecution.

_____
Printed or typed name of person signing this certificate

_____
Title of person signing

_____
Signature and date signed

Appendix C – Model Certificate for SAF Synthetic Blending Component

CERTIFICATE FOR SAF SYNTHETIC BLENDING COMPONENT USING THE 40BSAF-GREET 2024 MODEL

Certificate Identification Number: _____

(To support a claim related to sustainable aviation fuel (SAF)
under §§ 40B and 6426(k) of the Internal Revenue Code (Code))

Note: In the case of a claimant that is also the producer or importer of the SAF synthetic blending component, the information required on lines 2, 3, and 11 of the model certificate is not applicable and those lines do not need to be completed.

The undersigned producer or importer of a SAF synthetic blending component (Producer) hereby certifies the following under penalties of perjury:

1. Producer's name, address, and employer identification number (EIN).
   _____
   _____
   _____

2. Name, address, and EIN of person buying the SAF synthetic blending component from Producer.
   _____
   _____
   _____

3. Date and location of sale to buyer.
   _____

4. Name and address of the California Air Resources Board Low Carbon Fuel Standard (CARB LCFS) Verifier certifying compliance with the general requirements, supply chain traceability requirements, and information transmission requirements similar to the requirements established under Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) for lifecycle greenhouse gas emissions reduction percentage calculations made pursuant to the Department of Energy’s 40BSAF-GREET 2024 model.
   _____
   _____
   _____

5. CARB LCFS Verifier Executive Order Number:
   _____

6. This certificate applies to _____ gallons of a SAF synthetic blending component.

7. Producer certifies that the SAF synthetic blending component to which this certificate relates:

(A) Is not derived from co-processing an applicable material (monoglycerides, diglycerides, triglycerides, free fatty acids, or fatty acid esters) or materials derived from an applicable material with a feedstock that is not biomass (as defined in section 45K(c)(3) of the Code);
(B) Is not derived from palm fatty acid distillates or petroleum; and
(C) Has been certified in accordance with section 40B(e) of the Code as having a lifecycle greenhouse gas emissions reduction percentage of at least 50 percent.

8. The lifecycle greenhouse gas emissions reduction percentage of the SAF synthetic blending component to which this certificate relates is _____, which is calculated using the 40BSAF-GREET 2024 model. (This percent must be rounded down to the nearest whole percent.)

9. The applicable supplementary amount with respect to the SAF synthetic blending component to which this certificate relates is _____. In no event can the applicable supplementary amount exceed $0.50.

10. This certificate applies to the following sale:

_____ Invoice or delivery ticket number
_____ Total number of gallons of the SAF synthetic blending component sold under that invoice or delivery ticket number (including SAF synthetic blending component not covered by this certificate)
_____ Total number of certificates issued for that invoice or delivery ticket number

11. Name, address, and EIN of reseller to whom certificate is issued (only in the case of certificates reissued to a reseller after the return of the original certificate).

_____
_____
_____

12. _____ Original Certificate Identification Number (only in the case of certificates reissued to a reseller after return of the original certificate)

13. Producer is registered as a sustainable aviation fuel (activity letter SA) producer or importer with registration number _____. Producer's registration has not been suspended or revoked by the Internal Revenue Service.

Producer understands that the fraudulent use of this certificate may subject Producer and all parties making any fraudulent use of this certificate to a fine or imprisonment, or both, together with the costs of prosecution.

_____
Printed or typed name of person signing this certificate

_____
Title of person signing

_____
Signature and date signed

Appendix D – Model Certificate for SAF Synthetic Blending Component

CERTIFICATE FOR SAF SYNTHETIC BLENDING COMPONENT USING THE 40BSAF-GREET 2024 MODEL AND USDA CSA PILOT PROGRAM FOR CORN AND SOYBEAN

Certificate Identification Number: _____

(To support a claim related to sustainable aviation fuel (SAF)
under §§ 40B and 6426(k) of the Internal Revenue Code (Code))

Note: In the case of a claimant that is also the producer or importer of the SAF synthetic blending component, the information required on lines 2, 3, and 14 of the model certificate is not applicable and those lines do not need to be completed.

The undersigned producer or importer of a SAF synthetic blending component (Producer) hereby certifies the following under penalties of perjury:

1. Producer's name, address, and employer identification number (EIN).
   _____
   _____
   _____

2. Name, address, and EIN of person buying the SAF synthetic blending component from Producer.
   _____
   _____
   _____

3. Date and location of sale to buyer.
   _____

4. Name and address of the California Air Resources Board Low Carbon Fuel Standard (CARB LCFS) Verifier certifying compliance with the general requirements, supply chain traceability requirements, and information transmission requirements similar to the requirements established under Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) for lifecycle greenhouse gas emissions reduction percentage calculations made pursuant to the Department of Energy’s 40BSAF-GREET 2024 model.
   _____
   _____
   _____

5. CARB LCFS Verifier Executive Order Number:
   _____

6. This certificate applies to _____ gallons of a SAF synthetic blending component.

7. Producer certifies that the SAF synthetic blending component to which this certificate relates:
   (A) Meets the requirements of ASTM International (ASTM) D7566 Annex 2 for the soybean HEFA production pathway or Annex 5 corn Alcohol-to-Jet using Ethanol production pathway (the certificate of analysis reference number demonstrating conformance with such standard is _____, dated _____);
   (B) Is not derived from co-processing an applicable material (monoglycerides, diglycerides, triglycerides, free fatty acids, or fatty acid esters) or materials derived from an applicable material with a feedstock that is not biomass (as defined in section 45K(c)(3) of the Code);
   (C) Is not derived from palm fatty acid distillates or petroleum; and
   (D) Has been certified in accordance with section 40B(e) of the Code as having a lifecycle greenhouse gas emissions reduction percentage of at least 50 percent.

8. Producer certifies that the Producer:
   (A) Contracted directly with a farmer who cultivated corn or soybean crops under the requirements of the USDA CSA Pilot Program.
   (B) Produced 100% of the SAF synthetic blending component to which this certificate relates from the corn or soybean crops directly purchased from the farmer through the contract described in 8(A) of this model certificate.
   (C) Maintains adequate documentation including (1) the Certificate for Climate Smart Agriculture Crops from the farmer for the corn or soybean crops directly purchased from the farmer pursuant to the contract described in 8(A) of this model certificate; and (2) all other records described in the USDA CSA Pilot Program Practice Recordkeeping Requirements, and Supply Chain Traceability Requirements and Recordkeeping in Appendix A of Notice 2024-37.

9. The lifecycle greenhouse gas emissions reduction percentage of the SAF synthetic blending component to which this certificate relates is _____, which is calculated using the 40BSAF-GREET 2024 model and the USDA CSA Pilot Program. (This percent must be rounded down to the nearest whole percent.) Check which reduction is included in the calculation.

   ____USDA CSA Pilot Program Corn (Reduction of 10 gCO2e/MJ)
   ____USDA CSA Pilot Program Soybean (Reduction of 5 gCO2e/MJ)

10. _____ Certificate Identification Number of Certificate for Climate Smart Agriculture Crops.

11(A). Name, address, and identification number or code of the unrelated party with an accreditation from a certification body that is accredited under the ANSI National Accreditation Board for International Organization for Standardization 14065 that is certifying compliance with practice recordkeeping requirements and supply chain traceability requirements established under the USDA CSA Pilot Program.

_____
_____
_____

11(B). Name, address, and identification number (such as a Technical Service Provider Number or other similar identifier) of at least one individual of the unrelated party certifier in 11(A) who is a USDA Technical Service Provider or a Certified Crop Advisor as described in the USDA CSA Pilot Program Eligible Unrelated Party Certification Bodies.

_____
_____
_____

12. The applicable supplementary amount with respect to the SAF synthetic blending component to which this certificate relates is _____. In no event can the applicable supplementary amount exceed $0.50.

13. This certificate applies to the following sale:
_____ Invoice or delivery ticket number
_____ Total number of gallons of the SAF synthetic blending component sold under that invoice or delivery ticket number (including SAF synthetic blending component not covered by this certificate)
_____ Total number of certificates issued for that invoice or delivery ticket number

14. Name, address, and EIN of reseller to whom certificate is issued (only in the case of certificates reissued to a reseller after the return of the original certificate).

_____
_____
_____

15. _____ Original Certificate Identification Number (only in the case of certificates reissued to a reseller after return of the original certificate)

16. Producer is registered as a sustainable aviation fuel (activity letter SA) producer or importer with registration number _____. Producer's registration has not been suspended or revoked by the Internal Revenue Service.

Producer understands that the fraudulent use of this certificate may subject Producer and all parties making any fraudulent use of this certificate to a fine or imprisonment, or both, together with the costs of prosecution.

_____
Printed or typed name of person signing this certificate

_____
Title of person signing

_____
Signature and date signed