



Department of Energy

Washington, DC 20585

Aviva Aron-Dine
Acting Assistant Secretary, Tax Policy
U.S. Department of Treasury
1500 Pennsylvania Avenue, Room 3120
Washington, D.C. 20220

Dear Acting Assistant Secretary Aron-Dine:

We are writing to provide a brief summary of key elements of the 40BSAF-GREET 2024 model. The 40BSAF-GREET 2024 model is based on the Greenhouse gases, Regulated Emissions, and Energy use in Technologies (R&D GREET®) model developed and maintained by Argonne National Laboratory.

DOE and other federal agencies developed the 40BSAF-GREET 2024 model to satisfy the statutory requirements of § 40B(e)(2), including to address the issues EPA identified in its December 2023 letter to the U.S. Department of Treasury regarding the R&D-GREET model's treatment of certain indirect emissions.¹ Accordingly, the 40BSAF-GREET 2024 model includes the following parameters, which are explained further in the 40BSAF-GREET 2024 User Manual:

- New GHG emissions modeling of indirect effects from changes in land use, crop production, and livestock production from the GTAP-BIO model. These parameters are included to address gaps in the indirect emissions from land use, crop production, and livestock production in the R&D-GREET model that the EPA had previously determined needed to be addressed to be consistent with section 211(o)(1)(H).
- When calculating emissions associated with electricity consumption, SAF producers can use an emissions rate associated with certain specific electricity generators so long as the user holds and retires renewable electricity credits (RECs) that meet specified criteria that align with the methodology established in the California LCFS from renewable electricity generators with a commercial operations date no earlier than 36 months prior to the placed in service date of the SAF (or ethanol) facility that is purchasing the RECs. This parameter is included to better align with the LCFS certification process and as a means of reducing the risk of induced electric grid emissions resulting from new electricity demand from SAF production being added to an existing grid.
- The model includes pathways for the use of renewable natural gas (RNG) only for directly-connected landfill gas for which SAF production is the first productive use of that RNG. This parameter is included to limit indirect emissions associated with the diversion of biogas or RNG from other pre-existing productive uses and in recognition that additional certainty is needed to accurately account for emissions from RNG pathways that do not yet exist in 40BSAF-GREET and from RNG that is injected into a commercial or common-carrier pipeline.

¹ [Final-EPA-letter-to-UST-on-SAF-signed.pdf \(treasury.gov\)](#)

- For hydrogen used in the production of SAF that is purchased from an offsite hydrogen production facility and for which the SAF producer claims an emission rate other than the rate of unabated natural gas-derived hydrogen, SAF producers can use the well-to-gate GHG intensity of that hydrogen as calculated using 45VH2-GREET 2023.

We extend our thanks to U.S. Treasury and the Sustainable Aviation Fuels Lifecycle Analysis Interagency Working Group for your collaboration and work on developing 40BSAF- GREET 2024, and we remain ready to continue our partnership in support of IRA section 40B.

Sincerely,

Carla Frisch
Acting Executive Director,
Principal Deputy Director
DOE Office of Policy

Jeffrey Marootian
Acting Assistant Secretary,
Principal Deputy Assistant Secretary
DOE Office of Energy Efficiency
& Renewable Energy