

Priority Updates For EPA RFS Lifecycle Analysis Methodology

EPA can deliver wins on long overdue RFS updates to unleash new domestic energy production and grow markets for farmers through the next RFS volume rulemaking. Further inaction by EPA on these needed updates will continue to penalize U.S. farmers and domestic fuel producers and gives international bodies license to continue penalizing U.S. producers as well.

1) Add Carbon Capture and Storage/Sequestration (CCS)

Situation: EPA began [considering the addition of CCS in the RFS in 2012](#) and [proposed to add CCS to the RFS](#) in the 2016 Renewables Enhancement and Growth Support (REGS) proposed rule; EPA did not finalize the REGS Rule. Separate from the RFS, EPA has regulations and [guidance requirements](#) for geologic CCS storage.

- In 2024, the Department of Energy [included CCS](#) for ethanol production facilities that supply ethanol as an intermediate to SAF production in the 40BSAF-GREET model developed by Argonne National Laboratory (ANL), with input from EPA, for determining lifecycle greenhouse gas (GHG) emissions under the Section 40B SAF Tax Credit.
- In 2025, the [Department of Energy included CCS for ethanol and alcohol to jet \(ATJ\) fuel pathways in the 45ZCF-GREET model](#) developed by ANL, with input from EPA, for determining lifecycle GHG emissions for renewable fuels under the Section 45Z Clean Fuel Production Tax Credit.

Solution: EPA should propose adding CCS to the RFS LCA in the next RFS volume rulemaking.

- Including CCS in the RFS would provide fuel producers with the ability to account for a significant emissions reduction opportunity in ethanol and ATJ fuel pathways. Including CCS in the RFS would also provide consistency in lifecycle analysis for the same fuels under both the RFS and Section 45Z.
- Pathways for domestic ATJ SAF production will continue to be disadvantaged under the RFS without the addition of CCS.
- EPA already determined that both the 40BSAF-GREET 2024 model and 45ZCF-GREET model, with their inclusion of CCS, satisfy the criteria under Section 211(o)(1)(H) of the Clean Air Act for determining lifecycle GHG emissions under the RFS.

2) Update iLUC/Indirect Emissions

Situation: In the 2023 RFS Set Rule, EPA acknowledged that the biofuel GHG modeling framework EPA has previously relied upon is [old, and that an updated framework is needed](#). EPA initiated work to update the framework and provided results of its Model Comparison Exercise in the final 2023 RFS Set Rule as an initial step.

- Since the RFS Set Rule, EPA worked with the Interagency SAF Lifecycle Analysis Working Group (IWG) in 2024 on modifications to the 2023 R&D GREET for use with the Section 40B SAF tax credit, producing a similar methodology, 40BSAF-GREET, which [EPA determined satisfies the RFS criteria under Section 211\(o\)\(1\)\(H\) of the Clean Air Act](#).
- In 2025, EPA concluded the 45ZCF-GREET model for use with the Section 45Z clean fuel tax credit [satisfies the RFS criteria under Section 211\(o\)\(1\)\(H\) of the Clean Air Act](#).

Solution: EPA should update the RFS LCA to be consistent with the iLUC and indirect emissions in 45ZCF-GREET, which EPA has already determined satisfies the RFS criteria under Section 211(o)(1)(H) of the Clean Air Act.

- EPA is currently using 2009 iLUC for corn ethanol at 27.9 gCO₂e/MJ in the RFS. The 2025 45ZCF-GREET iLUC value for corn ethanol is 5.7 gCO₂e/MJ.
- EPA is currently using 2009 iLUC for soy biodiesel and soy renewable diesel at 33.6 gCO₂e/MJ in the RFS. The 2025 45ZCF-GREET iLUC values for soy biodiesel and soy renewable diesel are 12.58 gCO₂e/MJ and 13.84 gCO₂e/MJ, respectively.
- EPA's outdated indirect emissions values in the RFS are penalizing U.S. farmers and biofuel producers and allow international bodies to penalize U.S. producers as well.
- Pathways for domestic fuels produced with domestic feedstocks, including ATJ SAF production, will continue to be disadvantaged under the RFS without an iLUC update.
- Empirical data, including EPA's own determinations on total cropland remaining below 2007 levels in every RFS volume rule, do not support conclusions of most iLUC models.

3) Include Agriculture Benefits

Situation: Accounting for and including emissions reductions from feedstock production practices in producer-specific fuel pathways is critical because feedstock production is a significant contributor to a fuel's lifecycle carbon emissions. Policies that include and account for full lifecycle emissions in fuel pathways, such as the RFS, would be rendered more accurate and effective by including emission reductions across the full supply chain, including from feedstock production practices.

Solution: EPA should leverage [USDA's 2025 interim rule establishing technical guidelines for biofuel feedstocks](#) to incorporate agriculture feedstock benefits in the RFS lifecycle analysis and producer pathways.

- USDA's technical guidelines are intended for the purpose of biofuel production, and USDA has made these guidelines available for consideration in international, national or state clean transportation fuel policies in accordance with 16 U.S.C. 3845, which would include the RFS.