

Change Log for 45ZCF-GREET Model and User Manual

45ZCF-GREET (Rev. December 2025)

The 45ZCF-GREET (Rev. December 2025) model and associated User Manual implements the following changes relative to 45ZCF-GREET (Rev. May 2025, Amendment):

For all pathways:

- The dependency file, which is used to run backend calculations, has been updated to use R&D GREET 2025 to utilize the most recent available data and assumptions.

For Coal Mine Methane (CMM) Capture and Upgrading:

- Change in flaring efficiency in background calculations from 99.85% to 98%
- Addition of Carbon Capture and Sequestration (CCS) parameter
- Addition of inputs for electricity, both imported renewable electricity and onsite Behind the Meter (BTM) Energy Attribute Credits (EACs), and CMM upgrading technology

For Renewable Natural Gas (RNG) pathways:

- Addition of Carbon Capture and Sequestration (CCS) parameter
- For Onsite Behind-the-Meter (BTM) Electricity, addition of field to include both Integrated and Energy Attribute Credit (EAC) fields
- Renamed 'Final RNG pressure' field to 'RNG pressure exiting upgrader'
- Addressed numerical instability in the RNG pressure field

The following policy changes from the One Big Beautiful Bill Act are reflected in the model outputs and clarified in the User Manual for fuels produced after December 31, 2025:

- Deduction of Indirect Land Use Change (ILUC) calculations
- The pathway for RNG from [Generic] Animal Manures via Anaerobic Digestion may no longer be used; pathways for specific species must be established
- Ineligibility of feedstocks sourced from outside of the United States, Mexico and Canada

45ZCF-GREET (Rev. May 2025, amendment)

The 45ZCF-GREET (Rev. May 2025) model was amended to address the following:

- The coal type parameter is added to the transesterification production pathways to biodiesel.
- The sample input data for wet mill ethanol is updated to be consistent with those in R&D GREET 2024 Rev1.
- An error in calculating emissions associated with corn stover input in the corn stover ethanol pathway.
- Implements a validation to prevent users from entering negative values for input parameters that are not expected to be negative.

45ZCF-GREET (Rev. May 2025)

The 45ZCF-GREET (Rev. May 2025) model and associated User Manual implements the following changes relative to 45ZCF-GREET (Rev. January 2025):

- Added pathway for alternative natural gas from Coal Mine Methane (CMM) capture and upgrading.
- Added pathway for ethanol from U.S. corn wet mills. A simplified plant-level allocation by mass is applied to derive the results for ethanol. The same indirect emissions value per MJ for dry mill corn ethanol is applied to wet mill ethanol.
- Added text to the GREET User Manual to quote [Notice 2025-11](#), sec. 401 to clarify that these (and potential future) model updates, including new types, categories or pathways, may be used immediately.
- Clarifies in the GREET User Manual that Carbon Capture Utilization and Sequestration (CCUS) allows CO₂ stored in U.S. Class II wells used for Enhanced Oil Recovery (EOR), in addition to Class VI wells. (Note: No changes to model only revisions to user manual.)