Change Log for 45ZCF-GREET Model and User Manual

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.
- Addresses 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 CO_2 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.)
- Lifecycle emissions results updated to include the output in kilograms of CO_2 equivalent per million British thermal units (kg CO_2e/MMBtu), consistent with Section 45Z tax credit.
- Corrected Summary Table 9b. in the GREET User Manual to reflect final Indirect land use change (ILUC) emissions factors for soy and canola. (Note: No changes to model or modeled results, only correcting summary data as presented in the manual.)

- Added coal as a process input option for biodiesel via Transesterification pathways.
- Revised Methanol input for biodiesel production to be entered in gallons as opposed to units of energy (MMBtu).