



July 25, 2019

The Honorable Andrew Wheeler
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20469

Dear Administrator Wheeler:

On behalf of the members of the American Coalition for Ethanol (ACE), I write to inform you of a recently published meta-analysis showing that corn production, when all stover (residue) is left on fields, results in significant soil carbon sequestration. If taken into account by lifecycle modeling, this would shrink the greenhouse gas (GHG) footprint of corn ethanol far below the current estimate used by the Environmental Protection Agency (EPA).

The study, “A global meta-analysis of soil organic carbon response to corn stover removal¹,” is based on 409 data points and 74 trials conducted around the world to quantify stover removal effects on soil organic carbon stocks. Its authors include scientists with the Department of Energy’s Argonne National Laboratory, United States Department of Agriculture, and several land-grant universities.

A key finding of the meta-analysis is that corn stover retention increased average soil organic carbon stocks annually at a rate of 0.41 metric tons per hectare (this is equivalent to 0.62 tons of carbon dioxide per acre per year) compared to baseline values, while the removal of corn stalks, leaves, and cobs reduce soil carbon stocks. The meta-analysis goes on to say changes in soil carbon stocks can alter lifecycle GHG emissions for corn-based ethanol.

EPA relies upon lifecycle accounting to quantify GHG emissions under the Renewable Fuel Standard (RFS), however, your model is nearly a decade old and fails to include the continuing advancements in this science documented by the Argonne National Laboratory and the studies represented in the meta-analysis. EPA’s antiquated model is an impediment to more low carbon biofuel use hurting both rural communities and the environment.

As you work on the proposed rule to “reset” RFS volumes for 2021 and 2022, ACE urges you to take this timely meta-analysis into consideration to foster more ethanol blending. Specifically, we encourage EPA to use the “reset” as an opportunity to increase undifferentiated renewable fuel volume beyond 15 billion gallons for 2021 and 2022 by reallocating the 2.61 billion gallons waived so far through so-called “hardship” exemptions for small refineries and restoring 500 million gallons to the 2016 RFS compliance year as ordered by the U.S. Court of Appeals.²

Beyond the legal justification for reallocating and restoring these volume obligations, corn ethanol’s ever-shrinking GHG emissions warrant increasing volumes for 2021 and 2022. Since the RFS was enacted, ethanol’s carbon intensity has continued to drop while gasoline has gotten worse. Increasing the use of ethanol is one of the most meaningful ways to reduce U.S. carbon dioxide emissions today.

¹ Xu H, Sieverding H, Kwon A, et al. A global meta-analysis of soil organic carbon response to corn stover removal. *GCB Bioenergy*. 2019;00:1-19. <https://doi.org/10.1111/gcbb.12631>

² Americans for Clean Energy et al vs EPA. U.S. Court of Appeals for the District of Columbia. Argued April 24, 2017. Decided July 28, 2017.

Nearly three decades ago, Dr. Michael Wang at the Argonne National Laboratory developed the Greenhouse gas and Regulated Emissions and Energy use in Transportation (GREET)³ model. It is considered the gold-standard for calculating energy use, GHGs, and other regulated emissions that occur during the full lifecycle production and combustion of all transportation fuels. GREET is used by the California Low Carbon Fuel Standard program and the Oregon Clean Fuels program and has more than 30,000 registered users worldwide. The assumptions used in GREET by Argonne scientists are under constant review and updates to the model occur frequently.

Unlike Argonne's GREET model, EPA's lifecycle model has not been updated since your original (2010) corn ethanol assessment. In 2010, EPA estimated corn ethanol's carbon intensity was approximately equal to gasoline and that it would take until 2022 for corn ethanol to improve to 20 percent below gasoline using assumptions that have proven incorrect in real life. In comparison, Argonne's GREET model determined that corn ethanol's carbon intensity was already 20 percent below gasoline in 2010. Today the GREET model shows corn ethanol has nearly 50 percent lower GHG emissions than gasoline.

We have repeatedly encouraged EPA to update its GHG model for corn ethanol, but the Agency has ignored our request. Today, we call on EPA to adopt the latest GREET model to make all GHG determinations instead of the outdated model currently used by the Agency. We also urge EPA to consider the meta-analysis finding that ethanol's GHG emissions shrink under farming practices which are predominant in the U.S. Based on an average corn yield of just 150 bushels per acre and the carbon sequestration potential of 0.41 tons per hectare as described in the meta-analysis, corn ethanol's lifecycle GHG emissions would shrink by another 20 percent compared to gasoline, exceeding the GHG thresholds to qualify as advanced and cellulosic biofuel under the RFS and justifying higher volumes.

It is incumbent upon EPA to make RFS volume obligation determinations on scientifically-defensible GHG assessments. We encourage you to take advantage of the useful data we are sharing today so corn ethanol is properly valued in the RFS for the important role it plays in reducing GHGs.

Sincerely,



Brian Jennings, CEO
American Coalition for Ethanol

cc: The Honorable Sonny Perdue, Secretary, United States Department of Agriculture

³ <https://greet.es.anl.gov/>