



December 2, 2022

Internal Revenue Service
CC:PA:LPD:PR (Notice 2022-58)
Room 5203
P.O. Box 7604
Ben Franklin Station
Washington, DC 20044

RE: Notice 2022-58. Request for Comments on Credits for Clean Fuel Production (§45Z)

On behalf of the American Coalition for Ethanol (ACE), I appreciate the opportunity to comment on implementation of the new clean fuel production tax credit (§45Z) contained in Public Law 117-169, commonly referred to as the Inflation Reduction Act (IRA).

ACE is a grassroots advocacy organization, powered by rural Americans from all walks of life who have built an innovative industry that delivers homegrown low carbon biofuel for a growing world. Our nearly 300 members include U.S. ethanol biorefineries, investors in biofuel facilities, farmers, and companies that supply goods and services to the U.S. ethanol industry.

Over the past five years, ACE has been at the forefront of discussions on how the ethanol industry and U.S. farmers can further contribute to greenhouse gas (GHG) reduction goals. Specifically, ACE's Board of Directors committed to support policies at the state and/or federal level which recognize ethanol is part of the climate and health solution while crediting farmers and ethanol producers for activities which help reduce lifecycle GHG emissions by at least 70% compared to gasoline by 2030 and reach net-zero lifecycle GHG emissions by 2050. ACE is working to make this commitment a reality through policy development and real-world validation of lifecycle GHG benefits of agriculture practices at scale. Proper implementation of the new §45Z tax credit will incentivize U.S. ethanol companies and farmers to invest in production processes and practices to reach these net-zero carbon intensity goals in a meaningful timeframe to address the current climate challenges.

At its heart, the §45Z tax credit is focused on the lifecycle GHG emissions of a clean fuel compared to petroleum and more specifically the credit is performance-based. In other words, fuel producers will have unique or individual carbon intensity (CI) scores (referred to as emission rates in the IRA) which will determine the value of the credit they may obtain. The idea of individual emission rates is not new to the U.S. ethanol industry. Since 2011 many ACE-member companies have participated in the California Low Carbon Fuel Standard (LCFS) which requires unique CI scores for various production pathways. Other states have implemented similar programs requiring individual emission rates.

The IRA directs the Treasury Department and IRS to utilize the U.S. Department of Energy Greenhouse gases, Regulated Emissions, and Energy use in Technologies (GREET)¹ model for making determinations about §45Z emission rates. The GREET model 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. The assumptions used by Argonne scientists in GREET are under constant review and updates to the model occur frequently. GREET is

¹ <https://greet.es.anl.gov>

used by the California LCFS program and has more than 40,000 registered users worldwide. The latest version of the GREET model indicates that average dry mill corn ethanol production reduces lifecycle GHG emissions by nearly 50 percent compared to gasoline. When individual emission rates are determined by Treasury and IRS for implementation of §45Z, many producers will have CI scores that reduce GHGs compared to gasoline by as much as 70 percent.

While GREET is the gold-standard, there are certain emissions factors related to feedstock production (i.e., corn farming for corn-based ethanol) such as the impact various tillage methods have on soil organic carbon sequestration and how nutrient management of nitrogen fertilizer can lower nitrous oxide emissions which are not yet fully incorporated in the model. These are commonly referred to as “climate smart” agricultural practices. We believe these practices need to be considered by Treasury and IRS when implementing the new tax credit.

Scientific evidence increasingly shows that adoption of climate smart agriculture practices is one of the quickest and most cost-effective areas for GHG emission mitigation. In 2018, the Intergovernmental Panel on Climate Change found that 89% of the world’s GHG emission mitigation potential comes from agricultural soil carbon sequestration and exceeds 5 gigatons of CO₂e per year in potential mitigation reductions.² In January 2020, Lawrence Livermore National Laboratory reviewed California’s objective to reach carbon neutrality by 2045.³ In its report, Lawrence Livermore found that California would need to remove 125 million tons of carbon from the atmosphere each year to meet the 2045 goal. The first strategy identified by Lawrence Livermore to meet California’s objective was to capture and store as much carbon as possible through better management of natural and working lands. The report identifies several climate smart agriculture practices that could provide meaningful reductions including changes in tillage practices (no-till and reduced till), cover crops, and compost application.

ACE is currently engaged to better quantify the real-world GHG benefits of climate smart farming practices. In late 2021, the United States Department of Agriculture (USDA) provided ACE and our partners with \$7.5 million to work in the grainshed of one of our ethanol company members located in South Dakota to: (1) incentivize farmer adoption climate smart agriculture practices at scale, (2) partner with leading land-grant university scientists and Sandia National Laboratory to collect data to measure, verify, and model resulting soil health and GHG benefits, and (3) use this data to help project farmers enter LCFS markets. The data collected through this project will increase the confidence in current models used to quantify soil carbon sequestration and nitrous oxide emissions, and the impacts of crop yield, tillage intensity, and nutrient management on biofuel GHG emissions. We are confident our project and this data could help ethanol facilities obtain a more valuable tax credit under §45 Z as well.

² Smith, P., D. Martino, Z. Cai, D. Gwary, H. Janzen, P. Kumar, B. McCarl, S. Ogle, F. O’Mara, C. Rice, B. Scholes, O. Sirotenko, 2007: Agriculture. In *Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [B. Metz, O.R. Davidson, P.R. Bosch, R. Dave, L.A. Meyer (eds)], Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, available at <https://www.ipcc.ch/site/assets/uploads/2018/02/ar4-wg3-chapter8-1.pdf>

³ Sarah E. Baker, Joshua K. Stolaroff, George Peridas, Simon H. Pang, Hannah M. Goldstein, Felicia R. Lucci, Wenqin Li, Eric W. Slessarev, Jennifer Pett-Ridge, Frederick J. Ryerson, Jeff L. Wagoner, Whitney Kirkendall, Roger D. Aines, Daniel L. Sanchez, Bodie Cabiyo, Joffre Baker, Sean McCoy, Sam Uden, Ron Runnebaum, Jennifer Wilcox, Peter C. Psarras, Hélène Pilorgé, Noah McQueen, Daniel Maynard, Colin McCormick, *Getting to Neutral: Options for Negative Carbon Emissions in California*, January, 2020, Lawrence Livermore National Laboratory, LLNL-TR-796100, available at https://www.llnl.gov/content/assets/docs/energy/Getting_to_Neutral.pdf

Within the South Dakota project area, it is estimated that shifting from conventional tillage to no-till would reduce 91,000 metric tons of GHG emissions per year or the equivalent of removing 20,000 cars from the road. If LCFS markets credited these GHG benefits, farmers in the grainshed would reap 39-49 cents per bushel, a sizable economic incentive for farmers to expand these climate-smart practices. This potential economic return has resulted in significant farmer interest in the program with expressed interest nearly tripling available funding for the program.

Demonstrating scientific rigor of GHG benefits related to climate-smart farming practices at relevant landscape scale is critical to increase confidence levels in existing models and enable farmers and ethanol producers to monetize the farm-level GHG reductions in regulated low carbon or clean fuel markets and through the new §45Z tax credit.

Ultimately, the combination of climate-smart farming practices, constant improvements and efficiencies within ethanol facilities, and carbon capture and sequestration (CCS) puts corn ethanol on a trajectory to reach both net-zero and net-negative emissions – a trajectory that is unique to ethanol and squarely puts farmers and biofuel producers in a position to be a meaningful part of the solution to climate change.

Thank you for your time and consideration of these comments. We look forward to collaborating with you on these important issues.

Sincerely,

A handwritten signature in black ink, appearing to read "B. Jennings". The signature is fluid and cursive, with a long horizontal stroke at the end.

Brian Jennings, CEO
American Coalition for Ethanol