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NATIONAL ACADEMIES OF SCIENCES, ENGINEERING, AND MEDICINE
CURRENT METHODS FOR LIFE CYCLE ANALYSES OF LOW-CARBON TRANSPORTATION FUELS IN THE UNITED STATES
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Good morning. My name is Scott Richman, and I am the Chief Economist of the Renewable Fuels Association (RFA), the nation's leading trade association representing fuel ethanol producers.

The RFA appreciates the opportunity to share our comments as the study of current methods for life cycle analyses of low-carbon transportation fuels gets underway. We believe that this is a critical time for the study to be undertaken, and we commend the National Academies and the study sponsor for convening this committee.

There is increasing recognition at the state, national and international levels that action needs to be taken to materially slow and eventually halt net emissions of greenhouse gases (GHGs). The RFA supports policies that are properly designed to achieve this objective, so long as they are based on a life cycle emissions performance-based approach that is technology and feedstock neutral. This study can provide a science-based foundation for such policies.

Specifically, life cycle analyses must have consistent analytical boundaries across all fuels and vehicles, in terms of direct effects and any indirect effects, and they must be transparent regarding the methods and data that are used. For corn ethanol, the state of the science for analyzing GHG emissions has improved significantly over time, as reflected in two recent studies.

Scientists from the Department of Energy's Argonne National Laboratory estimated that the carbon footprint of corn ethanol shrank by 23% between 2005 and 2019 as farmers and ethanol producers adopted new technologies and improved efficiencies.[1] Similarly, researchers at Environmental Health & Engineering, Harvard University and Tufts University determined that the "central best estimate" of corn ethanol's carbon intensity is

[1] Lee, U., Kwon, H., Wu, M. and Wang, M. (2021), Retrospective analysis of the U.S. corn ethanol industry for 2005–2019: implications for greenhouse gas emission reductions. Biofuels, Bioprod. Bioref.. https://doi.org/10.1002/bbb.2225

46% lower than the average for gasoline.[2] Importantly, both papers pointed out the reduction in theorized land use change associated with corn ethanol, from accusations in 2008 that emissions were over 100 gCO_2e/MJ to recent estimates that are below 10 gCO_2e/MJ.

There has not been a significant increase in U.S. cropland since the Renewable Fuel Standard was expanded in 2007. Given the clarity of statistics on this fact, opponents have turned to contorting satellite-based imagery to try to find land cover and land use change. However, they used grassland data in a way that the U.S. Department of Agriculture warned against, and their findings exhibit false change—simply reflecting the improvement in the recognition of cropland in the imagery-based data that has occurred since 2008.

Rather than rehashing yesterday's battles, the committee should focus on what's important: recognizing the current state of the science, providing a level playing field across technologies and feedstocks, and properly incorporating into life cycle analysis the practices and technologies that can provide substantial GHG savings in the future. One example is allowing the inclusion of upstream (i.e., on-farm) carbon sequestration in biofuel carbon intensity scoring.

Thank you again for allowing me to provide these comments, and on behalf of the RFA I hope there are opportunities to engage more extensively as the committee proceeds with its work.

[2] Scully, M. J., Norris, G. A., Falconi, T. M. A., & MacIntosh, D. L. (2021). Carbon intensity of corn ethanol in the United States: state of the science. Environmental Research Letters. https://iopscience.iop.org/article/10.1088/1748-9326/abde08.