



To: House Tax Policy Committee Members
From: Megan Tinsley, Water Policy Director, Michigan Environmental Council
Date: September 20, 2022
Re: Testimony in Opposition to Senate Bill 814

Dear Chair Hall, Vice Chairs Tisdell and Yancey, and members of the Committee:

The Michigan Environmental Council opposes SB814 because it provides incentives to increase the percentage of corn ethanol in our fuel supply. The following explains why increasing corn production to meet this demand presents risks to the water and air quality of our state and does not contribute to meeting carbon reduction goals.

Water Quality

Corn is very nutrient dependent and requires intense application of nutrients to thrive. While corn is planted on 23% of U.S. cropland, it receives 40% of fertilizer¹. Fertilizer runoff contributes to water quality issues across the state, fueling algal blooms that can become toxic and threaten not only ecosystems, but also public health, drinking water supplies and the livelihood of those that depend on industries such as tourism and outdoor recreation. There are real, quantifiable costs to the downstream pollution resulting from agricultural runoff. A recent report shows that a family of five in Toledo pays an extra \$100 per year on their water utility bill because of the costs from the increased monitoring for toxic algal blooms and testing for and treating for the associated cyanobacteria in their drinking water supply². Both Lake Erie and Saginaw Bay are listed as impaired for nutrients, the vast majority of which enter these water bodies from non-point agricultural sources.

Fertilizer runoff following rain events not only carries nutrients bound to soil to our local surface waters but can threaten groundwater that serves as drinking water sources as well. Nitrates move readily through the water table and are found at elevated levels in shallow groundwater of more than half of America's rural

¹ <https://s3.amazonaws.com/ucs-documents/clean-vehicles/corn-ethanol-and-water-quality.pdf> (*Corn Ethanol's Threat to Water Resources. Union of Concerned Scientists.*)

² <https://greatlakes.org/wp-content/uploads/2022/05/FINAL-COI-Report-051622.pdf>

watersheds, according to the USGS³. Nitrates in drinking water pose significant human health risks.

Air Quality

Gasoline with higher blends of ethanol such as E15 is not completely combusted in car engines. This adds Volatile Organic Compounds (VOCs) to emissions and contributes to smog and ozone formation. For this reason, the Clean Air Act prohibits the sale of E15 during the summer months when higher heat levels contribute to ozone formation. Additionally, when the amount of ethanol blended into gasoline increases, the likelihood of higher nitrogen oxide production also increases. Nitrogen oxides likely contribute more to smog problems than VOCs, and increases may push some regions into nonattainment zones for ozone standards⁴. Michigan areas with histories of ozone nonattainment include Berrien County, portions of Allegan and Muskegon Counties, as well as the seven-county area of Southeast Michigan. Elevated levels of ozone are problematic for those with chronic lung diseases and asthma and long-term repeated exposure may cause permanent lung damage.

Carbon Footprint

A recent study shows that the carbon intensity of corn ethanol is no less than gasoline and it is likely at least 24% higher⁵. This results largely from land conversion to agriculture and the associated machinery emissions and release of carbon from the soil. The goal of the federal Renewable Fuel Standard was in part to reduce our nation's dependency on foreign oil, as well as to achieve environmental benefits. Unfortunately, the inclusion of advanced biofuels such as switchgrass have not materialized, and corn ethanol provides the vast majority (87%) of the biofuel currently blended into our fuel supply. In addition to the carbon intensity related to the most widely used farming practices to produce corn for refineries, the increased corrosive properties of corn ethanol prohibit it from being able to travel through pipeline delivery systems. Thus, ethanol is transported by rail or truck⁶, which also increases its carbon footprint.

While we recognize the impact of high fuel prices on our economy, providing incentives for increased sale of E15 will not deliver savings at the pump. E15 contains a lower energy content than E10, meaning that it also delivers fewer miles per gallon. More precisely, ethanol contains about one-third less energy than gasoline and thus vehicles will typically go 3% to 4% fewer miles per gallon on E10 and 4% to 5% fewer on E15 than on 100% gasoline⁷. We need advanced biofuels that are more energy efficient and less environmentally destructive than corn ethanol. Unfortunately, blending a higher percentage of corn ethanol into our fuel supply not only fails to offer any

³ Union of Concerned Scientists.

⁴ Clean Air Task Force: <https://www.catf.us/2018/10/more-ethanol-more-problems/>

⁵ Environmental Outcomes of the US Renewable Fuel Standard. PNAS 2022 Vol. 119 No. 9.

⁶ <https://me.engin.umich.edu/news-events/news/government-aims-boost-ethanol-without-evidence-it-saves-money-or-helps-environment/>

⁷ fueleconomy.gov

environmental benefits, it presents significant environmental risks by further degrading air and water quality, as well as offering no progress toward carbon reduction goals. Therefore, the Michigan Environmental Council opposes SB814 and we appreciate the consideration of this testimony.

Sincerely,

Megan Tinsley
Water Policy Director
Michigan Environmental Council