Minnesota
Environmental
Partnership

www.MEPartnership.org
Suite 100
546 Rice Street
St. Paul, MN 55103
Phone 651.290.0154
Fax 651.290.0167

** This is an updated version from the letter that was sent December 6 including signers inadvertently left off of the previous version.*

December 6, 2021

Rep. Patty Acomb, Chair of the House Climate Caucus
Rep. Rick Hansen, Environment and Natural Resources Finance and Policy Chair
Rep. Frank Hornstein, Transportation Finance and Policy Chair
Rep. Fue Lee, Capital Investment Chair
Rep. Jamie Long, Climate and Energy Finance and Policy Chair
Rep. Mike Sundin, Agriculture Finance and Policy Chair

RE: Concerns regarding the proposed state E15-mandate and further investment in ethanol

Members of the House of Representatives,

In the 1970s, gasoline blended with ethanol was introduced to add value to the corn crop, eliminate lead, and extend our nation's fuel supply. Ethanol has often been viewed as a "bridge fuel" until future less-polluting systems were available to power transportation. But fifty years later, corn-based ethanol remains while the world has changed. Minnesota has serious water quality problems compounded by the production of ethanol, and critical climate goals for the transportation and agriculture sectors that we are not on track to meet. Success is utterly possible, but only if we invest in the solutions that will get us to our goals. We ask state policymakers to align policy and investment to help Minnesota achieve the climate goals current science requires and foster thriving family farms with a resilient and sustainable agricultural economy.

I. Ethanol won't put us on track to meet needed greenhouse gas emission reduction goals.

The Intergovernmental Panel on Climate Change (IPCC), made up of scientists from 195 countries including the United States, agree that to limit the most devastating impacts of climate change, the world must reduce GHG emissions 45% by 2030 while being on a trajectory to zero emissions by 2050.

Getting to zero emissions means that it is not enough to employ technologies that *reduce* our greenhouse gas emissions, we must build out the infrastructure for technologies that *eliminate* them.

Ethanol was never developed to reduce greenhouse gas pollution -- and it's not very effective at it.
Corn based ethanol and ethanol-blended gasoline emit nearly as many GHG emissions as gasoline. However, corporate agribusiness, standing to profit from ethanol mandates, have marketed negligible differences in hopes of securing markets for ethanol into the future.

Tail-pipe Emissions Comparison[1]:

→ Burning a gallon of gasoline: 19.64 pounds of CO2 **Why so heavy?[2]*

→ Burning a gallon of E-10: 18.95 pounds of CO2
(E-10 is a blend of up to 10% ethanol + 90% gasoline)

→ Burning a gallon of E-15: 18.61 pounds of CO2*
(equaling less than 2% improvement over E-10)

→ Burning a gallon of pure ethanol: 12.72 pounds of CO2
(For demonstrative purposes)

Looking at tail-pipe emissions alone, every mile traveled on ethanol blends adds to the climate crisis. In the case of E-10 and E-15, nearly as much as gasoline. But no matter how high the ratio of ethanol to gas, burning ethanol fuel will always add significant tailpipe emissions to the atmosphere.

Ethanol promoters, working to rebrand it as climate-friendly, cite advantages over gasoline found in life-cycle emissions: The lifecycle GHG emissions of corn ethanol is around 39-43% lower than an equivalent amount of gasoline.[3] Even in the best scenarios for future ethanol-blends, they are not a viable solution to our climate crisis, but rather continue to contribute to it.

Other efforts to reduce the carbon footprint of ethanol -- such as capturing greenhouse gas emissions off its production and piping it to sequestration -- are expensive attempts to improve ethanol's emissions profile. But the process of carbon capture is problematic in its own right – requiring significant energy, thousands of miles of hazardous pipelines, and an ultimate end use that extracts more oil ("enhanced oil recovery") – all while seeking subsidies from taxpayers for this pollution.

II. Ethanol production is polluting family and community water supplies.

Out of the approximately 8 million acres of corn grown in Minnesota each year, 40% is used to produce ethanol. This is having significant negative consequences on our water.

Impacts to Surface Waters

Row crop agriculture, dominated by the rotation of corn and soybean crops, is by far the largest source of pollution to Minnesota's surface waters. Corn is a notoriously "leaky" crop that, when grown too extensively on the landscape as is common in many areas of Minnesota, readily contaminates our drinking water. The most recent update to Minnesota's Impaired Waters List added over 300 lakes, rivers and streams to the compilation of waters that don't meet water quality standards. Over 2,900 surface waters are now on the list. Only 31 waters were removed from the list due to improving water quality. Since 2015 there have been NO WATERS in Southwestern Minnesota that can safely accommodate swimming and fishing.

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[1] FAQ - U.S.-Energy-Information Administration-EIA.pdf

[2] **Why do carbon dioxide (CO2) emissions weigh more than the original fuel?** The CO2 that is produced from burning a fuel weighs more than the fuel itself because during combustion, each carbon atom combines with two oxygen atoms in the air to make CO2.

* Estimate by MEP assumes proportional reduction in CO2 emissions based on E-10 reduction

[3] A Lifecycle Analysis of the Green House Gas Emissions from Corn Based Ethanol, a report prepared for the U.S. Dept. of Agriculture by ICF, September 5, 2018, p. 99.

Primary pollutants are the fertilizers applied to row crops that run off into our waters, in some cases making them not just polluted but life-threateningly toxic for pets and wildlife. Cropland runoff pollution also contributes to the annual Gulf of Mexico Hypoxic Zone -- a dead zone bereft of oxygen and all aquatic life that needs it -- last year exceeding an area the size of Connecticut.

Impacts to Drinking Water

Nitrate contamination also affects drinking water by infiltrating the aquifers beneath our feet. Today at least 537 public water supply wells in Minnesota have nitrate levels that exceed the state health limit. Meanwhile, about 10% of private wells in vulnerable areas exceed the risk limit and are unsafe to drink, including some townships where preliminary data shows that 30% to 40% or more of private wells are contaminated with nitrate pollution. Smaller communities lack the tax base to provide expensive in-home treatment devices -- further exacerbating the state's troubling environmental inequities.

III. Ethanol diverts attention and investment away from real solutions that can significantly reduce transportation emissions and improve water quality.

Electrification and transit are far more effective choices for reducing GHG emissions and the NOX and fine particle air pollution that make people sick.

Electric vehicles have no tailpipe emissions -- their operation is a path to our zero-emission future. The carbon intensity of EVs is dependent on the source of the energy used in their manufacture and charging. The already lower greenhouse gas emission profile of electric vehicles over gas-powered vehicles will only continue to diminish as our electricity supply keeps getting cleaner. Electric vehicles will be able (and some are able even now) to be powered entirely from renewable energy. By contrast, liquid fuels already pollute more than electricity - and they always will. Major car companies are aggressively shifting to EVs, with new models, and the price of electric vehicles continuing to drop. New models of electrified transit are also coming online. The viable path to reaching our IPCC goals in transportation includes

- Electrification policies and investments; and
- Providing choices for travelers that will reduce Vehicle Miles Traveled (VMT).

Further investments in ethanol -- public or private -- detract from the meaningful progress that could be made toward reducing greenhouse gas emissions in both the transportation and agriculture sectors. The Governor's Council on Biofuels Report estimates that 85% of fueling sites need replacement of underground storage tanks, piping, dispensers and other miscellaneous equipment to be compatible with E15. The costs of bringing these sites up to compatibility standards were estimated to range from approximately $771 million to $784 million and are expected to take approximately 10 years. This amount of money to enable an approximate 2% reduction in greenhouse emissions (per gallon) falls far short of the 45% emissions reduction goal by 2030, much less build the foundation for reaching zero emissions by 2050. Public funds could be put to better use accelerating EV adoption and expansion of transit.

The next generation of agriculture crops has potential to help farm families, communities and the ecosystems around them thrive.

Research from the Forever Green Initiative at the University of Minnesota is making winter-hardy continuous living cover crops a reality for Minnesota farmers. These crops -- like Kernza, Pennycress, Camelina, and more -- are good for water quality and erosion control, and farmer profitability and quality of life. Several are on the cusp of wider scaling-up and adoption, including winter annual oil seed crops which provide a very positive alternative as a low carbon liquid fuel. Investing in this research and these markets has the potential to holistically solve many of the issues facing farmers and our state natural resources today.

Our Position

Recognizing these realities, our coalition of environmental and conservation organizations has adopted the following position and encourages state policymakers to:

1. Oppose an E-15 mandate.
2. Oppose new public subsidies or expanded investments in ethanol, including spending to "update" gas stations or other infrastructure.
3. Support expanded investment in electrification of transportation and transit.
4. Support a just transition for rural economies away from corn-based ethanol and toward new continuous living cover crops that produce biofuels with significantly reduced carbon intensity and greatly expanded protection for our soil and water.

We would welcome the opportunity to meet with you on this issue.

Sincerely,

Steve Morse
Executive Director

Clean Water Action Minnesota

Cooperative Energy Futures *

Environmental Working Group

Friends of the MN Scientific and Natural Areas

Friends of the Mississippi River

Institute for Agriculture and Trade Policy

Izaak Walton League -- Minnesota Division

League of Women Voters Minnesota

Minnesota Herpetological Society

Minnesota Interfaith Power & Light

Minnesota Ornithologists Union

Minnesota River Valley Audubon Chapter

Minnesota Trout Unlimited

MN350

Pesticide Action Network

Pollinator Friendly Alliance

Save Lake Superior Association

Save Our Sky Blue Waters

Sierra Club - North Star Chapter

Vote Climate

* *Indicates not an MEP member*

cc: Chris Schmitter, Deputy Chief of Staff, Governor Walz
Rachel Ganani, Environmental Policy Advisor, Governor Walz
Thom Petersen, Commissioner of Department of Agriculture