Biofuels: Powering Minnesota's Transition to a Green Economy

Background

For decades, Minnesota has been a national leader in biofuels. It was the first state in the nation to mandate use of both ethanol in gasoline and biodiesel in diesel fuel. As a result, Minnesota has cleaner air, per-gallon greenhouse-gas emissions have been reduced, and biofuel production has contributed to local economies throughout the state.

However, much more needs to be done. We have lagged in meeting our goals for petroleum replacement and for greenhouse gas reduction. Economic forces and in some cases public policies have acted as headwinds to continued progress and innovation.

Because of these factors, Governor Walz formed the Governor's Council on Biofuels in the fall of 2019. In November of 2020, the Governor's Council gave the Governor its consensus recommendations, which form the basis of the Governor's biofuels policy and budget recommendations.

Details

Biofuels as a near-term strategy to reduce greenhouse gas emissions:
Transportation is the second leading source of greenhouse gas emissions. Long term strategies include repowering our vehicles using a variety of potential sources, including electricity, hydrogen, and advanced biofuels (biofuels with 50% or greater GHG reduction than gasoline). Today, however, we have an opportunity to greatly reduce emissions from our current fleet of cars and trucks through increased use of biofuels.

The policy recommendations, now contained in House File 1433 and Senate File 1178, are to establish:

- A Biofuels Education and Promotion Program, a fund and authority to spend on grants and contracts, and a standing council to advise the Commissioner of Agriculture (new sections in MINN. STAT. 41A);
- A standard requiring all new fuel dispensing equipment to be compatible with E25 (gasoline containing 25% ethanol) (amendment to MINN. STAT. 116.49);
- New ethanol content requirements for gasoline, to be implemented by target dates (E15 by 2022 and E25 by 2031) upon meeting conditions, as determined by the commissioners of the Agriculture, the Minnesota Pollution Control Agency, Commerce, and the Department of Transportation. The content-requirement conditions include that service-station owners have had adequate time to upgrade fuel-dispensing infrastructure to be compatible with the higher ethanol blends, and small service-station chains have had an opportunity to obtain financial assistance (amendment to MINN. STAT. 239.791).

The budget recommendation is a $4 million base budget appropriation for a Biofuels Infrastructure Financial Assistance Program. The recommendation also includes policy language to establish a program, fund, and advisory committee.

Additional Information

Creating incentives and new markets for advanced biofuels to drive lower carbon emissions: Invention and innovation in biofuels offer tremendous opportunity to further reduce carbon emissions and environmental impacts of transportation, and use byproducts of agriculture, forestry, and industry that otherwise become waste.

An important existing program for driving innovation in biofuels is the Bioincentive Program. For the past several years, claims for Bioincentive payments have greatly exceeded available funds. The Governor has recommended an increase of funding to $3.75 million, which will reduce the shortfall.

Clean fuels policy: The Department of Transportation will lead a multi-agency effort that includes the Departments of Agriculture and Commerce, the Minnesota Pollution Control Agency, private businesses, non-profits, academia, and elected officials to develop a clean fuels policy to support farmers and reduce carbon pollution in Minnesota by at least 4 million tons by 2030 and over 20 million tons by 2050. The work builds on recommendations from the Governor's Climate Change Subcabinet and the Governor's Council on Biofuels. Recommendations will prioritize the creation of new markets for the agricultural sector and reducing health and economic disparities currently experienced by low-income communities and people of color.

State government leading by example: The state's current fleet of cars, trucks, and equipment represents a great opportunity for immediate greenhouse gas reduction through increased use of biofuels. The Governor will direct state government to plan for, implement, and track greater use of biofuels in its fleets of light, medium, and heavy-duty vehicles. In addition to helping fight climate change, the state can be an example for other vehicle fleets and the public as a whole.

What is E15?

E15 is gasoline containing 15% ethyl alcohol (ethanol), which is the same type of alcohol contained in adult alcoholic beverages. Most ethanol in Minnesota is made from the starchy parts of corn kernels but can be made from many other plant materials as well, including stalks and leaves, or waste materials from wood products (cellulosic ethanol). Using ethanol in our gasoline has many benefits including:

- Cleaner air. Ethanol reduces emissions caused by burning gasoline in engines, including carbon monoxide, particulates, and toxic chemicals.
- Reduced greenhouse gas emissions (GHGs). According to the Argonne National Laboratory, corn-starch ethanol reduces GHGs by 19-48% when compared to gasoline. Cellulosic ethanol reduces GHGs by over 50%.
- Better engine performance. Adding more ethanol to gasoline boosts octane, which reduces harmful engine knocking caused by uneven ignition of gasoline. E15 is a mid-grade gasoline (88 octane), between regular and premium gasoline.
- Economical. E15 is usually less expensive than premium or regular gasoline.
- Home-grown. We don't drill oil in Minnesota, but we do grow crops and forests. Ethanol adds value to crops and products we grow in the state, generating a flow of dollars that circulate in our local economies and create jobs.