Ethanol in Minnesota: Today and Beyond

Bob Patton | Agricultural Marketing & Development

DEPARTMENT OF AGRICULTURE
• The “Minnesota Model”: farmer-owned cooperatives
• Ethanol producer payment: 1986 to 2012
• First E10 mandate (2003)
• First biodiesel mandate (B2) Effective 2005
• First B20 mandate
• Most E85 stations in the U.S.
• Highest blend rate of over 12%
• 18 ethanol plants
• Nameplate capacity: 1.35 BGY
Weekly Midwest (PADD 2) Oxygenate Plant Production of Fuel Ethanol

Source: U.S. Energy Information Administration
Yesterday

SORRY
DUE TO
ALLOCATION
WE CAN SERVE
NO MORE
NO GASOLINE
TODAY

![Image of a sign saying "SORRY DUE TO ALLOCATION WE CAN SERVE NO MORE GASOLINE TODAY"

![Image of an old tractor with a rusted front grill and headlights]
Ideas that lead to bold action
Governor Tim Walz directed state agencies to engage Minnesotans to find solutions that reduce greenhouse emissions, build community resilience, and create decent jobs. Share your ideas.

Minnesota takes action on climate change

Local impacts: Climate change threatens our families, communities, livelihoods, and our shared environment.

State of MN actions: The state of Minnesota is taking bold actions to reduce greenhouse gas emissions and adapt to our new climate.

Community solutions: Businesses, cities and Tribal Nations are developing creative and sustainable solutions.
Figure 1: Emission reductions by measure, 80x50 scenario

- Fuel Economy Standards
- Reduction in Urban Miles Traveled
- Light Duty Electric Vehicles
- Medium Duty Electric and Hybrid Vehicles
- Heavy Duty Electric and Hybrid Vehicles
- Biofuels
- Mobile Refrigerants
- GHG Goals

Sustainable Transportation
The number of ICE vehicles remains large through 2040, even with aggressive action.
“...to advise the Governor, and the Commissioners of the Department of Agriculture, the Department of Transportation, the Department of Commerce, and the Pollution Control Agency on the role of biofuels in reducing greenhouse gas emissions, and recommend policy and budget proposals to foster growth in the production and use of biofuels.”
Policies that accelerate achievement of the petroleum replacement goals outlined in Minnesota Statutes 2018, section 239.7911

Petroleum Replacement Goals (gasoline):

- 14% by 2015
- 18% by 2018
- 25% by 2020
- 30% by 2025

Current ethanol use 12.5%
Policies and programs to *advance and invest in carbon efficiency improvements* of biofuels plants and sources of biofuels feedstock
Policies that utilize biofuels to help Minnesota achieve its greenhouse gas reduction goals under the 2007 Next Generation Energy Act.

Source: Minnesota Pollution Control Agency
Considerations

• Impacts to, and opportunities for, farmers, rural communities, the natural environment, and economically disadvantaged populations as it relates to biofuels production

• The feasibility and cost of increasing biofuels infrastructure throughout Minnesota
Five Governor’s Council Topical Areas

• Higher blends/Infrastructure
• Low Carbon Fuel Standard (LCFS)/Clean Fuels Policy
• State fleet
• Public information/marketing
• Advanced biofuels
Five Governor’s Council Topical Areas

• Higher blends/Infrastructure
• Low Carbon Fuel Standard (LCFS)/Clean Fuels Policy
• State fleet
• Public information/marketing
• Advanced biofuels
Infrastructure Grant Programs

• 2014-2015 Program
  • $2.3 M (60% MCRPC/40% MDA)
  • 63 stations

• MN BIP
  • $14.1 M (58% USDA/25% MDA/18% partners)
  • 137 grant locations
  • 348 blender pumps
  • 427 dedicated E15 pumps
  • 46 underground storage tanks with E85 compatibility

• New grant program
  • $6 M state funding
  • $1 M gift from MCGA
“Moving from a 10 to 15 percent ethanol minimum content standard is a near-term policy priority to accelerate progress toward the Petroleum Replacement Goal of 25 percent biofuel use in gasoline by 2030.”
Five Governor’s Council Topical Areas

• Higher blends/Infrastructure
• Low Carbon Fuel Standard (LCFS)/Clean Fuels Policy
• State fleet
• Public information/marketing
• Advanced biofuels
Clean Fuel Standard

Office of Governor Tim Walz & Lt. Governor Peggy Flanagan

Newsroom

Welcome to the Office of Governor Walz and Lt. Governor Flanagan Newsroom. Here you will find our latest press releases, updates, and other information.

Governor Walz Announces Pathway to Reduce Impact of Transportation on Climate

Release: 1/7/21

ST PAUL, MN - Today, Governor Tim Walz directed state agencies to explore new strategies to reduce climate change impacts from transportation fuels, lead by the Minnesota Department of Agriculture and Minnesota Department of Transportation. The agencies will engage a broad conversation of stakeholders, homeowners to identify shared goals and opportunities that will help to inform a new Clean Fuel Standard in Minnesota.

The agencies will provide a report summarizing the results and recommendations in February 2022.

"Minnesota can lead the way in addressing climate change in a way that supports new jobs, reduces pollution, and helps ensure our children have clean air to breathe and clean water to drink," said Governor Walz. "That’s why our Administration will work with private, non-profits, and government partners and stakeholders to address climate change while creating jobs across the state."

"Minnesota has a long history of working together to tackle big challenges," said Lieutenant Governor Peggy Flanagan. "These collaborative and creative solutions are needed to address future impacts of climate change on Minnesota communities. Listening to and learning from stakeholders and affected communities is key to our continued success. If we do this right, we can grow our economy while reducing climate impacts to future generations."

Find out when, where, and how to get your dose.
What is a Clean Fuel Standard (CFS)?

• A performance-based incentive program that reduces climate pollution from **ALL** fuels (e.g., gas/diesel, biofuels, electricity)

• Based on lifecycle carbon accounting

  Material extraction > processing > manufacturing > distribution > use > maintenance > disposal/recycle

• Assigns a carbon intensity (CI) score to all fuels; credits below, deficits above
How a CFS works

- Set a CI target level that decreases over time
- Fuel wholesaler (e.g., refiner or utility) or blender manages credit balance
- Buy/sell directly from/to other credit holders

Chart courtesy of Great Plains Institute
Production incentive payments to encourage commercial-scale production of:

- **Advanced biofuel**
  - Lifecycle greenhouse gas emissions are at least 50 percent less than gasoline

- **Renewable chemicals**
  - Chemicals produced from agricultural biomass, forestry materials, or the organic portion of solid waste

- **Biomass thermal energy**
  - Thermal energy produced from biomass combustion, gasification, or aerobic digestion
Thank You!

Bob Patton
Bob.Patton@state.mn.us
651-201-6226