Ethanol in Minnesota: Today and Beyond

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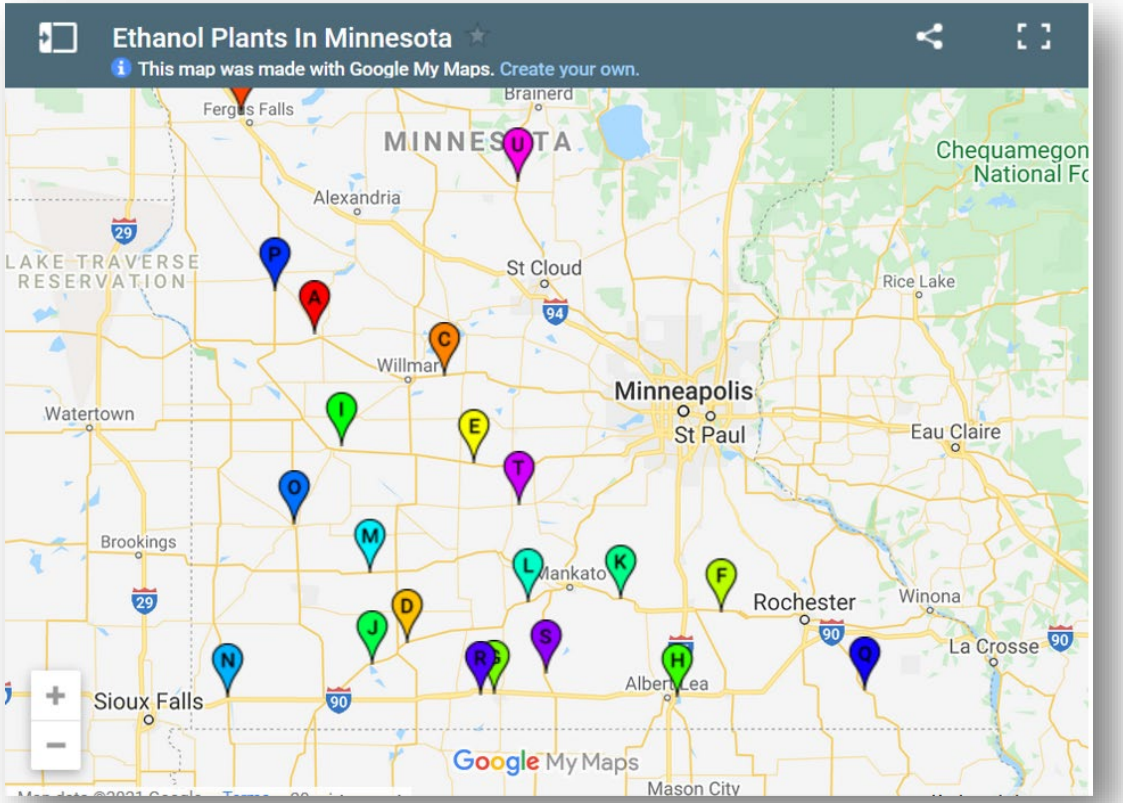
DEPARTMENT OF AGRICULTURE

Minnesota Firsts

- 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%

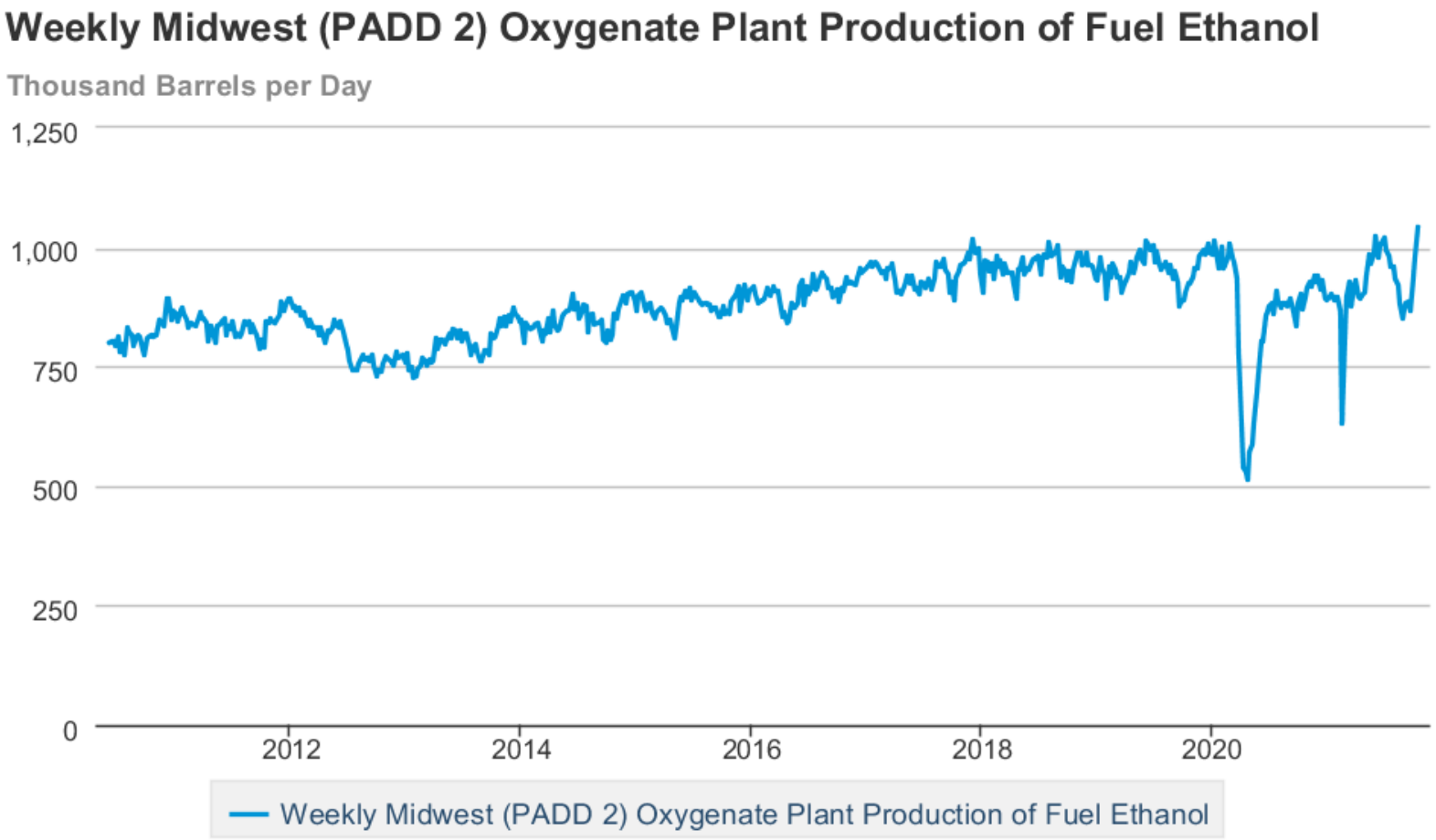
Ethanol



- 18 ethanol plants
- Nameplate capacity: 1.35 BGY

Map and data courtesy of the Minnesota Biofuels Association

Ethanol production



Source: U.S. Energy Information Administration

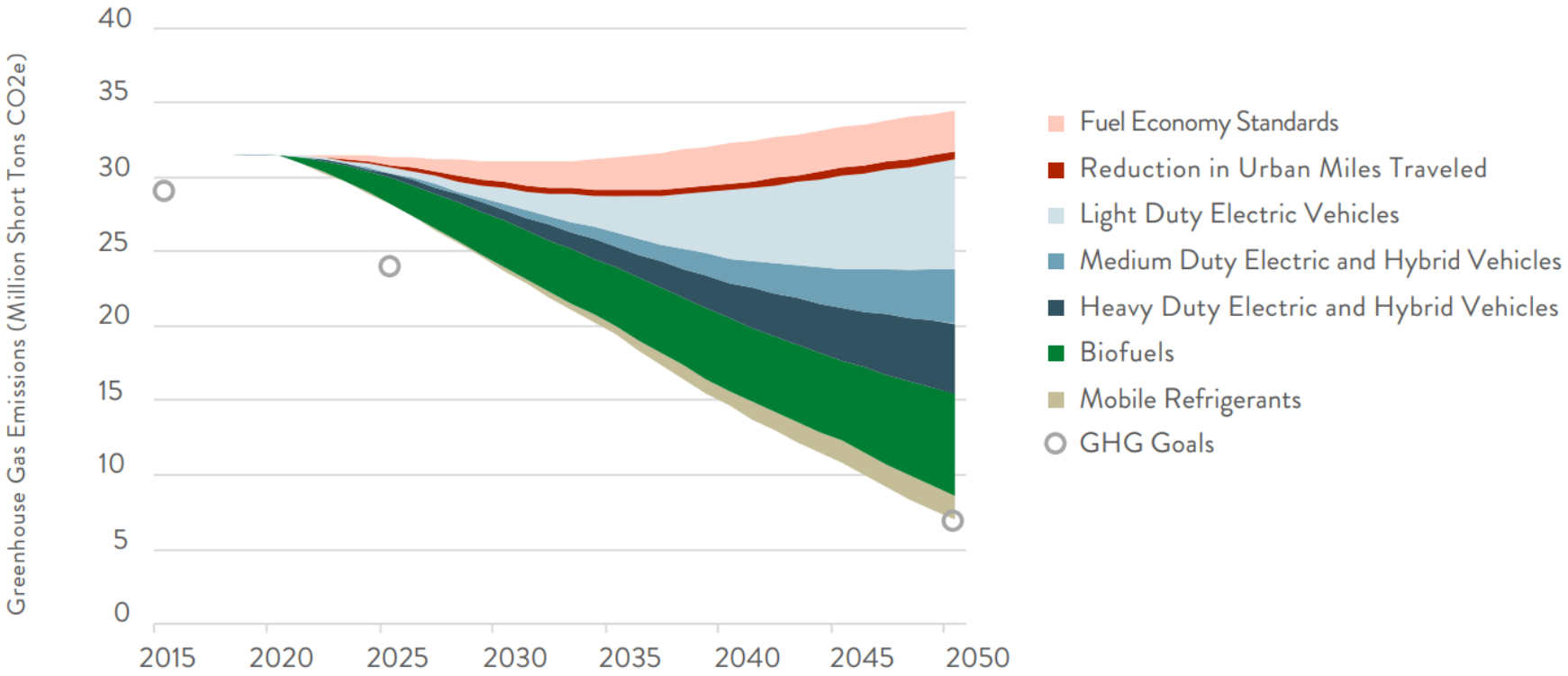
Yesterday

Today

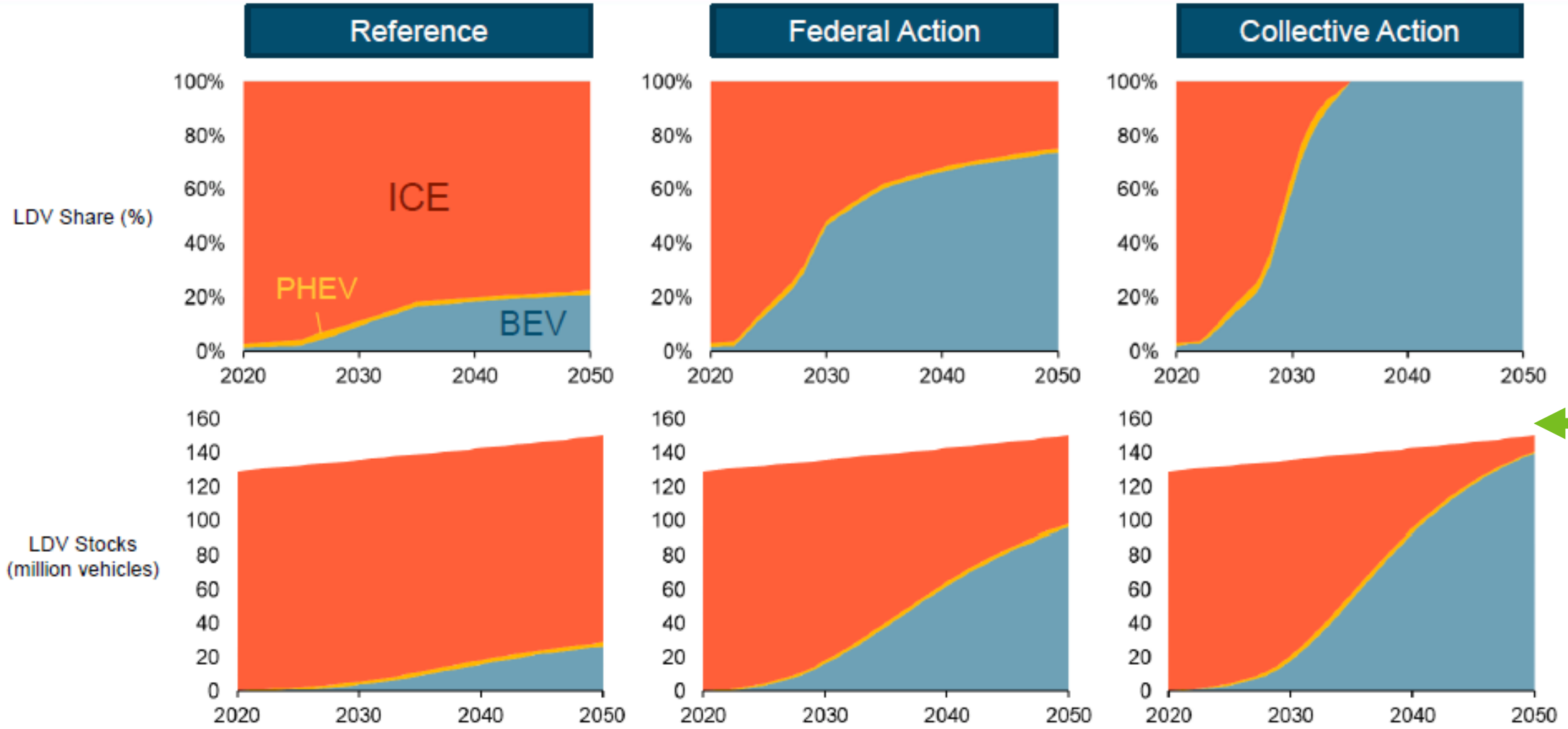

OUR MINNESOTA CLIMATE
Local impacts
State actions
Community solutions
About
Ideas that lead to bold action
Governor Tim Walz directed state agencies to engage Minnesotans to find solutions that reduce greenhouse emissions, build community resilience, and create decent jobs. Share your ideas.
Minnesota takes action on climate change
LET'S DO THIS!
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.

Sustainable Transportation

Figure 1: Emission reductions by measure, 80x50 scenario



Uptake of EVs



The number of ICE vehicles remains large through 2040, even with aggressive action

EO 19-35: Purpose of Governor's Council on Biofuels

"…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***."

Considerations

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

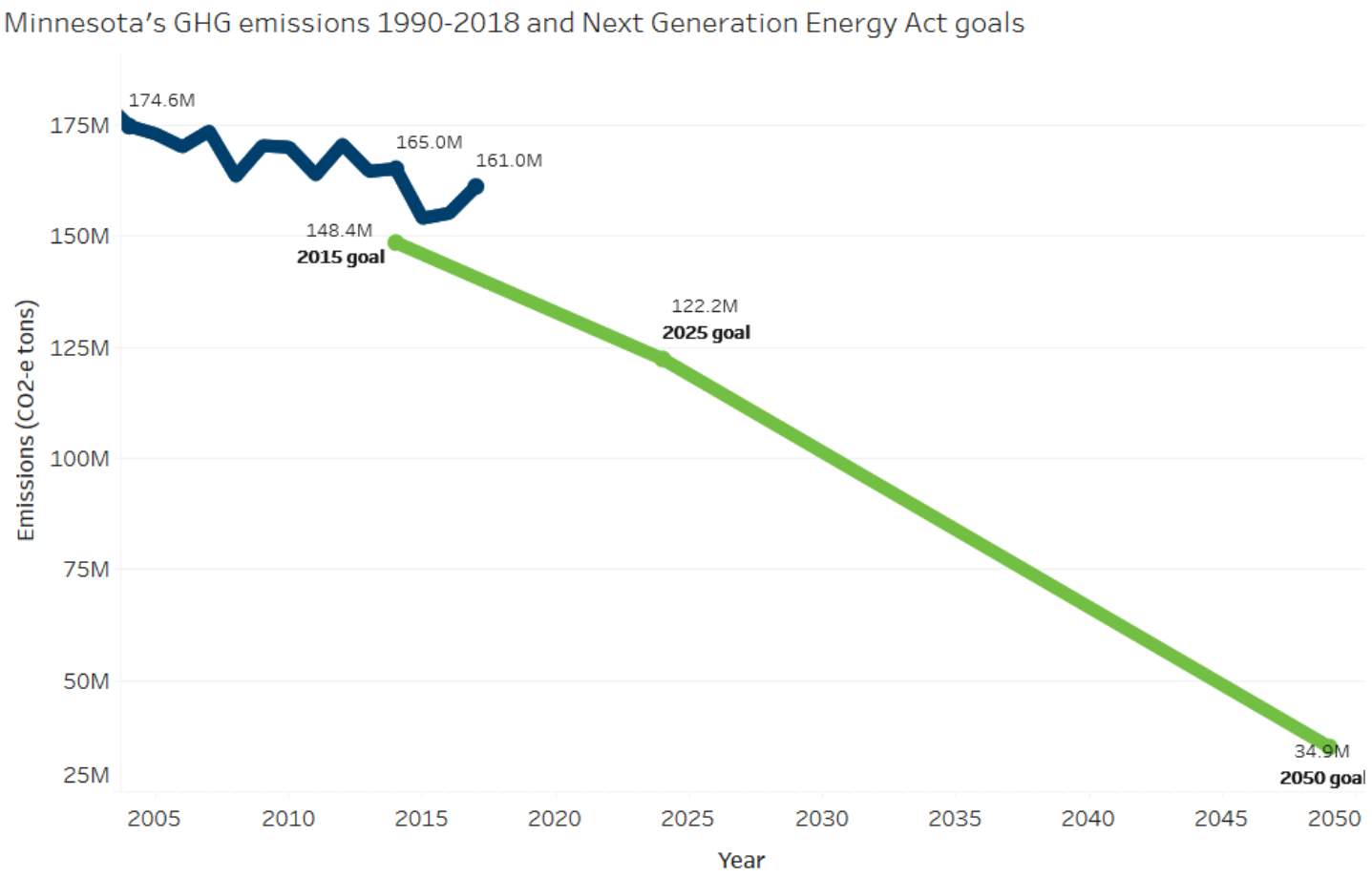
Current ethanol use 12.5%

Considerations

Policies and programs to **advance and invest in carbon efficiency improvements** of biofuels plants and sources of biofuels feedstock

Considerations

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

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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

Higher Blends/Infrastructure

"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."

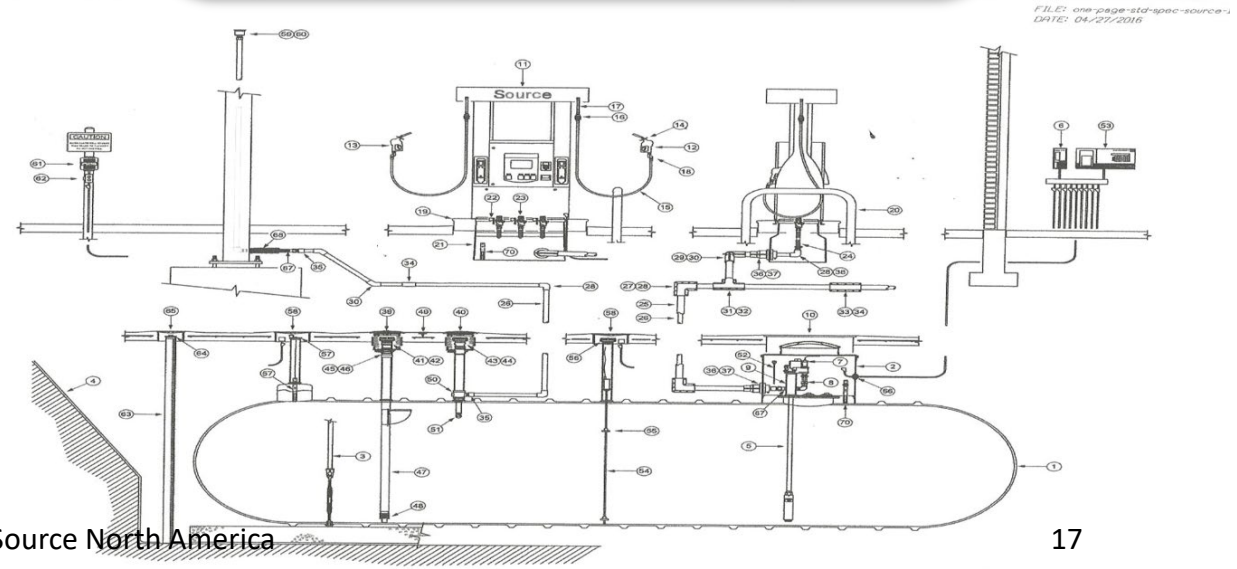

Diagram courtesy of Source North America

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Clean Fuel Standard

Office of
Governor Tim Walz & Lt. Governor Peggy Flanagan

STATE OF MINNESOTA
L'Étoile du Nord

(http://www.facebook.com/GovTimWalz) (http://www.twitter.com/GovTimWalz) (https://www.instagram.com/mngovernor)

COVID-19 Vaccine (https://mn.gov/covid19/vaccine/find-vaccine/locations/index.jsp) – Find out when, where, and how to get your shot.

Newsroom

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

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Governor Walz Announces Pathway to Reduce Impact of Transportation on Climate

October 7, 2021

[ST. PAUL, MN] – Today, Governor Tim Walz directed state agencies to explore ways to reduce climate change impacts from transportation fuels. Led by the Minnesota Department of Agriculture and Minnesota Department of Transportation, the process will engage a broad cross-section of stakeholders statewide 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 breath and clean water to drink ," said Governor Walz. **"That's why our Administration will work with private, non-profit, and government partners and Minnesotans 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. **"More collaborative and creative solutions are needed to reduce future impacts of climate change on Minnesota communities. Listening to and learning from stakeholders and affected community members is key to our continued success. If we do this right, we can grow our economy while reducing climate impacts to future generations."**

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

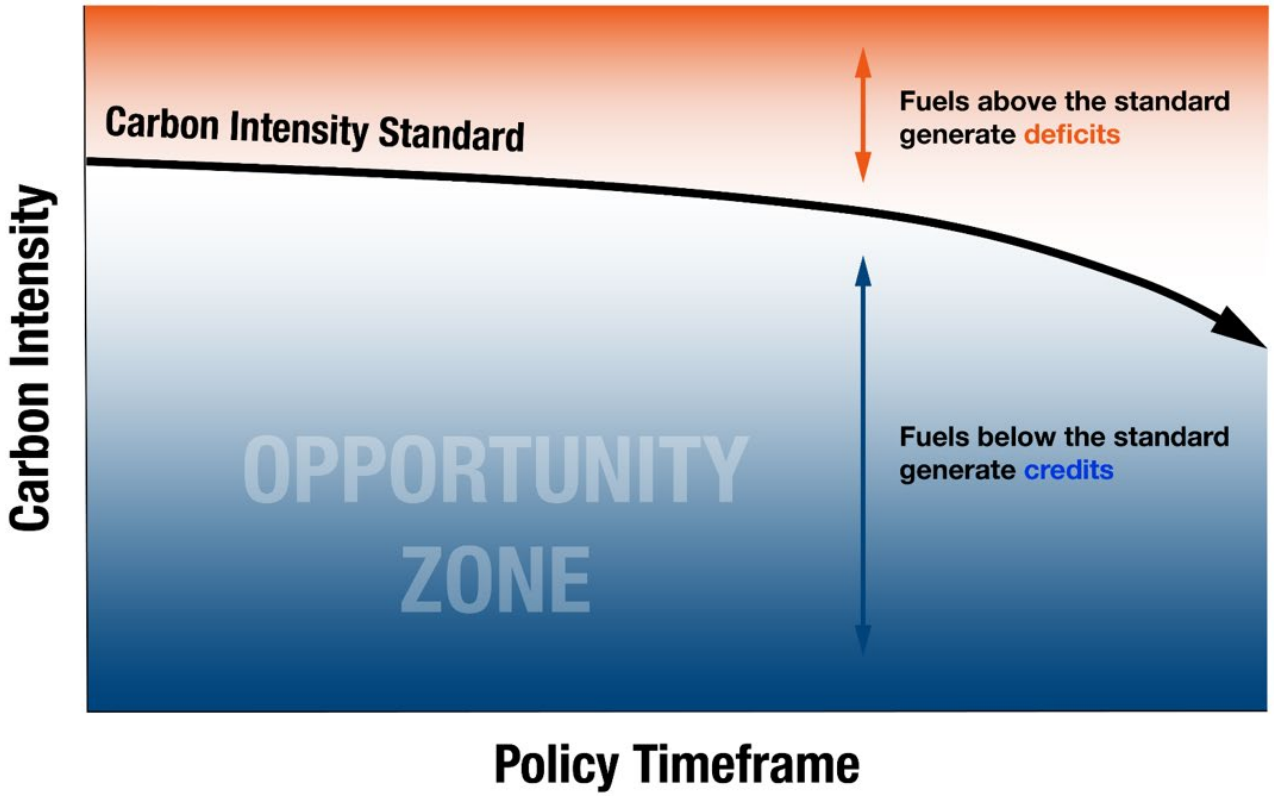
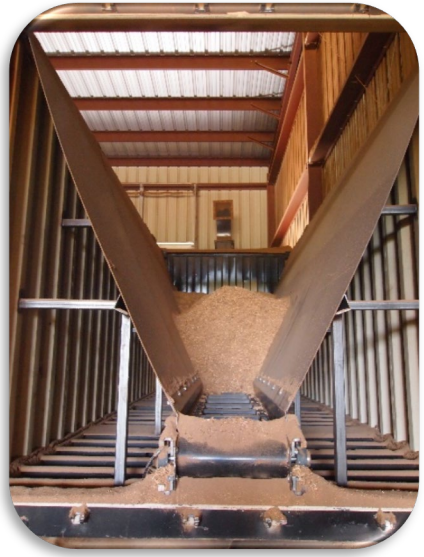


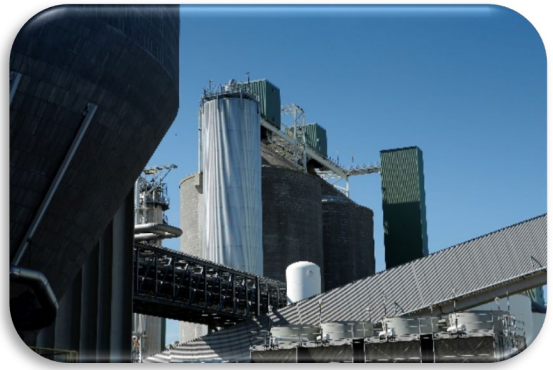
Chart courtesy of Great Plains Institute

Bioincentive Program

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





Images from top, clockwise: POET Biorefining, Sappi, Fletcher Trucking

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Thank You!

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