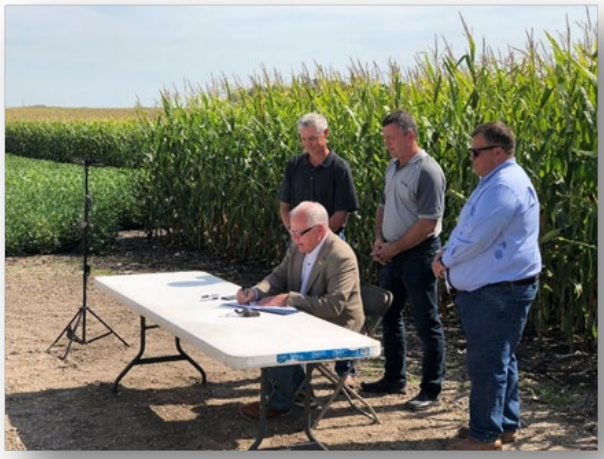
DEPARTMENT OF AGRICULTURE

Minnesota's Petroleum Replacement and Greenhouse Gas Reduction Goals and the Governor's Council on Biofuels

(As required by Laws of Minnesota 2020, chapter 89, article 4, section 36)



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Cover photo is the September 16, 2019, signing of the executive order establishing the Governor's Council on Biofuels (Executive Order 19-35) on Brian Thalmann's farm in Plato, Minn. From left to right, Minnesota Governor Tim Walz, Heartland Corn Products CEO Gary Anderson, Minnesota Corn Growers Association President Brian Thalmann, and Minnesota Department of Agriculture Commissioner Thom Petersen. Photo by Larry Schumacher.

The estimated cost of preparing this report (as required by MINN. STAT. 3.197) is $1,800.

Executive Summary

The Legislature's directives for this report (contained in Laws of Minnesota 2020, chapter 89, article 4, section 36) closely parallel the directives to the Governor's Council on Biofuels (created by Executive Order 19-35). Consequently, this report discusses the Governor's Council's recommendations and how they relate to the topics required in this report.

The Governor's Council on Biofuels met over the course of nine months, beginning January 27, 2020, and ending October 30, 2020. These meetings took the form of full council meetings, executive committee meetings, infrastructure subcommittee meetings, and infrastructure technical panel meetings. The Council's process consisted of two phases. The informational phase of the process intended to bring all council members to a common level of understanding on the status of the biofuel industry and the science behind possible recommendations for meeting the goals outlined in the executive order. The consensus-building phase was intended to develop recommendations and solutions for increasing the State's biofuels use that met the varying interests of all members and the requirements of the executive order. The first nine meetings comprised the information portion, and starting on May 26, 2020, the Council began the consensus-building portion.

The Council was able to meet the November 1, 2020 deadline for delivering its policy recommendations even while transitioning to virtual meetings and navigating the changes and challenges presented by the COVID-19 pandemic. The Council successfully came to consensus on an actionable set of recommendations, while reflecting and honoring the varying interests and views of the members.

The Governor's Council made recommendations pertaining to the following policy topics:

- E15 (gasoline with 15% ethanol) and mid-level blends, biodiesel, and biofuels infrastructure
- A low-carbon fuel standard (LCFS, a.k.a. "clean fuels policy")
- Biofuels in the state fleet
- Public understanding and marketing
- Advanced biofuels

On the topic of E15 and mid-level blends, biodiesel, and biofuels infrastructure, the Council saw incompatible infrastructure (underground storage tanks, piping, dispensers, and associated equipment) as a major barrier to adoption of E15 and higher biofuels blends. The Council convened an Infrastructure Subcommittee to provide a recommendation to the Council. The Minnesota Pollution Control Agency (MPCA) provided the Infrastructure Subcommittee cost estimates for bringing infrastructure up to compatibility with E15, which were used for discussion purposes. High-level cost conclusions of the MPCA were that 15% of service-station sites were estimated to be compatible with E15, leaving 85% of sites needing upgrading or replacement of underground storage tanks (USTs), piping, dispensers, or other miscellaneous equipment. Costs of bringing those sites up to compatibility standards were estimated to range from approximately $771 million to $784 million.

The Council spent a significant portion of time discussing how to achieve infrastructure compatibility in a way that would allow for quick adoption of higher blends without disadvantaging station owners. Retailers were concerned that they would be put at a financial or competitive disadvantage if E15 was mandated without support for their sector.

The Council recommended:

- Development of a state funding package with a dedicated funding source to assist with the necessary infrastructure upgrades for moving to higher blends.
- A minimum compatibility standard for new infrastructure (for compatibility up to 25% ethanol: E25), and adoption of minimum content standards for gasoline.

Regarding minimum content standards, the Council found that "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."

On the topic of LCFS, the Council recommended the release of a brief proposal detailing a plan for LCFS adoption by May 1, 2021 and release of a full proposal by November 1, 2021. The Council saw an LCFS as having great potential to incentivize and increase the use of biofuels in the State of Minnesota. The Council recommended the establishment of a workgroup or task force to ensure the process of adoption and policy design includes:

- Modeling data from Midwest and national efforts/organizations.
- Advice from a broad spectrum of stakeholders and interests, including those of agriculture and biofuels.
- Benefits to farmers and biofuels producers.

On the topic of biofuels in the state fleet, the Council recommended an executive order directing state agencies to:

- Include public tracking of their use of higher blends; use E15 and E85 as much as possible.
- Conduct analysis and planning for increased use of biofuels.
- Develop fact-based information for employees on the comparative health and environmental benefits of biofuels.
- Pilot technologies to increase use of biofuels in fleet and other fuel applications.

Encouraging increased use of biofuels in the state fleet through Executive Order is intended to increase the use and awareness of biofuels, while also setting a good example for the people of Minnesota. Challenges in implementation and execution are present since behavioral change is required.

On the topic of public understanding and marketing, the Council recommended the establishment of a standing Council on Biofuels Education and Promotion and a regular funding source for education and promotion of biofuels. Many biofuels and agricultural groups are involved in promotional campaigns, and a standing council will help create cohesive and consistent information and messaging.

On the topic of advanced biofuels, the Council recommended increasing funding for the AGRI Bioincentive Program and establishment of an Advanced Biofuels Taskforce to advance the goal of developing Minnesota's cellulosic natural resources to lower the carbon intensity of energy use in the State. These recommendations are particularly important to the wood products industry to help improve forest health and other aspects of the natural environment, while bolstering economically disadvantaged populations.

All the Governor's Council recommendations are aimed at incentivizing and expediting greater biofuels use.

Implementation of the Governor's Council's recommendations will require legislative and administrative policy changes and state funding, combined with federal and non-governmental resources and assistance. Work on initiatives to implement the Governor's Council's recommendations has begun and is ongoing.

Introduction

The Legislature's directives for this report (Laws of Minnesota 2020, chapter 89, article 4, section 36) are:

Sec. 36. BIOFUELS REPORT.

The commissioner of agriculture must prepare a report outlining Minnesota's ability to meet the petroleum replacement goal in Minnesota Statutes, section 239.7911, and utilize biofuels to achieve the greenhouse gas reductions under Minnesota Statutes, chapter 216H. No later than January 15, 2021, the commissioner of agriculture must submit the report to the chairs and ranking minority members of the legislative committees and divisions with jurisdiction over agriculture policy and finance. The report must:

(1) recommend specific policies that would utilize biofuels to accelerate achievement of the petroleum replacement goal and the greenhouse gas reduction goals;

(2) identify the biofuels infrastructure required to achieve the petroleum replacement goal; and

(3) recommend cost-effective incentives necessary to expedite the use of greater biofuel blends in this state, including but not limited to incentives for retailers to install equipment necessary to dispense renewable liquid fuels to the public.

The Legislature's charge, above, paralleled the directives to the MDA contained in the executive order establishing the Governors' Council on Biofuels (Executive Order 19-35; see Appendix A) and charged the Council as follows:

1. The study and recommendations of the Council must include, but are not limited to consideration of:
    a. Policies that accelerate achievement of the petroleum replacement goals outlined in Minnesota Statutes 2018, section 239.7911.

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

c. Policies that utilize biofuels to help Minnesota achieve its greenhouse gas reduction goals under the 2007 Next Generation Energy Act.

2. In making its recommendations, the Council must, at a minimum, consider:

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

   b. The feasibility and cost of increasing biofuels infrastructure throughout Minnesota.

This report will provide background on the process followed by the Governor's Council and how the Council's recommendations to the Governor address each of the Legislature's directives.

Background

The executive order creating the Governor's Council on Biofuels (Executive Order 19-35) was signed by Minnesota Governor Tim Walz on Brian Thalmann's farm in Plato, Minn. on September 16, 2019.

Members appointed to the Council represented the biofuels industry, agricultural and farm groups, the service station industry, the wood products industry, and energy and environmental organizations:

- Gary Anderson – Eagan, Minn.
- Michael Bull – Northfield Township, Minn.
- John Christianson – Lake Lillian, Minn. (also Executive Committee member)
- Elizabeth Crow – Minneapolis, Minn.
- Tim Gross – Duluth, Minn. (also Infrastructure Committee member)
- Chris Hanson – Fountain, Minn. (also Executive Committee member)
- Rick Horton – Grand Rapids, Minn.
- Kevin Lee – Minneapolis, Minn. (also Executive Committee member)
- Lance Klatt – Little Canada, Minn. (also Infrastructure Committee member)
- Jeanne McCaherty – Prior Lake, Minn. (also Executive Committee member)
- Mick Miller – Morris, Minn.
- Kevin Paap – Lake Crystal, Minn.
- Brian Thalmann – Plato, Minn.
- Gary Wertish – Renville, Minn.
- Bob Worth – Lake Benton, Minn.

The Governor's Council on Biofuels met over the course of nine months, beginning January 27, 2020 and ending October 30, 2020. These meetings took the form of full council meetings, executive

committee meetings, infrastructure subcommittee meetings, and infrastructure technical panel meetings. The Council's process consisted of two phases. The informational phase of the process intended to bring all council members to a common level of understanding on the status of the biofuel industry and the science behind possible recommendations for meeting the goals outlined in the executive order. The consensus-building phase was intended to develop recommendations and solutions for increasing the State's biofuels use that met the varying interests of all members and the requirements of the executive order. The first nine meetings comprised the information portion, and starting on May 26, 2020, the Council began the consensus-building portion.

The Council was able to meet the November 1, 2020 deadline for delivering its policy recommendations even while transitioning to virtual meetings and navigating the changes and challenges presented by the COVID-19 pandemic. The Council successfully came to consensus on an actionable set of recommendations, while reflecting and honoring the varying interests and views of the members.

As mentioned above, the executive order's directives pertained to meeting the state's Petroleum Replacement Goals and greenhouse gas reduction goals under the Next Generation Energy Act.

The current Minnesota Petroleum Replacement Goals (MINN. STAT. 239.7911, Petroleum Replacement Promotion) were adopted in 2013, and are as follows:

- 2015 14%
- 2017 18%
- 2020 25%
- 2025 30%

Minnesota is not meeting these goals. The 2017 estimate from the U.S. Energy Information Administration (EIA) of ethanol use was 12.49% of total gasoline fuel consumption.

Minnesota's greenhouse gas reduction goals (often cited as the Next Gen Energy Act Goals) were adopted as part of the Next Generation Energy Act of 2007 (MINN. STAT. chapter 216H, Greenhouse Gas Emissions). They are:

- 15% (below 2005 levels) by 2015
- 30% by 2025
- 80% by 2050

Minnesota missed the 2015 goal and is not expected to reach the 2025 goal.

Biofuels policies for achieving Minnesota's petroleum-replacement and greenhouse-gas-reduction goals

As stated previously, the executive order establishing the Governor's Council on Biofuels (Executive Order 19-35) directed the Council to make recommendations on meeting the state's petroleum replacement goals and greenhouse gas reduction goals. The Governor's Council's recommendations (full report reproduced in Appendix B) addressed five topical areas:

- E15 and mid-level blends, biodiesel, and biofuels infrastructure.
- Low-carbon fuel standard (LCFS).
- Biofuels use in the state fleet.
- Public understanding and marketing.
- Advanced biofuels.

Each topical area is discussed in subsections below.

E15 and mid-level blends, biodiesel, and biofuels infrastructure

As stated in the Governor's Council's findings and conclusions, "Due to compatibility standards at the federal and state levels, the ability for Minnesota to move to higher blends of ethanol and biodiesel is highly dependent on upgrading Minnesota fuel-dispensing infrastructure: underground storage tanks (USTs), piping, dispensers, and associated equipment." (See the Governor's Council's findings and conclusions on this topical area on pages 3-4 of Appendix B.)

For that reason, the Governor's Council focused on the issue of infrastructure. It established an Infrastructure Subcommittee, comprised of the following members:

- Minnesota Corn Growers: Amanda Bilek (alternate: Mitch Coulter)
- Ethanol Industry: Mick Miller (alternate: Gary Anderson)
- Biodiesel Industry: Scott Hedderich (alternate: Mike Youngerberg)
- Minnesota Service Station & Convenience Store Association (MSSA): Lance Klatt
- Minnesota Petroleum Marketers Association (MPMA): Tim Gross
- Minnesota Department of Agriculture: Deputy Commissioner Andrea Vaubel (alternate: Commissioner Thom Petersen)
- Minnesota Department of Commerce: Greg Vanderplaats (alternate: Jon Kelly)
- Minnesota Pollution Control Agency: Assistant Commissioner Kirk Koudelka (alternate: Nate Blasing)

The Infrastructure Subcommittee developed a set of recommendations to the Governor's Council through a consensus process. Subsequently, the Governor's Council's considered and amended the Infrastructure Subcommittee recommendations, and adopted the following by consensus:

- Develop a state funding package with a dedicated funding source, modeled after the Petrofund (possibly named the Infrastructure Fund), with the following features:
  a. The dedicated funding source and financial assistance program would be administered by a board in conjunction with state agencies (MPCA and Commerce). The board could take into account ability to pay, such as greater assistance to independents/small chains.
  b. Funds generated could be used to leverage federal funds and funds from private sources through public/private partnership with biofuel interests and other vested parties.
  c. Grants should be augmented by a low-interest loan or loan guarantee program.
- Adopt a minimum compatibility standard for new infrastructure:
  a. Within 18 months, all new fuel storage and delivery systems should, at a minimum, be compatible with ethanol blends up to E25.
  b. The law should provide that, when there is a new mid-level blend certification for ethanol or biodiesel, the minimum compatibility standards will be revisited.
- Adopt minimum content standards for gasoline, implemented along a timeline, modeled after the Biodiesel Content Mandate statute (Minn. Stat. 239.77), with the following characteristics:
  a. Content standards should be set aggressively, but realistically in order to drive the market to increase the availability of equipment and installation services.
  b. The policy should include mechanisms similar in structure to the Biodiesel Content Mandate statute, with criteria for implementation of the content standard designed to protect independent stations and small chains from harm, including criteria regarding:
     i. The availability of financial assistance targeted to independent stations and small chains that would be experiencing a competitive disadvantage; and
     ii. The timely availability of equipment and installation services.
  c. Moving from a 10 percent to a 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.

Low-carbon fuel standard

A low carbon fuel standard (LCFS), also known as a "clean fuels policy," is a regulatory program that uses greenhouse-gas-reduction standards for transportation fuels in combination with market-based mechanisms aimed at reducing greenhouse gas emissions of the transportation sector while fostering innovation and competition across all types of renewable fuels, from biofuels to renewably-generated electricity.

LCFS programs are currently in use in California, Oregon, British Columbia, and some European countries, and have been considered for use in New York, Colorado, and Washington State. In the Midwest, a stakeholder process called the Midwestern Clean Fuels Policy Initiative has been discussing and analyzing LCFS/clean fuels policies since 2018, and in January 2020 issued a white paper (see A Clean Fuels Policy for the Midwest: a White Paper from the Midwestern Clean Fuels Policy Initiative (PDF).

California's program was the first in the U.S., and other U.S programs and proposals have been based upon it. A foundational concept in the LCFS is a "carbon-intensity score" of fuels, which is a determination of relative greenhouse-gas emissions of a fuel based on lifecycle analysis. Transportation fuels are required to reduce their carbon intensity over time, and regulated parties can meet their reduction obligations through trading of carbon credits, creating market incentives for renewable fuel development and expansion.

The Governor's Council found that:

> Adoption of a low-carbon fuel standard (LCFS) would advance the goals in Executive Order 19-35 by incentivizing advancement of carbon efficiency improvements of biofuels plants and sources of biofuels feedstocks and by providing opportunities and benefits related to biofuels production for farmers, rural communities, the natural environment, and economically disadvantaged populations. By meeting the six-month deadline (for a proposed plan for LCFS adoption), the State can ensure that this process moves forward in a timely manner. By establishing a working group for LCFS, the State can ensure that this conversation will continue, decision-makers will be equipped to take action, and the tradeoffs for biofuels and cost at the pump for consumers can be evaluated.

The Governor's Council recommendations on this topical area were as follows:

- Propose and advocate for a low-carbon fuel standard (LCFS)/clean-fuels policy (CFP) that builds on the vision, principles, and considerations of the white paper A Clean Fuels Policy for the Midwest (2020) from the Midwestern Clean Fuels Policy Initiative, and on the vision and principles of the Governor's Council on Biofuels. By May 1, 2021, unless the 2021 legislature adopts an LCFS proposal, release a brief proposal detailing a plan for LCFS adoption and by November 1, 2021, release a full proposal for LCFS adoption.
- Establish a working group that will ensure the process of adoption and policy design includes modeling data from Midwest and national efforts/organizations and advice from a broad spectrum of stakeholders and interests, including those of agriculture and biofuels, such as through a task force.

The Sustainable Transportation Advisory Council, a body advisory to the commissioner of transportation, also recently adopted a recommendation regarding a clean fuels policy:

Develop a Clean Fuels Policy based on the following principles:

- Supports transition to a fully decarbonized transportation and agricultural system by mid-century
- Advances equity and reduces negative health impacts from air pollution for overburdened communities while ensuring other vulnerable communities do not experience an increase in air pollution
- Includes a soil health and water quality program that incentivizes sustainable and regenerative agricultural practices and crops that improves soil health and water quality from farming and biofuels production and distribution

- Includes safeguards and incentives to protect and enhance environmental integrity, including biodiversity, and to promote job creation and equitable and sustainable economic growth
- Uses available peer-reviewed health and pollution data to inform the development of the Clean Fuels Policy
- Biofuels use in the state fleet

The Governor's Council found that "Increased use of E85 in state fleet vehicles provides a significant opportunity to reduce the State of Minnesota's fossil fuel emissions and improve environmental and public health, and for state government to lead by example. The intention of an executive order is to make progress toward the State's goals while recognizing and creating flexibility for the challenges regarding data collection and the various needs and missions of individual agencies."

The Governor's Council recommendation on this topical area was for the Governor to issue an executive order:

a. Directing the Departments of Administration, Transportation, Public Safety, and Natural Resources to revise fuel-use tracking in agencies to include tracking of E15 and mid-grade gasoline-ethanol blends and blends of biodiesel in diesel fuel (e.g., B5, B10, B20, and higher blends);
b. Directing agencies, assisted by the Department of Administration's Fleet and Surplus Services and Office of Enterprise Sustainability and the interagency Fleet Council, to use E85 and E15 as much as possible, and to conduct analysis and planning for increased use of biofuels to be submitted to the Sustainability Reporting Tool and the Fleet Council by March 31, 2021, with an update by March 31, 2022 including:
    i. E85 in flex-fuel vehicle (FFVs),
    ii. E15 in non-FFV internal-combustion vehicles model year 2001 and newer, and
    iii. biodiesel use in diesel vehicles;
c. Directing the Department of Administration's Office of Enterprise Sustainability to continue to make E85 usage data public through its online dashboard, and, as feasible and practical, to also show E15 usage;
d. Directing the Department of Agriculture and the Minnesota Pollution Control Agency with the assistance of the Department of Health to develop concise, fact-based information for employees on the comparative health and environmental benefits of biofuels; and
e. Encouraging agencies to pilot technology to increase use of biofuels in fleet and other fuel applications in the enterprise, including:
    i. Extending the blending of biodiesel to greater levels than mandated in statute;
    ii. The use of 100% renewable diesel, biodiesel, and blends thereof;
    iii. Explore strategies to develop the renewable diesel supply in Minnesota.

Public understanding and marketing

The Governor's Council considered better understanding and more widespread knowledge about biofuels, both among the general public and within the community of auto-industry professionals in Minnesota, critical to increasing biofuels use. The Governor's Council found that:

- A number of state and national groups engage in education and promotion of biofuels to consumers, and currently MEG Corp (the fuel testing and consulting firm based in Plymouth, Minnesota; MEG Corp runs the Diesel Help Line) is certified to instruct auto service professionals on biofuels, and holds an annual course. A state role can be providing funding and convening a representative advisory group to inform the funding program.
- Relevant stakeholders to include on the Council [the representative advisory group mentioned in the previous bullet] are, but are not limited to: marketing professionals, Growth Energy, the Renewable Fuels Association, and racing, boating, and small engine (ATV, lawnmowers, etc.) industries.

The Governor's Council recommendations on this topical area were as follows:

- Create a standing Council on Biofuels Education and Promotion run by the Minnesota Department of Agriculture and comprised of representatives of stakeholder groups responsible for developing and directing a coordinated program of education and promotion of biofuels among consumers and auto-industry professionals in Minnesota. This council should be no larger than 15 people.
- Establish a regular source of funding for education and promotion of biofuels administered by the MDA with guidance from the Council on Biofuels Education and Promotion.

Advanced biofuels

In Minnesota statutes (the Bioincentive Program statute, Minn. Stat. Sec. 41A.15), "advanced biofuel" is defined as "a renewable fuel, other than ethanol derived from corn starch, that has lifecycle greenhouse gas emissions that are at least 50% less than baseline lifecycle greenhouse gas emissions." This definition is the same as the definition used in the federal Renewable Fuel Standard. Biodiesel, renewable natural gas, and cellulosic ethanol are examples of advanced biofuels.

The Governor's Council found that:

- Developing liquid transportation fuels production in Minnesota is a long-term, vital part of the Governor's vision for reducing carbon emissions from the transportation sector.
- Increasing the use of woody feedstocks in advanced biofuels will help improve forest health and other aspects of the natural environment, while bolstering economically-disadvantaged populations.
- Consistent with the recommendations of the Intergovernmental Panel on Climate Change, the Biofuels Council [Governor's Council on Biofuels] believes that Minnesota has bountiful cellulosic natural resources that have enormous potential to help Minnesota achieve its greenhouse gas reduction goals through the use of cellulosic biofuels (biomass-derived hydrogen, methane, gasoline, diesel, and kerosene) to provide lower carbon fuels for the transportation, electricity, industrial, and residential/commercial buildings sectors. In addition to policies such as a clean-fuels standard for transportation fuels, state policy can play a critical role in helping to create and sustain markets in these advanced cellulosic biofuels that help to spur investments, reduce long-term capital costs through economies of scale, and contain systems costs by leveraging existing infrastructure, including existing workforces that may be

impacted by a statewide transition away from carbon-intense fuels for transportation, electricity, and buildings.

The Governor's Council recommendations on this topical area were as follows:

- Increase funding for the AGRI Bioincentive Program to provide a stable market and pathway for biofuels development.
- Establish an Advanced Biofuels Taskforce to provide recommendations, by December 15, 2021, for legislative or administrative state policy (excluding the clean-fuels policy referenced in these recommendations) to advance the goal of developing Minnesota's cellulosic natural resources to lower the carbon intensity of energy use in transportation, electricity, residential and commercial buildings, and industry.

Infrastructure

As part of the Subcommittee process, the MPCA prepared cost estimates for bringing infrastructure up to compatibility with E15 (such equipment is generally compatible with up to E25), based on information in the MPCA's data and costs provided by fuel-dispensing-equipment installers. High-level conclusions of the cost estimates were that:

- 15% of service-station sites were estimated to be compatible with E15, leaving 85% of sites needing upgrading or replacement of underground storage tanks (USTs), piping, dispensers, or other miscellaneous equipment.
- Costs of bringing those sites up to compatibility standards were estimated to range from approximately $771 million to $784 million.

While the Governor's Council supported moving to E15 and other higher ethanol blends as rapidly as possible in order to meet petroleum replacement and greenhouse gas reduction goals, there were differences of opinion among councilmembers about how quickly Minnesota would be able to move to higher-blend standards, and the degree to which transportation-fuel retailers—independent retailers and small chains in particular—would be harmed. The consensus recommendations reflect broad areas of agreement and put aside for the time being these disagreements. Meeting the range of interests of the stakeholders will be the challenge in implementing the Governor's Council recommendations.

Incentives to expedite greater biofuels use

All the Governor's Council recommendations are aimed at incentivizing and expediting greater biofuels use.

Several states, including Iowa, South Dakota, Illinois, and Kansas, have tax incentives for retail sale of biofuels. This idea was ultimately not pursued by the Governor's Council, in part due to concerns that it would exacerbate a competitive disadvantage for independent retailers and small chains because of the need to upgrade infrastructure to achieve compatibility with higher blends of biofuels.

Next Steps

Implementation of the Governor's Council's recommendations will require legislative and administrative policy changes and state funding, combined with federal and non-governmental resources and assistance. Work on initiatives to implement the Governor's Council's recommendations has begun and is ongoing.

Appendix A: Executive Order 19-35

The following three pages are a copy of the executive order establishing the Governor's Council on Biofuels (Executive Order 19-35) which was signed by Governor Tim Walz on September 16, 2019.

STATE OF MINNESOTA
Executive Department

Governor Tim Walz

Executive Order 19-35

Establishing the Governor's Council on Biofuels

I, Tim Walz, Governor of the State of Minnesota, by the authority vested in me by the Constitution and applicable statutes, issue the following Executive Order:

Minnesota was an early leader in promoting biofuels production and use. It was the first state to mandate the use of both ethanol and biodiesel in its fuel supply, and it adopted statutory goals for replacing petroleum with biofuels of 14% by 2015, 18% by 2017, 25% by 2020, and 30% by 2025. The biofuels industry provides important markets for agricultural commodities and generates economic impacts of $6.7 billion.

We are not on track to meet our petroleum replacement goals. In recent years, a combination of low market prices and changes in federal policy has been a headwind to growth in biofuels, particularly in the commercialization of advanced biofuels. In order to make progress, we need ideas for policy and investment in biofuels development and utilization that are bold, practical, and broadly supported by a range of interests.

The need for leadership by Minnesota and other states has never been so great, given the lack of leadership and counterproductive policies at the national level, including the large number of small-refinery exemptions from biofuels blending granted by the U.S. Environmental Protection Agency and the rollback of vehicle fuel economy standards.

The transportation sector is now the largest source of greenhouse gas emissions in Minnesota. To meet the goals of the 2007 Next Generation Energy Act, we will need to reduce carbon emissions in this sector.

Minnesota is uniquely positioned to lead the way in reshaping how our transportation system is fueled, so that it helps improve air and water quality, reduce carbon emissions, and provide broadly shared economic benefits. A transportation sector fueled with home-grown low-carbon biofuels, electricity, and the continued buildout of smart transit will ensure that all Minnesotans receive the benefit of cleaner vehicles and that our economy realizes these benefits.

For these reasons, I order that:

1. The Governor's Council on Biofuels ("Council") is created 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.

2. The Department of Agriculture will convene the Council and provide staffing and administrative support to the Council.

3. The Department of Agriculture must submit a report to the Governor, based upon the Council's recommendations, by November 1, 2020.

4. The study and recommendations of the Council must include, but are not limited to consideration of:

    a. Policies that accelerate achievement of the petroleum replacement goals outlined in Minnesota Statutes 2018, section 239.7911.

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

    c. Policies that utilize biofuels to help Minnesota achieve its greenhouse gas reduction goals under the 2007 Next Generation Energy Act.

5. In making its recommendations, the Council must, at a minimum, consider:

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

    b. The feasibility and cost of increasing biofuels infrastructure throughout Minnesota.

6. The Council must consist of 15 members appointed by the Governor representing agriculture, the biofuels industry, transportation, environmental and conservation interests, and other relevant stakeholders.

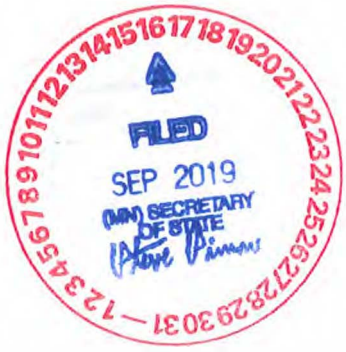
This Executive Order is effective fifteen days after publication in the State Register and filing with the Secretary of State. This Executive Order will remain in effect until the report set forth in paragraph 3 is submitted to the Governor or until it expires in accordance with Minnesota Statutes 2018, section 4.035, subdivision 3.

Signed on September 16, 2019.

Tim Walz
Governor

Filed According to Law:

Steve Simon
Secretary of State



Appendix B: Governor's Council on Biofuels Report

Attached is the report submitted to Governor Tim Walz on November 2, 2020, in fulfillment of the executive order establishing the Governor's Council on Biofuels (Executive Order 19-35).

DEPARTMENT OF AGRICULTURE

Date: November 2, 2020

To: Governor Tim Walz

From: Commissioner Thom Petersen

RE: Report in fulfillment of Executive Order 19-35 establishing the Governor's Council on Biofuels

I am very pleased to transmit to you the attached memorandum from the Governor's Council on Biofuels. Together with this transmittal memorandum, it comprises our report to you as called for in Executive Order 19-35. The findings, conclusions, and recommendations of the Council represent work over the past nine months involving 13 full Council meetings, seven Executive Committee meetings, and five Infrastructure Subcommittee meetings, most of which were conducted virtually due to the COVID-19 pandemic.

We at the Minnesota Department of Agriculture are grateful to have had the opportunity to work with a group of people as dedicated, thoughtful, and engaged as this Council, the members of which are listed below:

Council Members

Gary Anderson – Eagan, MN
Michael Bull – Northfield Township, MN
John Christianson – Lake Lillian, MN
Elizabeth Crow – Minneapolis, MN
Tim Gross – Duluth, MN
Chris Hanson – Fountain, MN
Rick Horton – Grand Rapids, MN
Kevin Lee – Minneapolis, MN
Lance Klatt – Little Canada, MN
Jeanne McCaherty – Prior Lake, MN
Mick Miller – Morris, MN
Kevin Paap – Lake Crystal, MN
Brian Thalmann – Plato, MN
Gary Wertish – Renville, MN
Bob Worth – Lake Benton, MN

Executive Committee

John Christianson
Chris Hanson
Kevin Lee
Jeanne McCaherty
(I, as MDA Commissioner, chaired)

The Infrastructure Subcommittee, and a technical panel that lent its expertise, also made a significant contribution to the effort, which we want to recognize. Members, and participants in the technical panel, were:

Infrastructure Subcommittee

Minnesota Corn Growers: Amanda Bilek (alternate: Mitch Coulter)
Ethanol Industry: Mick Miller (alternate: Gary Anderson)
Biodiesel Industry: Scott Hedderich (alternate: Mike Youngerberg)
Minnesota Service Station & Convenience Store Association (MSSA): Lance Klatt
Minnesota Petroleum Marketers Association (MPMA): Tim Gross
Minnesota Department of Agriculture: Deputy Commissioner Andrea Vaubel (I served as Deputy Commissioner Vaubel's alternate)
Minnesota Department of Commerce: Greg Vanderplaats (alternate: Jon Kelly)
Minnesota Pollution Control Agency: Assistant Commissioner Kirk Koudelka (alternate: Nate Blasing)

Technical Panel to the Infrastructure Subcommittee

Bret Swan, Minnesota Petroleum Service
Ed Puchtel, Zahl Petroleum Maintenance Co.
Kurt Rademacher, Pump & Meter Services, Inc.
Kristi Moriarty, National Renewable Energy Laboratory
Greg Gust, Minnesota Biofuels Association
Jon Hunter, American Lung Association in Minnesota
Chris Bliley and Mike O'Brien, Growth Energy

We are also grateful to Commissioners Bishop, Anderson Kelliher, Arnold, and former Commissioner Kelley for their participation at Council meetings, as well as participation and contributions of their staff members and staff from the Department of Administration (Fleet Management and Office of Enterprise Sustainability). Finally, I'd like to extend my deep gratitude to Bob Patton and Jordyn Bucholtz of the MDA who worked tirelessly to bring this report together.

We look forward to working with you to implement these recommendations.

DEPARTMENT OF AGRICULTURE

Date: November 2, 2020

To: Commissioner Thom Petersen

From: Governor's Council on Biofuels (GCB)

RE: Report on Council Recommendations

The following is a report on the findings, conclusions, and recommendations that resulted from the nine-month-long consensus-building process with the members of the Governor's Council on Biofuels. Topics of discussion included E15 (gasoline blended with 15 percent ethanol) and mid-level blends, biodiesel, and biofuels infrastructure; low-carbon fuel standard (LCFS); biofuels use in the state fleet; public understanding and marketing; vehicles and biofuels; advanced biofuels; and benzene/BTEX.

The findings and conclusions section of this report intends to capture the nuances and concerns present during discussions that are not conveyed in the recommendations section. The recommendations section lists the recommendations that reached consensus among the Council members.

Findings and Conclusions

E15 and mid-level blends, biodiesel, and biofuels infrastructure

1. Due to compatibility standards at the federal and state levels, the ability for Minnesota to move to higher blends of ethanol and biodiesel is highly dependent on upgrading Minnesota fuel-dispensing infrastructure: underground storage tanks (USTs), piping, dispensers, and associated equipment.
2. An Infrastructure Subcommittee was convened by the Council, consisting of the following members representing the following groups and agencies:
    - Minnesota Corn Growers: Amanda Bilek
    - Ethanol Industry: Mick Miller (alternate: Gary Anderson)
    - Biodiesel Industry: Scott Hedderich (alternate: Mike Youngerberg)
    - Minnesota Service Station & Convenience Store Association (MSSA): Lance Klatt
    - Minnesota Petroleum Marketers Association (MPMA): Tim Gross
    - Minnesota Department of Agriculture (MDA): Deputy Commissioner Andrea Vaubel (alternate: Commissioner Thom Petersen)
    - Minnesota Department of Commerce (Commerce): Greg Vanderplaats (alternate: Jon Kelly)
    - Minnesota Pollution Control Agency (MPCA): Assistant Commissioner Kirk Koudelka (alternate: Nate Blasing)
3. The Subcommittee met five times between Tuesday, August 11, 2020 and Thursday, October 15, 2020.

4. As part of the Subcommittee process, the MPCA prepared cost estimates for bringing infrastructure up to compatibility with E15 (such equipment is generally compatible with up to E25), based on information in the MPCA's data and costs provided by fuel-dispensing-equipment installers. High-level conclusions of the cost estimates were that:
    a. Fifteen percent (15%) of service-station sites were estimated to be compatible with E15, leaving 85% of sites needing replacement of underground storage tanks (USTs), piping, dispensers, and other miscellaneous equipment.
    b. Costs of bringing those sites up to compatibility standards were estimated to range from approximately $771 million to $784 million.
5. In meetings, installers and service-station representatives indicated that, given the current capacity of underground storage tank contactors and supply of tank system equipment, it would take 10 years to upgrade infrastructure in Minnesota to E15/E25 compatibility standards.
6. At its final meeting on October 15, 2020, the Subcommittee members present (one member was unable to attend) came to consensus on two items: (1) a funding package, and (2) minimum compatibility standards for new infrastructure. The members present were unable to come to consensus on a third item, timelines for implementation of content requirements.
7. There were differences of opinion among Infrastructure Subcommittee members, and are differences of opinion among councilmembers, regarding the total cost of upgrading infrastructure and the length of time needed to accomplish upgrading. Differences of opinion center around questions including:
    a. Whether compatibility standards are needed and reasonable to protect public health and safety and the environment.
    b. Whether the length of time to upgrade Minnesota's infrastructure to compatibility standards (i.e., at least 10 years) is overestimated. This involves a question whether, if policy changed (content requirements were implemented and/or financial assistance was made available):
        i. the capacity of the installation service industry and the available supply of equipment would remain fixed; or alternatively
        ii. the market (of installation services and equipment) would respond and capacity/supply would increase, reducing the length of time needed to bring Minnesota's infrastructure up to compatibility standards.
    c. Whether different construction/installation procedures, such as replacing individual USTs rather than all of USTs on a site, would reduce cost.
8. The consensus recommendations adopted by the Council put aside, for the time being, disagreement among councilmembers over whether a minimum content requirement for E15 should be implemented and, if so, whether the content requirement could be implemented earlier than the 10-year timeframe.
    a. Some councilmembers advocated for implementation of an E15 content requirement faster than 10 years based on reasons including: (1) that most of the national fleet consists of vehicles newer than model year 2001 and are therefore compatible with E15; (2) federal regulations now permit year-round use of E15; and (3) E15 is seen as one of the important near-term pathways to decarbonizing the transportation sector.
    b. Other councilmembers were concerned that E15 content requirements, especially if implemented in a timeframe of less than 10 years, would be impractical, would strain financial resources of retailers (especially independent retailers and small chains), and would put independents/small chains at a competitive disadvantage.
9. The consensus recommendations are intended to:

a. Provide a stable and reliable source of financial assistance, particularly for independent retailers and small chains;
b. Provide that new infrastructure is compatible up to E25 while allowing an 18-month window for projects currently underway; and
c. Provide flexibility in the implementation timeframe for E15 and other compatibility requirements and base the implementation of compatibility requirements on criteria that protect independent and small chains from undue risk or harm.

Low-carbon fuel standard (LCFS)

10. Adoption of a low-carbon fuel standard (LCFS) would advance the goals in Executive Order 19-35 by incentivizing advancement of carbon efficiency improvements of biofuels plants and sources of biofuels feedstocks and by providing opportunities and benefits related to biofuels production for farmers, rural communities, the natural environment, and economically disadvantaged populations. By meeting the six-month deadline (for a proposed plan for LCFS adoption), the State can ensure that this process moves forward in a timely manner. By establishing a working group for LCFS, the State can ensure that this conversation will continue, decision-makers will be equipped to take action, and the tradeoffs for biofuels and cost at the pump for consumers can be evaluated.

Biofuels use in the state fleet

11. Increased use of E85 in state fleet vehicles provides a significant opportunity to reduce the State of Minnesota's fossil fuel emissions and improve environmental and public health, and for state government to lead by example. The intention of an executive order is to make progress toward the State's goals while recognizing and creating flexibility for the challenges regarding data collection and the various needs and missions of individual agencies.

Public understanding and marketing

12. A number of state and national groups engage in education and promotion of biofuels to consumers, and currently MEG Corp (the fuel testing and consulting firm based in Plymouth, Minnesota; MEG Corp runs the Diesel Help Line) is certified to instruct auto service professionals on biofuels, and holds an annual course. A state role can be providing funding and convening a representative advisory group to inform the funding program.
13. Relevant stakeholders to include on the Council are, but are not limited to: marketing professionals, Growth Energy, the Renewable Fuels Association, and racing, boating, and small engine (ATV, lawnmowers, etc.) industries.

Advanced biofuels

14. Developing liquid transportation fuels production in Minnesota is a long term, vital part of the Governor's vision for reducing carbon emissions from the transportation sector.
15. Increasing the use of woody feedstocks in advanced biofuels will help improve forest health and other aspects of the natural environment, while bolstering economically-disadvantaged populations.

16. Consistent with the recommendations of the Intergovernmental Panel on Climate Change, the Biofuels Council believes that Minnesota has bountiful cellulosic natural resources that have enormous potential to help Minnesota achieve its greenhouse gas reduction goals through the use of cellulosic biofuels (biomass-derived hydrogen, methane, gasoline, diesel, and kerosene) to provide lower carbon fuels for the transportation, electricity, industrial, and residential/commercial buildings sectors. In addition to policies such as a clean-fuels standard for transportation fuels, state policy can play a critical role in helping to create and sustain markets in these advanced cellulosic biofuels that help to spur investments, reduce long term capital costs through economies of scale, and contain systems costs by leveraging existing infrastructure, including existing workforces that may be impacted by a statewide transition away from carbon-intense fuels for transportation, electricity, and buildings.

Recommendations

E15 and mid-level blends, biodiesel, and biofuels infrastructure

1. Develop a state funding package with a dedicated funding source, modeled after the Petrofund (possibly named the Infrastructure Fund), with the following features:
    a. The dedicated funding source and financial assistance program would be administered by a board in conjunction with state agencies (MPCA and Commerce). The board could take into account ability to pay, such as greater assistance to independents/small chains.
    b. Funds generated could be used to leverage federal funds and funds from private sources through public/private partnership with biofuel interests and other vested parties.
    c. Grants should be augmented by a low-interest loan or loan guarantee program.
2. Adopt a minimum compatibility standard for new infrastructure:
    a. Within 18 months, all new fuel storage and delivery systems should, at a minimum, be compatible with ethanol blends up to E25.
    b. The law should provide that, when there is a new mid-level blend certification for ethanol or biodiesel, the minimum compatibility standards will be revisited.
3. Adopt minimum content standards for gasoline, implemented along a timeline, modeled after the Biodiesel Content Mandate statute (Minn. Stat. 239.77), with the following characteristics:
    a. Content standards should be set aggressively, but realistically in order to drive the market to increase the availability of equipment and installation services.
    b. The policy should include mechanisms similar in structure to the Biodiesel Content Mandate statute, with criteria for implementation of the content standard designed to protect independent stations and small chains from harm, including criteria regarding:
        i. The availability of financial assistance targeted to independent stations and small chains that would be experiencing a competitive disadvantage; and
        ii. The timely availability of equipment and installation services.
    c. 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.

Low-carbon fuel standard (LCFS)

4. Propose and advocate for a low-carbon fuel standard (LCFS)/clean-fuels policy (CFP) that builds on the vision, principles, and considerations of the white paper *A Clean Fuels Policy for the Midwest (2020)* from the Midwestern Clean Fuels Policy Initiative, and on the vision and principles of the Governor's Council on Biofuels. By May 1, 2021, unless the 2021 legislature adopts an LCFS proposal, release a brief proposal detailing a plan for LCFS adoption and by November 1, 2021, release a full proposal for LCFS adoption.
5. Establish a working group that will ensure the process of adoption and policy design includes modeling data from Midwest and national efforts/organizations and advice from a broad spectrum of stakeholders and interests, including those of agriculture and biofuels, such as through a task force.

Biofuels use in the state fleet

6. Issue an executive order
    a. Directing the Departments of Administration, Transportation, Public Safety, and Natural Resources to revise fuel-use tracking in agencies to include tracking of E15 and mid-grade gasoline-ethanol blends and blends of biodiesel in diesel fuel (e.g., B5, B10, B20, and higher blends);
    b. Directing agencies, assisted by the Department of Administration's Fleet and Surplus Services and Office of Enterprise Sustainability and the interagency Fleet Council, to use E85 and E15 as much as possible, and to conduct analysis and planning for increased use of biofuels to be submitted to the Sustainability Reporting Tool and the Fleet Council by March 31, 2021, with an update by March 31, 2022 including:
        i. E85 in flex-fuel vehicle (FFVs),
        ii. E15 in non-FFV internal-combustion vehicles model year 2001 and newer, and
        iii. biodiesel use in diesel vehicles;
    c. Directing the Department of Administration's Office of Enterprise Sustainability to continue to make E85 usage data public through its online dashboard, and, as feasible and practical, to also show E15 usage;
    d. Directing the Department of Agriculture and the Minnesota Pollution Control Agency with the assistance of the Department of Health to develop concise, fact-based information for employees on the comparative health and environmental benefits of biofuels; and
    e. Encouraging agencies to pilot technology to increase use of biofuels in fleet and other fuel applications in the enterprise, including:
        i. Extending the blending of biodiesel to greater levels than mandated in statute;
        ii. The use of 100% renewable diesel, biodiesel, and blends thereof;
        iii. Explore strategies to develop the renewable diesel supply in Minnesota.

Public understanding and marketing

7. Create a standing Council on Biofuels Education and Promotion run by the Minnesota Department of Agriculture and comprised of representatives of stakeholder groups responsible for developing and directing a coordinated program of education and promotion of biofuels among consumers and auto-industry professionals in Minnesota. This council should be no larger than 15 people.

8. Establish a regular source of funding for education and promotion of biofuels administered by the MDA with guidance from the Council on Biofuels Education and Promotion.

Advanced biofuels

9. Increase funding for the AGRI Bioincentive Program to provide a stable market and pathway for biofuels development.
10. Establish an Advanced Biofuels Taskforce to provide recommendations, by December 15, 2021, for legislative or administrative state policy (excluding the clean-fuels policy referenced in these recommendations) to advance the goal of developing Minnesota's cellulosic natural resources to lower the carbon intensity of energy use in transportation, electricity, residential and commercial buildings, and industry.