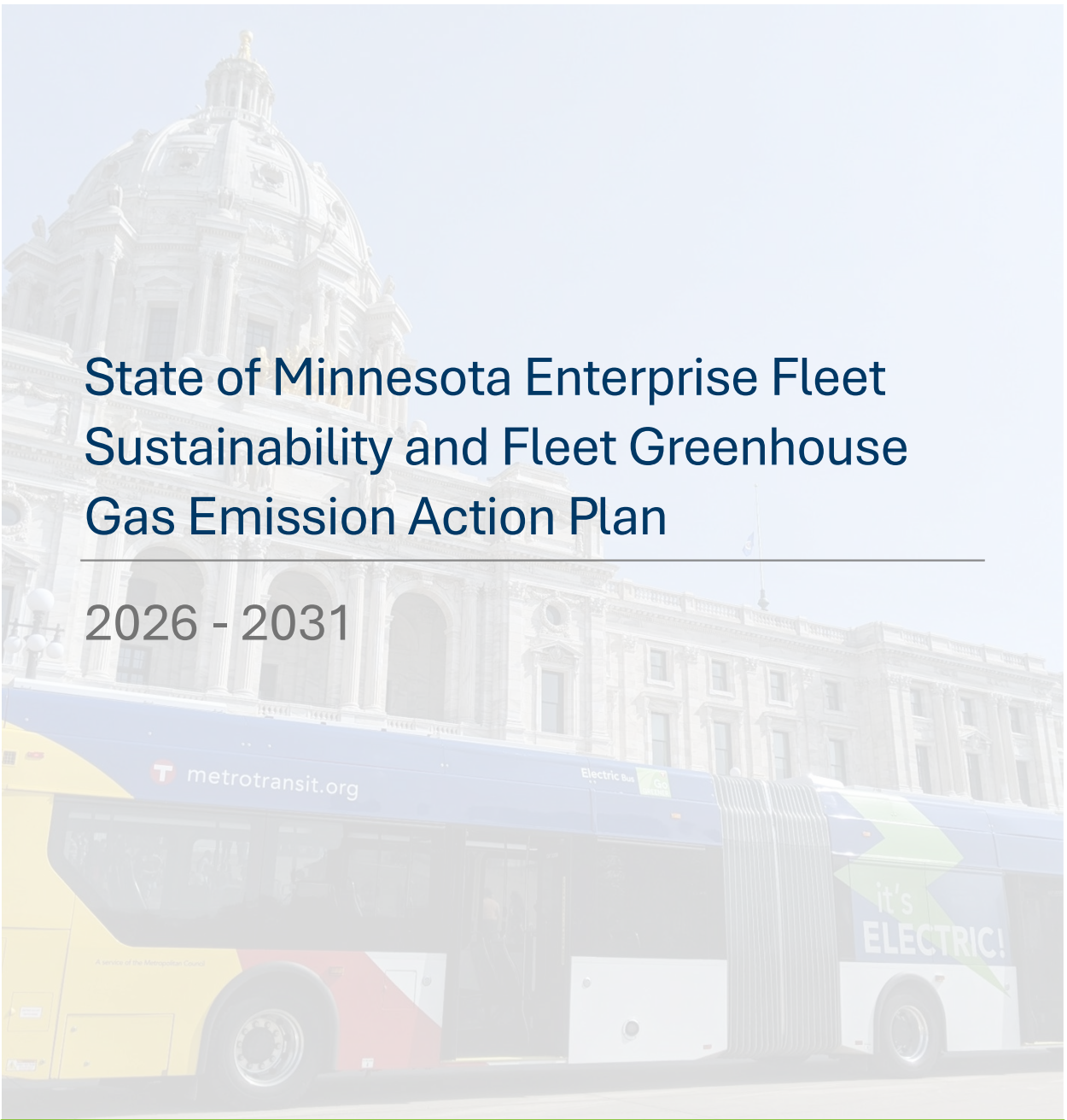




State of Minnesota Enterprise Fleet Sustainability and Fleet Greenhouse Gas Emission Action Plan

2026 - 2031

Legislative charge

Executive Order (EO) 19-27 directs the development of enterprise-level plans in each focus area (fleet, procurement, solid waste, energy, greenhouse gas emissions, and water) to recommend steps to achieve the sustainability goals. EO 19-27 directs the Sustainability Steering Team, chaired by the Lieutenant Governor with eight agency commissioners as members, to approve the plans. MINN. STAT. § 16B.372 directs cabinet-level agencies to participate in the sustainability effort by developing a sustainability plan and by making measurable progress toward improving associated sustainability outcomes.

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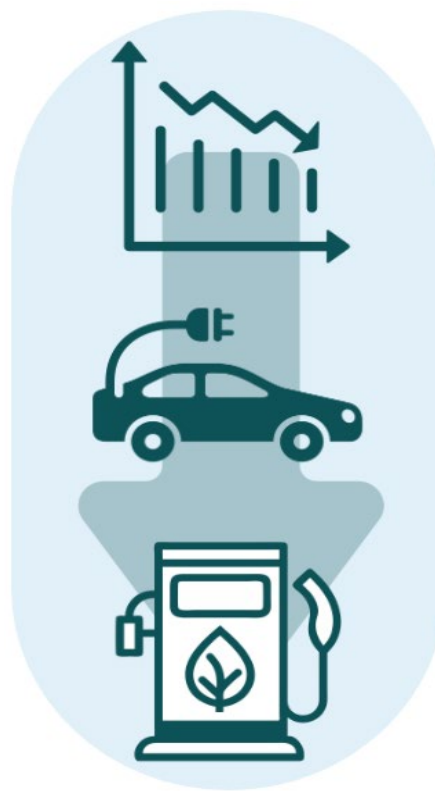
Contents

Executive Summary	1
Introduction and Purpose	2
Roles	3
Data.....	4
Department of Administration Actions.....	5
Agency Actions.....	6
All Agencies	6
Agencies with medium or heavy-duty vehicles	8
Agencies with offroad vehicles	8
Implementation.....	8
Accomplishments and Opportunities	10
Accomplishments.....	10
Opportunities	10
Resources for Implementation	11
Authorities	12
Definitions	13
Appendix 1 Data Trends	16

EXECUTIVE SUMMARY

The 2026-2031 Fleet Sustainability Action Plan provides the State Enterprise (the Enterprise) with actions all agencies can take to reduce fossil fuel use in fleet vehicles and associated greenhouse gas emissions. We can group these actions into three categories:

1. **Reduction:** Efficiency strategies cut fossil fuel use and avoid costs. Examples include carpooling, using virtual meetings, and route optimization to reduce vehicle miles travels or choosing the right size vehicle for the job, like a sedan instead of a pick-up truck if staff aren't hauling equipment.
2. **Electrification:** Transitioning to electric vehicles lowers fossil fuel use and greenhouse gas emissions. In Minnesota, an average electric vehicle's carbon footprint is less than half of an internal combustion engine vehicle and as the electric grid continues to be powered by more renewable energy, the footprint could be up to 90% less¹.
3. **Alternative fuels:** Fuels like biodiesel blends, ethanol blends, renewable diesel, or hydrogen can lower fossil fuel use and greenhouse gas emissions. Switching to alternative fuels may be as simple as educating drivers on the availability of E85 or may require larger efforts to upgrade infrastructure and vehicles to use higher biodiesel blends.



Targeting the most effective strategies for each agency will achieve the fossil fuel reduction goal and lower greenhouse gas emissions. Table 1 assumes a 50% rate of electrification and adoption of alternative fuels and a goal of achieving a 2,787,692 gallon reduction.

Table 1: Fossil Fuel Reductions

Group	Action	Reduction (gallons)	% of reduction goal	GHG reduction (mtCO ₂ e)	Social Cost of Carbon Avoided
Electrification	Electrification of light duty	959,466	35%	8,642	\$ 1,642,040.6
Electrification	› from regular gasoline	509,796		4,321	\$ 820,898.4
Electrification	› From gas in E85 vehicles	400,883		3,775	\$ 717,247.2
Electrification	› from E85 in E85 vehicles	4,055		168	\$ 31,864.9
Electrification	› from gas in PHEVs	44,732		379	\$ 72,030.1
Alternative Fuels	BioFuels	1,694,593	61%	400	\$ 75,938.4
Alternative Fuels	› Reg Gas from E15/U88 in light	9,346		(3)	\$ (613.5)
Alternative Fuels	› Increased E85 (post electrification)	230,174		232	\$ 44,155.0
Alternative Fuels	› Increased E85 in Medium/Heavy	168,880		171	\$ 32,396.9
Alternative Fuels	› Reduction from R100/B100 Use	1,286,193		0	\$ -
Reduction	Idle Improvements	133,633	5%	1,261	\$ 239,667.5
Total		2,787,692	100%	10,303	\$ 1,957,646.5

¹ From Lifecycle Assessment Study Compares Emissions of EVs and Conventional Vehicles," by M. M. Uddin, G. O. E. C., 2025, <https://betterenergy.org/electric-vehicle-lifecycle-analysis>.

INTRODUCTION AND PURPOSE

The [*Minnesota Climate Action Framework*](#) lists transportation as the number one source of greenhouse gas emissions in Minnesota. Transportation accounts for about 25% of total emissions and underscoring its significant role in driving climate change. Burning fossil fuels like gasoline or diesel in vehicles also produces nitrogen oxide, non-methane organic gases, carbon monoxide, particulate matter, and formaldehyde that usually stay close to the ground. These harmful pollutants can make it difficult for some people to breathe; trigger lung diseases like asthma, emphysema, and chronic bronchitis; and have a disproportionate effect on communities near traffic corridors.

Pollution and equity

Metro Transit is prioritizing zero emission bus investments in communities where air pollution, racial, and socioeconomic disparities are greatest.

Executive Order (EO) 19-27 directs the Enterprise to achieve sustainability goals in six focus areas: fleet, greenhouse gas emissions, energy, water, solid waste, and procurement. This *2026-2031 Fleet Sustainability Action Plan* establishes aggressive yet achievable actions for the Enterprise to meet the relevant sustainability goals:

- Fleet: Reduce fleet fossil fuel use 30% by 2030 compared to a 2017 adjusted baseline.
- Greenhouse gas emissions: Reduce greenhouse gas emissions 50% by 2030 compared to a 2005 baseline.

This *2026-2031 Enterprise Fleet Sustainability Plan* applies to the Enterprise and its roughly 15,000 on and offroad vehicles and equipment. Since Governor Walz signed EO 19-27 in 2019, the Enterprise has been working toward the goals; however, agencies can still make progress to reduce fossil fuel use, lower greenhouse gas emissions and pollution, and avoid costs. This plan describes:

- 1) actions that the Office of Enterprise Sustainability (OES) will take to assist agencies.
- 2) actions agencies should take to reduce fossil fuel use and associated greenhouse gas emissions to guide internal planning processes.

Some actions in this plan are broader strategies to lower fleet fossil fuel use and not directly related to fleet vehicles. Actions like encouraging alternative modes of transportation (e.g., carpooling or mass transit) address overall staff mobility with the added benefit of preventing fuel use in fleet vehicles. The Office of Enterprise Sustainability (OES) will continue to evaluate other mobility related strategies and consider how the next iteration of this plan will encompass more and wider-reaching strategies to influence how staff travel for state business.

The Enterprise Fleet Sustainability Workgroup, including staff from The Departments of Administration (Admin), Natural Resources, Public Safety, and Transportation, and Metropolitan Council were instrumental in developing this plan. The Enterprise-wide Fleet Sustainability Workgroup will continue to tailor the agency actions to meet state agencies' needs, respond to evolving technology, and adhere to federal, state, and local mandates.

This plan is a companion to other enterprise action plans, creating a coordinated pathway to achieve the sustainability goals.

ROLES

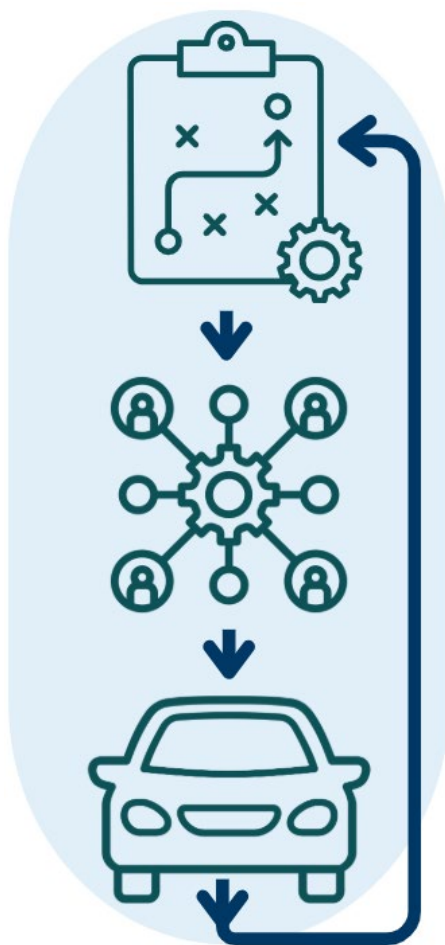
Enterprise Agencies

EO 19-27 requires Enterprise to make progress toward the goals and take part in sustainability efforts by:

- designating a sustainability coordinator.
- participating in workgroups and sharing best practices.
- creating and implementing a biannual sustainability action plan. Every-other-year, agencies in the Enterprise submit a sustainability action plan to OES. In their plan, agencies address the relevant agency actions detailed in this plan.
- reporting energy, water, solid waste, and fleet data.

From drivers to directors, every State employee has a role to play in reducing fleet fossil fuel use.

- **Planning.** Fleet coordinators, managers, facilities staff, sustainability coordinators, and others rely on strategizing and budgeting to be successful. Plans use data to understand fuel and vehicle use, set goals, adjust fleet size, estimate costs, and identify funding sources. For example, the first step in fleet electrification planning is determining the amount and type of electric vehicles (EVs) or plug-in hybrid electric vehicles (PHEVs) expected to be at a location in upcoming years. This allows managers to budget and staff to install the needed charging infrastructure to accommodate the future fleet.
- **Organizational.** Organizational decisions solidify the planning efforts. Leadership at agencies typically need to make or approve organizational decisions for them to move forward. Examples include prioritizing potential infrastructure upgrades needed to use alternative fuels or investing in telematics.
- **In-vehicle.** Drivers, whether taking a fleet vehicle to a meeting, traveling for an inspection, plowing roads, or driving a Metro Transit bus make informed decisions while in the vehicle, or even before getting in. For example, choosing to carpool or take public transit to a meeting, not speeding or idling, charging after use PHEVs, or choosing E85 or U88 at the pump as appropriate, all reduce fossil fuel use.



Office of Enterprise Sustainability

OES, within the Department of Administration, assists the Enterprise in achieving the sustainability goals by providing resources for all agencies, regardless of their mission or size.

OES does this by:

- providing data reporting tools and annually publishing agency and enterprise data, trends, and progress toward the sustainability goals.
- conducting enterprise-level planning and assisting with agency-level planning.
- implementing projects and providing technical assistance to agencies.
- championing sustainability by advocating for sustainability in funding discussions and sharing best practices.

Fleet Services

Fleet Services, also within the Department of Administration, leases vehicles to state agencies for official state business. Fleet Services manages vehicle acquisition and disposition, fueling, maintenance, auto insurance, and life-cycle management for roughly 2,100 leased vehicles.

DATA

The Enterprise reduced fleet fossil fuel use 15% through 2024 compared to the 2017 baseline year. The most significant reduction was between 2019 to 2020 because of the Metropolitan Council's Metro Transit operational changes due to the COVID-19 pandemic. Overall fuel use, including Metro Transits use, appears to have plateaued since 2020.

Using the right fuel for the vehicle can affect fossil fuel use. Major fuel types include:

- Biodiesel. All diesel available at the pump in Minnesota is a blend of No. 2 diesel and biodiesel. B5 is used in the winter, B20 in the summer, and B10 during the spring transition period. B20 and B10 have 15% and 5% less fossil fuel content than B5. B100 (100% biodiesel; no fossil fuel) is not currently used the State's fleet because it requires fueling infrastructure upgrades and engine retrofits.
- Electricity. Electricity powers electric vehicles, including all-electric EVs and PHEVs.
- Ethanol. E85 can only be used in flexible-fuel vehicles, most of which are in the State's light-duty fleet vehicles, while lower blends like E10 and E15/U88 are compatible with most vehicles. Compared to gasoline, E85 contains up to 83% less fossil fuel content.
- Hydrogen. There are currently no hydrogen vehicles in the State's fleet. Hydrogen vehicles don't use fossil fuels.
- Propane. Most propane used at the State is used in offroad vehicles and equipment.
- Renewable diesel. Renewable diesel (R100) can be used in all diesel vehicles without retrofits, unlike B100. Renewable diesel does not have fossil fuel content, but it isn't currently available in Minnesota.

Greenhouse gas emissions associated with operating fleet vehicles are from multiple sources. OES reports emissions from:

- Vehicles. Fuel combustion in vehicle engines produces emissions, and the different fuel types (e.g., diesel, gasoline, E85) generate differing amounts of emissions.
- Propulsion. Electricity for EVs and the light rail operated by Metropolitan Council.
- Reimbursed miles. Emissions from state employees using their personal vehicles for state business.
- Air travel. Air travel for state business purposes.

In 2024, the Enterprise reduced greenhouse gas emissions 40% since the baseline year of 2005. However, the reductions were driven primarily by the increase in renewable energy powering the electric grid, not fleet-related emissions. Fleet emissions follow a similar pattern to fossil fuel use.

Refer to Appendix 1 for data through 2024 and sustainability.mn.gov for current data.

DEPARTMENT OF ADMINISTRATION ACTIONS

As part of this plan, Fleet Services and OES will prioritize the following actions:

- **Provide training and resources for staff to manage sustainable fleets and increase their understanding of EVs, alternative fuels, and alternative modes of transportation.**
 - Develop and distribute template messaging for using and charging electric vehicles, driving and vehicle maintenance best practices, and lower emission fuels.
 - Support or host events to build confidence and knowledge around EVs or alternative fuel vehicles, like EV Ride and Drive events.
 - Develop and/or distribute information on total cost of ownership of vehicles.
 - Coordinate annual fleet planning meetings with agency staff.
 - Provide guidance related to exemptions to the vehicle preference order outlined in MINN. STAT. § 16C.135 and maintain consistency in enforcement of the statute.
- **Assess enterprise performance.**
 - Report annual data, including fossil fuel use by agency.
 - Use data to identify trends, barriers, and opportunities.
 - Provide idling data as requested.
- **Support the planning and expansion of electric vehicle supply equipment (EVSE).**
 - Develop EVSE installation guidance, including design recommendations and fee structures.
 - Research and promote home charging solutions as appropriate.
- **Recognize achievements through the annual sustainability awards.**
 - Annually, OES will solicit award nominations and facilitate the recommendation process through the Sustainability Steering Team.
 - Successes and strategies will also be shared at meetings with the sustainability coordinators.

Enterprise Data

OES publishes enterprise and agency-specific sustainability data annually at sustainability.mn.gov.

AGENCY ACTIONS

Different factors affect an agency's ability to influence their fleet fossil fuel use, primarily the number of vehicles and vehicle segments (e.g., light, medium, or heavy-duty).

All Agencies

As part of this plan, all agencies will prioritize the following actions.

A. Follow the vehicle preference order for purchasing or leasing vehicles (MINN. STAT. §

16C.135 Subd. 3). The hierarchy requires buyers to select vehicles in the following order:

- a. an electric vehicle,
- b. a hybrid electric vehicle,
- c. a vehicle powered by cleaner fuels, and
- d. a vehicle powered by gasoline or diesel fuel. When an internal combustion engine vehicle is necessary, select a vehicle with the highest greenhouse gas rating from the US Environmental Protection Agency, or most fuel-efficient model possible.

State agencies must purchase EVs unless an agency commissioner submits a written exemption from and granted by both Admin, Fleet Services, and Office of State Procurement. An agency may only reject a vehicle higher on the vehicle preference order if:

- the vehicle type is incapable of carrying out the purpose for which it is purchased, or
- the total life-cycle cost of ownership of a preferred vehicle type is more than ten percent higher than the next vehicle type in the vehicle preference order.

Electrification goal

By following the preference order and actions in this plan, we expect all new light-duty vehicles purchased in 2030 will be EVs, provided sufficient vehicle availability.

Fleet Services developed preference criteria guidelines for agencies to use to determine if an exemption is necessary. Agencies will develop an internal process for how they will follow the preference criteria guidelines, including internal review.

B. Increase use of higher ethanol blended fuels. Use E85 in flex-fuel vehicles by identifying which vehicles are flex-fuel and locating service stations that offer E85 within a reasonable distance to those vehicles. Work with drivers to make them aware of which vehicles are flex fuel capable and educate them about where E85 filling stations are located. For other vehicles that run on gasoline, encourage the use of U88/E15.

C. Develop and implement a fleet vehicle utilization, right-sizing, and replacement policy or guideline. Agencies that own vehicles will adopt a policy or guideline that optimizes fleet vehicle utilization, identifies underutilized vehicles, and plans for appropriate replacements when vehicles reach end of their service life. The policy/guideline should:

1. document the average and/or maximum daily miles driven by the vehicle.
2. document the expected end of life or lease termination.
3. identify underutilized vehicles that should be retired or repurposed.

4. identify potential replacement options for vehicles with their end of service life approaching. The replacement options should be in accordance with the vehicle purchasing hierarchy and be right sized to the business use of the vehicle.
5. detail options to reduce reimbursed miles by improving the use of fleet vehicles before personal vehicles.

Agencies that lease vehicles from Fleet Services will annually review vehicle utilization and confirm vehicle requirements to identify vehicles fit for EV replacement.

As part of replacement planning, all agencies, regardless of whether they lease or own vehicles, should determine the likely number of EV replacements through 2030 to support agency wide planning for electrification.

Right-sizing the fleet

The Department of Revenue's evolving work practices drastically reduced their fuel use over 60% from 2017 to 2024. In response, Revenue is avoiding costs by reducing the number of fleet vehicles from 45 to 24, while increasing the percentage of vehicles that are PHEVs.

- D. Educate drivers.** Agencies will complete the following to provide messaging, educational, and training opportunities to drivers to reduce fossil fuel use.
1. Agencies will educate drivers on how to use and charge electric vehicles, including using fuel cards for public charging.
 2. Agencies will adopt sustainable meeting guidelines that encourages the use of remote meetings as appropriate and in accordance with 16C.137 Subdivision 1 (3).
 3. Agencies will promote the benefits of using fleet vehicles to reduce reimbursed miles.
 4. Agencies will educate on driving the most efficient vehicle for the business need.
- E. Plan for electric vehicle charging.** Agencies will develop EV charging infrastructure plans based on the fleet vehicle replacement policy or guideline, current or anticipated staff and public use, and likely number of EVs replaced through 2030. Infrastructure design should incorporate, at a minimum, the [B3 Guidelines](#) required performance criteria under EV-Ready, but make every effort to include the B3 Guidelines recommended performance criteria, pre-design and design guidelines, and OES developed EVSE Design Guidelines.
- F. Install electric vehicle charging infrastructure.** Install electric vehicle charging infrastructure based on planning efforts.
- G. Reduce idling.** Use available information, such as fleet reports or telematics data, to identify vehicles with high idling rates to target for idling reduction strategies such as selecting a hybrid or electric vehicle, and driver education or retrofitting vehicles with air heaters or auxiliary power systems.
- H. Encourage using other forms of transportation.** Promote alternative transportation methods (e.g., public transportation, walking, biking, ride sharing, and carpooling) to events and meetings.

Employee passes

Employee badges at the Metropolitan Council double as passes on Metro Transit for unlimited, no-cost access to buses and trains.

- I. **Use telematics.** Use telematics data to inform fleet planning, like right-sizing, vehicle replacement options that meet business and travel needs, and charging rates for plug-in hybrids.

Agencies with medium or heavy-duty vehicles

- J. **Reduce fossil fuel gallons through conservation, biofuel use, and electrification.**
1. Agencies will pursue efficiency and conservation strategies like route optimization, vehicle right-sizing, and idling reduction.
 2. Agencies will pursue opportunities to increase biofuel use through strategies like using E85 in flex fuel capable vehicles, U88 in other gasoline vehicles, and increasing biodiesel blending and use, like B100.
 3. Agencies will identify electric solutions and develop plans to pilot and deploy electric options, including the installation of charging infrastructure and equipment.
 4. Agencies will use renewable diesel as appropriate.

Agencies with offroad vehicles

- K. **Implement best practices in fossil fuel reduction in offroad vehicles and equipment.** Agencies with off-road or off-highway vehicles and equipment will implement best practices to reduce offroad fuel use.

These best practices may include:

1. developing an equipment inventory.
2. vehicle right-sizing.
3. tracking fuel use in highly used equipment.
4. developing replacement cycles.
5. replacing selected equipment/vehicles with electric options.
6. identifying more fuel-efficient options.
7. reducing idling.

Electrifying equipment

The Minnesota Department of Veterans Affairs is transitioning to electric equipment across its campuses. Electric lawn equipment and ATVs avoid fuel costs and support a cleaner working environment for staff. Most importantly, electric equipment is quieter, helping to support an atmosphere of reflection and remembrance at the Veterans Cemeteries.

IMPLEMENTATION

Many of the actions in this plan have been included in prior enterprise action plans, so some should already be implemented (current actions). Agencies can implement the actions sooner than in the below table, but they must be implemented by the end of the calendar year indicated.

Implementing the actions is intended to be a continuous, iterative process in which new data and information are used to adjust the implementation approach.

Table 1 - Agency Action Recommended Implementation Schedule

Action	Current	2026	2027	2028	2029	2030
All Agencies						
Follow the vehicle preference order						
Use higher ethanol blended fuels						
Develop fleet management policy/guidelines						
Educate drivers						
Plan for EV charging						
Install EVSE						
Reduce idling						
Encourage other forms of transportation						
Use telematics						
Agencies with medium and/or heavy vehicles						
Conserve, use biofuels, and electrify						
Agencies with offroad vehicles						
Implement best practices						

 = year action should be implemented

ACCOMPLISHMENTS AND OPPORTUNITIES

Accomplishments

Success stories related to a few agency actions are highlighted throughout this plan. Additional case studies are available at sustainability.mn.gov.

Opportunities

Financial

Purchasing EVs instead of internal combustion engine (ICE) vehicles are sometimes viewed as more expensive options. However, total cost of ownership calculators, such as those through Alternative Fuel Life-Cycle Environmental and Economic Transportation (AFLEET) or telematics services compare the cost of ownership of EVs, PHEVs, and ICE vehicles. Total cost of ownership varies by purchase price, ICE vehicle efficiency, and planned ownership duration; however, the EVs or PHEVs when used in specific circumstances are often less expensive over the cost of their life.

Increased biofuel and renewable diesel use

Fueling fleet vehicles with biodiesel blends above B20 is not currently feasible due to several challenges. Higher blends face cold-weather performance issues like fuel gelling. Engine retrofits can address these problems but can be costly. Most engine manufacturers only recommend biodiesel blends up to B20, raising concerns about potential warranty claims challenges if blends greater than B20 are used. Outdated language in the state fire code creates administrative barriers to using B100 as a primary fuel, though an interagency workgroup is actively exploring solutions to these challenges.

Renewable diesel

Fueling fleet vehicles with up to R100 a potentially viable option; however, there is currently no consistent supply to the Midwest. It is also more expensive than petroleum diesel or biodiesel blends in Minnesota.

RESOURCES FOR IMPLEMENTATION

Alternative Fuel Life-Cycle Environmental and Economic Transportation (AFLEET)

The Department of Energy's Technology Integration Program and Argonne National Laboratories developed the AFLEET Tool to analyze the environmental and economic costs and benefits of alternative fuel and EVs: <https://afleet.esia.anl.gov/home/>.

American Lung Association

The American Lung Association's Clean Air Choice provides maps of E85 fueling stations and other outreach materials, specific for Minnesota, here: <https://www.cleanairchoice.org/clean-cities/minnesota-clean-cities-coalition>

Electric Vehicle Supply Equipment (EVSE) Guidelines for State Agencies

These guidelines were created by OES to provide direction for EVSE installation at state buildings and ensure compliance with state policies, sustainability goals, and accessibility requirements.

Get Biofuel

Get Biofuel provides a map of stations that offer biofuels, like U88 and E85 here:

<https://getbiofuel.com/#find-unleaded-88> or <https://www.mnbiofuels.org/resources/e15-e85-blender-pump-map/map2>.

Great Plains Institute's Lifecycle Assessment Study Compares Emissions of EVs and Conventional Vehicles

This [comprehensive lifecycle assessment study](#) analyzes and compares the lifecycle emissions of EVs and ICE vehicles, from vehicle production and operation. The study also includes other environmental impacts of EVs and ICE vehicles.

Telematics

Telematics data (e.g., location, speed, engine diagnostics, idling, and usage metrics) allows for informed decision making for fleet management and identifies vehicles or driving behaviors to target to increase efficiency of the vehicle. All leased vehicles are equipped with telematics and there is a telematics vendor on state contract (L-476(5)).

AUTHORITIES

Executive Order 19-27 Directing State Government to Conserve Energy and Water, and Reduce Waste to Save Money

Establishes the framework for the OES, including the Sustainability Steering Team and sustainability goals. It also directs cabinet agencies to be involved in making progress toward the sustainability goals.

MINN. STAT. § 16C.135 Subd. 2

Allows for the purchase of cleaner fuels for a fleet vehicle, if it's reasonably available at similar costs. Cleaner fuels are biodiesel blends of 20 percent or greater by volume (B20-B100), compressed natural gas, ethanol blends of 70 percent or greater by volume (E70-E100), hydrogen, liquefied natural gas, and liquefied petroleum gas.

MINN. STAT. § 16C.135 Subd. 3

Establishes the vehicle preference order that requires agencies to purchase vehicles in the following vehicle preference order:

- (1) an electric vehicle
- (2) a hybrid electric vehicle
- (3) a vehicle capable of being powered by cleaner fuels and
- (4) a vehicle powered by gasoline or diesel fuel

MINN. STAT. § 16C.137

Requires agencies, whenever legally, technically, and economically feasible to:

1. ensure that all new vehicles, excluding emergency and law enforcement vehicles, are purchased in conformity with the vehicle preference order ([16C.135, subdivision 3](#));
2. increase the use of renewable transportation fuels; and
3. increase the use of virtual meeting options to reduce demand on the fleet vehicles

MINN. STAT. § 16C.138

Requires solicitation for the purchase of a passenger automobile, pickup truck, or van issued under the jurisdiction of the Department of Administration to include the following language: "It is the intention of the state of Minnesota to begin purchasing electric vehicles, plug-in hybrid electric vehicles, neighborhood electric vehicles, and natural gas vehicles if the total life-cycle cost of ownership is less than or comparable to that of gasoline-powered vehicles. It is the intention of the state to purchase electric vehicles, plug-in hybrid electric vehicles, neighborhood electric vehicles, and natural gas vehicles whenever practicable after these conditions have been met and as fleet needs dictate for at least five years after these conditions have been met."

MINN. STAT. § 216H.02

Reduce greenhouse gas emissions 50% by 2030 from a 2005 baseline and achieve net-zero emissions by 2050.

DEFINITIONS

All-terrain vehicle: Has at least three, but no more than six, low-pressure or nonpneumatic tires (not filled with or containing compressed air) with a total dry weight less than 2,000 pounds and a total width from outside of tire rim to outside of tire rim that is 65 inches or less. Includes Class 1 and Class 2. Does not include electric-assisted bicycles, golf carts, mini trucks, dune buggies, go carts, or a vehicle designated and used specifically for lawn maintenance, agriculture, logging or mining purposes (Mn DNR OHV Definitions <https://www.dnr.state.mn.us/ohv/ohv-definitions.html>).

Biodiesel: Biodiesel is a liquid, domestically produced, renewable fuel manufactured from vegetable oils, animal fats, or recycled restaurant grease. It is used in vehicles or equipment that run on diesel fuel. Biodiesel and petroleum diesel have similar physical properties. Biodiesel and renewable diesel are not the same fuel (DOE Alternative Fuels Center). In Minnesota, No. 2 diesel must be blended with at least 5% biodiesel from October 1 to March 31, 10% biodiesel from April 1 to April 14, and 20% biodiesel from April 15 to September 30.

Compressed natural gasoline (CNG): A fossil fuel produced by purifying biogas under compression to less than 1% of its volume at standard atmospheric pressure.

Electric vehicle (EV): A motor vehicle that is able to be powered by an electric motor drawing current from rechargeable storage batteries, fuel cells, or other portable sources of electrical current, and meets or exceeds applicable regulations in Code of Federal Regulations, title 49, part 571, and successor requirements. Electric vehicle includes:

1. a neighborhood electric vehicle;
2. a medium-speed electric vehicle; and
3. a plug-in hybrid electric vehicle (MINN. STAT. 169.011).

Electric vehicle supply equipment (also referred to as electric vehicle infrastructure or EVSE): Electric vehicle charging stations and any associated machinery, equipment, and infrastructure necessary for a public utility to supply electricity or hydrogen to an electric vehicle charging station and to support electric vehicle operation (MINN. STAT. 216B.1615).

The Enterprise: The 23 cabinet agencies and the Metropolitan Council, Direct Care and Treatment, and any other interested state entity.

Equipment: Tools with two-cycle gasoline-powered motors, including landscaping and snow-removal equipment, including chainsaws, pole pruners, push-operated lawn mowers, hedge trimmers, leaf blowers, boat motors, and other equipment.

Ethanol: A renewable, liquid fuel made from corn and other plant materials, collectively known as “biomass.” Nearly all of gasoline in the U.S. contains at least some ethanol to oxygenate the fuel. Ethanol has a higher-octane number than gasoline. Ethanol has less energy per gallon than gasoline, so its fuel economy is dependent on the ethanol content in the fuel and whether an engine is optimized to run on gasoline or ethanol (DOE Alternative Fuels Center).

Heavy-duty: on-road vehicles with a Gross Vehicle Weight Rating (GVWR) of greater than 19,500 pounds. These include plow trucks, city buses, semi tractors, and dump trucks.

Hydrogen: A fuel that can be produced from diverse domestic resources, including renewables. Currently, most of the hydrogen fuel produced in the U.S. is from steam reforming. Hydrogen fuel can also be produced from water through electrolysis. Hydrogen, when used in a fuel season, doesn't produce tailpipe emissions (DOE Alternative Fuels Center).

Light-duty: On-road vehicles with a GVWR of less than 8,500 pounds. These include sedans, mini vans, light trucks (typically half-ton pick-up trucks), passenger vans, and sport utility vehicles or cross-over utility vehicles.

Medium-duty: On-road vehicles with a GVWR of greater than 8,500 and less than 19,500 pounds. These include heavy pickups, service trucks, wildland fire trucks, step vans, large walk-in vans, bucket trucks, and others.

Off-highway motorcycle: A motorized, off-highway vehicle traveling on two wheels and having a seat or saddle designed to be straddled by the operator and handlebars for steering control. Off-highway motorcycle does not include an electric-assisted bicycle (Mn DNR OHV Definitions <https://www.dnr.state.mn.us/ohv/ohv-definitions.html>).

Off-highway vehicle: Includes all-terrain vehicles, off-highway motorcycles, and off-road vehicles (Mn DNR OHV Definitions <https://www.dnr.state.mn.us/ohv/ohv-definitions.html>).

Off-road vehicle: A motor-driven recreational vehicle capable of cross-country travel on natural terrain without benefit of road or trail (MINN. STAT. 84.797).

Renewable diesel: Made from fats and oils, like soybean oil or canola oil, produced most often by hydrotreating and via gasification, pyrolysis, and other biochemical and thermochemical technologies. It is chemically the same as petroleum diesel and meets the ASTM D975 specification for petroleum in the U.S. Renewable diesel and biodiesel are not the same fuel (DOE Alternative Fuels Center).

CITATIONS

¹ M. Moaz Uddin, Gabrielle Olson, Emmy Curtis <https://betterenergy.org/electric-vehicle-lifecycle-analysis/>

APPENDIX 1 DATA TRENDS

FIGURE 1 – Annual Fossil Fuel Use for the Enterprise

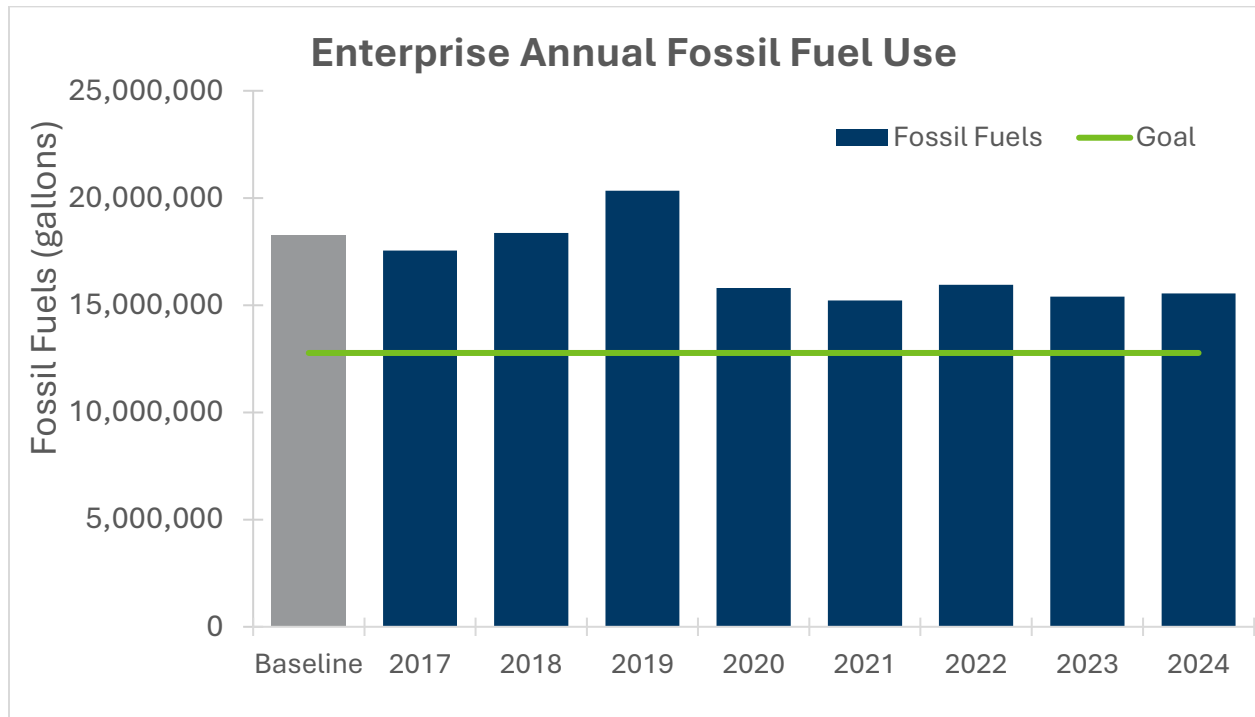


FIGURE 2 – Annual Greenhouse Gas Emissions (GHG) for the Enterprise

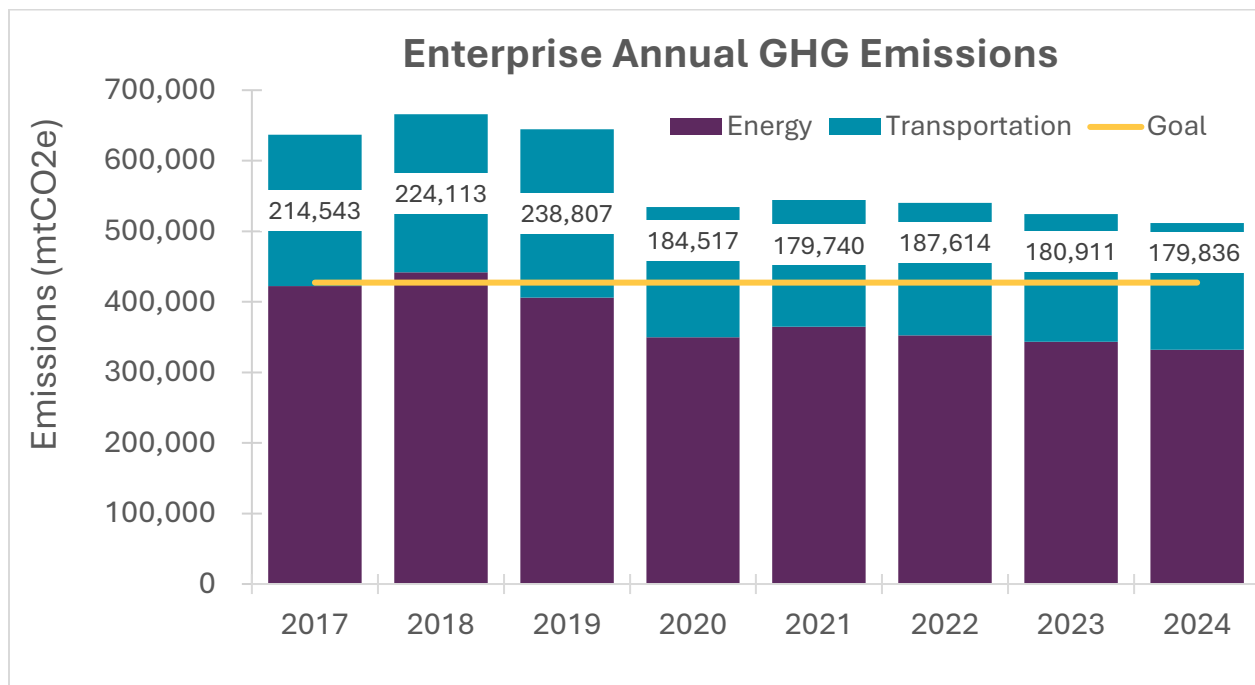


FIGURE 3 – PROJECTED Fossil Fuel Reductions After Implementing Recommended Actions

