

## **GREEN FLEET POLICY HASTINGS-ON-HUDSON, NY**

### **1. Goals**

The goal of all Village Departments shall be to eliminate unnecessary vehicles and to purchase, lease, and use the most cost-effective and lowest emission vehicle or equipment possible, while still meeting operational and safety requirements. Fleet assets shall be utilized in a manner that supports Village sustainability and resiliency objectives through environmentally responsible fleet management.

Replacement of fleet vehicles as necessary will focus primarily on all-electric and secondarily on hybrid-electric technologies. Contracted services with third-party fleets (e.g. organic waste collection) shall also, to the extent possible, be consistent with this policy.

The Village aspires to reduce its fleet by 10% or to electrify 10% of the fleet\* within 2 years of the adoption of this policy by the Board of Trustees. The ultimate goal of the Village is to fully electrify its fleet by 2035 and to achieve a fleet average of approximately 49 mpg for light duty vehicles in model year 2026 (as per the National Highway Traffic Safety Administration recommendations).

### **2. Objectives**

The core objectives of this Green Fleet Policy are to:

- optimize the fleet size by eliminating unused or underused vehicles and equipment through continuous review and evaluation of vehicle utilization and redundancy.
- increase the fleet average fuel economy for each department by using miles per gallon (mpg) and fuel type (e.g. electric).
- reduce vehicle size, weight, and other factors affecting fuel use when appropriate.
- reduce emissions of carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), nitrous oxide (NO<sub>x</sub>), volatile organic compounds (VOCs), particulate matter (PM) and other greenhouse gases (GHGs) and pollutants through elimination of fossil fuel combustion.
- increase the use of alternative fuel vehicles and equipment, with a focus on increasing the use of all-electric vehicles.

The Green Fleets Team (defined in section 4) will work to accomplish these objectives. The process will also be informed by other triggering events such as vehicle condition inspections.

### **3. Measures of Success**

The Village has identified several indicators to document success in implementing the Green Fleet Policy and commits to tracking the following results:

- Reduction of carbon dioxide equivalent (CO<sub>2</sub>e) and other emissions.
- Decrease in annual total gallons of gasoline and diesel fuel used.
- Decrease in total fleet size.
- Increase in the percentage of electric and hybrid-electric vehicles as combustion-engine vehicles are replaced where opportunities exist and are deemed feasible.

These indicators will be measured relative to the FY 2019 fleet baseline inventory referenced in Section 8, below.

**4. Green Fleets Team**

The Village Manager will serve as the Fleet Manager and the Green Fleets Team may include, but not be limited to, one representative from the following Departments:

- Village Manager
- Finance Department
- Public Works Department
- Parks and Recreation Department
- Police Department
- Fire Department

**5. Funding**

The Mayor and Board of Trustees will seek funding from a range of sources to ensure equitable means for all Departments to accomplish the Green Fleet Policy's directives. Funding from outside sources such as State and Federal grants shall be pursued to assist in the purchase of policy-compliant vehicles, including alternative fuel vehicles and fueling facilities. The processes outlined in this policy will be modified as appropriate by the Green Fleets Team, with approval of the Mayor and Board of Trustees. Lifecycle costs should be used to determine total savings of vehicles. A vehicle replacement depreciation analysis must also address and fairly accommodate potential higher upfront purchase costs necessary to meet the policy's mission.

**6. Fleet Inventory**

The Village shall create and maintain a complete inventory of all vehicles in its fleet (including both municipal-owned as well as leased vehicles), by department. This inventory will include not only the type and number of fleet vehicles, each vehicle's intended use, and the fuels used, the costs associated with fuel use, and the resulting pollution (definitions of the types of vehicles included in the inventory is provided in Annex I). This inventory is critical if goals are to be set and success measured for the policy. The inventory will be created and maintained by the Fleet Manager, who will provide it to the Green Fleets Team on the 1<sup>st</sup> of January of each year.

**7. Efficiency Standards**

Departments will purchase replacement vehicles based on the highest tier possible and the Fleet Manager's recommendation (definitions are provided in Annex I). The tiers are structured as follows:

- o Tier I – Zero Emission Vehicle
- o Tier II – Alternative-fueled Internal Combustion Engine
- o Tier III – Hybrid Electric Internal Combustion Engine
- o Tier IV – Conventional Internal Combustion Engine – Gasoline
- o Tier V – Conventional Internal Combustion Engine – Diesel

For non-law enforcement use, hybrid, gas and diesel vehicles should aim to achieve the minimum efficiency level as recommended by the Federal Government.

The Green Fleets Team may approve an exception to minimum efficiency levels if no suitable alternative is available, as it can be difficult to source low-emissions alternatives that perform as well as regular vehicles in certain classes. These may include medium and heavy-duty vehicles, machinery such as bulldozers, non-traditional vehicles such as boats, specialty vehicles such as buses, and emergency vehicles such as ambulances and fire trucks. These standards will be reviewed on a periodic basis as technology evolves.

## **8. Baseline for Evaluation of Effectiveness**

The Fleet Manager will establish baseline data to evaluate annual Green Fleet Plan starting in FY 2019. The baseline data will be provided in a reliable and verifiable manner to the Green Fleets Team. The Fleet Manager will seek available tools to facilitate in the development of these calculations. The baseline information should to the extent possible include:

- Vehicle number, year, make model drive train (2 or 4 wheel drive), class, transmission type and primary use.
- Miles per gallon per vehicle – actual if possible, published EPA rating if actual not available.
- Type(s) of fuel used.
- Average cost per gallon (or gallon equivalent) of fuels.
- Average fuel cost per mile, if available.
- Annual VMT (vehicle miles travelled) per vehicle per fuel type, if available.
- Total fuel(s) consumption per vehicle per year.
- Vehicle function and utilization (e.g. hours of use divided by total hours) with commentary on continued need or whether alternatives are available.
- Estimated emissions per mile for each pollutant by vehicle type/class (defined in section 1 above) based on EPA tailpipe standards for CO, NOx and PM and CO2 calculations based on gallons (or equivalent) of fuel consumed.

## **9. Fleet Rightsizing Strategies**

The vehicles targeted for evaluation for reduction in fleet size shall include:

- Underutilized vehicles: light duty vehicles (passenger cars, light duty pick-up trucks and vans) that use less than 200 gallons per year or are driven less than 5,000 miles.\*\* The rationale is that when fleet vehicles are underutilized, it is not cost-effective to recommend an EV because fuel and maintenance costs will already be low.
  - Vehicles nearing the end of their lifecycles: light duty vehicles over 10 years old or heavy duty trucks over 15 years old.\*\* The rationale is that vehicles that are over 10 years old begin to incur additional maintenance expenses, and 10 to 15 years is a common municipal fleet turnover rate.
- A. Removal of Vehicles.** Vehicles in these categories will be earmarked for removal from the Village fleet through periodic vehicle auctions. It is anticipated that these vehicles will be removed over a number of years to reduce the impact to the fleet. The determination of which vehicles are to be eliminated shall be at the discretion of the Fleet Manager, and based on the recommendations of the Green Fleets Team. No vehicle will be purchased to replace the removed vehicle, and the miles normally traveled by the removed vehicle will be distributed to other transportation / mobility modes.

**B. Exemptions.** Specialized function vehicles may be exempted from removal if the purchasing Department Head can justify retention and the Green Fleets Team approves this justification. Justification for exemptions must be presented in writing to the Team. It is expected that there will be exceptions with regard to some emergency services vehicles because of special uses. However, there still may be viable green vehicle/equipment options to support some emergency needs and functions. It shall be the policy of the Village to purchase or lease emergency response vehicles that comply with the requirements of this section to the extent that the purchase or lease of such vehicles does not unacceptably reduce the ability to provide safe, quality services.

**C. Reduce Vehicle Size.** The selection of vehicles of a smaller class size will be encouraged whenever possible to achieve increased miles per gallon. Requests for new vehicle purchases should be supplemented with written justification addressing the need for a specific model and type. The Fleet Manager shall work with the Department Head and vehicle operators to determine whether a proposed vehicle could be downsized and still complete its required function. For example, whenever possible, full-size trucks and vans should be downsized to light duty vehicles, and large gasoline/diesel engines replaced with smaller electric motors.

**D. Reduce Vehicle GHG and Health Threatening Emissions.** The Fleet team will endeavor to make purchasing choices that reduce GHG emissions, as well as emissions of CO, NOx, VOCs, and PM. Emissions targets shall be set by the Green Fleets Team and reviewed and modified if cleaner vehicles become available. The purchase of out of state electric vehicles and cooperative purchasing agreements should be considered.

**E. Comply with Anti-Idling Mandates.** Vehicle operators will comply with Section 1 Chapter 282-27.2, Article IX of the Code of the Village of Hastings-on-Hudson, which restricts idling of motor vehicles beyond one minute and prohibits the use of idling to warm up a vehicle.

**F. Increase Use of Alternative Fuel Vehicles and Equipment.** The preferred fueling options for light duty vehicle replacements shall be primarily electric, and hybrid-electric when an all-electric option is not available. In order to charge these vehicles the Green Fleets Team should consider solar-powered charging options as they become available and feasible. Both internal budgets and external grants may be used to cover the anticipated premiums for an alternate fuel version of a fleet vehicle or piece of motorized equipment. Gasoline alternative fuels (such as low-sulfur diesel, compressed natural gas, ethanol and biodiesel) shall be considered when feasible if an electric alternative is not available and any negative environmental impacts from such fuels do not negate benefits. The latest scientific consensus on the environmental advantages or disadvantages of such fuels should be factored into decision-making. The Village aspires to utilize renewable energy sources such as hydro-electric, wind and solar power sources to power electric fleet vehicles if available from the utility where possible.

**G. Replacement Schedule.** The vehicle replacement plan will include a schedule for the phase out of some vehicles at the discretion of the Green Fleets Team, as well as a plan for the increase of new vehicles that meet fuel-efficiency standards. The schedule will track mileage and fuel consumption and the Green Fleets Team will review it annually to adjust for the availability of new and more efficient vehicles.

**H. Data Capture.** Each Village Employee who owns, leases, and/or operates a four-wheeled vehicle for Village-related purposes, will agree to regularly track mileage and fuel consumption and to make that data available to the Green Fleets Team on a regular basis. The Green Fleets team will maintain this inventory of Village-owned, leased, or operated vehicles and will update the inventory at minimum on an annual basis.

**10. Fuel-using Equipment**

When needed, the Village shall purchase or lease as needed portable or stationary fuel-using equipment that is powered by alternative fuels, if available, and within the 20 percent green incentive, including rebates. If an alternative fuel option is not available, strong consideration shall be given to purchasing the most fuel-efficient, cleanest, fuel-combusting equipment.

**11. Public Engagement and Annual Review**

The Village shall provide reports on a periodic basis to the public on implementation of the Green Fleets Policy. The Green Fleets Policy shall be reviewed by the Board of Trustees on an annual basis. The Board of Trustees reviews and approves all major purchases and will take the Green Fleets Policy into consideration when making decisions related to the Village fleet.

\* Applicable only to “non-exempt” vehicles as per section 7.

\*\*As per Electrification Coalition recommendations.

Approved: March 16, 2021

Updated and Recommitted: April 18, 2023

## **ANNEX 1**

### **The following definitions are provided to supplement the Green Fleet Policy:**

- “Alternative Fuel” means any fuel other than gasoline, diesel, and other substantially petroleum-based fuels that is less polluting than gasoline or diesel fuel. Alternative Fuel shall include, but is not limited to, natural gas, propane, ethanol (E-85), biodiesel (20 percent blend or above) and electricity.
- “All-electric Vehicle” or BEV (Battery-only Electric Vehicle), is a vehicle operating exclusively on a battery charge and does not possess or require an internal combustion engine.
- “Alternative Fuel Vehicle” means any motor vehicle powered by alternative fuels.
- “Bi-Fuel Vehicle” means any motor vehicle designed to operate on two distinct fuels, one of which is an alternative fuel. These vehicles do not run on a mixture of fuels.
- “Internal Combustion Engine” means an engine in which the burning of a fuel (typically petroleum-based) occurs in a confined space called a combustion chamber.
- “Compact Car” means a light-duty vehicle with a total interior volume between 100 and 109 cubic feet.
- “CO<sub>2</sub>” means carbon dioxide and “CO<sub>2</sub>e” means carbon dioxide equivalent.
- “CO” means carbon monoxide.
- “Fuel-Burning Equipment” means any implement powered by an internal combustion engine.
- “Heavy Duty Vehicle” means any motor vehicle, licensed for use on roadways, having a manufacturer’s gross vehicle weight rating greater than 8,500 pounds.
- “Hybrid Vehicle” or “Hybrid-electric Vehicle” means a motor vehicle that draws propulsion energy from onboard sources of stored energy that include both an internal combustion/heat engine that runs on combustible fuel, and a rechargeable energy storage system.
- “Large Car” means a light duty vehicle with total interior volume of 120 or more cubic feet.
- “Lifecycle Costs” means the full cost of operating a vehicle over the course of its lifetime.
- “Light Duty Vehicle” is any vehicle with a gross vehicle weight of less than or equal to 8,500 pounds. Light Duty vehicles include passenger cars, light duty trucks, sport utility vehicles (SUV), minivans and pick-up trucks. Light duty vehicles are currently subject to Tier 1 emissions standards under the Clean Air Act Amendments of 1990.
- “Light Duty Truck” means any motor vehicle with a manufacturer’s gross vehicle weight rating of 8,500 pounds or less, which is designed primarily for purposes of transportation of property or is a derivative of such a vehicle, or is available with special features of off-street or off-highway operation and use.
- “Midsize Car” means a light duty vehicle with total interior volume between 110 and 119 cubic feet.
- “Motor Vehicle” means a vehicle powered by energy from a motor, as opposed to a vehicle powered by human effort.
- “NO<sub>x</sub>” means nitrous oxide.
- “Particulate Matter (PM)” means solid or liquid particles of soot, dust, smoke, fumes, aerosols or other airborne material.
- “Passenger Vehicle” means any motor vehicle designed primarily for transportation of persons and having a design capacity of twelve persons or less.

- “Village Service Unit” means any organizational unit that provides services to the Village of Hastings-on-Hudson.
- “VOCs” means volatile organic compounds.
- “Zero Emission Vehicle (ZEV)” , is a vehicle that does not emit exhaust gas or other pollutants from the onboard source of power.