

# **TOWN OF MONTREAT GREEN FLEET POLICY**

*(Adopted April 8, 2010)*

## **PURPOSE**

The purpose of this policy is to document the process for purchasing and managing the Town's vehicle fleet, which include both vehicles and heavy equipment, in a manner that minimizes greenhouse gas emissions and considers life-cycle economics.

## **DEFINITIONS**

Alternate Fuel:	Any fuel other than gasoline, diesel, and other substantially petroleum-based fuels that is less polluting than gasoline or diesel fuel. Alternate Fuel shall include, but is not limited to, natural gas, propane, ethanol (E-85), biodiesel (5 percent blend or above) and electricity.
Alternate Fuel Vehicle (AFV):	Any motor vehicle powered in whole or in part by non-petroleum-based fuels.
Bi-Fuel Vehicle:	Any motor vehicle designed to operate on two distinct fuels (including "Flexfuel" vehicles), one of which is an alternative fuel.
Biodiesel:	Fuel refined from agriculturally derived oils that is suitable for use in diesel engines. Often blended with traditional petroleum-based diesel in amounts connoted by the letter "B" and a number (e.g., B20 = 20% biodiesel and 80% petroleum diesel).
CO:	Carbon Monoxide – a standard component of conventionally powered vehicle emissions
CO2 :	Carbon Dioxide - a standard component of conventionally powered vehicle emissions and a principal greenhouse gas
Conventionally Powered Vehicles:	Vehicles with gasoline or diesel powered internal combustion engines.
CNG:	Compressed Natural Gas
Emergency Fleet:	Public Safety response vehicles used by Montreat's Police Departments.

Fleet:	The Town of Montreat's inventory of motorized vehicles and metered equipment.
GHG:	Greenhouse Gas
Green Vehicles:	Vehicles that emit low or zero emissions; typically powered by fuels other than gasoline or diesel.
Heavy Duty Vehicle:	Any motor vehicle, licensed for use on roadways, having a manufacturer's gross vehicle weight rating greater than 8,500 pounds.
Hybrid Vehicle:	A motor vehicle that draws propulsion energy from onboard sources of stored energy that are both an internal combustion / heat engine that runs on combustible fuel, and a rechargeable energy storage system.
Incremental Cost:	The difference in the acquisition cost between a conventionally powered vehicle and a comparable alternative fuel vehicle
Light Duty Vehicle:	Any vehicle with a gross vehicle weight of less than or equal to 6,000 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.
Medium Duty Truck:	Any motor vehicle, with a manufacturer's gross vehicle weight rating of 8,500 pounds or more, which is designed primarily for purposes of transportation of property or is a derivative of such a vehicle, or is available with special features enabling off-street or off-highway operation and use.
Low Emission Vehicle (LEV):	Any motor vehicle that meets or exceeds the standards set forth by the US Environmental Protection Agency for Low Emission Vehicles.
Metered Equipment:	Any powered implement that is metered for hours of use.
NOx:	Oxides of nitrogen.
Operating Departments:	Town of Montreat departments that operate motorized vehicles or metered heavy equipment.

PM: Particulate Matter - Solid or liquid particles of soot, dust, smoke, fumes, aerosols or other airborne material; a standard component of conventionally powered vehicle emissions.

Passenger Vehicle: Any motor vehicle designed primarily for transportation of persons and having a design capacity of twelve persons or less.

## **POLICY**

The Town is committed to being an environmentally and economically sustainable town that is designed, constructed, and operated to use resources efficiently and minimize waste. The Town will remain committed to managing and conserving natural resources in an equitable manner for present and future generations of residents receiving town services.

In May 2007, the Town endorsed the U.S. Mayors Climate Protection Agreement as amended by the 73<sup>rd</sup> annual U.S. Conference of Mayors which set targets for reducing global warming pollution by taking actions in our own operations and community. Among the targets was a commitment to increase the average fuel efficiency of municipal fleet vehicles; reduce the number of vehicles; implement an anti-idling policy; and convert diesel vehicles to bio-diesel.

Through the implementation of this policy the Town will be a leader with respect to how we as a town manage our fleet of both vehicles and heavy equipment. In recognizing that fleet assets account for a significant contribution to the Town's overall greenhouse gas emissions, and that these emissions can be reduced, along with vehicle fuel and maintenance costs, through the purchase of alternatively-fueled vehicles, the Town adopts the following policy.

The Town shall make every effort to purchase and use the lowest emission vehicle or equipment item possible, while taking into account the vehicle's life-cycle costs and the ability to support Town operations and services.

Through implementation of this policy, the Town shall seek to decrease total vehicle emissions using 2007-08 as a baseline year.

The objectives of this policy are to:

- A. Optimize the fleet size – eliminate or redeploy unused or under-utilized vehicles while promoting sharing across departmental lines.
- B. Purchase non-emergency fleet vehicles that provide the best available net reduction in vehicle fleet emissions, including, but not limited to, the purchase of alternative fueled and hybrid vehicles.
- C. Consider purchasing lower emission emergency fleet vehicles with comparable performance, safety, and fuel availability during emergencies as compared to conventionally powered emergency fleet vehicles.

- D. When emission reduction targets are not being met, consider purchasing carbon offsets through a recognized carbon trading institution.
- E. Reduce emissions of carbon dioxide (CO<sub>2</sub>), a critical greenhouse gas produced through combustion of fossil fuels – make reduced CO<sub>2</sub> emissions a critical purchase criterion
- F. Where sufficient information exists, reduce emissions of carbon monoxide (CO), nitrogen oxides (NOX), and particulate matter (PM)—all pollutants produced by combustion of fossil fuels that endanger public health.
- G. Implement concurrent programs using advanced emission controls on all Town owned or operated vehicles.

The primary measure of the Town’s success in accomplishing the above objectives is the annual progress toward meeting the goal of reducing vehicle emissions.

Secondary measures of the Town’s success in accomplishing the above objectives include a reduction in the amount of emissions of the following greenhouse gases from Town-operated vehicles:

- 1) Carbon Dioxide (CO<sub>2</sub>);
- 2) Carbon Monoxide (CO);
- 3) Nitrogen Oxides (NOX); and
- 4) Particulate Matter (PM)

as well as annual reductions in:

- 1) The total gallons of gasoline and diesel used in Town vehicles;
- 2) Total fuel costs; and
- 3) Total cost of fleet operations per vehicle.

### **Establishment of Green Fleet Team**

The Green Fleet Team will include representation from the Public Works Department, Police Department, Building Inspections Department, and Finance Department. The function of this Team shall be to develop and monitor policies and procedures related to the purchase of Town vehicles, metered equipment, and sustainable maintenance products and services to achieve the goals and objectives of the program. The Team will report findings and progress annually to the Board of Commissioners, beginning at the Board Retreat of 2010.

### **Funding**

The Green Fleet Team will be responsible for making recommendations on acceptable initial incremental costs for improved environmental performance compared with vehicle fuel savings and emissions reductions achieved over the service life of that vehicle. This life-cycle cost

analysis, which will include fuel, maintenance, and operation costs over the projected life of the vehicle, along with the factors related to emergency fleet vehicles, will be performed prior to purchasing fleet replacements or additions and will be reflected in the corresponding bid process as appropriate. Funding from outside sources such as Regional, State, and Federal grants shall also be pursued to assist in the offset of the incremental costs of “green” vehicles, if necessary.

## **Fleet Inventory**

The Town has established and will maintain a complete inventory of the vehicles in its fleet. This inventory will include not only the type and number of fleet vehicles, but also the amount and types of fuel used, the costs associated with their use, and the corresponding emissions. This inventory is critical if goals are to be set and success measured for the fleet.

All Town vehicles and metered equipment that operate on gasoline, diesel, electricity, or other energy sources are included in this policy.

## **Baseline for Evaluation of Effectiveness**

The baseline year for determining the effectiveness of the Green Fleet program will be fiscal year 2007-08. This baseline will also be utilized for broader Greenhouse Gas (GHG) reduction initiatives and to monitor specific emissions parameters that have been captured since then. The Town’s Public Works Director shall develop a fiscal year 2007-08 fleet baseline to facilitate the evaluation of annual Green Fleet plans and performance. Baseline information shall include:

- 1) Vehicle class (e.g., sedan, light duty truck, heavy duty truck, etc.)
- 2) Average miles per gallon per vehicle class;
- 3) Type of fuel used;
- 4) Average fuel cost per mile by vehicle class;
- 5) Annual miles driven per vehicle by vehicle class;
- 6) Total fuel consumption by vehicle class;
- 7) Carbon dioxide (CO<sub>2</sub>) emissions based on gallons (or equivalent) of fuel consumed.
- 8) Where applicable, estimated emissions for each pollutant by vehicle class based on EPA tailpipe standards for carbon monoxide (CO), nitrogen oxides (NOX), and particulate matter (PM).

The Finance Officer shall assist calculating items 7 and 8 above for the Green Fleet Team which shall be utilized to calculate the total amount of greenhouse gas being emitted by Town operated vehicles.

The Public Works Director and Finance Officer shall be responsible for providing this baseline data in a reliable and verifiable manner to the Green Fleet Team and to the Board of Commissioners as requested.

## Green Fleet Strategies To Be Employed By the City

### 1. Optimize Fleet Size

- a) The vehicles considered for removal from the fleet or reassignment shall include the following:
  - i) Light duty vehicles (passenger cars, light duty pick up trucks and vans) that are driven less than 2,400 miles annually.
  - ii) Metered equipment that is used less than 120 hours annually.
- b) Vehicles identified for removal from the Town fleet shall be disposed by the Finance Officer in accordance with applicable State regulations and policies from the Town of Montreat. The determination of which vehicles are to be reassigned shall be at the discretion of the Town Administrator, working in cooperation with user departments.

### 2. Decrease Vehicle Emissions

- a) The Town shall make every effort to obtain the “cleanest” vehicles possible as measured by available emissions certification standards and those published by the manufacturers.
  - i) Light Duty Vehicles: The Town shall purchase or lease only models of passenger vehicles and light duty trucks that are rated as low emission vehicle (LEV) or better by the EPA, where service levels are not negatively impacted.
  - ii) Heavy Duty Vehicles and Equipment: The Town shall purchase or lease only Heavy Duty Vehicles or Equipment whose engines are CARB certified as low-emission, when available for the given application and where service levels are not negatively impacted.
- b) Each replacement vehicle will achieve the greatest level of emission reductions possible, while still meeting the operational needs of the Town. Alternate-fuel replacement vehicles should be procured only when there is fueling infrastructure in place at Town operated or local commercial fueling stations to support the operation of these vehicles.
- c) Emission reduction targets shall be reviewed annually by the Green Fleet Team and modified based on vehicles available for that model year.
- d) Vehicle purchase requests shall be reviewed and minimum emission reduction targets will be employed when possible. The Green Team will work with all departments to identify the most fuel-efficient vehicle with maximum emission reduction available that can meet the operational needs of the department, while taking into account the vehicle’s life-cycle costs and fuel availability.

- e) Request for exemptions to the Green Fleet Policy shall be submitted in writing to the Town Administrator and exemptions awarded if there is sufficient justification (see Exemptions section of this policy).

### 3. Reduce Vehicle Size

Encourage the selection of vehicles of a smaller class size whenever possible to achieve increased miles per gallon and lower emissions. Requests for new vehicle purchases must be supplemented with written justification addressing the need for a class or type. The Green Fleet Team shall work with the applicable operating departments to determine whether a proposed vehicle could be downsized and still fulfill its required function within the department.

### 4. Increase Use of Alternate Fuel Vehicles and Equipment

Alternate Fuel Vehicles and Equipment will be considered for procurement and utilization when their use is appropriate to the application and life-cycle cost analysis demonstrates the procurement and utilization of the vehicle to be economically feasible.

As noted under the Funding section of this document, both appropriated Town funding and grants from outside agencies may be available to cover the potential incremental costs for an alternate fuel version of a fleet vehicle or piece of metered equipment. Grant funding may be targeted for the procurement of specific fuel-using vehicles and will be factored into the life-cycle cost analysis.

“Clean” fuels (such as compressed natural gas, ethanol, electricity and biodiesel) shall be used when feasible. Feasibility assessment will include considerations of vehicles or equipment able to utilize the “clean” fuel, vehicle costs, fuel availability, and the ability to utilize existing fueling infrastructure. Vehicles using these fuel types will be strongly considered when evaluating vehicle replacement.

The Green Team shall provide a summary list of alternate fuel vehicles (by fuel type) in the Town’s fleet to the Board of Commissioners as part of its annual report.

### 5. Best Practices to Minimize Vehicle Miles Traveled (VMT)

- a) For vehicles that operate on fixed routes, such as sanitation routes and meter reading routes, route optimization should be employed. In general, all routes should be planned to optimize the route and trips chained together to reduce required travel time and distance.
- b) Encourage meetings at centralized locations to reduce necessary travel.
- c) Encourage and enable alternate meeting methods, such as conference calls, to reduce the number of necessary trips.

- d) Vehicles shall not be left idling unless a running engine is necessary to protect public safety, to prevent harm to contents of the vehicle, run auxiliary equipment in performance of a job, or to maintain health of occupants while performing duties. Vehicles are not to be left idling for extended periods.
- e) Where applicable and/or appropriate, employees should use alternative modes of transportation, such as buses, carpools, vans, or bicycles.

## **Exemptions**

The Green Team in conjunction with the Town Administrator may grant an exemption from the requirements of this Policy to an applicable department requesting an exemption under any one of the following circumstances:

- 1) Where there is no model of motor vehicle or motorized equipment available that will comply with the requirements of this Policy and still meet the specifications for its intended purpose.
- 2) Where the analysis demonstrates to the satisfaction of the Green Team each of the following:
  - a) That any amortized additional incremental cost of purchasing a lower emission vehicle that complies with the requirements of this Policy cannot be recovered over the operating life of the vehicle or metered equipment through a reduction in fuel, maintenance, and other costs incurred during the operating life of such vehicle or equipment; and
  - b) That the Green Team, or another Town department, has unsuccessfully applied for, or attempted to identify grant funding for the purchase or lease of the vehicle or motorized equipment that complies with the requirements of this Policy from outside sources.
- 3) Where the requesting department demonstrates to the satisfaction of the Green Team that the use of a vehicle or metered equipment that complies with the requirements of this Policy would significantly disrupt operations or reduce service levels.

In the case that the Green Team and Town Administrator grants an exemption, the department shall purchase or lease the model of motor vehicle or metered equipment that will meet the specifications of the applicable department and has the highest fuel efficiency and lowest available emissions ratings available for the type of vehicle or metered equipment specified provided the cost is within a reasonable range of the cost of a vehicle meeting the specifications but having higher emissions ratings.

## **Vehicle Maintenance**

All vehicles shall be inspected and emissions tested consistent with the State of North Carolina guidelines. If the vehicle fails to pass inspection, the necessary emission related repairs will be made to make the vehicle/equipment compliant. Should a vehicle not comply with its certified emission standard, it shall be removed from the fleet.

Ecologically sound products, such as coolants and re-refined oils, shall be used where available, when cost effective, and when they do not void the manufacturer's warranty. Re-treaded tires shall be purchased for large-wheeled or slow-moving vehicles, when applicable.

## **Operation of Bi-Fuel Vehicles**

No bi-fuel vehicle owned by the Town may be powered by gasoline, diesel, or other petroleum-based fuel while operating within the Town, except where the bi-fuel required is unavailable, or in case of emergencies. In such cases, the maximum recommended use of alternative fuel shall be required. Bi-fuel vehicles owned by the Town shall bear a notice stating the requirements of this subsection, posted in one or more locations that are plainly visible to the vehicle operator.

## **Reducing Other Environmental Impacts of Vehicles**

In addition to tailpipe emissions, motorized vehicles and equipment may have other negative environmental impacts that can occur in their production, operation, and eventual disposal. Radiator fluids and other substances used in vehicles can have harmful consequences for the environment. Of particular concern are persistent, bio-accumulative, and toxic materials (PBTs), such as mercury, lead and arsenic, which can be released at the end of the life of a vehicle. When opportunities are identified, the Green Team will continue to reduce the production, operation and end-of-life environmental impacts of the vehicles it purchases.

Town vehicles that are identified for retirement shall be evaluated on age, mileage, and emissions in order to determine the most appropriate disposal option in accordance with applicable State and local regulations.

## **Annual Reporting**

The Green Team shall provide an annual report by February of each year, beginning in 2010, to the Board of Commissioners for the prior fiscal year providing information to demonstrate compliance with this Policy.

This report shall include an update with regard to progress against the emissions reduction goal, the percentage of Alternate Fuel Vehicles in the Town Fleet, and year-by-year performance for each of these.

Annual Reports shall be reviewed by the Board of Commissioners, the Town Administrator and the Green Fleet Team and shall be used to determine program effectiveness and to target under-utilized vehicles for removal or reassignment.

Annual Green Fleet purchasing plans shall be developed using any/all of the options listed above, recommendations from the other departments, plus any other alternatives deemed appropriate to achieve the goals of this Policy.