

Vancouver accepts that vehicles will continue to be part of our transportation network, making the adoption of clean vehicle and fuel technologies critical to meeting the 2020 greenhouse gas reduction target.

## Green Fleet

Transportation is responsible for 36 per cent of greenhouse gas emissions in BC, and the City of Vancouver, operating numerous vehicles including heavy equipment, has undertaken an extensive effort to reduce the environmental impact of its fleet. There is no magic bullet – success comes from the cumulative effect of many incremental improvements. Some emission reductions come through technology, some through training and operations, some through purchasing decisions.

### GREEN TECHNOLOGIES

#### Biodiesel

Nearly all the City's diesel-powered vehicles use fuel made in part from renewable sources. Eighty-five per cent of the fleet uses B5, and 15 per cent use B20—blends including five per cent and 20 per cent, respectively, of biodiesel (made from vegetable oil) and the remainder from petroleum. Using biodiesel reduces unburned hydrocarbons, carbon monoxide, and particulate (smoke) emissions.

#### Electric Vehicles

The City added an all-electric Mitsubishi iMiEV to its fleet in November 2009, as part of a larger vehicle-testing agreement with Mitsubishi, the Province of BC, and BC Hydro. The fleet includes a Toyota Prius modified to operate as a plug-in electric hybrid with several times the normal Prius' electric capacity and even lower fuel use and CO<sub>2</sub> emissions. Vancouver is also part of a Renault-Nissan Zero-Emission partnership, and is scheduled to receive the first Nissan LEAF all-electric car in 2011.

The City pilot-tested all-electric Ford Think and Electric Ranger pickup trucks in the 1990s, took part in the Ford-Ballard-UBC hydrogen vehicle program from 2003–08, and continues to work with other vehicle manufacturers to test more prototype alternate-fuel vehicles. The City is even investigating the use of landfill methane to power equipment used at the site, thereby reducing climate impact.



This hybrid bucket truck helps the City of Vancouver fleet reduce its greenhouse gas emissions.



### GREEN OPERATIONS

#### Efficient Driving Practices

The City has rolled out a comprehensive program to reduce vehicle idling and wasteful fuel use. The program includes driver training and staff education, “Idle-Free” signage, idle cut-offs set to three minutes, and a blanket “no air conditioning” policy. To complement these, vehicles now have cab heaters to allow staff to keep warm without idling, speed limiters and horsepower reduction, and in some test vehicles, instant-feedback devices displaying fuel economy to guide driver behaviour.

#### Car Sharing

The City has contracted with the Co-operative Auto Network to maintain a pool of vehicles near City Hall, making shared vehicles broadly available to staff while saving money. As most of the vehicles are also available to other residents, the City’s addition to the shared fleet boosts the growth of this green alternative in Vancouver.

#### Recycling

The Equipment Services Branch now recycles 150 tonnes of scrap metal a year, recycles oil and vehicle batteries, and uses retread tires, saving 80,000 litres of oil and over \$300,000 annually. Even the bed liners in City pickup trucks are made from recycled tires.

#### Green Purchasing

The City’s fleet is managed centrally, ensuring that all new vehicles are of the minimum necessary size and power to reduce fuel use. Similarly, analysis of costs through each vehicle’s full life-cycle ensures the best mode of ownership (own, rent or lease), minimizing the number of idle vehicles and hence their embodied energy.

Many services are performed in-house, including outfitting, maintenance repair and fabrication. This not only saves money, but reduces downtime which saves money throughout City departments. A dedicated fleet computer system allows the Equipment Services Branch to track outcomes in sufficient detail to make the best economic choices for future purchases.

These cost-reduction efforts free up money to offset the cost of new technologies and improved training. Also, keeping the fleet smaller and more intensively used reduces environmental impact—the fewer tons of moving metal, the smaller the impact of manufacturing, smelting, tire manufacturing, and all the other related activities that take place before the vehicle is delivered.



Vancouver took part in a seven year, real-world test of third-generation clean hydrogen-powered vehicles.

