

# Electric Vehicle Transportation in Canada

## Media Backgrounder

September 2010

As part of the **EV 2010 VÉ Electric Vehicles / Véhicules Électriques Conference & Trade Show** from September 13-16<sup>th</sup>, 2010, British Columbia will shine a spotlight on the most advanced electric vehicles from leading auto manufacturers. In addition, the conference will highlight infrastructure innovations and policy discussions driving the adoption of electric mobility.

Increased public desire to reduce carbon emissions and transportation dependency on petroleum products is driving public interest and policy to alternative fuel sources and vehicle design.

Beginning in 2011, a range of battery electric vehicles (BEVs) and Plug-in Hybrid Electric Vehicles (PHEV) will be available in showrooms to help Canadians create a sustainable transportation future.

Electric vehicles are fun and practical to drive, offering quiet operation and fast acceleration.

- o Electric vehicles produce low to zero greenhouse gas emissions.
- o Motors in electric vehicles are up to four times more energy efficient as internal combustion engines found in gasoline vehicles.
- o The cost of electric vehicle ownership is approximately 1/3 of a gasoline-powered vehicle.
- o Many Canadians could have a gas-free commute as their daily drive is less than range of an electric car.

## Electricity Will Drive our Energy Future

Carbon-based fuels have powered our transportation system for over 100 years, yet today they are one of the greatest contributors to air pollution. In fact, 95% of all transportation in Canada is propelled by fossil fuels. Today, 29 million registered vehicles generate over 25% of Canada's greenhouse gas emissions, an increase of 33% from levels 15 years ago. In BC alone, there are over 2.6 million vehicles, with 50% of these in Vancouver. And each day we add more.

With oil becoming more difficult to extract and demand skyrocketing from developing countries, there is continued upward pressure on the price of oil. The demand for alternative fuels and vehicles is greater than ever. To address the impacts of pollution and increases in global warming, world-leading car manufacturers are introducing the most advanced battery and plug-in hybrid electric vehicles, offering Canadians a future based on electricity ... instead of oil. As Canadians, we control the price of our electricity. We have no control on the price of oil.

Consumers will be able to choose from three electric vehicle options - battery electric vehicles, plug-in hybrids and conventional hybrid electric vehicles - all offering unique features. For those travelling less than 80 kilometres per day, a battery-electric vehicle may be the best choice as these cars can be charged daily at home from a standard wall outlet. For those wanting the option of extended range, a plug-in hybrid *or* conventional hybrid electric car may be more suitable.

Vehicles include the *Nissan Leaf*, a conventional electric car that must be plugged in to charge. The *Chevy Volt* offers plug-in charging, but also has an on-board, gasoline-powered generator, extending the distance the vehicle can travel between charges. Other near-term options include the *Mitsubishi i-MiEV*, which will complete a cross-Canada tour at the EV 2010 VE Conference, and the *Toyota Prius Plug-in Hybrid*.

City or commercial fleet managers can also be part of the solution by adopting electric vehicles. For instance, with commercial delivery fleets spending up to 50% of their annual operating costs on fuel, a typical urban delivery electric vehicle can reduce their fuel cost by 30-50% a year depending on the drive cycle.

## Canada is Well Positioned to Embrace Electric Vehicles

With Canada's wealth of clean renewable hydroelectricity, we are ideally suited to introduce electric cars as a means of mass transportation.

While it's best to power electric vehicles from renewable sources, the efficiency of electric vehicles makes them cleaner, producing less carbon even when they are charged using electricity made from fossil fuels.

Electric vehicle users will be able to charge from a standard 110-volt or 220-volt large appliance socket, new condominium or parking garages (such as the City of Vancouver who has mandated their installation); or from additional chargers being built in convenient urban areas such as the new public Rapid Charger near Vancouver's Science World. This unit will recharge a battery to 80 percent of full strength in only 20 to 30 minutes.

Canada's current electrical grid capacity is sufficient to meet the near-term needs of EV users. Even with a growth to 500,000 electric vehicles, there is only a nominal increase of about 2% in power generation required as most electric vehicles will largely be charged at night during off-peak electricity consumption.

## The Road Ahead - What to Expect

The widespread adoption of electric vehicles will help attain improved provincial and national climate change objectives such as those in BC where the goal is to reduce greenhouse gas emissions by 33% by 2020.

Utilities, including BC Hydro, Hydro One in Ontario and Hydro-Québec, are taking a leading role by installing electric vehicle-charging stations and exploring the establishment of a smart-grid infrastructure to ensure a reliable and secure electricity infrastructure that can meet future demand growth.

Canada is well positioned to adopt electric cars; however we are the only G8 country without national incentives for electric vehicle adopters. With the demand for clean vehicles growing, Canada should encourage manufacturers to bring electric vehicles to our country by providing financial incentives for early adopters of electric vehicles, automakers, utilities and infrastructure providers.

Provincial financial incentives for buyers of electric vehicles are available in British Columbia, Ontario, Quebec and Prince Edward Island.

## Learn More

The best opportunity to meet auto manufacturer representatives and learn more about new electric vehicle technologies, infrastructure innovations, and policy discussions regarding electric mobility will take place during the EV 2010 VÉ Electric Vehicles/Véhicules Électriques Conference & Trade Show in Vancouver from September 13-16, 2010 at the Sheraton Wall Centre. Over 60 speakers from Canada, USA, Europe and Asia will discuss automaker's visions and plans for the future, the life-cycle assessment of electric vehicles and batteries, strategies for addressing climate change, and customer perspectives of electric vehicles.

EV 2010 VÉ wishes to thank its event supporters and sponsors including Azure Dynamics, BC Hydro, BCIT, Chevrolet, City of Vancouver, CSA, ECotality, EPRI, Ford, Government of British Columbia, Mitsubishi - Eaton, Natural Resources Canada, Nissan Canada Inc., Ontario Ministry of Economy Development and Trade, and Transport Canada.

The widespread adoption of new-generation electric cars will help meet the growing demand for vehicles that have near-zero to zero emissions, reduce petroleum use and related carbon emissions, while improving personal health and producing a sustainable transportation system.

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**Visual Resources:** For photographs of electric vehicles, contact Debby Harris (see contact details above).

**Web Resources:** Electric Mobility Canada's website: [www.emc-mec.ca](http://www.emc-mec.ca)  
EV 2010 VE Conference & Tradeshow website: [www.emc-mec.ca/ev2010ve](http://www.emc-mec.ca/ev2010ve)  
Canada's EV Technology Roadmap: [www.emc-mec.ca/files/ElectricVehicleTechnologyRoadmapCanada-Feb2010.pdf](http://www.emc-mec.ca/files/ElectricVehicleTechnologyRoadmapCanada-Feb2010.pdf)



Electric Mobility Canada, a national not-for-profit organization, promotes the use of electric vehicles as an important solution to Canada's energy and environmental issues.

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