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Low Emission Transportation: Electric Vehicle Opportunities for Ontario

Presentation to Low Emission
Transportation Workshop

November 21, 2018

Electric Vehicle Advancement Program

- Province announced creation of the **Electric and Hydrogen Vehicle Advancement Partnership (EHVAP)** starting in 2017
- The primary goal of the EHVAP was to support Ontario in achieving its target that 5% of new passenger cars or passenger vehicles sold in 2020 are electric or hydrogen-powered
- The EHVAP Partnership engaged all types of partners including automakers, dealerships, utilities, advocacy organizations and government to support the uptake of ZEVs

EHVAP – Key Elements

- A framework within which partners made commitments that contribute to the uptake in electric and hydrogen vehicles in Ontario
- All prospective partners required to submit plans, including descriptions of actions they intend to undertake such as advertising, dealer training, incentives, public education campaigns and marketing.
- Pollution Probe and the Delphi Group contracted by Province to evaluate member plans, expand EHVAP

Matrix of Actions addressing uptake in Electric and Hydrogen Vehicles

FUELING & CHARGING INFRASTRUCTURE	EDUCATION & MARKETING	CONSUMER SUPPORT PROGRAMS	DEALERSHIP PROGRAMS	FLEETS	COMPLEMENTARY ACTIONS
Electric Vehicle Chargers Ontario (EVCO)	EV Discovery Centre (EVDC)	Electric Vehicle Incentive Program (EVIP)	Establish recognition awards for excellence	Green government fleets & vehicles	Co-Investments in R&D
Municipalities may require EV charging in parking lots	Green plates including free HOV/HOT lane access for LEV	Eliminate HST at point-of-sale	Provide detailed info on EV incentives, tax credits, utility rebates	Private fleet awareness campaign	Low carbon commercial vehicle technology
Build a network of low-emission fueling stations	Education/Awareness campaigns for businesses and public/consumers	Free overnight charging	Dealer incentives	Electric school buses pilot program	Municipal planning for LEVs
EV-ready homes, workplaces	College LEV curriculum	Low- to moderate-income household vehicle scrappage	Sales staff training, incl. how to calculate savings, different cars and benefits of LEVs	Fleet owner/manager training	Promote innovation in LEV technologies
Charging at government locations	LEV campaigns and promotions	Finance incentives for consumers	Expand the network of LEV certified dealerships	How-to guide, introducing LEVs into your fleet	Undertake and publish research in LEVs
Promote the expansion of LEV* charging/fueling infrastructure	Provide free leases to EVDC for showcasing vehicles	Partner with federal government for support & incentives	Sales people have experience driving LEVs	Dissemination of best practices in R&D	Work with LDCs to send info to customers about rebates, charging stations, savings
Partner with federal & municipal governments for additional charging & fueling infrastructure funding	Improve & expand dealer/sales training	LEV promotion on web sites	Ensure LEV availability		
	EV branding with bumper stickers for consumers	Provide info on locating chargers to customers (apps)	LEV promotional material on display in dealerships		
		Draft EVIP/EVCIP forms in advance for customers	Install charging/fueling at dealerships		
		Help enrol buyers in charging station networks	With EVDC, participate in test-ride events		
			Provide sales staff with EV training		
			Recognize/reward high-performing dealerships		
			Schedule customer visits at dealerships for LEVs		
			Dealer training and how-to sell LEVs		

LEGEND

- Government actions
- OEM actions
- Dealers & dealerships actions
- Advocacy & org. actions

* For the purposes of this document, LEV refers to low emission vehicles which includes battery electric, plug-in hybrid, hydrogen and fuel cell electric vehicles.

Key Learnings from EHVAP

The ZEV Market in Ontario

- Increasing rate of uptake beginning in 2016 when Ontario had highest ZEV annual sales growth of any province in Canada (67%)
- Ontario from 2016 to 2017 continued to lead sales growth with ZEV sales more than doubling and year-over-year growth hitting 120%
- In 2017, Ontario became the province with the highest LEV sales volume with about 7,500 new ZEVs sold (7,200 in Quebec)
- Pollution Probe's EHVAP analysis earlier this year anticipated Ontario's 5% target would be achieved in 2020, projected annual ZEV sales by the end of 2020 near 20,000 units (over 7% of sales)
- ***FleetCarma data indicates EHVAP's 5% target has been surpassed: for Q3-2018 Ontario saw 5,800 EV sales, a 209% increase over Q3-2017, representing 8.2% of new passenger car sales***

EHVAP Learnings (cont'd)

Charging Infrastructure

- Vehicle OEMs very active on deploying EV charging infrastructure, with hundreds of publicly accessible charging stations (mainly Level 2, some Level 3) planned or installed at EV-certified dealerships and corporate offices
- Several OEMs have partnered with EVSE providers and offer discounts to EV buyers on home charging stations as well as free memberships to public charging networks
- Other EHVAP members are working with partners to enhance accessibility to charging, including at workplaces and multi-unit residential buildings (MURBs)

EHVAP Learnings (cont'd)

Education and Consumer Support

- EHVAP members hosted public ZEV test drive events and feature ZEV technologies at high-profile automotive events
- Many EHVAP members donated equipment and other resources to Plug'n Drive's EV Discovery Centre to enhance consumer awareness of ZEVs
- Partners have created educational material accessible through a variety of channels including webpages, apps, blogs, factsheets and educational videos
- Expansion of EV-certified dealer networks is underway - 80-100% of all dealerships by 2020

NRCAN Framework for Municipal ZEV Deployment

Objectives

- Develop a generic municipal ZEV deployment framework supported by a Matrix of Actions which would be adaptable for use by local and regional governments to accelerate deployment
- Highlight Canadian experiences and achievements with ZEV deployment at the municipal level
- Enhance awareness of best practices in domestic and global municipality-led approaches to (ZEV) deployment

Municipal ZEV Framework (cont'd)

Approach

- Project scope expanded beyond cars to include medium, heavy-duty vehicles to address increasing emissions from these classes
- Extensive engagement with key experts and stakeholders in municipal government, the transportation and energy industries, to discuss local issues and municipality-led ZEV deployment approaches and activities
- Workshop will engage experts, stakeholders to share best practices, discuss elements of a Municipal ZEV Matrix of Actions
- Project being delivered by Pollution Probe and The Delphi Group, supported by NRCAN, Bruce Power and Ontario Power Generation

Municipal ZEV Framework (cont'd)

Project Timeline

- Expert interviews to take place in November/December, 2018
- Multi-stakeholder workshop in January, 2019
- Final Report to be released in March, 2019

Pollution Probe and Transportation: Current and Recent Projects

- ***City of Toronto Electric Mobility Assessment:*** working with City of Toronto to conduct research, identify best practices in EV deployment to support development of framework for Toronto's Electric Mobility Strategy
- ***Zero Emission Vehicle Charging in MURB & Garage-Orphans:*** a comprehensive description of the barriers to EVSE installation for MURBs and garage-orphans, available solutions, best practice and lessons learned
- ***Accelerating the Deployment of Zero Emission Vehicles, Atlantic Canada and the Prairies:*** solutions for enhancing deployment of ZEVs
- ***Accelerating the Deployment of Plug-in Electric Vehicles in Canada and Ontario:*** potential options to build on federal and provincial policies to maximize decarbonisation
- ***Canada's Zero Emission Vehicles Strategy:*** member of National Advisory Committee and five expert working groups
- ***Goods Movement Strategies:*** review of national sustainable goods movement strategies, measures to reduce GHG emissions from on-road freight in Canada
- ***Reducing the Risks of Heavy Fuel Oil Use in the Canadian Arctic:*** assessment of potential environmental, economic and social impacts of potential ban



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Thank You

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