



Our Mission is to establish electric mobility, in all its forms, as the primary solution to Canada's growing transportation energy issues, and to assist EMC members in the fulfillment of their mandates.

May 2010

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New Members

EMC is pleased to welcome the following new member:

Rapid Electric Vehicles (industry member)

1570 Clark Drive

Vancouver, B.C. V5L 3L3

Web site: www.rapidelectricvehicles.com

Jay Giraud, Chief Executive Officer

Tel: 604 568 5195

Fax: 604 909 2855

Email: jay@rapidelectricvehicles.com

Smart-grid-enabled 100% electric drive and energy-storage systems

See <http://www.emc-mec.ca/content/our-members> for a complete membership directory.

News from EMC

Register now for EV 2010 VÉ Conference and Trade Show, at the early-bird rate until July 31. Regular rates apply thereafter. Register online at: www.emc-mec.ca. Planning for the EV 2010 VÉ Conference and Trade Show, in Vancouver September 13 to 16, 2010, is moving along nicely. The Program Committee is putting the finalizing an exciting program with plenary, special sessions and a wide range of technical sessions. A list of speakers will be available in June. Trade Show reservations are arriving, as are the generous contributions of event sponsors. Special sessions include a meeting of EV researchers from across Canada and municipal officials presenting on planning for EV infrastructure in their communities. All information is on our web site at www.emc-mec.ca.

EMC Publishes "Plug-In Electric Vehicles are Coming to Canada," a new backgrounder on the types of electric vehicles for sale in the near future and their expected benefits. It can be found at <http://www.emc-mec.ca/content/backgrounders>. Our thanks to EMC Director David Swan of DHS Technologies for coordinating the necessary research and input for this publication.

Meeting with Ontario Minister of Transportation on the province's EV incentives program. On May 18 EMC's Chair Mike Elwood and Directors Gerry

Pietschmann and Stephen Bieda met with the Honourable Kathleen Wynne to exchange views on how to implement the province's EV incentives for consumers, scheduled for July 1, 2010. The minister is expected to announce details of the new program very shortly.

Delivering the EV message. EMC continues to be frequently asked to speak on EVs, resulting in great interest in Canadian activities on the electrification of transport. In the past month, Chair Mike Elwood and Executive Director Al Cormier have addressed the Canadian Institute for Public Procurement Management in Montreal, the Ontario Centres of Excellence Discovery Day in Toronto, the Canadian Energy Forum in Montreal, the Clean Tech Summit in Ottawa, and the Université du Québec à Montréal Workshop on the "Electrification of Transport in Quebec." EMC will continue its leadership role in fostering the climate for EV adoption and informing diverse and influential groups on EV benefits.

EMC now has a voice in U.S. national plug-in vehicle initiative. The National Plug-in Vehicle Initiative (NPVI) is a consortium of automakers, utilities, battery and component manufacturers, industry and trade associations, non-profits and government entities dedicated to realizing the potential of plug-in electric drive vehicles (PEVs). Its goal is to provide timely and accurate information to the general public, media, policymakers and key audiences on PEVs, in the most effective and cost-efficient manner possible. The Electric Drive Transportation Association (EDTA) began this initiative, and EMC recently became a formal partner. BC Hydro's Mark Dubois-Phillips represents EMC on the Steering Committee and is coordinating the input of EMC members to this program, which will be available to all members shortly through a web site and other venues.

EMC Members Lead in Forming a New Canadian Corporation that is Seeking Shareholders. One of the strategic initiatives from the Electric Vehicle Technology Roadmap for Canada (evTRM) has now taken shape as Project EVE. Two EMC members, Toronto Electric and Motive Industries, have established the corporation, currently known as Canco, under Project EVE, and provided initial funding to help mobilize Canada's considerable industry resources in

For more information, please contact:

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this sector. Other members have participated at different levels from the outset. Canco encourages EMC members and other Canadian companies to become shareholders/participants in the venture, which will assist the Canadian electric-mobility industry to raise necessary capital, collaborate on technology and marketing projects, and gain public awareness of the benefits of a strong Canadian EV industry. Canco has retained a business advisory firm, Platinum Growth Partners (PGP), to assist with the formation and public launch of Canco. EMC members interested in Canco are encouraged to contact: Steve Dallas at Toronto Electric, sdallas@torontoelectric.com; Nathan Armstrong at Motive Industries, Nathan@motiveind.com; or John Scott/Paul Duffy at PGP, 416 222 4202.

EMC Board Chair Mike Elwood of Azure Dynamics Corporation (AZD) is presenting on behalf of EMC at a June 2, 2010 multidisciplinary forum in Rio de Janeiro, "A Roadmap for E-Mobility," during the Challenge Bibendum (<http://www.challengebibendum.com/challengeBib/>) Event co-sponsors are the World Electric Vehicle Association (WEVA) and Michelin. Attending will be government, industry, R&D, NGO and association representatives to discuss the EV marketplace, and stakeholder and civic roles at three round tables introduced by renowned speakers. For information and registration, contact Robert Stüssi at rstussi@gmail.com.

EMC recommends greater credits for EVs when calculating GHG emissions. EMC has formally submitted industry views on the *Proposed Passenger Automobile and Light Truck Greenhouse Gas Emission Regulations*, as posted in the *Canada Gazette* on April 17. The current proposed regulations set out fuel-efficiency standards and allow OEMs special credits for advanced-technology vehicles that further reduce emissions. Given the clean sources of electricity in Canada, EMC has recommended that EVs be given additional consideration when calculating fleet averages.

News from Members

(Members are reminded to send their organizations' announcements to al.cormier@emc-mec.ca for use in this newsletter. Members are also invited to provide their organizations' upcoming EV events. We will post

them on the EMC website.)

City of Vancouver Signs MoU for Plug-In Infrastructure. The city's MoU is with the British Columbia Institute of Technology's Group for Advanced Information Technology (GAIT) for "Project Get Ready." The Rocky Mountain Institute is a signatory to the agreement and original founder of the project. GAIT will create a five-year action plan for plug-in readiness in Vancouver, aligning with BCIT's smart-microgrid research initiative. GAIT is a member of the EV Working Group, which includes BC Hydro, the Province of British Columbia, the University of Victoria, and the City of Vancouver. The MoU helps Vancouver meet its goal of preparing for 15% of all new vehicles to be EVs within the next 10 years.

B.C.'s Delta-Q Technologies Corp has received an investment of \$17 million from Tandem Expansion in Vancouver. A leading supplier of power-conversion and power-management products to clients globally, Delta-Q provides systems in electric vehicles ranging from golf cars to NEVs and industrial machines and platforms. The investment will fund Delta-Q's aggressive product -development and overall corporate- growth plans. Delta-Q estimates that the market for its products will grow to approximately \$1 billion by 2015 as a result of continuing market adoption and applications in areas such as NEVs, recreation, power sports, industrial work vehicles and PHEVs and BEVs.

Azure Dynamics (AZD) and the Ford Motor Company are collaborating on bringing the Ford Transit Connect Electric van to European customers in late summer, 2011. AZD is integrating its proprietary Force Drive™ battery-electric drive train in the pure-electric van. Pricing has not yet been announced. The Connect Electric van is currently for sale in Canada and the United States. AZD is also collaborating with manufacturer AM General on the final assembly of the van for the North American market from AM General's Michigan plant.

AZD's channel distribution strategy has resulted in a range of new sales and business successes in North America. The strategy entails partnering with premier body builders and Ford commercial-truck dealerships to help market Azure's green technology to fleet operators. Azure's CARB Certified 2010 Balance™ Hybrid Electric drive train qualifies

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for \$25,000 per vehicle through the new California Hybrid Voucher Incentive Program (HVIP). An additional \$5,000 is also available for the first vehicle purchased by each customer. Azure products are operating in major California fleets, including FedEx Express. As well, AZD has received orders or re-orders on its Balance™ Hybrid Electric shuttle buses and vans from communities in California, Kentucky, Mississippi, Minnesota, Wisconsin, Colorado, Wyoming and New York states.

Vancouver's Rapid Electric Vehicles (REV) has delivered its first all-electric light-duty SUV for use in a North American commercial fleet. Burlington Hydro has ordered REV's REV 300 ACX, a retrofit Ford Escape producing zero tailpipe emissions with smart grid and wireless telemetry. The ACX is highway capable, with a 160-kilometre range and a 144-kph top speed.

Nissan and General Electric propelling smart charging forward. The two companies have signed a three-year agreement to develop the technology needed to build a robust and reliable charging infrastructure, focusing on two areas: integration of electric vehicles with homes and buildings, and electric-vehicle charging dynamics with the grid. The increased efficiency of smart-charging would lead to cheaper energy for the EV owner and a more stable grid. The Nissan LEAF is scheduled to launch in late 2010.

Future Vehicle Technologies' PHEV eVARO is in the running in the narrowing field for the Progressive Automotive X Prize. Three winners will share the \$10-million prize, to be awarded in September 2010. There are now 22 teams and 27 vehicles vying for the top spots, which will recognize vehicles capable of the equivalent of 100 miles per gallon, with high performance and low emissions. The "Knockout Qualifying" round takes place at the Michigan International Speedway June 20-30. Finals are in July, with final validation in August in Ann Arbor, Michigan and Chicago, Illinois.

British Columbia's Canadian Electric Vehicles (CEV) is celebrating 20 years of successful green business in designing and manufacturing a range of

electric vehicles and components, servicing government, individual and corporate clients in eight countries. More than 250 CEV vehicles are operating, including its primary product the Might-E Truck NEV, manufactured completely in Canada using North American auto parts. CEV also provides contract research for industrial applications and designs, parts and technical support to convert conventional ICE vehicles to zero-emission, battery-powered electric vehicles.

Motive Industries has been featured on the cover of Composites Technology online magazine, with Motive Industries' Zap and Apera vehicles highlighted in the April article: See <http://www.compositesworld.com/articles/quiet-revolution-composites-in-evs>.

Other EV Accelerators

New Canada Research Chair (CRC) in Hybrid Powertrain to accelerate sustainable automotive innovation and commercialization in Canada. The federal Minister of Industry, the Honourable Tony Clement, has announced \$10 million over seven years to fund McMaster University's new Canada Research Chair, to be held by Professor Ali Emadi. Emadi is currently the Harris Perlstein Endowed Chair, and Director of the Electric Power and Power Electronics Centre at Chicago's Illinois Institute of Technology. He is also the founder and president of Hybrid Electric Vehicle Technologies, Inc., an Institute spin-off company. The appointment comes with the construction of a new 15,000 square-foot hybrid-vehicle research and entrepreneurial hub at McMaster Innovation Park in Hamilton.

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