A Roadmap for the Future:
What is a Technology Road Map?

The Technology Roadmap (TRM) concept is a consultative process that is designed to help industry, its supply-chain, academic and research groups, and governments come together to jointly identify and prioritize the technologies needed to support strategic R&D, marketing and investment decisions. These technologies will be of critical importance to an industry in the next five to ten years.
The Steering Committee

CHAIR:

VICE-CHAIR:
Road Map Objectives

- Encourage the rapid adoption of EVs for passenger and commercial transport markets in Canada through appropriate regulations, incentives, infrastructure and education/awareness.

- Develop the EV industry in Canada in areas where Canada has a competitive advantage.

- Power these vehicles with new green electricity.
The Process

- Vision meeting – Ottawa – June 26 - 2008
- User Needs Meeting – Montreal – Sept 11
- Technology Responses – Vancouver – Nov. 4
- Validation – Toronto – Nov. 25
- Report writing - to August 09
- Executive Summary - delivered September 2009
- Final Report – due March 2010
Draft of Vision Proposed

By 2018, in addition to Hybrid Electric Vehicles, there will be at least 500,000 other highway capable – plug in electric drive vehicles on the road in Canada. These vehicles will have increased Canadian content over current 2008 internal combustion engine vehicles.

This vision statement acknowledges the environmental, economic, social and strategic necessity to move from fossil fuels to electric mobility solutions for on-road transportation in Canada.
Electric vs. Gasoline

<table>
<thead>
<tr>
<th>Electric vs. Gasoline</th>
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<tbody>
<tr>
<td>No Tailpipe Emissions</td>
</tr>
<tr>
<td>Utility Company</td>
</tr>
<tr>
<td>100+/- Mile Range</td>
</tr>
<tr>
<td>Hours to Recharge</td>
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<td>2 cents per mile</td>
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Three key recommendations

1. Make timely and substantial investments in Canadian development and manufacture of EVs and energy storage devices to build on Canada’s already strong presence in these industries.

2. Consider supplementing federal and provincial mechanisms to promote the development, public acceptance, and procurement of personal and commercial EVs, and also the installation of charging infrastructure.

3. Reconstitute the Steering Committee as a Roadmap Implementation Committee charged with ensuring that the strategic initiatives identified in the Roadmap are addressed.
Strategic Initiatives flowing from the recommendations

- Technology – 4
- Codes, standards, regulations and infrastructure readiness – 5
- Studies and assessments – 10
- Education and outreach - 2
Expected evTRM benefits

- Closer collaboration between industry and governments.
- Acceptance at highest political levels that EVs make imminent sense for Canada and that Canada has unique assets with which to lead in EV developments.
- Acceleration of supportive policies, programs needed.
- Canadians become convinced of the merits of EVs.
- Reduced emissions and import of fossil fuels.
Where are we now?

- Interdepartmental consultations at the Assistant Deputy Minister level have concluded with strong support for the evTRM recommended initiatives.
- An inter-departmental evTRM Committee has been established and is already meeting.
- The inter-departmental committee is well advanced in completing an assessment of existing federal government programs to determine how they relate to the evTRM recommended initiatives. This will include a situation analysis from which needed changes can be identified.
- This work is geared for completion by the end of April.
Industry – through EMC - is requested to;

• Re-establish the evTRM Steering Committee – with modifications as necessary – to represent industry in dealings with the federal government.

• Government and Industry Committees will meet to identify needed actions. It is expected that this may occur through sub-committees on both sides. It is further expected that at least once a year, the two full committees will meet in some sort of EV summit and that this would include Assistant Deputy Ministers. The first such meeting is contemplated for the EV 2010 VÉ in Vancouver.

• Inventory current industry activities to determine how they align with the evTRM strategic initiatives
Hydro Quebec and Mitsubishi

- Hydro-Québec and Mitsubishi Motor Sales of Canada Inc. (MMSCAN) announced a memorandum of understanding that will lead to the launch of Canada's largest all-electric vehicle pilot project this coming fall.

- In collaboration with the City of Boucherville, Hydro-Québec will test the performance of up to 50 all-electric Mitsubishi i-MiEVs on the road under a variety of circumstances, notably winter conditions.
BC Hydro and Nissan

• The Renault–Nissan Alliance, the Province of British Columbia, the City of Vancouver and BC Hydro have announced a partnership that will see British Columbia become the initial launch point for Nissan's Canadian zero-emission transportation program.

• British Columbia is scheduled to be the first Canadian province to receive the Nissan LEAF, Nissan's first all-electric real-world car, in 2011, in advance of global distribution in 2012.
How will Ontario enter the Market?

- Deployment opportunities
- Policy Leadership
- evTRM Support
- Job Creation
- Currently a strong legacy workforce
- Collaboration at all levels to fund demonstrations
Magna Mila Concept Car
Transit Connect Electric
Force Drive Electric
www.emc-mec.ca