Submission
to the Standing Senate Committee on
Energy, the Environment and Natural Resources

October 14th, 2016

Chantal Guimont
President and CEO
Electric Mobility Canada
Policies and Measures for Accelerating the Deployment of Transportation Electrification in Canada

Electric Mobility Canada (EMC) is pleased to have the opportunity to meet with the Senate committee. EMC has based this report on its analysis of many policies and the conclusion of its Roadmap for Accelerating the Deployment of Electric Vehicles in Canada (2016 to 2020). A detailed report is available and can provide the most available information, including the complementary role of stakeholders, provincial initiatives, and recommended measures and budgets. Support to make electric vehicles (EVs) better known, more accessible and affordable for individuals, fleets, and carsharing companies, improvements in the efficiency of electrified public transit would provide Canadians with concrete options to do their active part to tackle climate change.

A strong national policy on transportation electrification is required now in Canada. EVs, a proven technology, produce low emissions and therefore make important contributions to the reduction of GHG in transportation. They present one of the most important opportunities and are particularly appropriate for Canada because most of our electricity is generated from non-fossil fuel sources and the price of electricity is fixed in Canada, not by the global oil markets. Canada has some of the leading companies in EVs and charging technology and their businesses will prosper with the growth of EVs. Even today, EVs can offer an advantageous total cost of ownership for many drivers.

Canada is behind other countries in supporting low emission vehicles, including the United States – with close to 2 times fewer EVs per inhabitant. With more than 25,000 EVs on the road, the successful policies to move from an early adopter market to a mass market are well documented, and include all opportunities to add services or replace existing vehicles, by:

1. Increasing the market share of low emission vehicles sold in Canada
2. Increasing the share of EVs in Canadian carsharing fleet
3. Increasing the share of EVs in the public transit fleet
4. Supporting demonstration projects in specific niches
5. Optimizing the economic impact of transportation electrification.

It is also proven that the combination of education (raising awareness and providing correct and complete information), promotion, incentives, infrastructure and availability (of both different models and class types, and of inventory) is the best method to increase EV sales. Any lack of one of these key ingredients seems to have a significant impact on EV sales. EMC has completed the analysis of many successful policies in different jurisdictions.
A set of pragmatic recommendations
EMC proposes a series of policies and measures taking into account the following considerations:

- Until 2022 when cost parity is expected between EVs and internal combustion engine (ICE) vehicles, this most important transition period will demand pragmatic successful policies in the short term, based on experience in advancing the electrification of transport in many countries, and to move from an early adopter’s market to a mass market;
- Engage Canadians through their contribution to climate change by choosing EVs now as an innovative and fun to drive technology;
- Make sure of the complementary and consistent contributions and collaborations from all stakeholders: federal, provincial, municipal as well as public and private entities, including fleets;
- Immediately leverage commercially available technologies in individual vehicles, and count on rapidly evolving transposition of technology through range increase at competitive costs to light and medium weight transportation for the medium term goals.

The recommendations of EMC’s second Roadmap for Accelerating the Deployment of Electric Vehicles in Canada (2016 to 2020)\(^1\) are to EVs better known, more accessible and affordable, for individuals, fleets, carsharing companies, and public transit. They provide concrete options to contribute to the nation’s economic growth, while doing their active part to tackle climate change. These recommendations are also part of our Submission to Environment Canada on Clean Growth and Climate Change (June 2016)\(^2\).

Following the launch of EMC’s Roadmap, the federal government announced the allocated investment to EVs and alternative transportation fuel infrastructure of $62.5M for the next two years, an important first step. Leading provincial governments involved in transportation electrification, and stakeholders, recognize that a federal contribution, in 2017 and in the longer term, would add a significant leverage to move from an early adopter’s market to a mass market.

EMC’s 2017 Federal Pre-Budget Recommendations:
1. To offer a federal financial incentive to EV buyers of $3,000, to make a significant impact on EV adoption, as observed in the US;
2. To offer to employers a federal incentive to support workplace charging as the second most important location for charging, after home charging;
3. To finance the purchase and installation to a minimum of 150 direct current fast charging (DCFC) stations to complete a national EV highway;
4. To reach all Canadians, to raise public awareness for EVs by launching a National Awareness Campaign, implementing a National Resource Centre, and a Test Driving Program;

---

5. To support the Canadian transit and EV industry through targeted investment in electrification of fleets for buses, school buses, taxis, carsharing, for the best technology for each application. These should not only be dedicated to large cities, but to medium and small communities as well. Targeted investments in research, development, and demonstration, including the arrival of autonomous vehicles in order to leverage on soon-to-be available technologies, and to count on rapidly evolving transposition of technology to light and medium weight transportation, is also important. Of course, the exemplarity of the federal government in all aspects of transportation electrification is required.

Many EV penetration scenarios have been developed for the Canadian Council of Ministers of the Environment Mobile Sources Working Group mandated in 2015. The evaluation of the number of EVS and their positive environmental impact can be done once policies and measures are better known. These targets will take into account the objectives set by provinces, such as EVs to represent 5% of annual sales by 2020 and 12% by 2025 in Ontario, and 100,000 EVs on the road by 2020 in Quebec.

Successful Measures to Implement Now
The transition period from 2017 to 2020 is crucial and a perfect time to invest in this field. The current technology plus the upcoming introduction of EV models with longer ranges and more affordable prices, and the rapidly evolving transposition of technology through range increase at competitive costs to light and medium weight transportation provide the foundations for a long term clean growth to seize now. The expected results will depend on the allocated funds to support this period that can be modulated.

Electric Mobility Canada welcomes the announcement of a pan-Canadian pricing on carbon pollution. It is a clear signal of the leadership of Canada to creating a cleaner, more innovative economy that reduces emissions and protects our environment, while creating well-paying jobs. Each province has until 2018 to put its system in place, failing which the federal government will do it for them.

While the price on carbon is an important component in the fight against climate change, Canada needs to develop an action plan to achieve and even exceed the targets that Canada set in Paris.

Since revenues from carbon pricing will remain with provinces and territories of origin, all provinces will now have all the means to include transportation electrification as a key component of their portfolio of solutions to reduce emissions. The federal government, for a short transition period, should support the overall provincial initiatives by supporting a national policy and action plan on transportation electrification, and securing greater certainty and predictability to Canadian businesses. Transportation electrification is the readily available and concrete solution now, for all classes of citizens.
An active watch for medium and long term objectives
Some key markets, applications, and stakeholders (municipalities) will play an active part in the future of electrification. They will influence significantly the mid and long term potential of electrification.

There are other modes of transport that appear to be excellent candidates for electrification in Canada and which should be the subject of demonstrations projects and key support (taxi fleets, school buses, mining, intelligent infrastructure, etc…).

Autonomous vehicles and their capacity to change the way we travel need a specific attention, as they represent an opportunity to improve mobility. Mobility will change more in the next decade than in the past 50 years. Consequently, government requires vision to prepare for the upcoming changes and regulations that will set the parameters with which sustainable mobility will flourish. Government should seize the opportunity that self-driving technology will present and ensure that trials and eventual deployment of self-driving vehicles also be electric.

Lastly, the energy storage opportunities that EVs can provide through V2G and V2H, and their secondary battery applications, will add significant value to the arrival of EVs.

A Canadian EV Industrial Strategy
While EMC’s Roadmap sets forth concrete actions to enhance Canadian capability in the future of the automotive sector, a more in-depth understanding of the specific areas where jobs may be at risk (and how many) and where the prospects for job growth are greatest would significantly enhance the ability of government, academia and the private sector to prepare to turn the inevitable changes and challenges into opportunities rather than threats.

The support to the Canadian transit and EV industry through targeted investment in electrification of fleets for buses, taxis, carsharing, financing to the best technology for each application, and dedicated to not only large cities, but medium and small communities, is important. As well, to dedicate targeted investments in research, development, and demonstration, including the arrival of autonomous vehicles, is crucial to leverage on soon to be available technologies, and count on rapidly evolving transposition of technology through range increase at competitive costs to light and medium weight transportation. These actions will support the growth of clean jobs related to transportation electrification in Canada.

EMC supports federal and provincial government to collect, analyze and disseminate non-competitive data to support effective decision-making, planning and funding at a finer level of detail to ensure that Canada is prepared to not only protect, but enhance its current presence in the auto sector which is so critical to the Canadian economy.
A strong support to the growth of the EV supply chain in Canada through a dedicated advanced transportation innovation fund

Federal and provincial investments have helped to build clusters of advanced transportation expertise in Canada. A new national innovation network for advanced transportation technologies—one that brings together industry, government, and academic expertise—could build on that foundation and help position Canada as a leading global destination for advanced vehicles.

With a well-funded and executed strategy, the challenge to maintain manufacturing jobs, and even increase higher value jobs, innovation and leadership in the future of the automotive industry is accessible, and will support the growth of clean jobs related to transportation electrification in Canada.