Canada’s Questionnaire Response

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Policy Structure

• Federal
  – Responsible for importation, greenhouse gas regulation, safety standards and fuel economy regulation

• Provincial
  – 10 Provinces & 3 Territories
  – 86% of Canada Population live in 4 provinces
    ▪ Ontario (38%), Quebec (24%), British Columbia (13%), Alberta (11%)
  – Vehicle Registration and Incentives

• Municipal
  – Local Incentives
Canada’s Questionnaire

• There are many parties involved with vehicle regulation and policy in Canada, especially for electric vehicles.
• Not all parties were contacted for questionnaire completion due to time constraints, so the responses are a Draft of what we believe to be accurate.
Q1 & Q2: Electric Vehicle Range/Energy Efficiency

- In Canada, Electric Vehicle Range & Efficiency are measured using industry test procedures. Similar procedures are used in the USA.
  - SAE J1634: Battery Electric Vehicle Energy Consumption and Range Test Procedure
Q3: Electrified Vehicle driver-user information

- Regulations are designed with safety in mind and use symbols to accommodate a multi-lingual population
  - Enforced at the Federal level by Transport Canada
  - Amendments are currently underway to update the standards
Q4: Electrified Vehicle recycling and re-use (excluding the battery)

- Vehicle recycling in Canada is influenced by many regulations as it is enforced at the Federal, Provincial and Municipal levels of government.

- Electric Vehicles are understood to fall under the same restrictions for recycling and re-use as conventional vehicles.
Q5: Vehicle Labeling

- Vehicle Labeling in Canada is very similar to that in the United States

- Labelling is enforced at the Federal level by Natural Resources Canada, Transport Canada and Environment Canada
  - Also, there are additional provisions at the Provincial level in select provinces

- Fuel economy labeling uses information from questionnaire Q1/Q2, EV range and efficiency
Q7: Battery durability

- It is our understanding that the US EPA durability standards for in-use deterioration of HEV and PHEV batteries are also applicable in Canada
Q8: Battery recycling

- Battery recycling is understood to have intensive requirements, as this procedure would have the same restrictions as those imposed on regular vehicle recycling, but with additional provisions

- Enforced by Federal, Provincial and Municipal authorities
Q9: Battery re-use (post-mobility)

- In Canada, the electrical grid is primarily controlled at the Provincial Level
- Provincial pilot projects are believed to be underway
- Understood to involve Industry technical standards: IEC 15118 and 61850-7-420 and SAE 2836/2847/2931
Q10: On-board charging system

- On-board charging systems are understood to comply with the Canadian Electric Code as given by the Canadian Standards Association (CSA)
  - Similar to the US National Electrical code in many cases

- Federal, Provincial and Municipal governments have authority

- For example, the City of Vancouver has adopted building codes requiring that new buildings contain “PEV-ready” electrical infrastructure.
Q11: Off-board Charging

- Off-board charging falls under Provincial jurisdiction, which is specified by utilities
  - most are leading towards SAE J1772 Standard
Q12: Wireless charging

- Nothing specific to electric vehicles is currently in use, however this would likely fall under frequency and electro-radiation emission restrictions.

- SAE standard (J2954) would establish minimum performance and safety criteria.
Q13: Vehicle as electricity supply

- Requirements are not yet in place, however this would likely fall under Provincial jurisdiction

- Expected standards are IEC 15118 and 61850-7-420 and SAE 2836/2847/2931
Q14: Regulatory incentives

- Regulatory incentives are currently in place at the Federal level by Environment Canada

  - Under the Passenger Automobile and Light Truck Greenhouse Gas Emission Regulations by way of Credit multipliers for electric vehicles which are considered to have no Greenhouse Gas Emissions
Q15: Financial incentives

• Are offered by Provincial governments, for example:
  – Ontario: Up to $8,500 + HOV lane sticker
  – Quebec: Up to $8,500
  – British Columbia: Up to $5,000

• Also, various other incentives for charging equipment
Q16: Consumer awareness

- Natural Resources Canada in collaboration with industry and other government agencies released a technological roadmap to map out EV development, as well as provide consumers promotional material.
Q17: Government Operations

• We are not aware of EV incentives at the Federal or Provincial levels of government

• Various incentives are given at the municipal levels