



Environment
Canada

Environnement
Canada

Canada



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 J1711: Recommended Practice for Measuring the Exhaust Emissions and Fuel Economy of Hybrid-Electric Vehicles, Including Plug-in Hybrid Vehicles**
 - **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