Transportation Electrification 2015-2030 & Carbon Market in Québec

Decarbonizing the Transportation Sector in New England
Boston, June 15th 2018
Western Climate Initiative - Carbon Market:
Creates business opportunities

Internalize environmental cost:
Spur innovation, investments and improve competitiveness
Who participates in the carbon market?

- Industry and Electricity sectors corporations who are required to cover their emissions of GHG from their activities: pulp & paper, aluminum and cement plants, electricity producers, etc.

- Fossil fuel distributors are required to cover GHG emissions related to the combustion of all the products they distribute in Québec (gasoline, diesel, propane, natural gas, and heating oil).

- Any fuel distributor selling more than 200 liters of fuel per year is covered.

- Virtually all QC fuel distributors are covered – 45 in total.
Comprehensive and Flexible approach to address Climate Change

Price signal:
- Allows for covered entities to choose how and when to invest and/or innovate
- Subsidies to address competitiveness and economic impacts
- In Québec: All revenues go to the Green Fund Programs
- 2020 Climate Action Plan: $3.3Billions / 60% to Transportation Sector
- Transportation Electrification Action Plan 2015-2020
Transportation Electification Action Plan
2015-2020

- Budget: $420M + ($167.6 M – Budget 2017-2020)
- 37 measures in 3 strategic orientations:
  - Promote Electric Transportation
  - Develop the Industry
  - Create a favourable Environment

- A clear vision: In 2020, Québec will be a leader in the electrification of transportation and in the deployment of sustainable mobility.
Québec Electrification Strategy Targets

- **100,000** Electric Vehicles (EV) registered in **2020** / **1,000,000** in **2030** (10% of total light-duty vehicles sales in 2020 / 25% in 2030)
- **150,000** tonnes of GHG emissions reduction in **2020**
- **66 millions** liters of fuel saved annually
- **$500M** of investment and **5,000** jobs in the EV industry (2020)
Transportation Electrification Strategic Orientations

- **Promote Electric Transportation**
  - Increase the availability of Electric Public Transportation
  - Develop innovative solutions for Freight Transportation
  - Promote the use of Light-Duty Electric Vehicles

- **Develop the Industry**
  - Intensify Research, Development & Innovation of the Industry
  - Support the Marketing and Exportation of Innovative Products
  - Stimulate Investments
  - Train a Skilled Workforce

- **Create a favourable Environment**
  - Government Leadership by Example
  - Promote Electric Vehicles and Government Actions
  - Implementation of a Legal & Regulatory Framework Promoting Transportation Electrification
Electric Vehicles Incentives Programs

**Electric Vehicles (EV)**

**Purchase or leasing:**
- 4-15 kWh: $4,000
- 16 kWh+: $8,000
- Used EVs: $4,000
- Motorcycles: $2,000 / Scooters: $500

**ZEV regulation:** January 2018

**Taxis:** $6.6 M in 2018

**School buses:** $30M - until 2020

**Government fleet:** 1,000 EV in 2030

**Charging Stations**

**Residential:** $600 (purchase and installation)

**Workplace:** 50% for purchase and installation ($5,000) & 3 years of free charging for employees

**Fast-charging stations (DCFC):**
Ministry of Transports, Hydro-Québec + Businesses, Cities, or Institutions Partnerships.

**Government buildings:**
Charging stations for employees and visitors
Québec = EV #1 Market Share in Canada

27 000 EV (2018-04-30)
45% all-electric

Québec 23% of the Canadian population

Rest of Canada 77% of the population

Québec
QUÉBEC CHARGING STATIONS NETWORK

- **240V**
  - $1/hour / $2.50$ flat rate

- **DCFC (400V)**
  - $10/hour billed by minute

- **Curbside (240V)**
  - $1/hour

**Total**: 3 224 including 277 DCFC 400 V
Heavy Duty Trucks Speed Limiter Regulation

- The Quebec Highway Safety Code (QHSC) was amended in December 2007 in order to make speed limiters pre-set to 105 km/h (65 m/h) mandatory as of January 1st 2009. (Also in Ontario)

- A measure of the Québec 2006-2012 Climate Change Action Plan

- 46 Millions liters of fuel saving & 130 kilotons of CO₂ emissions / year

- 1000 trucks equivalent reduction on the Quebec roads / year
Conclusion

Carbon Market - Green Fund:
- Electrification of the transportation sector incentives programs.
- Climate change transportation mitigation GhG reduction incentives programs (Transit and active, Ecotrucking, Rail, Marine and Airplane).

Transportation electrification:
- Industry and research centers expertise and know-how leadership in economic development, particularly in niche markets.
- Major asset for Québec and essential contribution to achieve the GHG emissions target of 37.5% below the 1990 level in 2030.
- Increase renewable energy use in transportation.
- Reduce the fossil fuel use and improve the economic balance.