

PROPELLING
QUÉBEC FORWARD
WITH **ELECTRICITY**

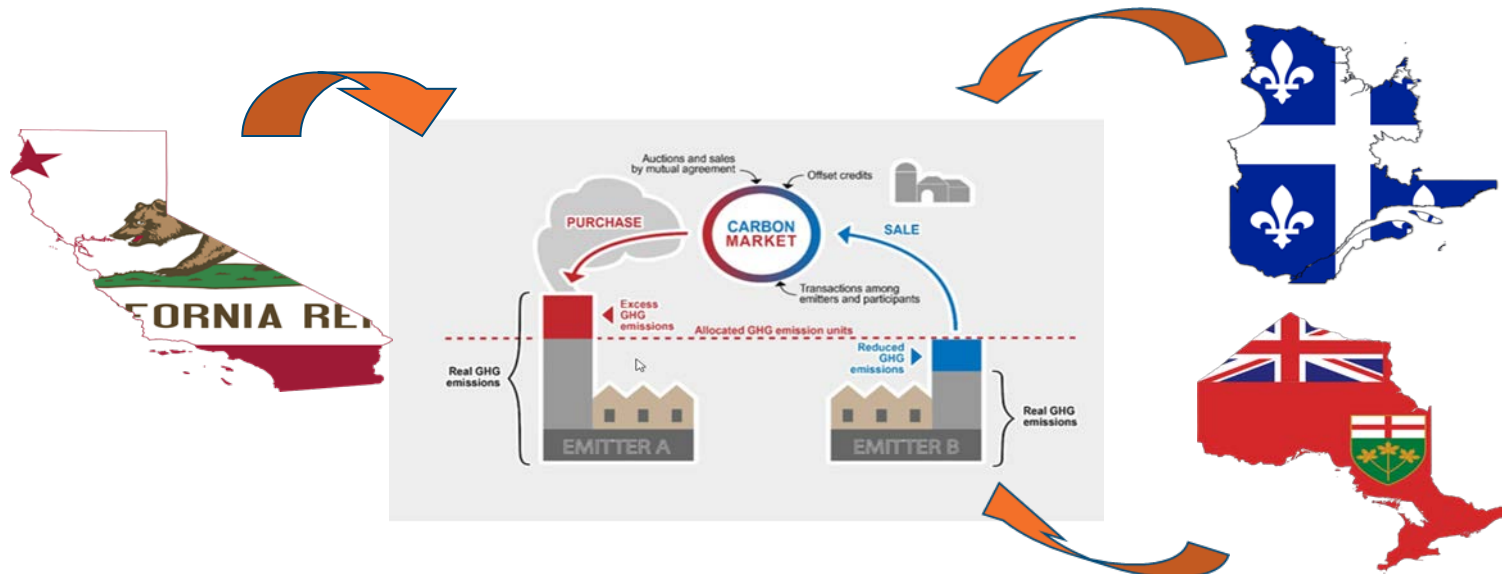


Transportation Electrification 2015-2030 & Carbon Market in Québec

Decarbonizing the Transportation Sector in New England
Boston, June 15th 2018



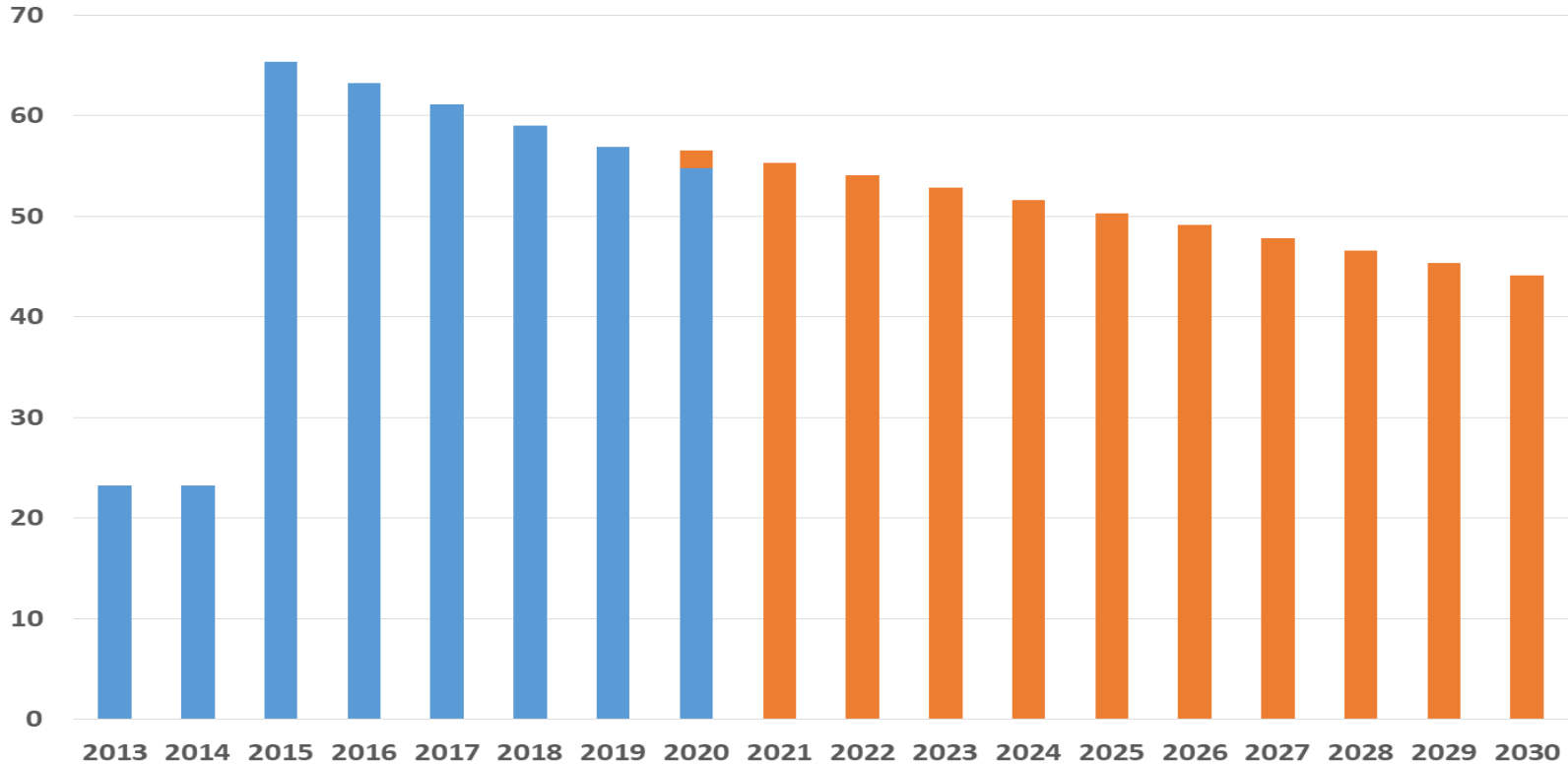
Western Climate Initiative - Carbon Market : Creates business opportunities



**Internalize environmental cost :
Spur innovation, investments and improve competitiveness**



Québec Carbon Market 2013-2030 - Annual Caps Mt CO₂ eq.

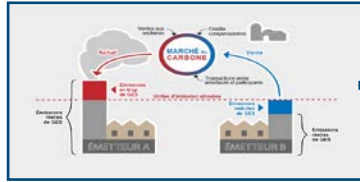


Who participates in the carbon market?

- 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



Fondsvert



PROPELLING
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Transportation Electrification
Action Plan 2015-2020

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 Electrification 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 :

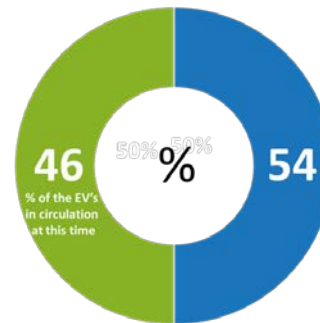
Charging stations for employees and visitors



Québec = EV #1 Market Share in Canada



QUÉBEC
23%
OF THE CANADIAN
POPULATION



REST OF CANADA
77%
OF THE
POPULATION

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



QUÉBEC CHARGING STATIONS NETWORK



240V

\$1/hour / \$2.50\$ flat rate



DCFC (400V)

\$10/hour billed by minute



Curbside (240V)

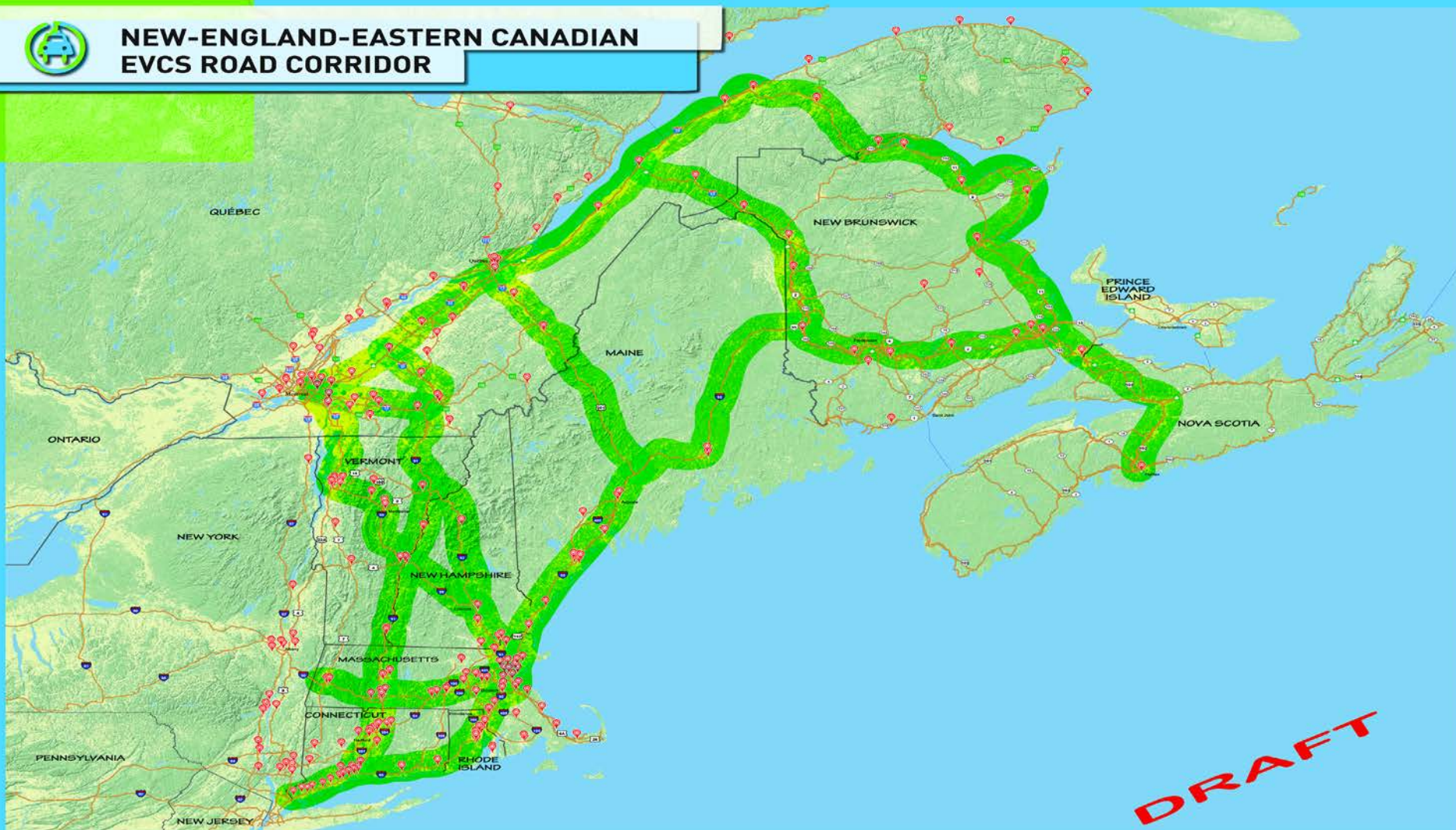
\$1/hour

Total : 3 224 including 277 DCFC 400 V





NEW-ENGLAND-EASTERN CANADIAN EVCS ROAD CORRIDOR



DRAFT

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.

