



The 27th INTERNATIONAL  
ELECTRIC VEHICLE  
SYMPOSIUM & EXHIBITION

BARCELONA  
17th-20th November 2013



# FILLING UP WITH ELECTRICITY

November 19, 2013

Pierre-Luc Desgagné

Vice President

Public and Government Affairs



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Supported by



2009

2010

2011

2012

2013

### Four axes

1

#### Public transit

Participate in feasibility studies  
Financial contribution for electrical infrastructure

2

#### Develop and market Hydro-Québec's advanced technologies

Battery materials  
TM4 electric powertrains

3

#### Test-driving and experimenting with grid integration

Six pilot projects

4

#### Charging infrastructure

The Electric Circuit



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## TEST-DRIVING



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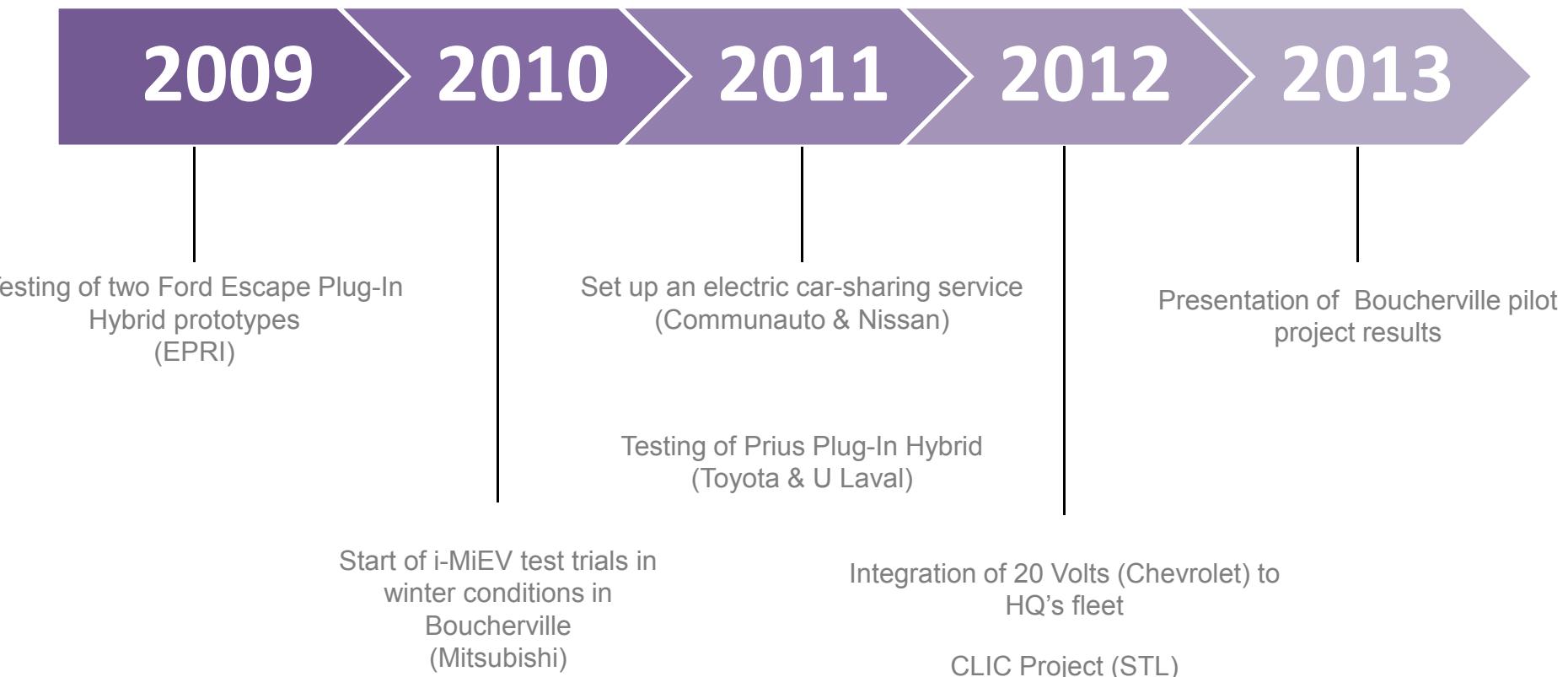




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# TEST-DRIVING

## Six pilot projects



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- **Electric car-sharing**
  - Purchase of 30 EVs by one of North America's largest car-sharing organizations: Communauto
  - Hydro-Québec supplied the charging infrastructure
- **Carpooling**
  - In collaboration with public transit companies
  - 10 teams of four passengers/drivers given the opportunity to drive Chevrolet Volts
  - Charging infrastructure supplied by Hydro-Québec



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- **Boucherville pilot project**
  - From December 2010 to June 2013
  - The largest electric-vehicle demonstration project in Canada
  - 30 PEVs travelled some 740,000km
  - 104 tons of GHG emissions avoided



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- **Boucherville pilot project**

**Findings:**

- Average distance travelled: 45 km/day
  - 48 km/weekdays
  - 36 km/weekends
- Satisfaction rating: 8.9/10



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- **Boucherville pilot project**

**Findings:**

- Average consumption: 0.18 kWh/km  
\$0.0142/km (taxes included, at rate in effect in April 2013)
- Use in winter conditions: In 80% of the cases, drivers can travel 60 km on a single charge, while keeping an energy reserve of 20%



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## CHARGING INFRASTRUCTURE



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# ACCESS TO CHARGING INFRASTRUCTURE

The first public charging network in Canada and the largest in Québec

- **The Electric Circuit**

- 50 partners, including 5 founding partners
- 227 charging stations in service
  - 53 cities
  - 13 administrative regions
- 1,253 members
- 2.11 hours: average charge
- 2,100 electric vehicles on Québec's roads



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# ACCESS TO CHARGING INFRASTRUCTURE

- **The Electric Circuit: an innovative public-private partnership**

- Public: Hydro-Québec's role
  - Coordination of deployment from beginning to end
  - Expertise to select charging stations offering the best value / call for tenders
  - 24/7 customer support through CAA
  - Consistency of service to customers
  - Ad campaigns
- Private: partners and suppliers
  - Buy and install charging stations
  - Agree to the Electric Circuit's operating rules
  - Collect revenues from the charging service
  - Provide 240-V charging stations and related services
  - Promote charging service
  - Provide technical service and support (CAA)



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# ACCESS TO CHARGING INFRASTRUCTURE

- **The Electric Circuit : a Canadian company won the second tender call**
  - AddÉnergie Technologies will provide 240-volt charging stations, bringing the network's total to 300 charging stations over 12 months
  - Bids were evaluated through a stringent process based on several criteria including robustness, price, user-friendliness and customer service
  - All charging stations underwent rigorous environmental testing at IREQ (Hydro-Québec's research centre)
  - Charging stations are fully interoperable with initial charging stations deployed



**AddENERGIE**  
TECHNOLOGIES

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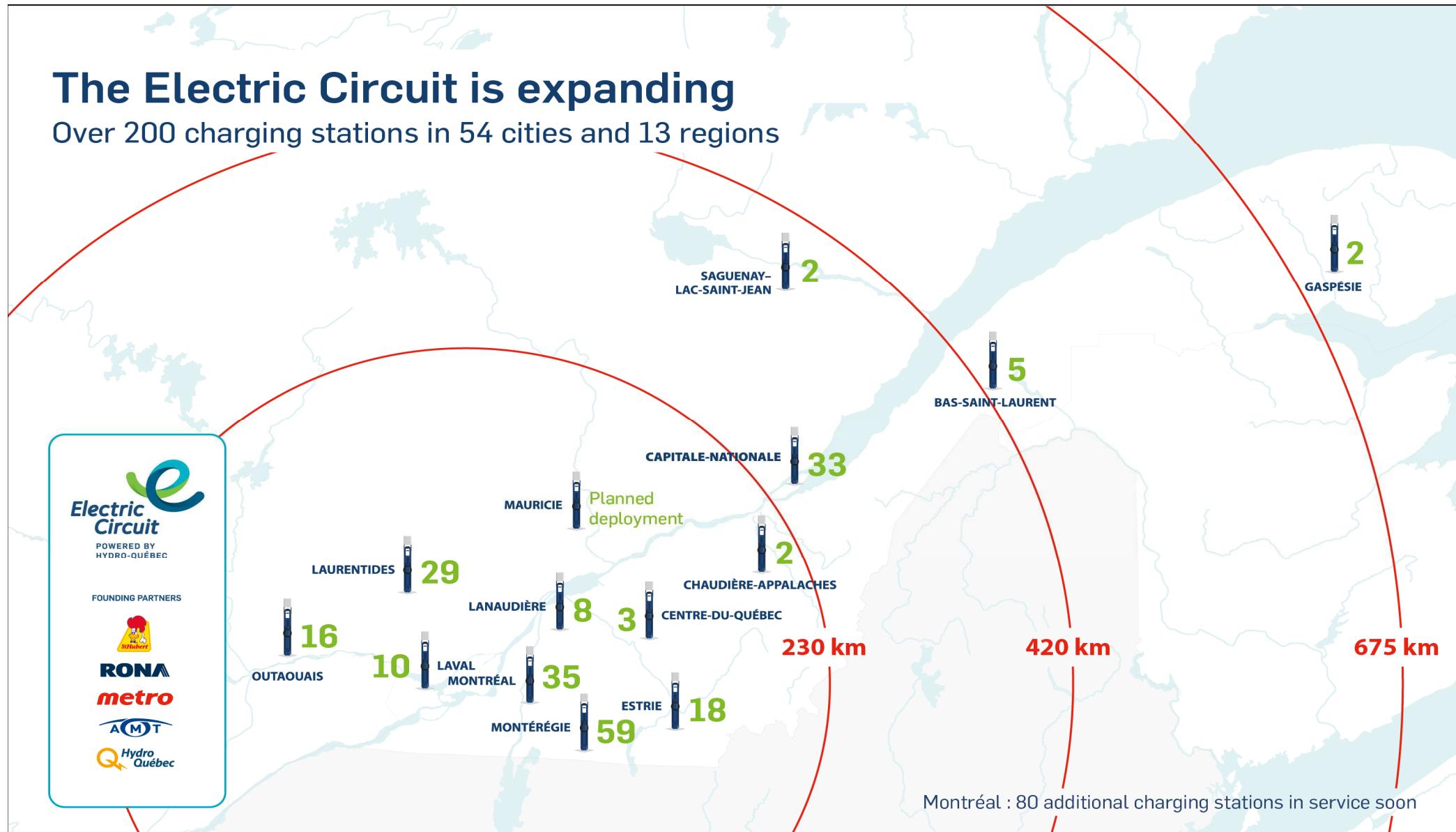


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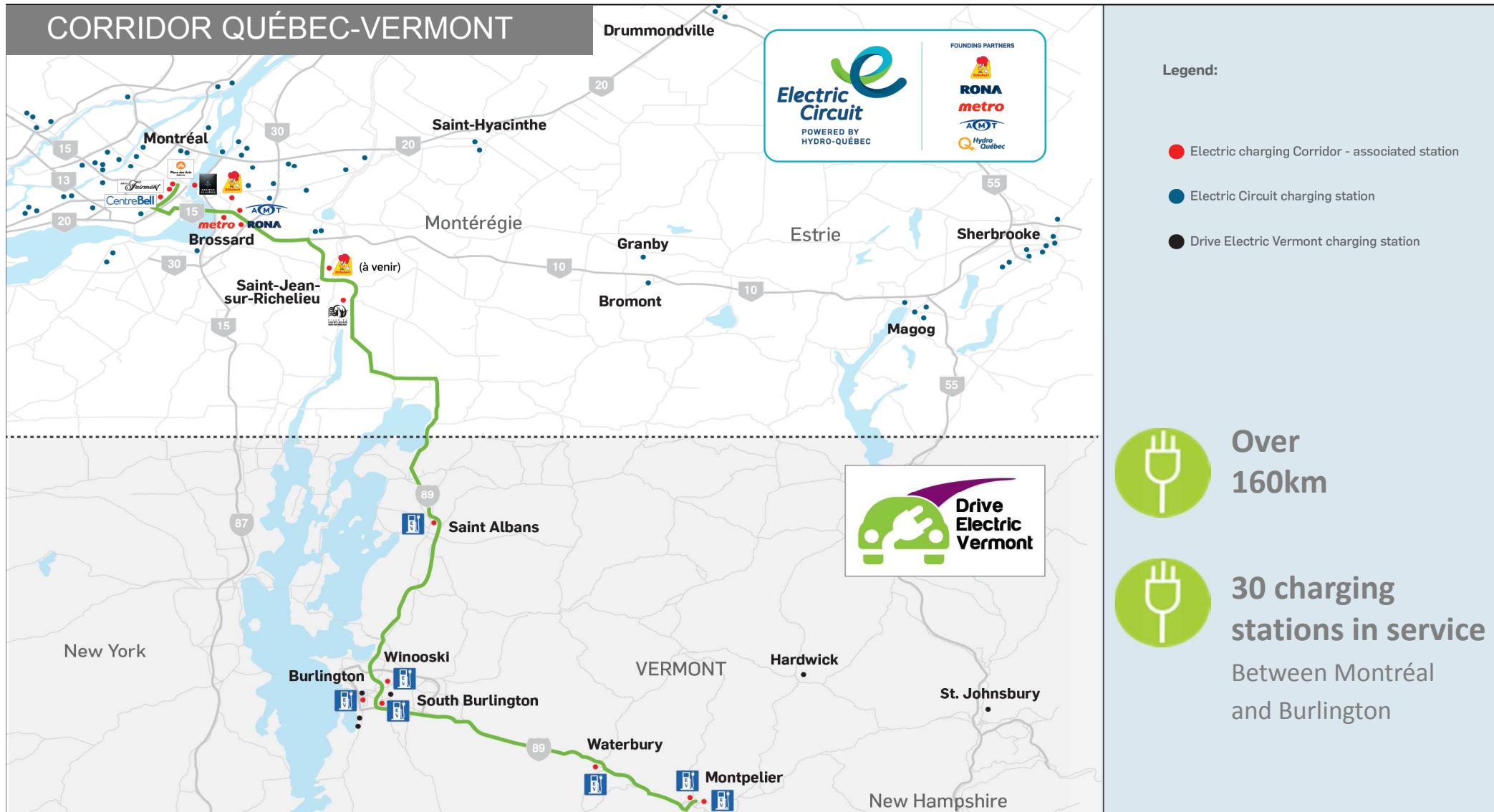
## ACCESS TO CHARGING INFRASTRUCTURE

### The Electric Circuit is expanding

Over 200 charging stations in 54 cities and 13 regions



## ACCESS TO CHARGING INFRASTRUCTURE

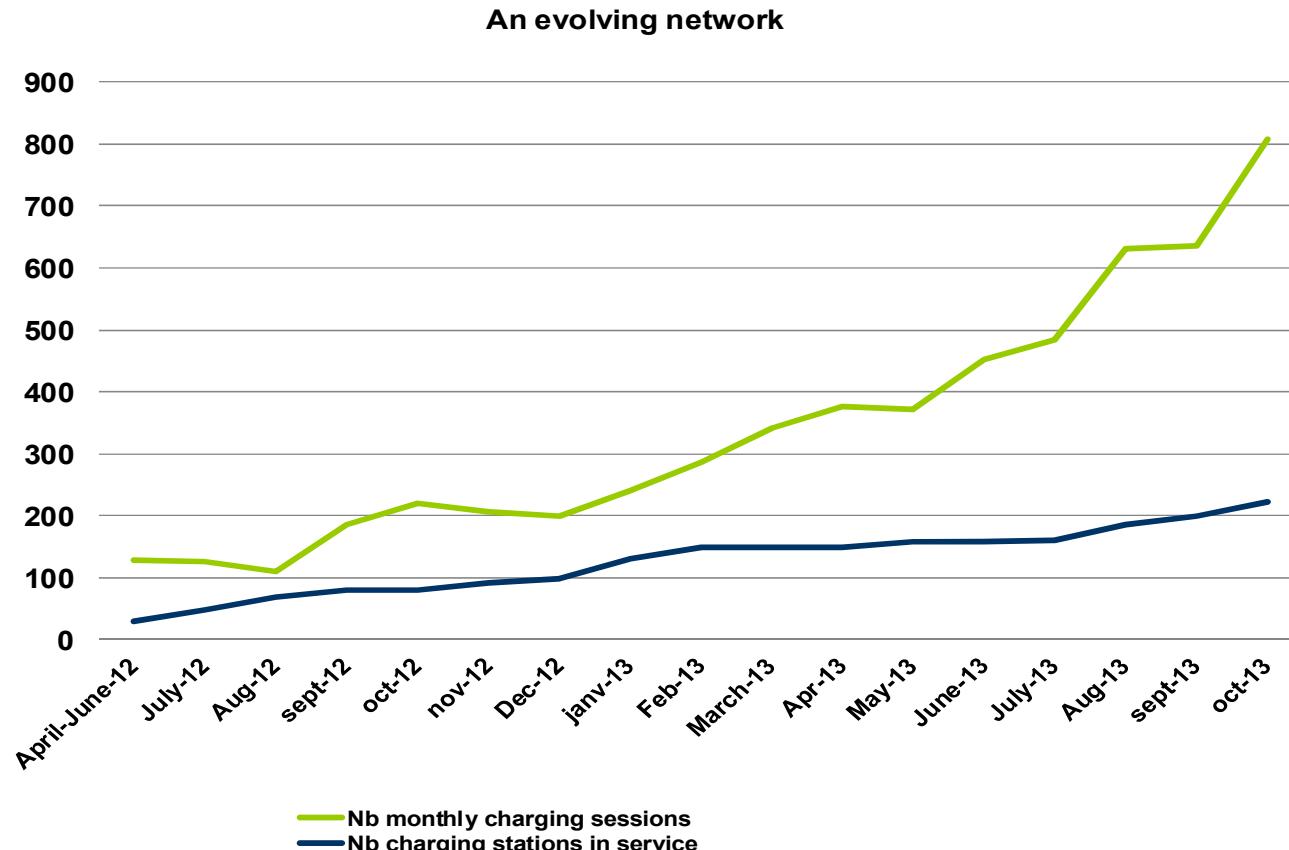




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## HYDRO-QUÉBEC: KEY PLAYER

A



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## 1. Quickly make more room for electric transportation

- Increase the electric public transit offer
  - LRT, subway extension, trolleybuses, etc.
- Encourage the use of individual EVs
  - One-year extension of the \$8,000-rebate
  - 5,000 additional charging stations (including 500 EC)
  - Electric taxi demonstration project

## 2. Build on Québec's electricity know-how

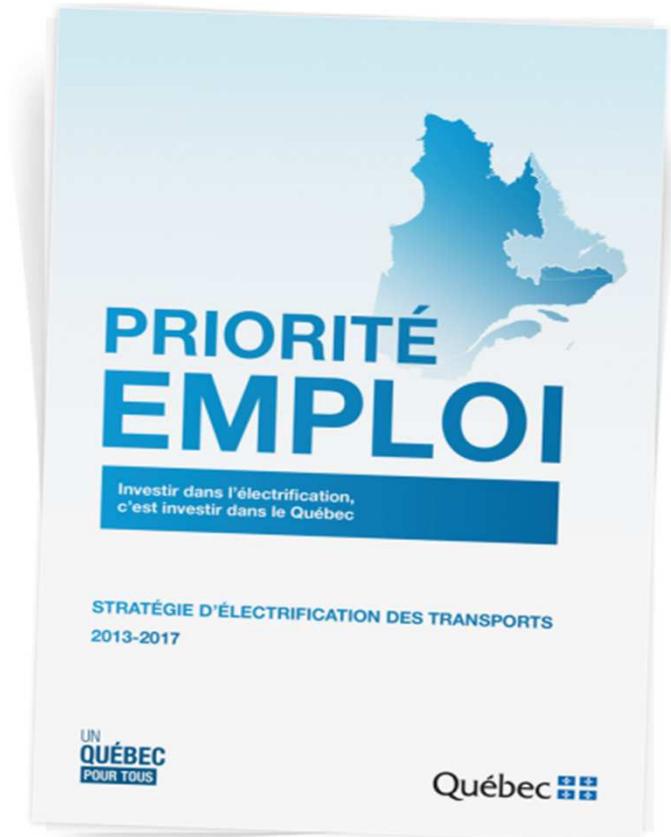
- Create the Electric Transportation Institute

## 3. Build the future around a strong, productive industrial sector

- Develop a Québec-made EV for car-sharing

## 4. Make Québec a model to follow

- 1,000 charging stations at Québec government buildings
- Launch an awareness and promotional campaign



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