

# evs | 27

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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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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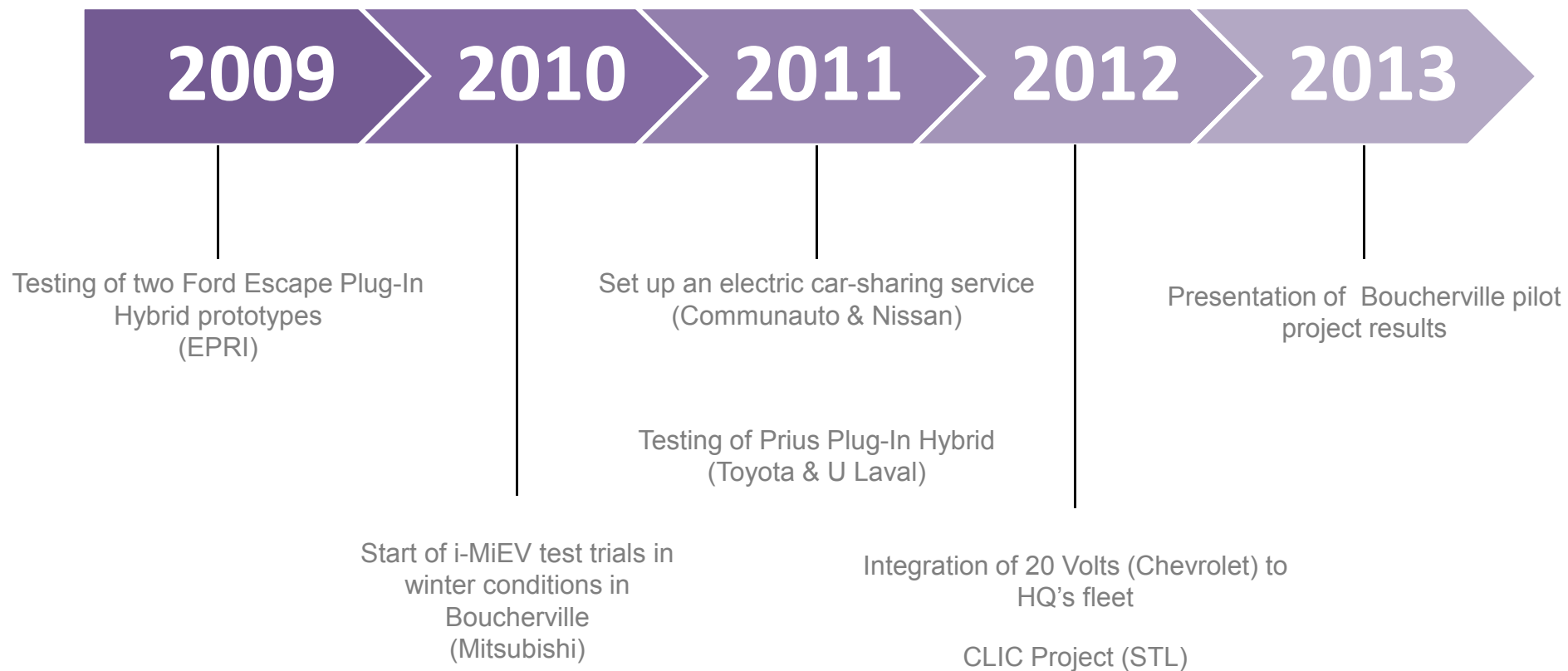


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### Six pilot projects



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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 collabora  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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# 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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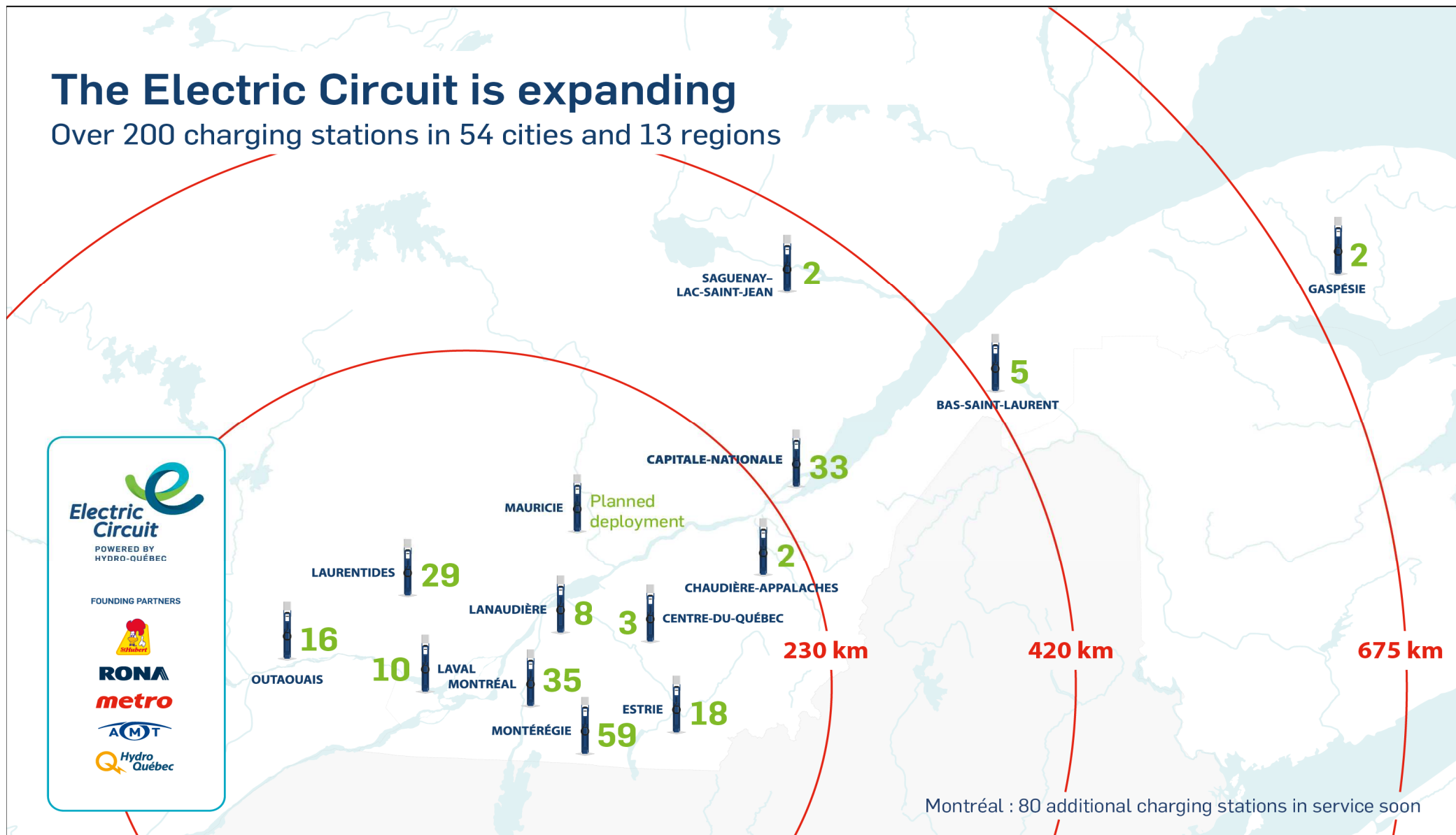


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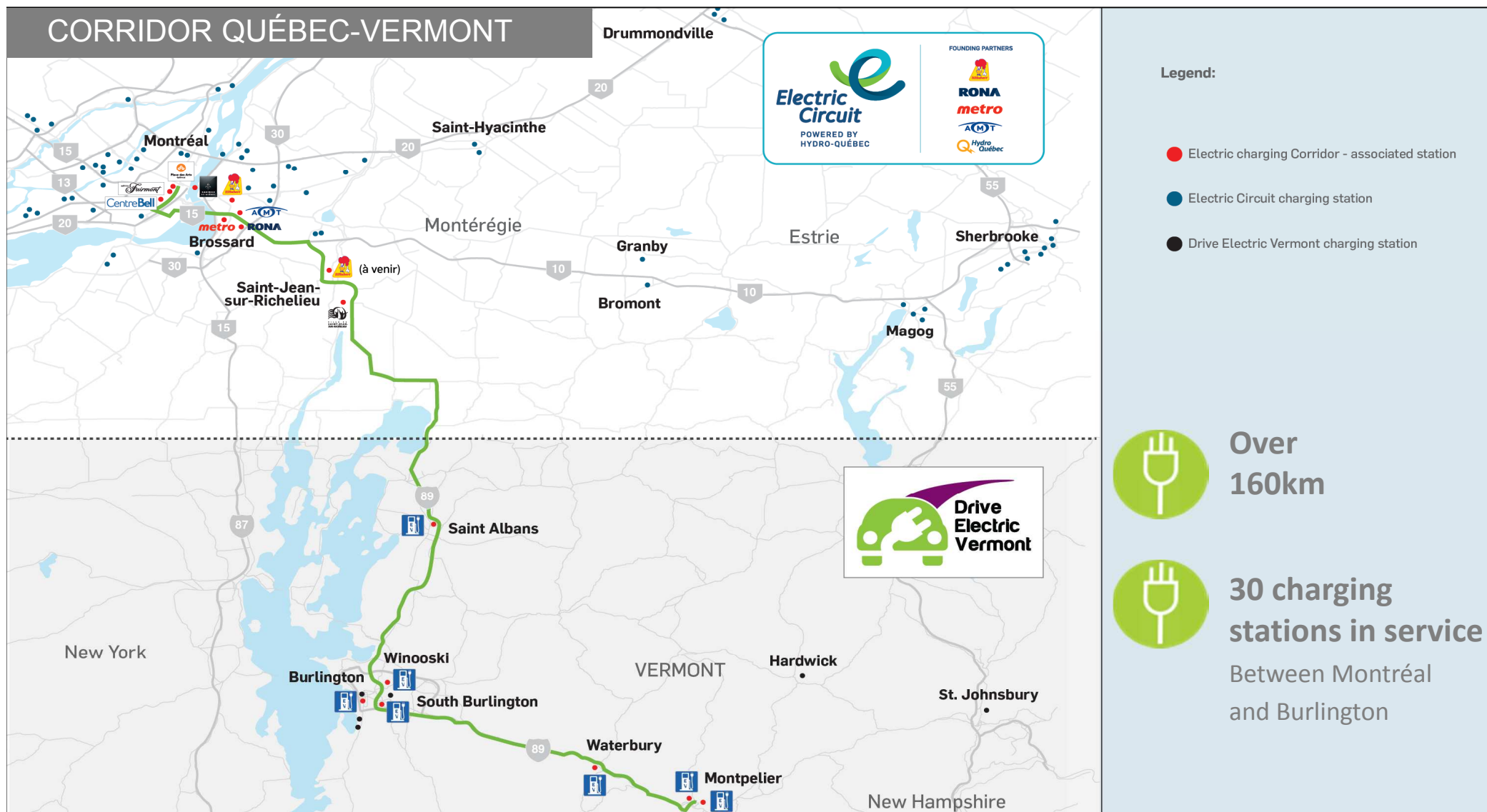
## ACCESS TO CHARGING INFRASTRUCTURE

### The Electric Circuit is expanding

Over 200 charging stations in 54 cities and 13 regions

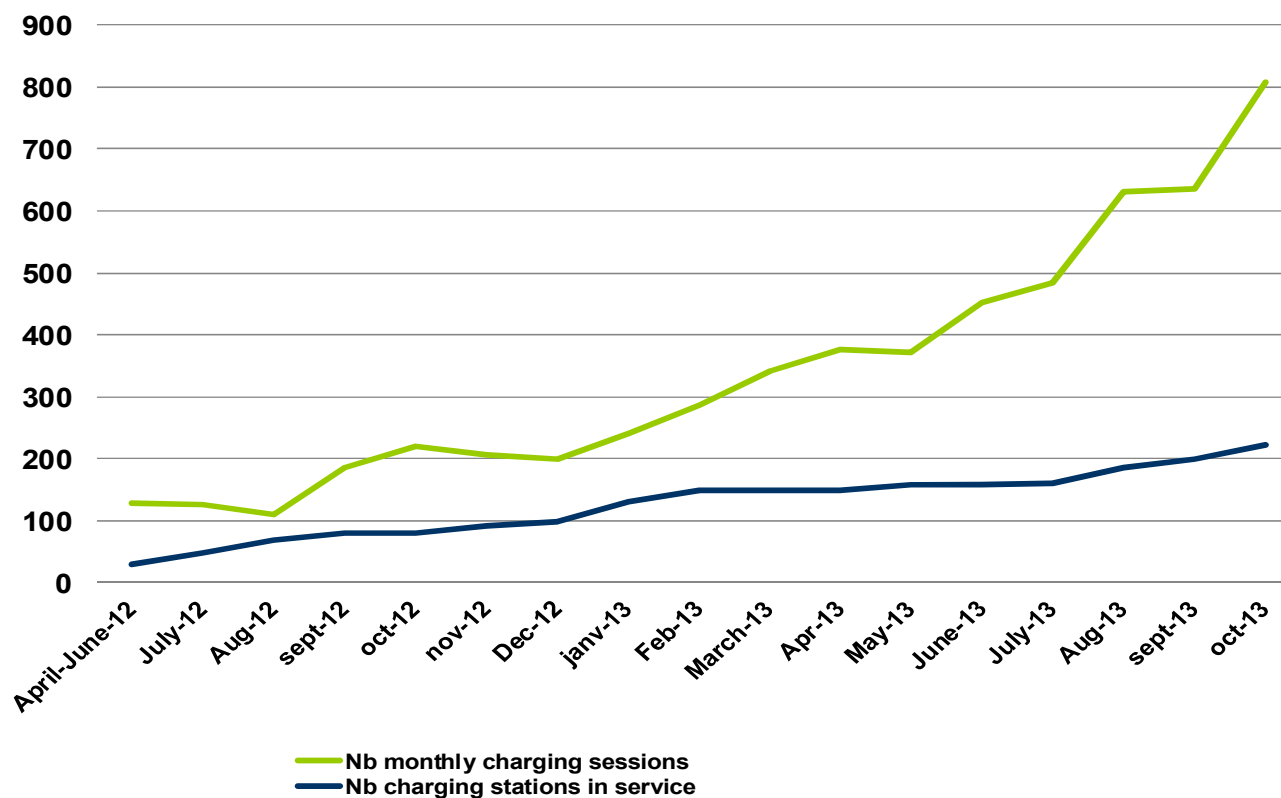


## ACCESS TO CHARGING INFRASTRUCTURE



## ACCESS TO CHARGING INFRASTRUCTURE

An evolving network



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## HYDRO-QUÉBEC: KEY PLAYER

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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

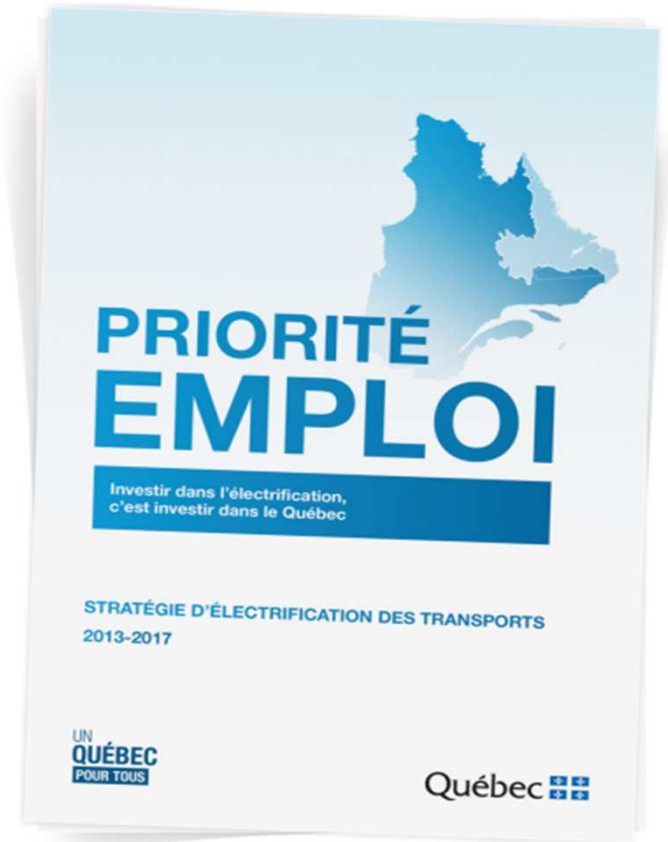
- Create the Electric Transportation Institute

### 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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