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The Electric Circuit Business Model

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Summary

The Electric Circuit's unique business model is recognized around the world. It was designed around the network's two types of charging stations: 240-V Level 2 standard and 400-V fast-charge stations.

Keywords: business model, EV, charging, deployment.

1. Introduction

The Electric Circuit was inaugurated on March 30, 2012. It was born of the desire of the government of Québec (*Electric Vehicles: 2011–2020 Québec Action Plan*) and Hydro-Québec (*2009–2013 Strategic Plan*) to plan a public electric vehicle charging network. It required the establishment of objectives and partnerships founded on specific business models for each of the network's two types of charging station. Since its creation, the Electric Circuit has grown steadily and is cited as an example around the world.

2. Objectives of the Electric Circuit

The objective of the Electric Circuit is to deploy 785 240-V charging stations and 60 400-V fast-charge stations by the end of 2016 to allow drivers to travel with peace of mind, knowing that they can top up their batteries on the road as the need arises.

2.1 Business model for 240-V charging stations

The partnership-based business model for 240-V charging stations sets out responsibilities for Hydro-Québec and the partner.

Hydro-Québec is responsible for:

- Overseeing and coordinating the rollout
- Providing expertise in selecting technology and suppliers that offer the best value for money (calls for tenders)
- Overseeing the 24/7 assistance provided by CAA-Québec
- Ensuring a consistent product
- Providing visibility and advertising

- Managing the evolution of the concept

The partner is responsible for:

- Purchasing and installing the charging stations
- Promoting the service
- Complying with Electric Circuit operating rules

It is important to highlight that the partner receives all revenue generated by the service.

2.2 Business model for 400-V charging stations

In order to stimulate the fast-charge market, Hydro-Québec will cover 50% of project costs (charging station and installation) up to a maximum of the cost of the charging station.
The partner covers all remaining costs.
Revenue is shared in proportion to the partners' investment.

3. Growth of the Electric Circuit

As Québec's largest public charging network, the Electric Circuit is a major infrastructure initiative to support the arrival of plug-in electric vehicles in Québec. The network consists of more than 600 public charging stations, including 30 fast-charge stations, distributed in sixteen Québec regions.

Since its inauguration, 136 private and institutional partners have joined the Electric Circuit, and the network now has over 7,000 members. It continues to grow year after year (see Figure 1).

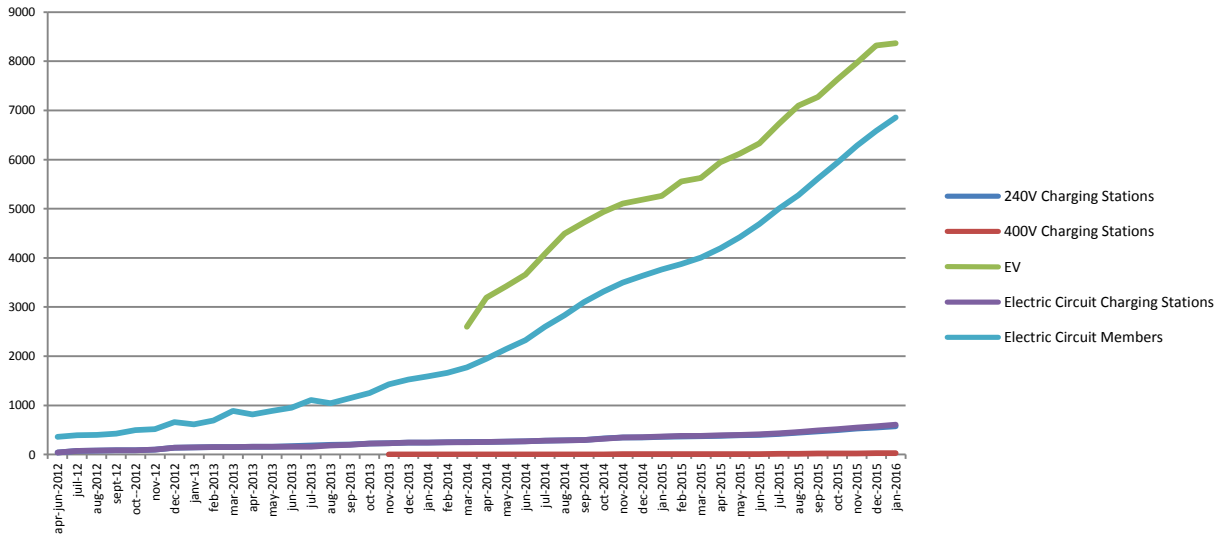

Figure 1 : Statistics for the Electric Circuit 2012–2016

In addition, the network's usage statistics, including total hours of charging, busiest days and quantity of energy delivered, clearly demonstrate its growth and position as a front-line player in public electric vehicle

charging in Quebec and around the world.

4. Conclusion

The Electric Circuit is Canada's first public electric vehicle charging network, offering 240-V and 400-V charging. Its charging stations, located in the parking lots of its many partners, are powered by clean and renewable energy supplied by Hydro-Québec.

Since its inauguration on March 30, 2012, the Electric Circuit has continually expanded in various parts of Québec, and today this growth continues into new urban areas. Electric Circuit charging stations are rolled out based on the volume of EV sales, the geographical distribution and needs of users and the business strategies of its partners.

Author

A graduate of Université de Sherbrooke, Université de Montréal and McGill University, France Lampron has been with Hydro-Québec for 13 years. Since 2008, she has focused on the transportation electrification sector. In her current role, Ms. Lampron is in charge of individual and collective transportation electrification activities. In particular, she has managed Hydro-Québec's electric vehicle pilot projects and the rollout of the Electric Circuit, Canada's first network of public charging stations and the largest network of its kind in Québec. Ms. Lampron is a member of the Board of Directors of Electric Mobility Canada, the new Institut du Véhicule Innovant (innovative vehicle institute) and the Electric Drive Transportation Association.