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— The electrification of Québec's driving schools

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Summary

Québec is one of Canada's provinces leading the transition towards low carbon mobility. The government has been working to develop a dynamic electric vehicle (EV) manufacturing sector and implement effective policies to promote the adoption of EVs.

Road transport accounts for 44.8% of Canada's GHG emissions. With 99.8% of its electricity coming from renewable energy, e-mobility is a winning option for Québec, which is also the home of a mature road transportation industry.

The electrification of driving schools represents a significant opportunity to help decarbonise the transport system in Québec. The government have established a pilot project to support the electrification of driving school fleets. Titled the 'E-roule electrification project', it is delivered in partnership with the Fondation Québécoise d'Éducation en Sécurité Routière (FQESR). \$4.5 million has been allocated to accelerate the replacement of internal combustion engine (ICE) vehicles - currently used by driving schools - with battery electric vehicles (BEVs). The project focuses on raising the profile of EVs to ensure that learner drivers understand the benefits of a green transportation alternative.

The FQESR is the main coordinator of this initiative, which currently involves 100 driving schools. E-roule started in July 2020 and will run for 24 months until July 2022.

Over 110 driving schools

participating in the
project

Background

In 2020, Québec published their [2030 Plan for a Green Economy](#) - the first electrification and climate change policy framework in the province. It seeks to lay the groundwork for a green economy by 2030; one that is both resilient to climate change and more prosperous. The transport sector accounts for almost 45% of Québec's GHG emissions, with road vehicles representing nearly 80% of transport emissions. Accelerating the transition to zero emission vehicles is vital to reach carbon neutrality by 2050.

ZEV adoption in Québec is one of the highest in Canada. It reached nearly 7% of market share at the end of 2020, with the EV industry creating over 6,000 jobs. The driving school sector has been identified as an opportune area to deliver the transition to zero emission vehicles within the province.

It is mandatory for learner drivers to undertake formal driver training to obtain a driving license in Québec. In 2021, 486 driving schools were operating in Québec, using 1,450 vehicles. Each year, approximately 100,000 people earn their driving license. Electrifying driving schools can expose young drivers to the benefits of EVs, and in doing so, may increase their uptake.

Project overview

[E-route](#) is a pilot project established by the Québec government in 2020. It's designed to support the electrification of driving school fleets. With a budget of \$4.5million, the project aims to accelerate the replacement of internal combustion engine (ICE) vehicles - currently used at driving schools - with battery electric vehicles (BEVs). E-route also focuses on raising the profile of EVs to ensure that learner drivers understand the benefits of a green transportation alternative.

The project is coordinated by The Fondation Québécoise d'Éducation en Sécurité Routière (FQESR), a non-profit organisation with a mission to promote sustainable and safe mobility through awareness and training activities.

100 driving schools are currently involved in the project. Over the course of two years, they will be supported to initiate a transition to electrification. The three key objectives of the project, aligned with the [Québec government's Action Plan on Climate Change](#) are to:

- 1) reduce greenhouse gases (GHGs).
- 2) accelerate sales of Full Electric Vehicles (FEVs).
- 3) raise awareness of the benefits of EVs.

Enabling conditions

- [Québec's 2030 Plan for a Green Economy](#) – this defines the climate actions that will be carried out by the various partner ministries and public agencies. The Plan will help to achieve the 2030 greenhouse gas emissions reduction target that Québec has set for itself, namely a 37.5% reduction compared with 1990 levels, and to reach carbon neutrality by 2050.
- **Strong stakeholder engagement** – FQESR has detailed knowledge of the driving school sector, which will ensure the smooth execution of the project.
- **Private sector relationships** – supported the identification of driving schools to be involved in the pilot and will aid them in the transition to electrification.

Assistance measures

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For our government, transportation electrification is a priority.

We are happy to help driving schools convert their vehicle fleets, especially since this pilot project will help achieve government targets in this area. It will also, and above all, allow new cohorts of drivers to familiarize themselves with electric vehicles from the start of their apprenticeship

François Bonnardel,
Minister of Transport

- **Charging infrastructure installation:** Most driving schools lease their space and very few had sufficient knowledge of the necessary charging infrastructure. The project has helped to overcome this challenge by supporting them with the selection, purchase, and installation of charging infrastructure.
- **Access to vehicles:** The project evaluated potential automotive suppliers to support access to the vehicles. They then selected a single outlet to install the necessary vehicle adaptation. Subsequently, the project established a vehicle leasing system for the 24-month duration of the project at a single fixed price, as well as a rebate system dependent on vehicle-use.
- **Employee training and reskilling:** The project introduced full training for driving school employees and upskilled learner drivers on the specific features of EV driving (regenerative braking, recharging options).
- **Telemetric monitoring:** Telemetric monitoring systems were fitted in both ICE and EV vehicles to collect data on vehicle use. The systems collect information such as the number of hours spent driving, and the daily distances travelled. When transitioning from ICE to EVs it is vital to compare the telemetric data, as this could negatively affect car performance.
- **Awareness and dissemination:** To increase electric vehicle awareness and social acceptance, the FQESR identified technical experts to assign to the project. The experts were also able to answer both technical and non-technical questions from the driving schools. This was accompanied by a communication launch which included advertisements on both the vehicles and at the schools to publicise the project and promote the value of EVs.

Results

- The project has reached 35,000 learner drivers and raised their awareness about the transition to EVs.
- More than 110 participating driving schools and nearly 200 EVs will be in service by the end of 2022.
- In the first year, 30 driving schools from the private sector were involved in the project, of which 10 fully replaced their fleet with BEVs and 20 partially replaced them.
- In the second year, guidance programs were offered to more than 70 other driving schools to help them initiate the transition to electrification.

Next steps

- The project's impact on the perception of learner drivers will be evaluated / assessed through surveys before and after their training with EVs. The surveys will be answered by students who participated in the pilot project, but also by students who went through the standard driving training.
- Surveys will be conducted throughout the duration of the pilot project. This will feed the post-project analysis with numerous data, covering: students preferences, students reaction to EV driving, and their reaction to the specific training they received during the pilot project. These surveys will thereby enrich the post-project analysis with students' opinions and vehicle purchase predictions.
- The post-project analysis will help to drive a transition to EVs in driving schools across Québec, by showing industries the viability of this new business model as well as all the benefits to their business and their students of using EVs for teaching.

Key lessons learned

- Preliminary survey results, which included over 300 students who finished their EV driver training with the e-roule pilot project, showed a significant shift in preferences. These students showed an improved perception of EVs, compared to the general student driver population in the province. For example, one of the questions asked for the students to share their preference for their next vehicle purchase. Before their participation to the pilot project, 49% of students mentioned ICE vehicles as their preference and 32% for EVs or rechargeable hybrids (PHEV). However, after participating in e-roule, the results changed dramatically. 57% of students opted for an EV or PHEV and only 24% said they would prefer a traditional ICE vehicle.
- Preliminary analysis indicated that a switch to EVs for driving schools must be supported by a business team. The team can provide training, offer a high level of understanding around the associated challenges, provide easy-financing for EVs, and deliver solutions to any day-to-day problems that arise during the transition.
- The main issue faced by the coordinator of the pilot project concerned the complexity of installing charging stations, especially in metropolitan areas where parking is a challenge.
- Many business owners and long-term driving instructors were initially resistant about transitioning to EVs. This was largely due to a lack of understanding about the technology. Extensive hands-on training must be done before starting the transition to ensure all employees understand the new technology and its benefits.
- Financial benefits are key for driving school owners, and can ensure a successful transition. These benefits can include: reduced charging and maintenance costs, subsidised installation costs for charging stations, and an increased number of customers.

More information

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