

Rate Mitigation Review
Public Utilities Board
P.O. Box 21040
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Submission for
Rate Mitigation Review
Prepared by
Drive Electric NL

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Introduction

Drive Electric NL is a non-profit, owner founded organization, created to encourage the adoption of electric vehicles in the province and Newfoundland and Labrador.

Joe Butler owns both full electric and hybrid electric vehicles since 2009. His fully electric EV became their primary vehicle in 2016.

Jon Seary and Adrienne King are in their third year of EV ownership, using two 100% electric EVs for all their transportation needs. Jon has been researching EVs and the owner experiences for seven years.

Besides acquiring substantial knowledge and experience of EV ownership, and driving in the province and other jurisdictions, the founders of Drive Electric NL have collected real time electrical usage data from their vehicles for review and comparison.

Our Recommendation

Drive Electric NL suggests the best option for rate mitigation is to develop a continuous and long term domestic use for excess power.

Using the power within the province would allow power to be sold at domestic retail rates rather than wholesale rates out of province. Line losses would also be minimized.

The best way to accomplish this is to replace any systems that use imported energy with ones that use the surplus electric power. Given the upcoming to Muskrat Falls first power, the move to electrification needs to be started as quickly as possible.

Our recommendation is to push the adoption of light and medium duty electric vehicles. The need for transportation is well established. There are many options for electric vehicles already available with more coming steadily. The cost of adoption is offset with ongoing cost savings to both the Province and the owner.

The EV adoption effort has already started in other provinces and countries; we only have to copy their measures to reap immediate and sustainable benefits here in Newfoundland and Labrador.

The Numbers

There are approximately 390,000 vehicles currently registered in the Province.

Based on an average of 20,000 Km per year, an average EV will consume 5000 KWh/vehicle per year.

The current domestic power rate in NL: \$0.011394/KWh

According to the 2017 Annual report, Nalcor sold 1.6 TWh of power for \$47 Million in 2017. That works out to \$0.029272 / KWh.

Every EV will use 5000 KWh domestically rather than exporting that power. This will gain the Province \$424 additional revenue per year for each EV registered.

Thus:

**A 10% adoption of electric vehicles in the Province
results in an additional \$16.5 million revenue per year.**

The REAL Way Forward

The Province needs to aggressively push EV adoption as quickly as possible, as the lead time for meaningful adoption can take several years. A good working example of EV adoption is currently being done in Quebec. They have instituted all the recommendations we outline below. A more aggressive approach is seen in Iceland and Norway, resulting in even higher adoption rates.

The Province also needs to recognize that electric vehicles will work quite well here. The steady decrease in purchase cost, combined with the increasing number of electric vehicle models from more manufacturers, means EV adoption is becoming practical and achievable. From our own use, and the use by dozens of other EV owners throughout Newfoundland and Labrador has proven EVs are not just viable, but a good personal investment in overall cost savings.

As with any disruptive technology, however, there will be perceptions - real or otherwise - that must be corrected and addressed. The Province of Newfoundland and Labrador's lack to date of any visible effort to encourage electric vehicle adoption is not only unacceptable, it is showing the Province as being behind the times. While the effort to promote EV adoption should have begun with the sanction of Muskrat Falls, it must be started now to make up for the delays to date.

Electric vehicles adoption will work. There is no reason why the Province can not only follow what other regions are doing, but become a leader in sustainable and practical transportation.

Electric Vehicle Adoption: Required Steps

There are four barriers to starting to movement towards full electric vehicle adoption:

- Purchase cost
- Purchase and service availability
- Available charging infrastructure
- Public education

It should be noted that all of these barriers continue to exist in Newfoundland and Labrador. As a result, the Province lags all other provinces in Canada in EV adoption. Addressing all these barriers is not an option – it is a mandatory step.

Much of the cost of programs to remove these barriers can be accessed from existing funding programs, such as the Green Infrastructure Fund from National Research Council, and the revenue from the Carbon Tax program. The cost of these measures is a fraction of the cost to the Province should we not follow them.

1. Purchase Cost

Purchase rebates help offset the initial purchase difference between an EV and a traditional vehicle. While the purchase price of EVs is dropping, to encourage adoption as early as possible, a rebate on new and used EVs must be implemented.

It is recommended the Province match the EV purchase rebates of Quebec of \$8000 for a new EVs and \$4000 for used EVs, until a target of at least 15% of registered vehicles is met. This will help “seed” the adoption of EVs. The rebate qualifies for funding from the carbon tax revenue.

2. EV Purchase and Service Availability

While there are many options for buying an EV across Canada, there are very few locations offering them for sale in the Province. Likewise, there are very limited options for EV service in the province. This lack of availability is likely the main reason the province has one of the lowest EV adoption rates in Canada.

A Zero Emission Vehicle Mandate must be implemented in the province to address the lack of availability. Implemented in other provinces and US states, A ZEV Mandate should dictate a minimum of at least 3.5% new vehicle sales be zero emission vehicles in its first year, rising to 15% by the third year.

A ZEV Mandate not only ensures consumers have options for EV purchase and service here in the province, it keeps the EV sales and service business here.

3. Available Charging Infrastructure

The majority of EV charging is done at home, typically during the overnight period.

Longer distance driving requires readily available high speed (Level 3) charging. There are currently no Level 3 chargers installed in the Province.

The lack of Level 3 chargers is a significant barrier to EV adoption.

A network of twelve level 3 chargers at regular intervals across the province would address the basic EV charging requirements. Such a network can be funded from Natural Resources Canada Green Infrastructure programs, carbon tax revenue, and private investment.

Newfoundland and Labrador is the only province without any Level 3 chargers. Nova Scotia and New Brunswick have completed their province wide Level 3 networks; Prince Edward Island has theirs underway.

4. Public Education

While the benefits of driving an EV are clear to existing owners, it is obvious there is a definite lack of accurate, and up to date information for potential owners.

It is recommended an effort be made to encourage EV adoption proponents, and a cooperative partnership be fostered between government, utilities, and organizations like Drive Electric NL to ensure widespread EV use is achieved in a timely manner.

Other Benefits of Pushing Electric Vehicles Adoption

- Our own data from Drive Electric NL shows the typical owner can save more than \$3000 per year driving an EV over a traditional gas vehicle.
- EV charging is typically done at night time, and easily adjusted to begin during off-peak periods.
- Each EV will save approximately five tonnes of carbon from being released into the atmosphere, allowing the Province to claim \$250/year credit in reducing greenhouse gas emissions.
- 100% of the money spent charging an EV stays here in the province.

Summary

It is clear moving to electric vehicles in the Province is a solution for rate mitigation. EV adoption will not only offset upcoming power rates, but also provide several other benefits for the Province of Newfoundland and Labrador. Significant savings will also be realized for each resident who makes the change to electric vehicles.

While there are some measures that need to be taken to ease the migration to electric vehicles, these are well established steps in other provinces, with demonstrated results.

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A Tesla Model X electric vehicle on the Southern Shore highway, NL.