**Q. (Reference EV Load Management Pilot Project, pages 13 and 14) It is stated that the pilot project would target at-home charging and be limited to residential customers, and that participants would be required to have access to either telematics or Level 2 smart chargers.**

**a) Of the 787 EVs registered in the province (page 4), how many are light-duty that are owned by residential customers and are charged at home and have either telematics or L2 smart chargers?**

**b) To avoid bias, would not any sample of residential owners have to include those who use L1 chargers at home?**

**c) With so few light-duty EVs in the province:**

**(i) Is it possible that these early adopters have characteristics (e.g., income, place of employment, enthusiasm for new technology, environmental concern, daily commute distance) that are different from those of the broader population of current residential owners of light-duty vehicles with internal combustion engines?**

**(ii) Does Newfoundland Power have any evidence that the set of current EV owners in the province has an average household income not significantly different from that of the general population?**

**(iii) Does Newfoundland Power have any evidence that the set of current EV owners in the province live in detached dwellings with two-car garages in the same proportion as the general population?**

**(iv) Does Newfoundland Power have any evidence that average age of current EV owners in the province is not statistically different from those who own only vehicles with internal combustion engines?**

**(v) Does a sample from the set of early-adopters of EVs not introduce bias into a study that is meant to forecast the behaviour of those who have not yet chosen to purchase light-duty EVs and who may have substantially different behaviours?**

**(vi) Has Newfoundland Power completed any preliminary analysis to confirm that a sample from the set of current households with light-duty EVs would be representative of those households that may purchase such vehicles in the future?**

**(vii) Please provide any and all information available regarding the average cost of EVs in this province, the manufactured availability of EVs in this province, and issues pertaining to same.**

**(viii) Please advise of any and all information in this province relating to the cost of EVs and issues pertaining to affordability for the average ratepayer.**

**d) Based on data provided in the Application, approximately 0.2% of all vehicles on this province's roads are EVs. For the EV load management studies by 10 Canadian utilities that the Application (page 10) has identified as completed, currently completed or being developed, please provide the proportion of all vehicles in each of those utilities' service areas that were light-duty EVs at the start of those studies. If such service area data is not available then provide the relevant province's proportion.**

**e) In NP's service territory, how many Level 2 chargers have been installed by residential customers to date?**

A. a) The number of EVs registered in the province is based on information published by the Government of Newfoundland and Labrador. The data does not indicate how many of these vehicles are for residential use or the means of vehicle charging. The lack of data with respect to EVs and charging habits in the province confirms the need to conduct the *EV Load Management Pilot Project* to gain more fulsome information.

b) No. The sample of residential owners selected to participate in the pilot project does not have to include those who use Level 1 chargers. Level 1 chargers plug into a standard 120-volt household outlet. These chargers are not capable of collecting data on participants' charging behaviours and cannot be used for load management.

c) (i) While it is possible, Newfoundland Power has no evidence to suggest that current EV owners have characteristics that are different from those of the broader population of residential owners of light-duty vehicles with internal combustion engines.

(ii) No, Newfoundland Power does not have any evidence to suggest that the current set of EV owners in the province has an average household income not significantly different from that of the general population. The Company also does not have any evidence to suggest that the average household income of EV owners would impact its research of EV load management strategies.

(iii) No, Newfoundland Power does not have any evidence to suggest that the current set of EV owners in the province live in detached dwellings with two-car garages in the same proportion as the general population. The Company observes that detached dwellings with two-car garages are not required to facilitate ownership or charging of an EV.

(iv) No, Newfoundland Power does not have any evidence to suggest whether the average age of current EV owners in the province is statistically different from those who own only vehicles with internal combustion engines. The Company also does not have any evidence to suggest that the average age of EV owners would impact its research of EV load management strategies.

(v) No, there is no evidence to suggest that completing a pilot project aimed at the current population of EV owners would introduce bias. It is established sound public utility practice to conduct EV load management pilot projects to collect the information necessary to determine optimal measures for managing EV load. Other utilities, including Nova Scotia Power and SaskPower, have launched pilot projects with limited EV populations in their jurisdictions.[1]

(vi) Newfoundland Power conducted a preliminary analysis to confirm that the planned sample size would provide a reasonable degree of statistical significance in the current context. There is no data available to analyze

[1] See Table 1 in part d) of this response.

whether current EV owners would be representative of households that may purchase EVs in the future, nor any basis to believe they would be different.

The purpose of the EV Load Management Pilot Project is to collect data from a sample of EV owners in the province to assess the cost-effectiveness of strategies to manage light-duty EV load on the Island Interconnected System before the widespread adoption of EVs. Waiting for EV adoption to increase to have access to a larger EV population would expose Newfoundland Power's customers to risks of increasing system costs without any corresponding benefit.[2]

(vii) Data on the costs of EVs is limited to listings of manufacturers' suggested retail prices, which is not province-specific. Based on 2023 data, the average cost of an all-electric vehicle is approximately $53,000 exclusive of rebates.[3]

As with other jurisdictions, the availability of EVs in Newfoundland and Labrador is subject to global supply chain dynamics. Many vehicle manufacturers are committed to enhancing the availability of EVs, with more models becoming available annually. Governments in Canada and the United States have also made investments in EV manufacturing to improve availability. For a discussion of these issues, see the response to Request for Information CA-NP-018.

(viii) Based on manufacturers' suggested retail prices, the average cost of an all-electric vehicle is approximately $16,000 more than the average cost of a comparable non-electric vehicle. Federal and provincial rebates totaling approximately $7,500 are available in Newfoundland and Labrador to help close this price gap and make EVs more affordable. A survey conducted by MQO Research for Newfoundland Power in 2022 indicated that the cost to purchase an EV is the primary barrier to adoption in Newfoundland and Labrador, followed by the availability of charging stations.[4]

d) The requested data is not available by utility service area. Statistics Canada publishes the number of vehicle registrations annually by fuel type for each province. While the pilot projects of the surveyed utilities were developed from 2020 to 2023, data is only available up to 2021.

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2 See the responses to Requests for Information CA-NP-004 (part d) and CA-NP-017 (part a).

3 Federal and provincial rebates of up to $7,500 are available for the purchase or lease of an EV in Newfoundland and Labrador. See part f) of the response to Request for Information CA-NP-003.

4 Of survey respondents who indicated they were unlikely to purchase an EV, approximately 36% identified the purchase cost as their reason for not purchasing an EV.

Table 1 provides the proportion of EVs registered in each province of the surveyed utilities in 2020 and 2021 based on data published by Statistics Canada.[5]

**Table 1**
**Vehicle Registrations by Province for Surveyed Utilities**
**(2020-2021)**

| Province | 2020 | | | 2021 | | |
|---|---|---|---|---|---|---|
| | EVs | All Fuel Types | Proportion of EVs | EVs | All Fuel Types | Proportion of EVs |
| **Alberta** | 2,609 | 3,549,362 | 0.1% | 4,073 | 3,554,592 | 0.1% |
| **British Columbia** | 32,093 | 3,369,266 | 1.0% | 48,263 | 3,512,196 | 1.4% |
| **Nova Scotia** | 308 | 648,192 | <0.1% | 633 | 677,321 | 0.1% |
| **Québec** | 42,769 | 5,913,745 | 0.7% | 62,071 | 5,987,358 | 1.0% |
| **Ontario** | 24,606 | 9,335,112 | 0.3% | 35,974 | 9,456,317 | 0.4% |
| **Saskatchewan** | 312 | 911,630 | <0.1% | 543 | 932,174 | 0.1% |

For the surveyed utilities, the number of EVs registered in each province as a proportion of total vehicle registrations ranged from less than 0.1% to 1.4% from 2020 to 2021.

e) Data on the number of Level 2 charging stations installed in the province for personal use is limited as only publicly available charging stations are published by the Government of Canada.[6] However, a survey of the takeCHARGE EV Drivers Club indicated that 64 of 138 respondents have a Level 2 charger installed at their residence.

[5] See Statistics Canada, Table: 23-10-0308-01.
[6] See the response to Request for Information CA-NP-005 for information on Level 2 chargers available in the province for public use.