

1 Q. The Dunsky report states at page 116 that EV charging load management will be critical to
2 handle the system impacts of EVs and benefit financially from EV adoption. In light of this will
3 there be any requirements for recipients of the EV incentives with respect to managing load?

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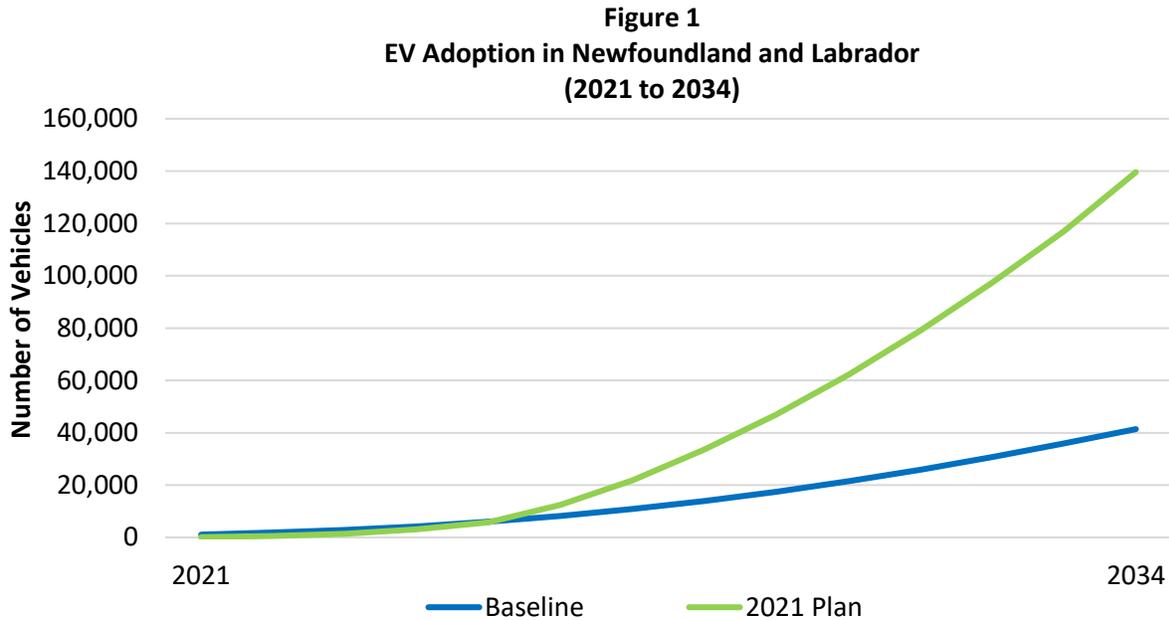
6 A. *This Request for Information relates to the Electrification, Conservation and Demand*
7 *Management Plan: 2021-2025 (the “2021 Plan”) developed in partnership by Newfoundland and*
8 *Labrador Hydro and Newfoundland Power (“Hydro” or, collectively, the “Utilities”). Accordingly,*
9 *the response reflects collaboration between the Utilities.*

10 **A. Load Management Generally**

11 The rate mitigating benefit of electrification will primarily be achieved through increasing the
12 province’s adoption of electric vehicles (“EVs”). Effective load management is essential to
13 achieving the long-term rate mitigating benefits of EV adoption.

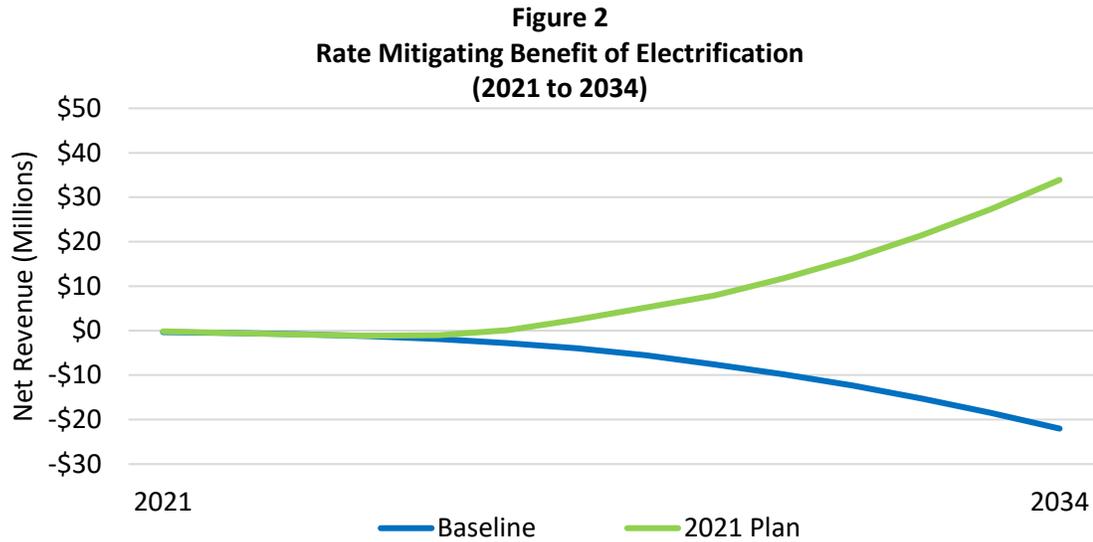
14 Figure 1 provides a forecast of EV adoption in the province under baseline conditions (i.e.
15 without utility intervention) and with implementation of the 2021 Plan.¹

¹ “Application for Approvals Required to Execute Programming Identified in the Electrification, Conservation and Demand Management Plan 2021–2025,” Newfoundland and Labrador Hydro, rev. 1, July 8, 2021 (originally filed June 16, 2021), sch. 3, p. 6, fig. 1.



- 1 The 2021 Plan is forecast to more than triple the number of EVs in the province by 2034.
- 2 Realizing the rate mitigating benefit of EV adoption requires managing EV load during times of
- 3 system peak. The Dunsky Energy Consulting (“Dunsky”) report estimates that approximately
- 4 85% of EV load can be shifted off-peak through load management. The 2021 Plan lays the
- 5 foundation for effective load management in a manner consistent with the recommendations of
- 6 the Dunsky report.
- 7 Figure 2 shows the rate mitigating benefit of electrification from 2021 to 2034 under baseline
- 8 conditions (i.e. without utility intervention) and with implementation of the 2021 Plan, which
- 9 includes load management²

² “Application for Approvals Required to Execute Programming Identified in the Electrification, Conservation and Demand Management Plan 2021–2025,” Newfoundland and Labrador Hydro, rev. 1, July 8, 2021 (originally filed June 16, 2021), sch. 3, p. 27, fig. 6.



1 The rate mitigating benefits and consequences of unmanaged charging are not material over the
2 near-term, but are significant over the longer term.

3 On a net present value (“NPV”) basis, the electrification programs outlined in the 2021 Plan will
4 provide additional net revenue of approximately \$34 million by 2034. This equates to a rate
5 mitigating benefit for customers of 0.5¢/kWh that year.³

6 Without utility intervention (the “baseline scenario”), the unmanaged charging of EVs would
7 increase costs to customers by approximately \$22 million by 2034.

8 **B. Load Management Initiatives**

9 The 2021 Plan will ensure options for effective load management are assessed and implemented
10 prior to exposing customers to increased system costs due to unmanaged EV charging.

11 To achieve this, the 2021 Plan includes:

- 12 (i) **Incentivizing EV chargers capable of load management.** The EV charger incentives
13 under the residential and commercial programs are designed to cover the incremental

³ “Application for Approvals Required to Execute Programming Identified in the Electrification, Conservation and Demand Management Plan 2021–2025,” Newfoundland and Labrador Hydro, rev. 1, July 8, 2021 (originally filed June 16, 2021), sch. 3, p. 27.

1 costs of installing chargers with load management capabilities.⁴ As such, only chargers
2 that are capable of load management will qualify for the incentives. This is essential to
3 ensuring the charging infrastructure installed over the 2021 to 2025 timeframe is
4 capable of load management in the future when EV load increases. This approach is
5 consistent with the Dunsky report’s observation that incentives can be used to cover the
6 incremental cost of chargers capable of load management.⁵

7 (ii) **Piloting options for load management.** The EV Demand Response Pilot Program will
8 allow the Utilities to explore the most effective options to shift EV charging to off-peak
9 periods.⁶ The pilot program will assess options based on customer acceptance and cost
10 effectiveness. This includes technologies such as smart chargers and direct load
11 controllers, and incentives such as a monthly participation credit for customers who
12 shift their charging to off-peak times. Customers who avail of the EV charger incentive
13 will be invited to participate in the EV Demand Response Pilot Program.⁷

14 (iii) **Assessing options to manage the load of commercial vehicles.** A significant portion of
15 forecast electricity demand associated with EVs is expected to come from commercial
16 vehicles. However, in the early years, the adoption of medium and heavy-duty vehicles
17 is expected to be minimal due to low model availability and higher upfront capital
18 costs.⁸ The Custom Fleet Pilot Program will allow the Utilities to pilot initiatives that will
19 encourage off-peak charging for commercial vehicles. Opportunities for vehicle-to-grid
20 technologies will also be explored.⁹ The results of this pilot will inform load
21 management programs in the future when the load of commercial vehicles is expected
22 to increase.

⁴ Please refer to Hydro’s response PUB-NLH-008.

⁵ “Application for Approvals Required to Execute Programming Identified in the Electrification, Conservation and Demand Management Plan 2021–2025,” Newfoundland and Labrador Hydro, rev. 1, July 8, 2021 (originally filed June 16, 2021), sch. 3, sch. C, p. 138 of 325.

⁶ “Application for Approvals Required to Execute Programming Identified in the Electrification, Conservation and Demand Management Plan 2021–2025,” Newfoundland and Labrador Hydro, rev. 1, July 8, 2021 (originally filed June 16, 2021), sch. 3, sch. K, pp. 1 and 2 of 3.

⁷ Please refer to Hydro’s response to PUB-NLH-007.

⁸ “Application for Approvals Required to Execute Programming Identified in the Electrification, Conservation and Demand Management Plan 2021–2025,” Newfoundland and Labrador Hydro, rev. 1, July 8, 2021 (originally filed June 16, 2021), sch. 3, sch. K, p. 1 of 3.

⁹ Vehicle-to-grid technologies enable energy to be pushed back to the electricity grid from the battery of an EV.

1 These initiatives will allow the Utilities to implement effective load management initiatives prior
2 to EV adoption driving significant increases in system load, as shown in Figures 1 and 2. The
3 Utilities expect that programs will shift exclusively to load management initiatives following
4 2025. For example, beyond 2025 all program costs included in Column B of the NPV analysis
5 relate only to incentives for customers to manage their EV charging.¹⁰

¹⁰ “Application for Approvals Required to Execute Programming Identified in the Electrification, Conservation and Demand Management Plan 2021–2025,” Newfoundland and Labrador Hydro, rev. 1, July 8, 2021 (originally filed June 16, 2021), sch. 1, app. A, col. B.