

1 Q. The Conservation Potential Study (the “Dunsky” report) states at page 111 that EV incentives are  
2 typically provided at the federal or provincial level and limited case studies are available related  
3 to utilities providing EV purchase incentives. In light of this please explain why the recovery of  
4 the costs of the proposed utility EV incentives should be approved in this province.

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

11 **A. Introduction**

12 The Utilities have jointly implemented customer conservation and demand management  
13 (“CDM”) programs since 2009. The Utilities’ programs have been successful in addressing  
14 barriers to customers’ adoption of energy-efficient technologies. Since 2009, participating  
15 customers have realized electricity bill savings of approximately \$131 million and all customers  
16 have benefited from reduced system costs of approximately \$142 million.<sup>1</sup>

17 In 2018, the provincial government issued a reference to the Board of Commissioners of Public  
18 Utilities (“Board”) on Muskrat Falls Project rate mitigation. In its final report, the Board  
19 recommended that the Utilities and provincial government work together on a comprehensive  
20 and coordinated approach to developing the most appropriate programs for the province.<sup>2</sup>

21 The 2021 Plan represents the comprehensive and coordinated approach recommended by the  
22 Board. The 2021 Plan was developed based on the Utilities’ long-term experience delivering

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<sup>1</sup> “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. 2.

<sup>2</sup> “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. 3.

1 customer programs, the analysis provided in the Dunskey Energy Consulting (“Dunskey) report,  
2 and consultations with stakeholders, including the provincial government.

3 The 2021 Plan introduces a diversified portfolio of complimentary initiatives, including electric  
4 vehicle (“EV”) incentives and investments in EV infrastructure.

5 EVs are a rapidly emerging technology globally. While case studies of utilities providing EV  
6 purchase incentives are limited, utility involvement in transportation electrification is increasing  
7 throughout North America. For example, a February 2021 report from the Edison Electric  
8 Institute found that “[e]lectric companies increasingly are engaged in many different facets of  
9 electric transportation,” with 52 electric companies having regulatory approval for filings related  
10 to transportation electrification.<sup>3</sup>

11 Transportation electrification programs are often being pursued to achieve a jurisdiction’s  
12 specific policy goals. For example, EV incentive programs provided by utilities in British Columbia  
13 are funded under the provincial government’s CleanBC plan.<sup>4</sup>

14 In the Newfoundland and Labrador context, electrification programs are being pursued to  
15 achieve the provincial policy goal of customer rate mitigation.

16 Part B of this response describes why each component of the Utilities’ customer electrification  
17 portfolio is appropriate.

18 Part C of this response addresses why costs associated with delivering the customer  
19 electrification portfolio should be approved.

## 20 **B. Customer Electrification Portfolio**

21 Consistent with the Utilities’ long-term approach to delivering CDM programs, each component  
22 of the 2021 Plan is designed to address specific barriers to customers’ adoption of electric  
23 technologies, particularly EVs. Components of the plan include: (i) EV charging infrastructure; (ii)  
24 incentive programs; (iii) customer education and awareness; and (iv) research programs.

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<sup>3</sup> “Electric Transportation Biannual State Regulatory Update,” Edison Electric Institute, February 2021.

<sup>4</sup> Please refer to Hydro’s response to PUB-NLH-013.

1 Diversity in investments among complimentary initiatives is consistent with the  
2 recommendations of the Dunsky report.<sup>5</sup>

3 i) EV Charging Infrastructure

4 The Dunsky report shows the single largest factor influencing the adoption of EVs in the  
5 province is access to fast charging infrastructure.<sup>6</sup>

6 Access to fast charging infrastructure is limited in Newfoundland and Labrador<sup>7</sup> and lags behind  
7 that of other Canadian provinces.<sup>8</sup> Private sector investment in fast charging infrastructure is  
8 currently constrained by a weak business case. The weak business case reflects the upfront costs  
9 of installing EV charging infrastructure and the limited number of EVs in the province.

10 In a 2019 survey completed by MQO Research, Newfoundland and Labrador residents ranked  
11 access to charging and concerns about reliability of range among the highest barriers to electric  
12 vehicle ownership. Without investment in adequate charging infrastructure, customers'  
13 adoption of EVs is expected to be limited.

14 The 2021 Plan includes utility investment in fast charging infrastructure.<sup>9</sup> Utility investment in  
15 fast charging infrastructure is being pursued throughout North America and will address a  
16 primary barrier to customers' adoption of EVs in this province.<sup>10</sup>

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<sup>5</sup>“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. 31 of 325.

<sup>6</sup>“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. 111 of 325.

<sup>7</sup> Hydro is installing 14 fast chargers in the province. These will be the first public fast chargers installed in Newfoundland and Labrador.

<sup>8</sup> According to Natural Resources Canada, there are currently over 5,400 electric vehicle charging stations across Canada. The majority of public charging stations are concentrated in Quebec (47%), Ontario (25%) and British Columbia (17%). Newfoundland and Labrador ranks last, with 0.4% of total charging stations in Canada.

<sup>9</sup>“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. 15 .

<sup>10</sup> Please refer to Hydro’s response to PUB-NLH-014.

1           ii) Incentive Programs

2           The Dunsky report determined that incentives can influence the adoption of EVs by up to 32%  
3           over the short-term.<sup>11</sup> EV incentives are not expected to be required over the longer term, when  
4           cost parity is reached between EVs and gasoline-powered vehicles.

5           Currently, the upfront cost of purchasing an EV is approximately \$19,000 higher than the cost of  
6           purchasing a gasoline-powered vehicle. In the 2019 survey completed by MQO Research,  
7           Newfoundland and Labrador residents ranked the cost of purchasing an EV among the primary  
8           barriers to EV adoption.

9           In the Utilities’ experience, incentives are effective in overcoming barriers to the adoption of  
10          new technologies in this province. For example, over 3 million at-the-cash rebates and over  
11          50,000 on-bill rebates for energy-efficient technologies have been provided to Newfoundland  
12          Power’s customers since 2009.

13          The 2021 Plan includes incentives for residential and commercial customers to purchase EVs and  
14          chargers. Vehicle incentive amounts were determined based on an assessment of the  
15          incremental cost of purchasing an EV. Charger incentive amounts are designed to cover the  
16          incremental cost of purchasing a charger with load management capabilities.<sup>12</sup>

17          The 2021 Plan also includes incentives for commercial customers under a Custom Electrification  
18          Program. While participation in this program is expected to be modest, all potential projects will  
19          be assessed on a case-by-case basis to ensure they are cost-effective from both a customer and  
20          a utility perspective.<sup>13</sup>

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<sup>11</sup> “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. 139 of 325.

<sup>12</sup> Please refer to Hydro’s response to PUB-NLH-008.

<sup>13</sup> Please Refer to Hydro’s response to PUB-NLH-012.

1           iii) Education and Awareness

2           Increasing customers’ adoption of new technologies requires customer education and  
3           awareness. This is consistent with the Utilities’ long-term experience in delivering customer  
4           CDM programs and the recommendations of the Dunsky report.<sup>14</sup>

5           The 2021 Plan includes initiatives to educate customers on the benefits of owning an EV,  
6           including available incentives and associated fuel and maintenance savings. Initiatives will also  
7           be pursued to educate customers on the increasing range of EVs and available charging stations.

8           iv) Research Programs

9           Realizing the rate mitigating benefit of EV adoption requires managing EV load during times of  
10          system peak. The Dunsky report estimates that approximately 85% of EV load can be shifted off-  
11          peak through load management. Utility intervention is essential to managing capacity-related  
12          system costs as EV adoption increases.

13          The 2021 Plan lays the foundation for effective load management. Two pilot programs will  
14          include a significant focus on understanding the most effective and economical options to  
15          achieve load management.

16          First, the EV Demand Response Pilot Program will allow the Utilities to explore the most  
17          effective options to shift EV charging to off-peak periods.<sup>15</sup> The pilot program will assess options  
18          based on customer acceptance and cost effectiveness. Customers who avail of the EV charger  
19          incentive will be invited to participate in the EV Demand Response Pilot Program.<sup>16</sup>

20          Second, the Custom Fleet Pilot Program will allow the Utilities to understand barriers to  
21          adopting medium and heavy-duty EVs. A significant portion of forecast electricity demand

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<sup>14</sup> For example, the investment scenarios in the Dunsky report include customer education and outage efforts to make fuel switching less daunting to customers. “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. 25 of 325.

<sup>15</sup> “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.

<sup>16</sup> Please refer to Hydro’s response to PUB-NLH-007.

1 associated with EVs is expected to come from commercial vehicles. This program will pilot  
2 initiatives to encourage off-peak charging for commercial vehicles. Opportunities for vehicle-to-  
3 grid technologies will also be explored.<sup>17</sup>

4 These initiatives will support the Utilities’ long-term objective of managing system load and  
5 capacity-related costs, as further described in part C.

### 6 **C. Reasons for Approval**

7 Customer electrification programs are being pursued to support the provincial policy goal of  
8 customer rate mitigation. The provincial government provided a letter of support for the 2021  
9 Plan. The provincial government’s letter states:

10 “The plan indicates the province's utilities are taking actions to begin addressing  
11 the electrification, and conservation and demand management (CDM)  
12 recommendations in the Board of Commissioners of Public Utilities Rate  
13 Mitigation Options and Impacts Report. The Board's report demonstrated  
14 clearly that these action areas have excellent potential to assist with our rate  
15 mitigation efforts.”<sup>18</sup>

16 The rate mitigating benefit of customer electrification was assessed through a net present value  
17 (“NPV”) analysis.<sup>19</sup> The NPV analysis assessed the net revenue impact of increased energy sales  
18 through customer electrification to 2034.<sup>20</sup>

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<sup>17</sup> Vehicle-to-grid technologies enable energy to be pushed back to the electricity grid from the battery of an EV. Please refer to Hydro’s response to PUB-NLH-011.

<sup>18</sup> “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. M, p. 1 of 7.

<sup>19</sup> “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 .provides the NPV analysis.

<sup>20</sup> Net revenue reflects: (i) the incremental revenue from increased electricity sales through customer electrification; less (ii) incremental system costs and the recovery of capital, program and research costs related to customer electrification.

1 At the time of developing the 2021 Plan, planned electrification programs were forecast to  
2 provide additional net revenue of approximately \$34 million by 2034. This equates to a rate  
3 mitigating benefit for customers of 0.5¢/kWh that year.<sup>21</sup>

4 The rate mitigating benefit of electrification programs has increased since the Utilities  
5 developed the 2021 Plan. On July 28, 2021, the provincial government provided an updated rate  
6 mitigation target that is now 9% higher than previously indicated target of 13.5 ¢/kWh. This  
7 would increase the rate mitigating benefit of electrification programs.<sup>22</sup> Any further increases in  
8 costs resulting from the Muskrat Falls Project would further increase the value of electrification  
9 programs for customers.

10 In addition to the rate mitigating impact of electrification, Utility intervention is essential to  
11 transportation electrification is beneficial and not detrimental to customers. The Utilities' are  
12 pursuing transportation electrification in a manner that will achieve effective load  
13 management.<sup>23</sup> Without load management, transportation electrification will materially  
14 increase costs to customers.<sup>24</sup>

15 While transportation electrification is being pursued throughout North America to achieve  
16 various policy goals, the business case for utility involvement in Newfoundland and Labrador is a  
17 direct reflection of the provincial power policy. The provincial power policy requires customers  
18 be provided with reliable service at the lowest possible cost.<sup>25</sup> This rate mitigating benefit of  
19 electrification programs is consistent with this requirement. It is therefore appropriate for costs  
20 associated with the Utilities' portfolio of electrification programs to be recovered from  
21 customers.

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<sup>21</sup> "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.

<sup>22</sup> Please refer to Hydro's response to PUB-NLH-047.

<sup>23</sup> Please refer to Hydro's response to PUB-NLH-006

<sup>24</sup> "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. 12, table 1.

<sup>25</sup> Section 3(b)(iii) of the *Electrical Power Control Act, 1994*.