

- 1 Q. The Electrification Program included in the 2021 Electrification, Conservation and Demand
2 Management Application was presented for the period 2021-2025.
- 3 (a) Significant time has passed since the filing of first Newfoundland Power’s application
4 and then Hydro’s application, which applications have now been joined. Please update
5 PUB-NLH-008, PUB-NLH-009, PUB-NLH-018, and PUB-NLH-046, and any other
6 tables/analysis that may have been impacted as a result of this time passage.
- 7 (b) Are there any changes in the market since the filing of the Applications that would
8 impact the information included in the Applications? For example, the increase of 14.7
9 cents per kWh included in the Provincial Government’s recently announced rate
10 mitigation plan and whether the amounts of the proposed EV incentives are still
11 appropriate. Please include any market changes in the updates requested above.

12

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14 A. *This Request for Information relates to the Electrification, Conservation and Demand*
15 *Management Plan 2021–2025 (“2021 Plan”) developed in partnership by Newfoundland and*
16 *Labrador Hydro (“Hydro”) and Newfoundland Power Inc. (“Newfoundland Power”) (collectively,*
17 *the “Utilities”) and the related Technical Conference presented by the Utilities on February 1,*
18 *2022. Accordingly, the response reflects collaboration between the Utilities.*

19 (a) There have been three factors that have changed since the filing of the Applications that
20 could impact the primary assumptions included the 2021 Plan: (i) an announcement by
21 government of an updated rate mitigation target; (ii) an updated marginal cost forecast
22 provided by Hydro; and (iii) a delay in executing the electrification initiatives included in
23 2021 Plan.¹

24 These factors would have varying impacts on the net present value (“NPV”) analysis used to
25 assess the customer rate mitigation benefit of electrification initiatives. The updated
26 marginal cost forecast would also affect the modified Total Resource Cost (“mTRC”) used to

¹ The primary assumptions impacting the cost-effectiveness testing for the electrification initiatives are: (i) incremental revenues from the electrification initiatives; (ii) associated incremental system costs; and (iii) electrification program costs.

1 evaluate the cost-effectiveness of electrification initiatives. For the purposes of this
2 response, these analyses will be referred to as the “Filed NPV Analysis” and the “Filed mTRC
3 Results.”

4 ***Impact to Cumulative NPV***

5 The combined impact to Hydro’s NPV resulting from changes to the three primary
6 assumptions, detailed below, is an increase from \$0.7 million to \$3.2 million by 2034. Please
7 refer to TC-PUB-NLH-004, Attachment 1 for a detailed breakdown of this combined revised
8 NPV calculation.

9 Overall, changes in these factors since the filing of Hydro’s Application would not affect the
10 business case for proceeding with electrification initiatives included in the 2021 Plan.
11 Rather, the updated rate mitigation target and updated marginal cost forecast would
12 increase the customer rate mitigation benefit associated with the electrification initiatives.

13 ***i. NPV of Updated Rate Mitigation Target***

14 On July 28, 2021, the provincial government and federal government announced an
15 agreement-in-principle that would mitigate customer rate impacts associated with the
16 Muskrat Falls Project.² At that time, the mitigated customer rate target was updated to
17 14.7 ¢/kWh, or approximately 9% higher than the original target of 13.5 ¢/kWh.³

18 The updated rate mitigation target was not used to project incremental revenues in the
19 Filed NPV Analysis. If actual electricity rates were higher than the level assumed in the Filed
20 NPV Analysis, the incremental revenues from electrification and associated rate mitigation
21 benefit would be higher. For example, if the Filed NPV Analysis was updated to reflect
22 current customer rates and the increase required to achieve the updated rate mitigation
23 target, Hydro’s NPV analysis would increase to \$2.3 million by 2034.⁴ There would be no

² On February 14, 2022, both governments signed term sheets associated with federal loan guarantees and capital restructuring of Muskrat Falls Project assets. These actions essentially reaffirmed the updated rate mitigation target announced on July 28, 2021. See the provincial government’s media release: Term Sheets Signed for Third Federal Loan Guarantee and LIL Investment; Moving Towards Finalization of Financial Restructuring Agreements, dated February 14, 2022.

³ $14.7 \div 13.5 - 1 = 0.089$.

⁴ Current customer rates effective March 1, 2022 and an assumed 9% customer rate increase over two years, plus inflation.

1 impact on the Filed mTRC Results as the higher utility revenues are offset by the higher costs
2 to customers through increased electricity charges.

3 ***ii. NPV Impact of Updated Marginal Cost Forecast***

4 During the technical conference, Hydro provided an updated forecast of marginal costs
5 following commissioning of the Muskrat Falls Project.⁵ Over the long term, marginal capacity
6 and energy supply costs are forecast to decline compared to the marginal cost estimates
7 filed with the 2021 Plan.⁶ For example, in comparison to estimates filed with the 2021 Plan:
8 (i) marginal capacity costs are forecast to decline by an average of approximately 15% to
9 20% from 2025 to 2034;⁷ and (ii) marginal energy costs are forecast to decline by an average
10 40% to 50% over the same period.⁸

11 If actual marginal costs were lower than the levels assumed in the Filed NPV Analysis,
12 incremental system costs would be lower and the customer rate mitigation benefits would
13 be higher. For example, if the Filed NPV Analysis was updated to reflect the latest marginal
14 cost estimates, Hydro’s NPV would increase to \$2.5 million by 2034 compared to estimates
15 included in the Filed NPV Analysis. The Filed mTRC Results for the electrification program
16 portfolio would be 0.2 higher due to the lower system costs.⁹

17 ***iii. NPV Impact of Delayed Implementation of 2021 Plan***

18 The electrification initiatives included in the 2021 Plan were scheduled to begin in 2021. The
19 delay in offering electrification initiatives could result in a delay in EV adoption rates
20 assumed in the 2021 Plan. This could also result in a delay of the associated customer rate
21 mitigation benefits.

⁵ Please refer to Hydro’s response to TC-IC-NLH-001, Attachment 1.

⁶ For a copy of the marginal cost projections filed with the 2021 Plan, please refer to “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. H.

⁷ Annual differences for marginal capacity costs between the preliminary update and the estimates used in the 2021 Plan range from an increase of 1% to a decrease of 35% over the 10-year timeframe.

⁸ Annual differences for marginal energy costs between the preliminary update and the estimates used in the 2021 Plan range from a decrease of 21% to a decrease of 57% over the 10-year timeframe.

⁹ mTRC results for both the Residential and Commercial EV & Charging Infrastructure Incentive programs increases by 0.2 and the Custom Commercial program increases by 0.1.

1 For example, if the Filed NPV Analysis was updated to reflect a delay in EV adoption by one
2 year, compared to that assumed in the 2021 Plan, net revenues would also be delayed by
3 one year compared to the net revenue estimates in the Filed NPV Analysis. In this scenario,
4 Hydro’s NPV would decrease to negative \$0.1 million by 2034. There would be no significant
5 impact on the Filed mTRC Results due to the delay.¹⁰

6 The combined impact of these three changes is that Hydro’s NPV increases to \$3.2 million
7 by 2034, versus \$0.7 million as filed, thereby improving the business case for the 2021 Plan.

8 ***Assessment of Other Market Factors***

9 The Utilities assessed changes to other market factors to determine whether there would be
10 an impact on the primary assumptions underlying the electrification initiatives included in
11 the 2021 Plan. The assessment determined that changes in these market factors have not
12 been significant enough to have a substantial impact on the 2021 Plan. These factors
13 include:

14 (i) ***Price of EVs*** – There has been no significant change in the price of EVs. Expected
15 declines in battery prices at the time of filing the Applications have been offset by
16 increased inflationary pressures affecting battery prices. It is estimated that EV price
17 parity with internal combustion engine (“ICE”) vehicles may be delayed by up to two
18 years due to these impacts.¹¹

19 (ii) ***Electricity Consumption of EVs*** – There are no known changes to the electricity
20 consumption of EVs since the filing of the 2021 Plan.

21 (iii) ***EV Charging Stations*** – The availability of public EV charging infrastructure remains
22 consistent with the assumptions filed with the 2021 Plan.

¹⁰ In this scenario, the same level of revenues and costs are assumed to be achieved and incurred, respectively. Minor differences would occur due to the increased electricity rates and reduced marginal costs resulting from the delay.

¹¹ Please refer to TC-PUB-NLH-004, Attachment 2 for an updated comparison of the forecast average cost of an EV compared to the average cost of an ICE vehicle from 2022–2027.

1 (iv) **Provincial EV Incentives** – The provincial government’s EV Adoption Accelerator
2 program is not expected to have a material impact on the 2021 Plan due to its limited
3 investment and scope.¹²

4 (v) **Fuel Prices** – Higher fuel prices since the filing of the Application would improve the
5 business case for EV adoption. However, these prices are subject to considerable
6 volatility at the present time.

7 Based on this assessment, there are no additional updates required to the Filed NPV
8 Analysis or the Filed mTRC Results to reflect changes in these market factors. However, the
9 Utilities note that the expected delay in EVs achieving cost parity with ICE vehicles was
10 accounted for in the assessment of the delayed implementation of the 2021 Plan, as
11 described above. The delay in EVs achieving price parity with ICE vehicles would support
12 extending planned EV incentive programs into 2026, as these programs are designed to
13 bridge the gap to vehicle cost parity. Going forward, any changes in these market factors
14 would be considered regularly through annual calculations of the mTRC test, which would
15 be reported to the Board of Commissioners of Public Utilities.

16 Please refer to attachments two to five for the updated analysis to requests for information
17 (“RFI”) PUB-NLH-008, PUB-NLH-009, PUB-NLH-018, and PUB-NLH-046, requested as a result
18 the significant time has passed since original application filing. All updates to the RFIs have
19 been shaded in grey for ease of reference.

20 (b) Please refer to Hydro’s response to TC-PUB-NLH-004, part (a).

¹² Please refer to Hydro’s response to TC-PUB-NLH-004, Attachment 3.



TC-PUB-NLH-004, Attachment 1
Updated Net Present Value of Electrification Initiatives

Updated NPV¹ of Electrification Initiatives

Year	Capital	Program	Incremental	Incremental	Capital Cost	Program Cost	Net	Cumulative NPV
	Costs	Costs	Revenues	System Costs	Recovery	Recovery	Revenues	
2021	724,300	0	0	0	38,388	0	(38,388)	(36,456)
2022	241,400	76,686	3,964	2,337	149,170	4,064	(151,607)	(173,186)
2023	482,800	175,689	15,448	8,440	201,932	23,750	(218,675)	(360,475)
2024	362,100	247,438	38,181	19,027	279,127	60,052	(320,026)	(620,774)
2025	0	306,908	77,923	28,105	317,147	107,882	(375,212)	(910,598)
2026	0	314,280	140,086	49,866	303,438	162,275	(375,494)	(1,186,042)
2027	0	54,035	319,051	116,538	289,730	201,548	(288,765)	(1,387,204)
2028	0	85,475	590,564	213,070	276,021	204,901	(103,427)	(1,455,628)
2029	0	117,618	964,355	331,435	164,324	213,802	254,794	(1,295,549)
2030	0	147,608	1,429,800	489,562	123,442	217,619	599,178	(938,052)
2031	0	179,908	1,990,605	686,499	51,729	213,501	1,038,877	(349,409)
2032	0	213,180	2,649,711	719,551	0	206,022	1,724,138	578,342
2033	0	248,488	3,403,794	929,440	0	197,382	2,276,972	1,741,903
2034	0	283,690	4,261,175	1,075,308	0	195,097	2,990,770	3,193,298

¹ Net Present Value ("NPV").



TC-PUB-NLH-004, Attachment 2
Update to Request for Information PUB-NLH-008

1 Q. Was any analysis conducted as to the optimal amount of the utility EV and charging
2 infrastructure incentives in terms of how effective varying amounts of incentives would be in
3 removing barriers and accelerating EV adoption over the short and long term?
4

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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 The electric vehicle (“EV”) and charging infrastructure incentives included in the 2021 Plan were
11 determined via a process consistent with that used by the Utilities’ for conservation and
12 demand management (“CDM”) programs.¹ The process for establishing optimal incentive
13 amounts includes: (i) determining whether an incentive is required to address barriers to
14 customers’ adoption of a technology; (ii) determining the initial incentive amount based on
15 market factors, industry practice and utility objectives; and (iii) evaluating changes in incentive
16 amounts over time based on program performance, market factors and industry trends.

17 **i. Determining Requirement for Incentives**

18 A 2019 survey completed by MQO Research determined that the cost of an EV was a primary
19 barrier to EV adoption among residents of Newfoundland and Labrador.²

20 Table 1 provides the forecast average cost of an EV compared to the average cost of an internal
21 combustion engine (“ICE”) vehicle from 2022 to 2027.³

¹ Customer incentives are the foundation of CDM programming, with over 60,000 customers having participated in programs since 2009. These customers have saved approximately \$131 million on their electricity bills. System costs have been reduced by \$142 million since 2009 as a result of these programs.

² The primary barriers to EV adoption reported by Newfoundland and Labrador residents were vehicle cost and access to charging and concerns regarding reliability of range.

³ EV costs are based on a forecast for battery costs. Forecast changes in ICE costs over the period are inflation related. According to Bloomberg, inflationary pressures on EV battery prices could mean that price parity could be delayed by two years. Price parity was originally projected for 2025.

<https://about.bnef.com/blog/battery-pack-prices-fall-to-an-average-of-132-kwh-but-rising-commodity-prices-start-to-bite/>

Table 1: Incremental Cost of an EV
 2022 to 2027 Forecast
 (\$000s)

	2022	2023	2024	2025	2026	2027
EV	42	38	34	31	28	25
ICE	22	23	23	24	24	25
Difference	20	15	11	7	4	0

1 The upfront cost to purchase an EV is approximately \$20,000 higher than the cost of purchasing
 2 an ICE vehicle. A \$5,000 federal government rebate lowers this cost differential.

3 In addition to the cost of the EV, most customers would also be required to install a Level 2
 4 charger to charge their EV at home or at their business.⁴ For a residential customer, the
 5 additional cost of an average Level 2 charger with no networking capabilities is approximately
 6 \$500.⁵ The average price for a network capable EV charger is approximately \$1,000.⁶
 7 Commercial Level 2 EV charging infrastructure is generally more expensive than residential Level
 8 2 charging equipment due to the features and structure of the charger.⁷

9 In the Utilities’ experience, incentives are effective at increasing customers’ adoption of new
 10 technologies in the province. The 2020-2034 Conservation Potential Study (the “Study”) by
 11 Dunsy Energy Consulting provides that EV incentives could increase EV load by 16% to 32%
 12 over the short-term, until cost parity is achieved with ICE vehicles.⁸ In addition, the installation

⁴ Level 2 chargers significantly reduce the time to charge an EV. Using a typical home socket (i.e. Level 1), the time to fully charge an EV could range from 9 to 50 hours. Using a Level 2 charger would reduce the time to fully charge to 2 to 9 hours. A Level 2 charger requires a 240 V service.

⁵ A non-networked charger does not have the capability to connect to the internet or cellular network. As a result, it simply provides the function of supplying electricity to a vehicle. The average cost excludes installation costs.

⁶ A networked charger has the capability to connect to the internet or cellular network. Networked chargers have the ability to collect usage data, monitor for problems, provide peak load management or charge users a fee for charging. The average cost excludes installation costs.

⁷ See response to Request for Information PUB-NLH-010 for differences in installation costs.

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. C, p. 139 of 325.

1 of network capable chargers is paramount for future customer programs to incentivize off-peak
2 charging.⁹

3 Based on these factors, the Utilities determined that EV and charger incentives would address a
4 primary barrier to customers’ adoption of EVs and support future load management
5 requirements.

6 **ii. Determining Initial Incentive Amounts**

7 In determining EV and charging infrastructure incentive amounts for the initial program offering,
8 the Utilities considered current market factors, industry practice and 2021 Plan objectives.

9 Currently, a financial incentive would work in conjunction with the federal incentive to reduce
10 the upfront cost of an EV for customers. This was taken into consideration by the Utilities in
11 determining initial incentive amounts.

12 Table 2 provides the net benefits a customer could experience when purchasing an EV at a
13 range of incentive levels when used together with the \$5,000 federal incentive.¹⁰

**Table 2: Customer Net Benefit of EV Purchase
(Net Present Values)**

Utility Incentive Amount	\$0	\$2,500	\$5,000	\$8,000
Reduction in Incremental Cost	25%	40%	50%	70%
Net Customer Benefit ¹¹	\$1,800	\$4,000	\$6,000	\$9,000

14 The federal incentive reduces incremental cost to purchase an EV by 25%, resulting in a net
15 customer benefit of \$1,800 over the life of a vehicle. Incentive amounts ranging as high as
16 \$8,000 could reduce the incremental cost of purchasing an EV by up to 70%, resulting in a net
17 customer benefit of up to \$9,000 over the life of a vehicle.

⁹ Please refer to Hydro’s response to PUB-NLH-006 for 2021 Plan initiatives that will inform the Utilities’ approach to effective peak load management.

¹⁰ The costs include the incremental vehicle purchase cost and the cost of electricity over the expected life of the vehicle. Customer benefits included in the analysis are the takeCHARGE incentive, federal incentive and fuel and maintenance savings over the life of the technology.

¹¹ Approximate net present value (“NPV”) of the related costs and benefits of owning an EV.

1 Given the wide range of potential incentive amounts, the Utilities considered industry trends in
2 determining the appropriate incentive amount.

3 Table 3 provides EV incentives amounts provided in other Canadian jurisdictions.

Table 3: EV Incentives by Jurisdiction¹²

Province	EV
British Columbia	\$3,000
Quebec	\$8,000
Nova Scotia	\$3,000
Prince Edward Island	\$5,000
Northwest Territories	\$5,000
New Brunswick	\$5,000
Yukon	\$5,000
Newfoundland and Labrador ¹³	\$2,500

4 Given the incentive levels in other provinces, a minimum incentive of \$2,500 for EVs remains
5 appropriate.¹⁴ This incentive amount, in combination with the federal incentive, would reduce
6 the upfront cost of purchasing an EV by 40% and provide a net customer benefit of \$4,000 over
7 the life of the vehicle.

8 The Utilities then assessed whether a higher incentive amount would be beneficial based on the
9 objective of the 2021 Plan. The objective of the 2021 Plan is to increase energy sales through EV
10 adoption in order to support the provincial policy goal of customer rate mitigation.

11 An incentive amount of \$2,500 would increase energy sales from EV adoption which, in turn,
12 would increase net revenues by approximately \$3 million by 2034.¹⁵ While higher incentive
13 amounts could increase EV adoption further, net revenues per EV would diminish. This

¹² Table 3 has been updated to include jurisdictions that were not offering EV incentives when this response was originally filed.

¹³ Please refer to Hydro's response to PUB-NLH-009 for information on the current Newfoundland and Labrador EV incentive.

¹⁴ Similarly, a minimum incentive of \$1,000 for plug-in hybrid EVs ("PHEV") appeared appropriate given incentives provided in other jurisdictions ranged from \$500 to \$8,000.

¹⁵ Net revenues consider both incremental revenues and incremental system and program costs.

1 demonstrates the diminishing contribution of higher incentive amounts towards the policy goal
2 of customer rate mitigation.¹⁶

3 **Given the above, an incentive of \$2,500 per EV remains appropriate.**

4 The charger incentive amount of \$500 was set to offset the incremental cost of a network
5 capable charger versus a non-network capable charger.¹⁷ The \$500 residential EV charger
6 incentive is also consistent with incentive amounts in other provinces.¹⁸

7 Commercial Level 2 EV charging infrastructure is generally more expensive than residential Level
8 2 charging equipment due to the features and structure of the charger.¹⁹ The Utilities
9 considered commercial charger infrastructure amounts offered in other provinces.²⁰ An
10 incentive amount of 50% of the purchase and installation costs, up to a maximum of \$3,000, was
11 set based on these considerations.

12 **iii. Evaluating Incentive Amounts**

13 The EV and infrastructure incentive programs will be monitored for participation levels and cost
14 effectiveness on a bi-annual basis, including changes in market factors and industry trends. A
15 formal evaluation of the program will be conducted by a third party following the first year of
16 operation. Similar to the Company's CDM programs, changes to incentives amounts will be
17 implemented, as required.

18 For example, the ENERGY STAR Window Rebate Program was offered over the 5-year period
19 2009 to 2014 to lower the incremental cost of purchasing ENERGY STAR rated windows.²¹ The

¹⁶ The net benefit per EV to rate mitigation at an incentive level of \$2,500 is approximately \$500 over the life of the EV. Any increase dollar increase in the incentive amount would result in a dollar reduction in the per EV rate mitigation benefit of \$500. For example, an EV incentive amount of \$3,000 would effectively offset any rate mitigating benefit for that particular EV.

¹⁷ The average cost of network charger of \$1,000, less the cost of a non-network capable charger of \$500.

¹⁸ For example, Quebec provides a rebate up to \$600 and British Columbia provides a rebate up to \$700 towards the cost of eligible charging equipment and installation. Yukon provides a rebate of \$750 on eligible charging equipment and installation when installed in a private residence (up to 50% of purchase and installation costs).

¹⁹ Please refer to Hydro's response to PUB-NLH-010 for differences in residential and commercial installation costs.

²⁰ For example, Quebec provides a rebate up to \$5,000 of the cost of eligible charging equipment and installation. British Columbia provides rebates of \$4,000 and \$2,500, respectively on eligible charging equipment and installation (up to 50% of purchase and installation costs). Yukon provides a rebate of \$4,000 on eligible charging equipment and installation (up to 50% of purchase and installation costs).

²¹ At the time, the incentive amount of \$2 per square foot was informed by similar rebates offered in other provinces.

1 program ended following an evaluation of retailer/contractor feedback and market data that
2 determined ENERGY STAR windows were becoming the industry standard. Incentives were
3 therefore no longer required to influence the market.²²

4 EV incentive amounts included in the 2021 Plan are expected to change over time as EVs
5 approach cost parity with ICE vehicles. Similar to CDM programs, any changes will be informed
6 by program evaluation and market research.

²² Customers continue to benefit from the customer uptake of that program over that 5-year period. For example, lower system costs as a result of the program is estimated to be \$20 million over the 2009 to 2020 period.



TC-PUB-NLH-004, Attachment 3
Update to Request for Information PUB-NLH-009

1 Q. What is the impact of the provincial budget announcement on May 31, 2021 with respect to EV
2 rebates and will provincial government funding impact the utility EV or charging infrastructure
3 incentives either in terms of cost or effectiveness?

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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 The Utilities presented the 2021 Plan to the Government of Newfoundland and Labrador
11 (“GNL”) in 2020, including the details of the planned electric vehicle (“EV”) rebate. GNL provided
12 a letter of support stating:

13 “The plan indicates the province's utilities are taking actions to begin addressing
14 the electrification, and conservation and demand management (CDM)
15 recommendations in the Board of Commissioners of Public Utilities Rate
16 Mitigation Options and Impacts Report. The Board's report demonstrated
17 clearly that these action areas have excellent potential to assist with our rate
18 mitigation efforts.”¹

19 Following this letter, on May 31, 2021, GNL published its 2021 budget (the “2021 Budget”). The
20 2021 Budget included a \$0.5 million investment in an Electric Vehicle Adoption Accelerator
21 Program to encourage the purchase of EVs.² The program will provide \$2,500 towards the
22 purchase of a qualifying EV.³ Based on the level of funding announced (\$0.5 million) and the
23 amount of the rebate (\$2,500), this program could apply to a maximum of 200 EVs.⁴

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, sch. M, p. 1.

² See, for example, slide 9 of the *Budget 2021 Technical Briefing*, dated May 31, 2021.

³ *Ibid.*

⁴ $\$500,000 \div \$2,500 = 200$ EVs.

1 Hydro has been in discussions with GNL regarding administering this program on their behalf.
2 On March 15, 2022 GNL announced that this program would be extended for another 12
3 months, and expand program eligibility to include Plug-In Hybrid EVs.

4 Although the impact of EV rebates provided under the GNL’s program on the cost effectiveness
5 of the Utilities’ 2021 Plan would be limited due to the expected scope and timeline, it would
6 marginally improve both the modified Total Resource Cost (“mTRC”) test result and the net
7 present value (“NPV”) analysis. For example, the mTRC test result for the Residential EV &
8 Charging Infrastructure Program would increase from 1.9 to 2.0.⁵

⁵ Hydro expects the impact on its NPV to be minimal as the majority of EV sales are likely to take place in Newfoundland Power’s service territory, given the timelines associated with this program.



TC-PUB-NLH-004, Attachment 4
Update to Request for Information PUB-NLH-018

1 Q. Please provide a detailed breakdown of the total estimated annual costs of the electrification
 2 programming proposals for 2021 to 2025 (both utilities combined), setting out the costs
 3 separately for all aspects of the proposals, including each of the programs, customer education
 4 and research, the pilot programs, and the DCFC and Level 2 charging stations.

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 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 Table 1 provides a detailed breakdown of the Utilities’ forecast annual cost of each component
 12 of the 2021–2025 Plan for electrification initiatives.

Table 1: Forecast Annual Costs¹
Electrification Proposals
2021F to 2026F
(\$000s)

	2021F	2022F	2023F	2024F	2025F	2026F	Total
Residential EV & Charging Infrastructure Program	-	481	1,040	1,868	2,030	2,925	8,344
Commercial EV & Charging Infrastructure Program	-	272	403	502	603	845	2,625
Custom Electrification Program	-	153	278	225	337	326	1,319
Make-Ready	-	32	71	185	296	356	940
Custom Fleet Pilot Program	-	295	605	857	1,038	-	2,795
EV Demand Response Pilot Program	-	573	316	258	-	-	1,147
Electric Vehicle Charging Network	2,772	2,100	1,401	1,226	559	-	8,058
Customer Education and Research	151	218	526	335	231	236	1,697
Total	2,923	4,124	4,640	5,456	5,094	4,688	26,925

¹ Excludes federal funding.



TC-PUB-NLH-004, Attachment 5

Update to Request for Information PUB-NLH-046

1 Q. The Net Present Value Analysis is prepared based on a seven year recovery period.
2 Newfoundland Power is proposing a recovery period of ten years for its proposed Electrification
3 Deferral Account. Please provide an update of the Net Present Value Analysis assuming a
4 recovery period of ten years.

5

6

7 A. Reflecting the changes as noted in Newfoundland and Labrador Hydro’s response to TC-PUB-
8 NLH-004 and a recovery period of ten years, Newfoundland and Labrador Hydro’s net present
9 value analysis increases to approximately \$3.3 million. Please see PUB-NLH-046, Attachment 1
10 (Updated – March 25, 2022) for details.

NPV¹ Analysis Assuming a Recovery Period of Ten Years

Year	Capital Costs	Program Costs	Incremental Revenues	Incremental System Costs	Capital Cost		Program Cost		Net Revenues	Cumulative NPV
					Recovery	Recovery	Recovery	Recovery		
2021	724,300	0	0	0	38,388	0	0	(38,388)	(36,456)	
2022	241,400	76,686	3,964	2,337	119,773	4,064	4,064	(122,211)	(146,674)	
2023	482,800	175,689	15,448	8,440	164,384	20,638	20,638	(178,014)	(299,139)	
2024	362,100	247,438	38,181	19,027	224,178	49,984	49,984	(255,008)	(506,554)	
2025	0	306,908	77,923	28,105	250,792	88,344	88,344	(289,318)	(730,032)	
2026	0	314,280	140,086	49,866	241,195	131,416	131,416	(282,392)	(937,180)	
2027	0	54,035	319,051	116,538	231,599	159,767	159,767	(188,853)	(1,068,741)	
2028	0	85,475	590,564	213,070	222,003	163,473	163,473	(7,981)	(1,074,021)	
2029	0	117,618	964,355	331,435	212,407	171,573	171,573	248,940	(917,620)	
2030	0	147,608	1,429,800	489,562	202,811	183,854	183,854	553,573	(587,333)	
2031	0	179,908	1,990,605	686,499	193,214	200,064	200,064	910,828	(71,245)	
2032	0	213,180	2,649,711	719,551	115,027	220,313	220,313	1,594,820	786,921	
2033	0	248,488	3,403,794	929,440	86,409	237,369	237,369	2,150,576	1,885,892	
2034	0	283,690	4,261,175	1,075,308	36,210	249,535	249,535	2,900,122	3,293,297	

¹ Net Present Value ("NPV").