

1 **Q. The Dunsky report states at page 111 that the light-duty vehicle market is severely**
 2 **constrained by the lack of public charging infrastructure and there is currently a**
 3 **lack of a solid business case for DCFC charging stations in the third-party market.**
 4 **Please provide any analysis conducted of the optimal number of utility DCFC**
 5 **charging stations for each year over the period 2021 to 2025.**

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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*
 9 *Newfoundland Power and Newfoundland and Labrador Hydro (“Hydro” or, collectively,*
 10 *the “Utilities”). Accordingly, the response reflects collaboration between the Utilities.*

11
 12 The Utilities’ level of investment in Direct Current Fast Charger (“DCFC”) charging
 13 stations was informed by 3 factors.

14
 15 The first factor was the 2019 survey completed by MQO Research. The survey results
 16 showed that access to electric vehicle (“EV”) charging stations and concerns about
 17 reliability of range are among the primary barriers to EV adoption in Newfoundland and
 18 Labrador.¹

19
 20 The second factor was the recommendations from the 2020-2034 Potential Study (the
 21 “Study”).² The Study assessed charging infrastructure deployment under baseline, low
 22 and high investment scenarios.³

23
 24 Table 1 summarizes the DCFC charging infrastructure deployment scenarios outlined in
 25 the Study.⁴

Table 1:
Charging Infrastructure Deployment Scenarios

Investment Scenario	By 2020		By 2025	
	Stations	Ports	Stations	Ports
Baseline	14	14	14	14
Low	16	16	21	21
High	22	22	42	84

¹ The primary barriers to electric vehicle adoption reported by Newfoundland and Labrador residents were access to charging and concerns about reliability of range and vehicle cost.

² See the *2021 Electrification, Conservation and Demand Management Application*, Volume 2, Schedule C for the Study conducted by Dunsky Energy Consulting.

³ Under the baseline scenario, there is no further investment in fast charging infrastructure beyond the 14 fast chargers installed by Hydro. The low scenario assumes \$5 million investment in EV infrastructure and EV incentives. The high scenario assumes \$20 million investment in EV infrastructure and EV incentives. See the *2021 Electrification, Conservation and Demand Management Application*, Volume 2, Schedule C, Table E-49, page 276 of 325.

⁴ See the *2021 Electrification, Conservation and Demand Management Application*, Volume 2, Schedule C, Table E-50, page 276 of 325.

1 The Study, in effect, recommends increasing the number of charging stations to ensure
2 sufficient geographical coverage and then considering an increase in the number of ports
3 to ensure adequate availability.⁵
4

5 The third factor was guidance from Natural Resources Canada (“NRCan”). NRCan
6 recommends an optimal distance between charging stations of 65 km.
7

8 Based on these factors, the Utilities have planned to have 45 charging stations with 45
9 charging ports provincially by the end of 2022.⁶
10

11 Of the 45 charging stations, 42 will be located on the Island Interconnected System. The
12 primary purpose of this initial investment is to optimize the distribution of charging
13 stations on the Trans Canada Highway and other highways across the province.⁷ This
14 approach is consistent with the NRCan funding guidelines and addresses customer
15 concerns of charging station access and range anxiety. For example, the average distance
16 between the 42 charging stations located on the Island Interconnected System is
17 estimated to be approximately 60 km.
18

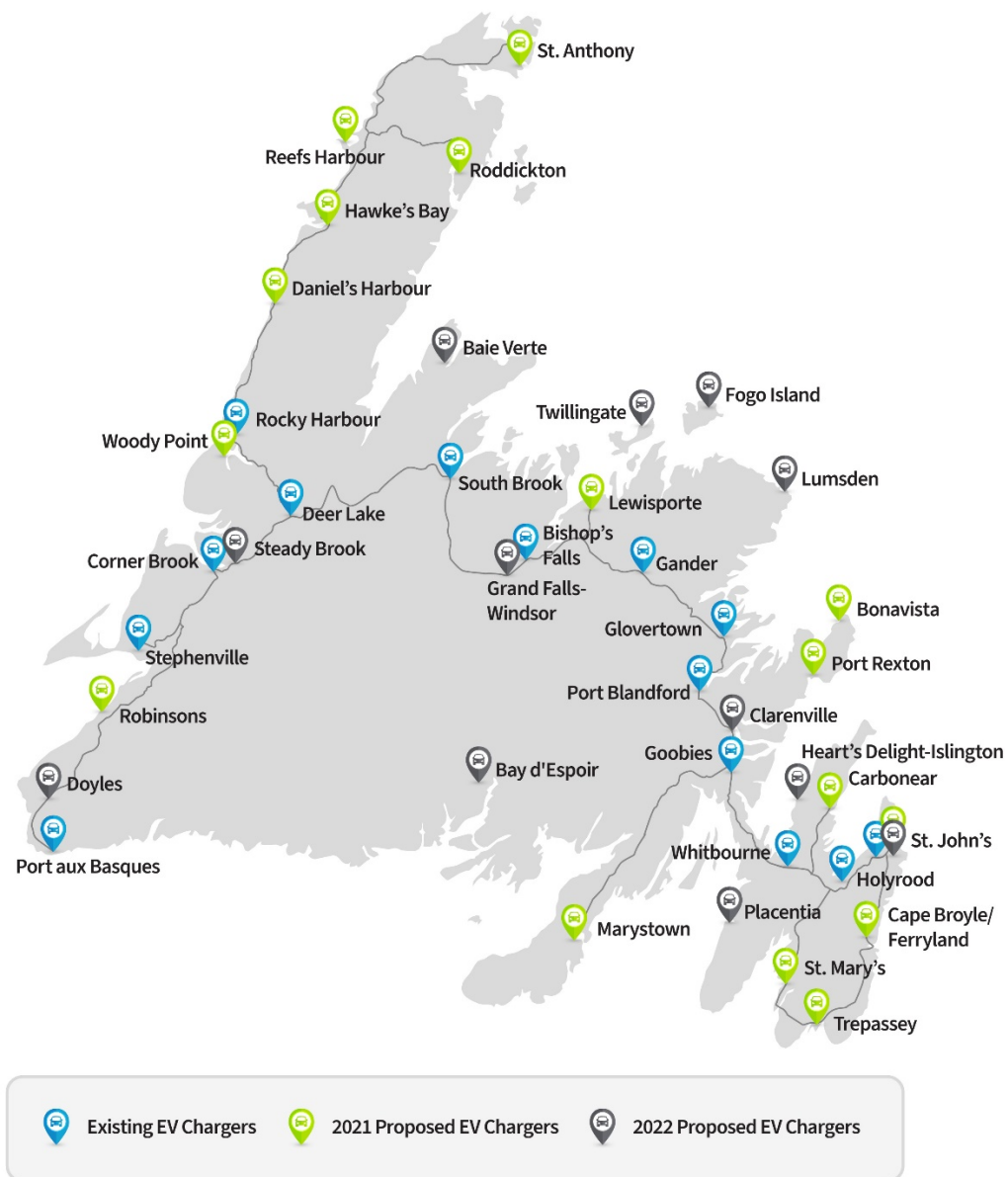
19 Figure 1 on page 3 provides the location of charging stations planned to be installed by
20 the end of 2022 on the Island Interconnected System.

⁵ A charging port is the device that connects the charging station to the EV. The Study recommends increasing the number of charging ports per charging station beyond 2025 in both the low and high scenario. See the *2021 Electrification, Conservation and Demand Management Application*, Volume 2, Schedule C, Table E-50, page 276 of 325.

⁶ Of the 45 planned charging stations by year end 2022, 14 have been installed, 19 are planned for 2021 and 12 are planned for 2022.

⁷ The other provincial highways on the Island Interconnected System include: Argentia Access Road, Burin Peninsula Highway, Bonavista Peninsula Highway, Road to the Beaches, Road to the Shore East Side, Road to the Shore West Side, Road to the Isles, Bay d’Espoir Highway and the Viking Trail.

**Figure 1:
Charging Station Locations on the Island Interconnected System
By Year End 2022**



1 From 2023 to 2025, 12 charging ports are planned to be added to the Island
 2 Interconnected System.⁸ It is expected that the 12 additional charging ports will be added
 3 to existing charging station locations based on usage data and customer wait times.
 4 Adding charging ports to existing locations after addressing distance gaps is consistent
 5 with both the NRCan guidelines and the DCFC deployment scenarios outlined in the
 6 Study.

⁸ Planned charging ports by year: 2023 – 3; 2024 – 5; 2025 – 4.