

1 Q. **Reference: 2024 Resource Adequacy Plan**

2 Please explain in detail what the implications of the supply options recommended in the
 3 Minimum Investment Required Expansion Plan are for potential supply options in the Reference
 4 Plan and how selection of the Minimum Investment Required Expansion Plan supply options
 5 impacts the selection and timing of supply options in the Reference Plan.

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8 A. The recommended expansion plan being put forward is the Minimum Investment Required
 9 Expansion Plan, which is summarized in Table 1. This expansion plan includes Bay d’Espoir
 10 (“BDE”) Unit 8 and a combustion turbine (“CT”) coming into service in 2031, and up to 400 MW
 11 of wind energy by 2034 to meet firm energy planning criteria requirements, resulting in
 12 approximately an additional 385 MW of capacity and 1.4 TWh of energy added to the Island
 13 Interconnected System within the next ten years.

Table 1: Recommended Minimum Investment Required Expansion Plan¹

	Firm Capacity (MW)	Firm Energy (GWh)	2030	2031	2032	2033	2034
BDE Unit 8	154.4	0		1	1	1	1
CT	141.6	0		1	1	1	1
Wind 100 MW	22	350	1	3	3	3	4
Firm Capacity (MW)			22	362	362	362	384
Firm Energy (GWh)			350	1050	1050	1050	1400

14 While this shows the requirement for capacity in 2031, in reality, Newfoundland and Labrador
 15 Hydro (“Hydro”) is working to advance both capacity resources as fast as possible to reduce its
 16 reliance on aging thermal assets.

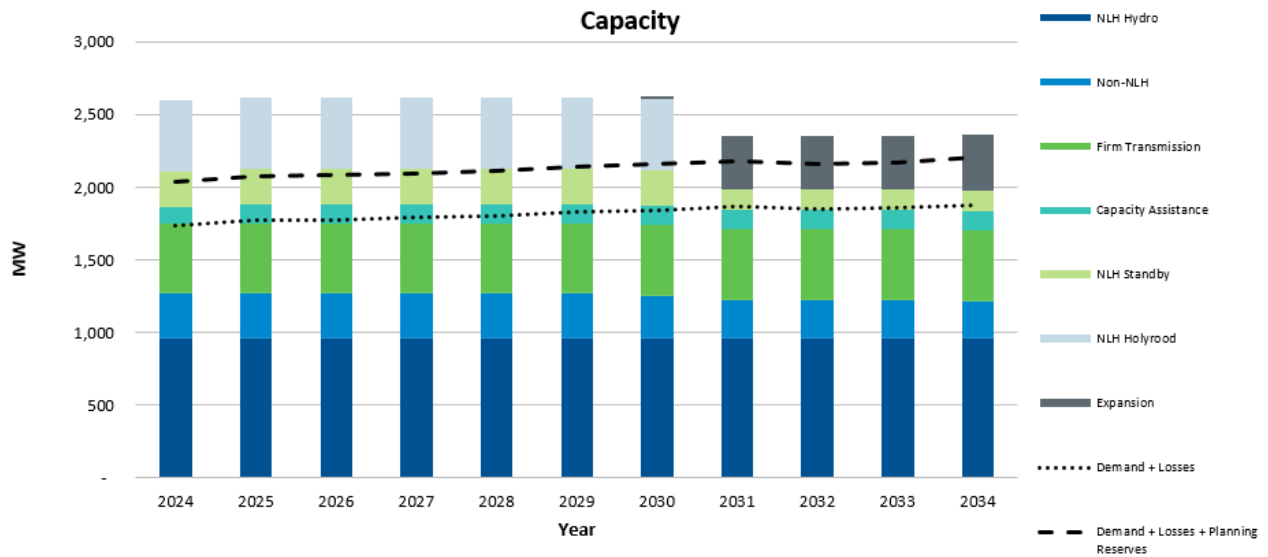
¹ Please refer to the “2024 Resource Adequacy Plan – An Update to the Reliability and Resource Adequacy Study,” Newfoundland and Labrador Hydro, rev. August 26, 2024 (originally filed July 9, 2024), app. C, sec. 8.1.

1 As BDE Unit 8 and a 150 MW On-Avalon CT are common resource options to both the Minimum
2 Investment Required Expansion Plan and the Reference Case Expansion Plan, beginning with the
3 construction of these two large capacity resources is a substantial first step towards meeting the
4 Reference Case requirements.² In parallel, Hydro is actively studying the additional
5 requirements to meet the Reference Case, beyond what is proposed in the Minimum
6 Investment Required Expansion Plan and will put forward a recommended expansion plan to
7 meet the Reference Case requirements in the 2026 Resource Adequacy Plan. However, as
8 depicted in Table 2, the additional resources required to close the gap to meet reliability
9 requirements are significantly smaller if both BDE Unit 8 and a 150 MW On-Avalon CT are
10 constructed as recommended in the Minimum Investment Required Expansion Plan.

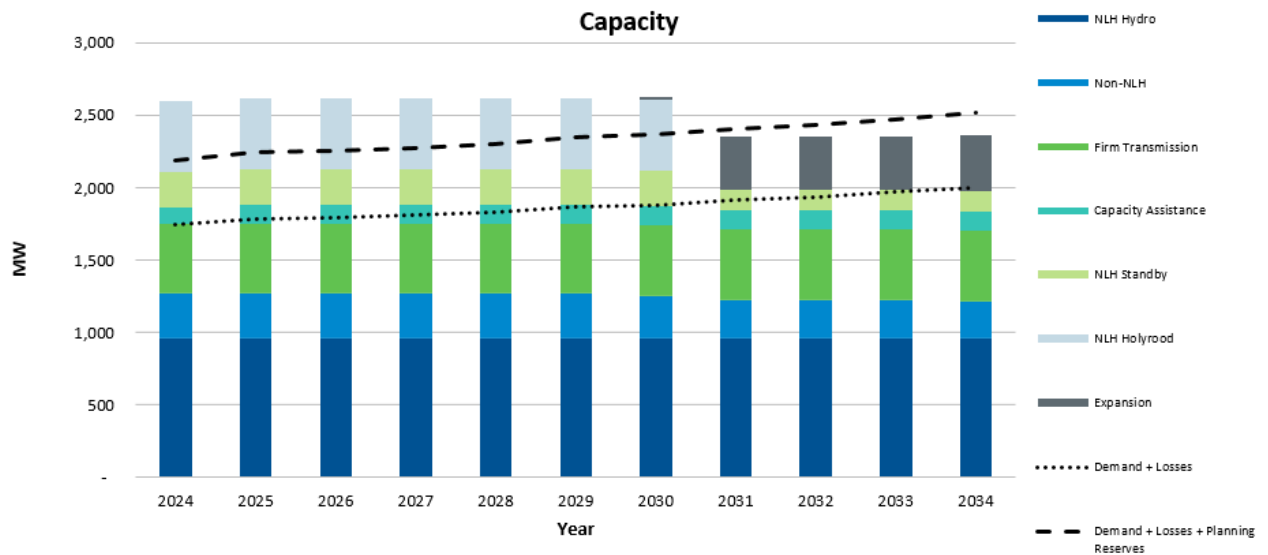
11 Chart 1 presents the load resource balance, including the Minimum Investment Required
12 Expansion Plan³ under the Scenario 4 conditions (Slow Decarbonization load forecast and 1% LIL
13 bipole EqFOR) and Chart 2 presents the load resource balance, including the recommended
14 Minimum Investment Required Expansion Plan under Scenario 1 conditions (Reference Case
15 load forecast and 5% LIL bipole EqFOR). As shown in Chart 1, the recommended Minimum
16 Investment Required Expansion Plan exceeds the requirements when comparing to planning
17 reserve requirement only. The additional capacity is recommended based on the LIL shortfall
18 analysis, to improve reliability in the event of a prolonged LIL outage.

² In the 39 model runs completed, BDE Unit 8 was selected 85% of the time and the CT 74% of the time. Out of the 16 model runs for Scenario 1 (Reference Case) analysis, both BDE Unit 8 and the CT were selected 81% of the time. Out of the 17 model runs for Scenario 4 (Minimum Investment Required), BDE Unit 8 was selected 82% of the time and the CT 59% of the time.

³ Minimum Investment Required (Scenario 4 or "S4"): Represents the scenario requiring the minimum investment (least amount of resource additions) based on a high level of Labrador-Island Link ["LIL"] reliability (1% LIL bipole equivalent forced outage rate ["EqFOR"]) that can reasonably be expected in the long term and the lowest load growth (Slow Decarbonization) that can be reasonably anticipated on the Island Interconnected System. This scenario is intended to bookend the Expansion Plan scenarios by identifying the Minimum Investment Required on the Island Interconnected System.



**Chart 1: Capacity Load Resource Balance
 (Slow Decarbonization Load Forecast [Iterated], 1% LIL EqFOR)^{4,5}**



**Chart 2: Capacity Load Resource Balance
 (Reference Case Load Forecast, 5% LIL bipole EqFOR)^{6,7}**

⁴ The load in these plots reflects the iteration that was completed to account for the cost of the Minimum Investment Required Expansion Plan (and associated impact on demand) as identified in Section 7.4.2 of the 2024 Resource Adequacy Plan.

⁵ *Supra*, f.n. 1.

⁶ The load in these plots reflects the original forecast and does not account for the potential load reduction associated with the cost of the Expansion Plan.

⁷ *Supra*, f.n. 1.

1 As shown in Chart 2, there remains a gap in capacity between the Minimum Investment Required
 2 Expansion Plan and requirements to meeting planning criteria under the Reference Case
 3 conditions. Table 2 presents a comparison of this annual capacity gap for the time period studied.

Table 2: Comparison of Capacity Required per Year to Meet Reference Case

Scenario	Capacity Required per Year (MW)			
	2031	2032	2033	2034
Minimum Investment Required	2,347	2,347	2,347	2,361
Reference Case	2,408	2,437	2,475	2,515
Capacity Delta (MW)	-61	-90	-128	-154

4 Chart 3 presents the energy load resource balance, including the Minimum Investment Required
 5 Expansion Plan and Chart 4 presents the energy load resource balance, which includes the energy
 6 resources identified in the Reference Case Expansion Plan. Chart 3 illustrates that just enough
 7 wind energy (1.4 TWh) is recommended to meet firm energy requirements in this scenario.

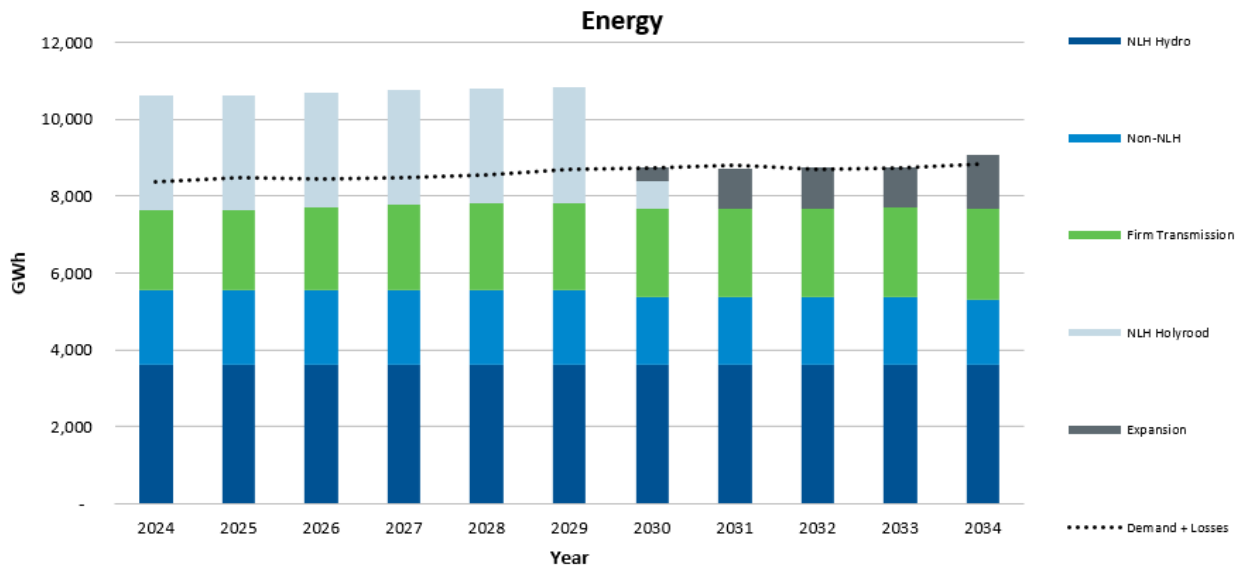


Chart 3: Energy Load Resource Balance (Slow Decarbonization Load Forecast [Iterated])^{8,9}

⁸ The load in these plots reflects the iteration that was completed to account for the cost of the Expansion Plan (and associated impact on demand) as identified in Section 7.4.2 of the 2024 Resource Adequacy Plan.

⁹ *Supra*, f.n. 1.

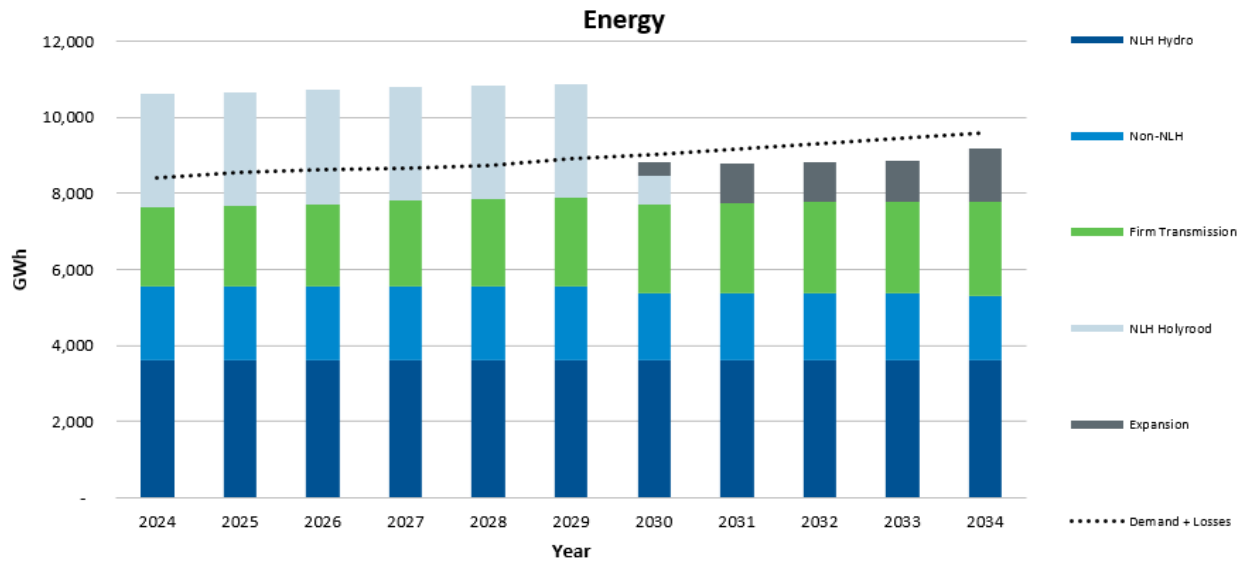


Chart 4: Energy Load Resource Balance (Reference Case Load Forecast)^{10,11}

1 As shown in Chart 4, there remains a gap in the energy requirements between the Minimum
 2 Investment Required Expansion Plan (1.4 TWh) and requirements to meet the firm energy
 3 criteria for the Reference Case Expansion Plan (1.75 TWh). The difference in firm energy
 4 requirements between the Minimum Investment Required Expansion Plan and the Reference
 5 Case Expansion Plan is 0.35 TWh in 2034, or one 100 MW wind build.

6 To meet the energy requirements identified in 2030, Hydro intends to issue a Supply Expression
 7 of Interest (“EOI”) by the end of the second quarter of 2025. The information developed through
 8 the EOI will be used in evaluating candidates to receive potential future requests for proposals
 9 in consideration of a power purchase agreement. The development of the Supply EOI process is
 10 currently underway and it is anticipated that the process will be continuous to meet the future
 11 energy needs of the Island Interconnected System. Meaning, as the annual load forecast
 12 updates continue, the firm energy requirement will be assessed and a Supply EOI issued
 13 accordingly as part of continued analysis of reliability and resource adequacy for the Island
 14 Interconnected System.

¹⁰ The load in these plots reflects the original forecast and does not account for the potential load reduction associated with the cost of the Expansion Plan.

¹¹ *Supra*, f.n. 1.

1 Hydro recognizes that, while the recommended Minimum Investment Required Expansion Plan
2 provides a balance between cost, reliability and environmental impacts, it does not fully meet
3 the reliability requirements should the Reference Case load forecast materialize, or should the
4 LIL bipole EqFOR be greater than 1%. However, the initial resource options in the Minimum
5 Investment Required Expansion Plan are common to the Reference Case Expansion Plan and
6 would contribute to meeting the needs of the Reference Case; the timing to have these new
7 assets in place is critical to maintain the absolute minimum level of reliability of the Island
8 Interconnected System.