

**EfficiencyOne Information Requests to Nova Scotia Power, Inc. (NS Power)
In the Matter of Nova Scotia Power Incorporated's 2026 Load Forecast Report (M12861)**

IN THE MATTER OF: *The Public Utilities Act*

- and -

IN THE MATTER OF: Nova Scotia Power Incorporated's 2026 Load Forecast
Report (M12861)

NON-CONFIDENTIAL INFORMATION REQUESTS TO NS POWER

To: **Nova Scotia Power Inc.**
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From: **EfficiencyOne**
c/o McInnes Cooper

Responses Due: **July 7, 2026**

Copies: **1 electronic copy (PDF searchable)**

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Request IR-01:

Reference: NS Power 2026 Load Forecast Report, page 40, lines 3-11

Based on the 2026 Load Forecast report, E1 understands that the hybrid heating participation rate is based on a 50 percent adoption of the 2026 heat pump forecast – non-all electric (NAE) component, the energy reduction is based on the median modelled result, which is approximately 50 percent adoption under the Critical Peak Pricing (CPP) scenario, while the peak demand impact is derived from the older E3 study (which reflects participation somewhere between 20 percent and 50 percent).

- (a) Please provide any corrections or clarification to the above understanding.
- (b) Please explain why NS Power updated the energy reduction estimates while leaving the peak demand reduction unchanged?
- (c) Please confirm the participation assumptions that are inherent to (i) the peak demand reduction and (ii) the energy reduction.
- (d) Did NS Power consider using per-participant energy and demand impacts from the advanced metering infrastructure (AMI) analysis and applying them to the revised participation estimate to estimate the total energy reduction and peak demand reduction? If not, why not?
- (e) Please clarify what is meant by 'approximately' in the sentence "...83 GWh by 2036 is adopted, as the median modelled result; this is approximately the peak reduction achieved under the 50 percent adoption CPP scenario" (lines 9 – 10). What is the difference between the median result and the 50 percent adoption CPP scenario?
- (f) Does NS Power consider hybrid heating, as modelled in the Load Forecast, to constitute a "demand-side management activity" within the meaning of sections 79A–79L of the Public Utilities Act? If not, please explain how it is distinguished from E1's existing demand response programming.

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Request IR-02:

E1 has used data from the Load Forecast (total peak reduction, total energy reduction, and cumulative participants) to calculate full load hours, unitary demand reduction, and unitary energy reduction in Table 1.

Table 1: Calculated Full Load Hours, Unitary Demand Reduction, and Unitary Energy Reduction for Modelled Hybrid Heating in the 2026 Load Forecast.

Column:	A	B	C	D	E	F
Year	Total Peak Reduction (MW)	Total Energy Reduction (GWh)	Hybrid HP Cumulative Participants	Calculated Full Load Hours	Unitary demand reduction (kW)	Unitary energy reduction (kWh)
	Source: Figure 25	Source: Figure 25	Source: Att 1, Tab "HP"	Calculation: (B)*1000/(A)	Calculation: (A)*1000/(C)	Calculation: (B)*10 ⁶ /(C)
2028	-6	-10	3,403	1,667	-1.76	-2,939
2029	-13	-21	6,839	1,615	-1.90	-3,071
2030	-19	-31	10,284	1,632	-1.85	-3,014
2031	-26	-41	13,495	1,577	-1.93	-3,038
2032	-32	-51	16,634	1,594	-1.92	-3,066
2033	-36	-60	19,645	1,667	-1.83	-3,054
2034	-40	-68	22,335	1,700	-1.79	-3,045
2035	-44	-76	24,913	1,727	-1.77	-3,051
2036	-48	-83	27,378	1,729	-1.75	-3,032
Average	-29	-49	16,103	1,656	-1.83	-3,034

- (a) Please explain why the modelled hybrid heating program has an average full-load hours reduction in electric space heating of 1,656, and whether this is consistent with the program's intended design? If the intended program design is not assuming that heat pumps will be used 1,656 less hours under the hybrid heating program, please explain what is causing this result.
- (b) How many hours per year does NS Power expect hybrid heating systems to operate? Please provide assumptions for different event-calling scenarios and explain how these assumptions are reflected in load forecast modelling.

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- 1 (c) Please explain why the modelled hybrid heating program has an average annual energy
2 reduction of 3,034 kWh.
- 3 (d) What percent reduction does 3,034 kWh represent for:
- 4 i) an average residential customer's total annual electrical consumption
- 5 ii) an average electrically-heated residential customer's total annual electrical
6 consumption
- 7 iii) annual electricity use for heating (based on the baseline residential electric-heating
8 load shape derived from 2022 AMI data, as referenced in the 2026 Load Forecast).
- 9 (e) Do the values presented in Table 1 for full load hours (column D), unit demand reduction
10 (column E) and, unit energy reduction (column F), align with NS Power's characterization
11 of the program? Please explain.
- 12 (f) If NS Power does not agree with the calculated full load hours, unit demand reduction, or
13 unit energy reduction, please provide its own calculations, including formulas,
14 methodology, and underlying assumptions.
- 15 (g) Please provide the underlying data or source studies used to derive the per-participant
16 energy and demand impacts assumed for hybrid heating.

17
18 **Request IR-03:**

19 Reference: NS Power 2026 Load Forecast Report, page 37, lines 11 – 14

20
21 How do the hybrid heating scenarios considered in the 2026 Load Forecast align with the Net
22 Zero Atlantic study, and in what ways do they differ?

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Request IR-04:

Please provide a table, similar to Figure 24, for all modelled hybrid heating scenarios.

Please include Peak Reduction (MW), Energy Reduction (GWh), and cumulative participation for each scenario and each year. For each scenario, please also include the key assumptions, such as participation rates and hybrid event trigger conditions. Include the scenarios with 20 percent, 50 percent, and 100 percent participation, as well as any additional scenarios modelled by NS Power.

Request IR-05:

Given the purpose of the Net Zero Atlantic report was to understand possible impacts of hybrid heating, not to propose an achievable program design, what evidence does NS Power have to support the use of:

- (a) 50 percent participation for residential
- (b) 2028 program launch date
- (c) Please identify any jurisdiction in which a utility-administered hybrid heating program has achieved 50 percent residential participation. If no such program exists, please explain the basis for adopting this assumption in the Load Forecast.

Request IR-06:

- (a) Did NS Power consider applying a sensitivity for hybrid heating to test these participation assumptions, rather than incorporating them directly into the forecast? Explain why or why not.
- (b) Did NS Power consider utilizing a lower amount of hybrid heating, particularly in the early years of the forecast? If not, why not?
- (c) What risks are associated with including a hybrid heating program in the forecast when the program has not yet been proposed, designed, approved, or fully evaluated?

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- 1 (d) If hybrid heating does not achieve the forecast reductions, what is the quantified impact
2 on the Net System Requirement and system peak? Please provide the forecast with and
3 without hybrid heating for each year from 2028 to 2036.
4

5 **Request IR-07:**

- 6 (a) How does participation in residential hybrid heating vary with incentives, customer type,
7 technological barriers etc.? If these have not been considered, how confident is NS Power
8 in the accuracy of the hybrid heating forecast?
9 (b) Please indicate how hybrid heating uncertainty is incorporated into overall forecast risk
10 assessments.
11

12 **Request IR-08:**

- 13 (a) Please confirm that E1's demand response (DR) programs are modelled as reductions to
14 firm peak only, and that they are excluded from the system peak forecast (as stated on
15 page 95 of the 2026 Load Forecast Report). If hybrid heating is modelled differently, please
16 explain the rationale for this differential treatment.
17 (b) Does this modelling approach suggest that hybrid heating differs fundamentally from other
18 demand response programs? If so, please explain the specific characteristics that
19 determine whether a demand response program is modelled as affecting system peak
20 versus firm peak.
21 (c) Does the choice of hybrid event trigger (e.g., CPP events versus a -10°C temperature trigger)
22 affect this modelling decision?
23 (d) Does the differential treatment of hybrid heating (system peak reduction) versus E1's DR
24 programs (firm peak reduction only) imply that NS Power attributes greater reliability value
25 to hybrid heating than to E1's DR programs? If so, on what basis?

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Request IR-09:

Reference: NS Power 2026 Load Forecast Report, page 42, lines 3 – 17

- (a) What is the capacity reduction associated with commercial hybrid heating?
- (b) If no capacity reduction has been modelled, does this imply there is no capacity value in a commercial hybrid heating program?
- (c) What evidence does NS Power have to support a commercial hybrid heating launch date of 2028?

Request IR-10:

Reference: NS Power 2026 Load Forecast Report, page 41, Figure 25

- (a) Figure 25 shows that significant post-model adjustments were applied to both energy and peak demand reductions. What differences in assumptions between the Statistically Adjusted End-Use (SAE) model and the initial modelling are driving these discrepancies?
- (b) Please describe how hybrid heating peak reductions were applied within the peak model (column "Included in peak model" of Figure 25). Please describe all assumptions, calculations, and methodologies.
- (c) If the SAE model assumptions are considered reasonable, is there a risk that applying these adjustments could overestimate the peak and energy impacts of hybrid heating?
- (d) Why is the SAE model unable to fully capture the impacts of hybrid heating endogenously, without the need for substantial adjustments?
- (e) What is the risk of double counting or undercounting impacts associated with the SAE post-model adjustments?
- (f) How are adjustments validated against actual system behaviour or empirical data?
- (g) Will hybrid heating effects be fully integrated into the core forecast model in future filings?

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Request IR –11:

Reference: NS Power 2026 Load Forecast Report, Section 4.2

(a) The Load Forecast describes significant data quality issues arising from the NS Power cyber incident, including the need to estimate 2025 billing data and large customer peak contributions. Please confirm whether the cyber incident affected the availability or quality of AMI data used to develop the hybrid heating analysis, including the residential electric-heating load shape referenced in the Load Forecast.

(b) The Load Forecast references a "baseline residential electric-heating load shape derived from 2022 AMI data." Has this load shape been updated or validated with more recent data? If not, does NS Power consider the 2022 data sufficiently representative given changes in heat pump penetration and customer behaviour since 2022?