

1 **Nova Scotia Energy Board**

2 **IN THE MATTER OF: *The Public Utilities Act***

3 **-and-**

4 **IN THE MATTER OF: EfficiencyOne – 2027-2031 Demand Side Management (DSM) Plan**
5 **Application**

6
7 **RESPONSE TO INFORMATION REQUEST**
8

9 **To: Posterity Group & Eastward Energy Incorporated**

10 **From: The Industrial Group**

11 **Request IR-1:**

12 **Reference: E-20, Page 2.**

13 Please confirm whether the NECB Part 8 code-compliance baseline is used as the DSM program
14 baseline in other Canadian jurisdictions, and, if so, whether it has been the subject of regulatory
15 challenge or evaluation findings similar to those identified in Posterity's evidence. Please provide
16 any specific examples.

17 **RESPONSE**

18 In other Canadian jurisdictions that offer custom new construction (NC) programs, the DSM
19 program baseline is generally aligned with energy performance of a minimally compliant building
20 per the prevailing building energy code (i.e., NECB Part 8 or equivalent). This approach is
21 appropriate for assessing energy code compliance. However, it is not appropriate as a DSM
22 measure baseline with respect to fuel choice.

23 Demonstrating energy code compliance requires comparison to a baseline that uses the same
24 heating fuel as the proposed case, rather than one that reflects the fuel choices that a customer
25 would reasonably have made in the absence of the DSM program.

26 In cases where a participating customer would have otherwise selected natural gas or other non-
27 electric space heating equipment, the current NC program incentivizes projects that result in
28 increased electricity consumption and peak demand relative to what would otherwise have
29 occurred.

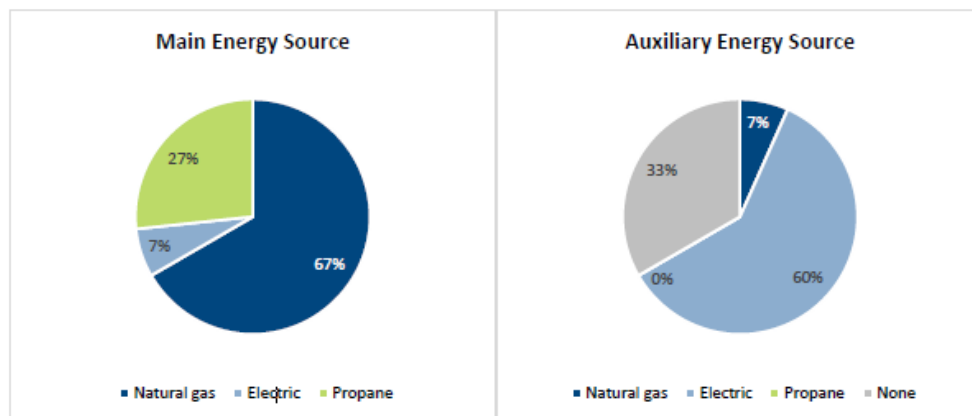
30 Since preparing the evidence filed on June 23, 2026, Posterity Group has become aware of
31 previous work suitable to support market-based commercial new construction fuel choice baselines

for the NC program.¹ Specifically, a New Construction Market Evaluation was filed with Efficiency One’s 2022 DSM Evaluation Reports in which the evaluator completed an HVAC market characterization study to “define a more accurate baseline for HVAC systems installed in Nova Scotia and inform the New Construction baseline for multi-unit residential (MURB) fan power,” and to “investigate if there is potential for EOne to capture market effects or non-participant spillover in the MURB new construction market.”²

While the study was not focused on appropriate baseline fuel choices, it did include a review of 60 recent MURB building permits which found that 77% of MURBs “did not take part or did not intend to take part in the program,” and that only 7% of the sampled population of non-participants used electricity as the main heating energy source.³

These evaluation results are shown graphically in Table 1. As designed, the custom NC program baseline does not reflect these evaluation findings.

Table 1: HVAC Market Characterization Study Findings³



The appropriateness of the new construction baseline has also been raised previously in regulatory proceedings. In E1’s 2019 application to the Board for “Approval of a Supply Agreement for Electricity Efficiency and Conservation Activities between E1 and Nova Scotia Power Inc. (DSM 2020-2022),” ICF addressed the issue of fuel choice baseline in new construction:

“Where a building owner accepts an incentive to deploy an electric heating system over a natural

¹The Custom Incentives Program 2020 DSM Evaluation filed with EfficiencyOne’s 2020 DSM Annual Progress Report and 2020 DSM Evaluation Reports (M11056: Exhibit E-1, PDF page 775) recommended an HVAC market characterization study for New Construction. The recommendation makes specific reference to ambiguities regarding baseline ventilation systems and the need to define “a more accurate baseline for HVAC systems installed in Nova Scotia commercial new constructions.” This study was filed as part of the New Construction Market Evaluation in EfficiencyOne’s 2022 DSM Annual Progress Report and 2022 DSM Evaluation Reports (M11071: Exhibit E-2, PDF pages 668-672).

² M11071: Exhibit 2, EfficiencyOne 2022 DSM E1 Evaluation Reports, PDF page 668.

³ M11071: Exhibit 2, EfficiencyOne 2022 DSM E1 Evaluation Reports, PDF page 670.

1 gas heating system, the result would be the addition of incremental electric load as a result of fuel
2 switching from natural gas to electric. Regardless of the efficiency of the electric system deployed,
3 electricity demand would increase as compared to the baseline building that would have been
4 constructed absent the marketing, promotion and incentives. Further, incremental electrical
5 demand would be coincident with Nova Scotia's winter peaking electrical system, increasing the
6 need for added fuel to fire existing electrical generating stations and potentially the need for added
7 winter peak capacity. This would drive the exact opposite of the behavioural response in the market
8 that is intended by the ratepayer funded incentives to be approved as part of the 2020-2022 DSM
9 Plan.”⁴

10 This evidence explicitly recognizes the importance of establishing a baseline that reflects what
11 would have occurred absent program intervention, including the customer's heating fuel choice.

⁴ M09096: Exhibit 33, EfficiencyOne Application for Approval of a Supply Arrangement for Electricity Efficiency and Conservation Activities Between E1 and Nova Scotia Power Inc. (DSM 2020-2022), PDF page 11.

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11 Request IR-2:

12 Reference: E-20, Page 2.

13 *For the purposes of DSM programs, the baseline case is typically intended*
14 *to represent what the energy consumption and demand would have been in*
15 *the absence of the program.*³

16 ³ See, for example, *Independent Electricity System Operator (IESO),*
17 *Evaluation, Measurement and Verification Protocol, Version 5.0. Toronto,*
18 *ON, Canada: IESO, Jan. 2025. [Online]. Available: [https://www.ieso.ca/-](https://www.ieso.ca/-/media/Files/IESO/Document-Library/EMV/Evaluation-Measurement-and-Verification-Protocol-V5.pdf)*
19 */media/Files/IESO/Document-Library/EMV/Evaluation-Measurement-and-*
20 *Verification-Protocol-V5.pdf. Accessed: Jun. 17, 2026*

21 Preamble: The IESO EM&V Protocol V5.0 identifies three broad approaches for
22 establishing a net-to-gross ratio (and, by extension, a counterfactual baseline): self-
23 reporting surveys, enhanced self-reporting surveys, and econometric methods.

24 (a) Please confirm which, if any, of these approaches Posterity has considered
25 for establishing the "absence of program" baseline for the Custom New
26 Construction (NC) Program.

27 (b) Please explain why the recommended approach was selected over the
28 alternatives.

29 (c) Given that the NC Program has already been in operation for several years,
30 please explain how Posterity proposes to mitigate recall bias when asking
31 participants and non-participants to reconstruct fuel and equipment choices

1 they did not actually make.

- 2 (d) Please confirm whether Posterity considered the option of an independent
3 baseline study, and, if so, what factors led Posterity to recommend
4 participant and non-participant interviews as the preferred mechanism
5 rather than an independent baseline study.

6 **RESPONSE**

- 7 a) The focus of Posterity Group's recommendation was on establishing the appropriate
8 counterfactual baseline for the custom NC Program. That is, determining the equipment and fuel
9 choices that would have occurred in the absence of the program.

10 Posterity's concern is not with the choice of evaluation methodology itself, but rather with the
11 baseline fuel choice assumption implicitly assumed in the current custom NC program baseline.
12 The current approach effectively prescribes the baseline fuel choice based on the fuel associated
13 with the proposed new building and assumes that the same fuel would have been selected in the
14 absence of the program. While such an assumption may be appropriate for certain code-
15 compliance analyses, it does not necessarily establish the appropriate counterfactual for
16 evaluating the incremental impact of a custom new construction program. As discussed in the
17 response to IR-01, this assumption is not consistent with available market-based evidence and is
18 likely leading to increased annual and peak electric demand.

- 19 b) Please see the response above.

- 20 c) Please see the response above.

- 21 d) Please see the response above.

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9 **To: Posterity Group & Eastward Energy Incorporated**

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11 **Request IR-3:**

12 Large and medium industrial customers may participate in the NC Program primarily through
13 custom new construction of commercial and industrial facilities.

14 (a) Please confirm whether Posterity's analysis and recommendations apply
15 equally to, the following, and if the recommendations apply differently to
16 any of these categories, please explain the differences and their rationale.

17 (i) commercial and institutional buildings;

18 (ii) industrial process facilities; and

19 (iii) multi-fuel industrial facilities that may rely on fuel-switching
20 or co-generation.

21 (b) Please confirm whether Posterity's recommended peak demand incentive
22 framework would apply to:

23 (i) all NC Program participants;

24 (ii) participants above a specified demand threshold; or

25 (iii) only specific building types.
26
27

RESPONSE

In the evidence filed, Posterity Group made two recommendations⁵:

1. Undertake additional evaluation activities to establish an appropriate DSM measure baseline for the custom NC program.
2. Revise the incentive structure of the custom NC program to recognize the system-level impacts associated with building design decisions. This should include explicitly accounting for the value of configurations like hybrid heating systems that reduce or do not increase peak electricity demand.

Response to IR-03 (a)

- (i) As stated in the response to IR-01, since preparing the evidence filed on June 23, 2026, Posterity Group has become aware of previous work conducted to support market-based commercial NC fuel choice baselines for MURBs in the NC program. Similar activities could be completed to support an appropriate baseline in other types of commercial and institutional buildings. Yes, recommendation 2 applies to commercial and institutional buildings.
- (ii) Posterity Group interprets ‘industrial process facilities’ to meet the criteria as defined in Section 2.4 of E1’s Custom New Construction Program Guide.⁶ Section 7.10 of the guide lists baseline requirements for industrial process loads:
 - *“Systems regulated by the NECB shall be modeled according to NECB Part 8, with the following exception:*
 - *Where facility processes require space temperature setpoints that differ from NECB-prescribed setpoints, both the baseline and proposed buildings shall be modeled with alternative setpoints as appropriate to the facility.*
 - *Unregulated process loads shall be modeled as follows:*
 - *Baseline equipment specifications and operating cycle times: Baseline process equipment specifications must be based on existing equipment/systems that are representative of industry-standard practices, as demonstrated by either*
 - *Equipment used in a similar facility/process with the same owner as the proposed facility, where the equipment is less than 10 years old*

⁵ M12780: Exhibit 20, EfficiencyOne – 2027-2031 Demand Side Management (DSM) Plan Application, PDF page 5.

- 1 ○ *Equipment used in the three similar facilities/processes located in Canada or the*
2 *United States.”⁶*

3 In contrast to other participants in the Custom NC program, the baseline for unregulated
4 process loads reflects standard market practice rather than minimum code energy
5 compliance. To the extent that this direction is being applied to baseline fuel choice, it is
6 appropriate as a DSM baseline.

- 7 (iii) Posterity's analysis and recommendations did not specifically consider multi-fuel industrial
8 facilities that may rely on fuel-switching or co-generation. These facilities may be better
9 positioned to participate in E1's demand response programs, which incentivize demand
10 reductions during peak events.

11 Response to IR-03 (b):

12 Posterity Group recommends that the peak demand incentive framework apply to all
13 participants, provided that the peak demand reduction is measured against a DSM measure
14 baseline that considers baseline fuel choices appropriately.

⁶ Efficiency Nova Scotia, Custom New Construction Program Guide, Version 2. Dartmouth, Nova Scotia, Canada: Efficiency Nova Scotia, Aug. 2022. [Online]. Available: https://assets.ctfassets.net/hro74sf4x6k2/3FYoaL3ZijRHShoWVccO4Q/5a0847c03528fc3f2dbad2ad4c00417f/NC-Program-Guide-v2_2022.pdf. Accessed: Jul. 10, 2026

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11 **Request IR-4:**

12 **Reference: E-20, Page 3.**

13 Posterity's evidence identifies that the NC Program does not include any mechanism to recognize
14 peak demand reductions relative to an "appropriate" baseline.

15 (a) Please confirm what metric Posterity recommends for measuring and
16 verifying peak demand reductions in the context of new construction (where
17 there is no pre-existing load profile) and identify any precedent jurisdictions
18 where such a metric has been applied in a new construction DSM program.

19 (b) The Brattle Group evidence (Exhibit E-22) and Synapse evidence (Exhibit
20 E-23) both recommend that E1 use hourly modelling when assessing
21 demand-side measures that affect peak load. Do you consider hourly
22 modelling necessary for the Custom NC Program to properly assess the
23 peak demand reduction value of industrial building design decisions?
24 Please explain your reasoning.

1 (c) For large and medium industrial customers constructing new facilities, peak
2 demand is often a significant cost driver given the demand charge
3 components of industrial tariffs. Please explain what design changes to the
4 Custom NC Program incentive structure you recommend to recognize the
5 system-level peak demand reduction benefits of industrial building design
6 decisions, including HVAC, refrigeration, and process load configurations.

7 **RESPONSE**

8 E1's NC program provides incentives based on the electrical energy savings of a proposed building
9 relative to a reference building, developed as outlined in NECB Part 8. This approach implies that
10 the reference building represents what would have been constructed in the absence of the DSM
11 program. However, if a portion of customers would otherwise have selected a natural gas heating
12 system, the reference building does not accurately reflect the true counterfactual.

13 In those cases, the NC program incentivizes projects that result in increased electricity
14 consumption and peak demand relative to what would otherwise have occurred.

15 Response to IR-04 (a):

16 Posterity Group recommends measuring peak demand reductions in new construction by
17 comparing the hourly (8,760-hour) demand profiles of the proposed building and an appropriate
18 baseline building that represents market practice. Peak demand reduction would be calculated
19 as the difference in demand during a defined peak period. This approach enables demand
20 impacts to be quantified despite the absence of a pre-existing load profile and can be applied
21 using building simulation results for both the baseline and proposed designs.

22 Response to IR-04 (b):

23 Posterity Group generally considers hourly demand modelling to be an effective method of
24 assessing the peak reduction associated with whole-building new DSM measures.

25 Response to IR-04 (c):

26 See the response to IR-04 (b).

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9 To: Posterity Group & Eastward Energy Incorporated

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11 Request IR-5:

12 Reference: E-20, Page 3.

13 *The NC Program uses a tiered incentive structure, where incentives are*
14 *calculated based solely on the electrical energy savings, excluding lighting*
15 *savings.* Error! Bookmark not defined.

16 Please provide the footnote referenced.

17 **RESPONSE**

18 The correct footnote is: Efficiency Nova Scotia, Custom New Construction Program Guide,
19 Version 2. Dartmouth, Nova Scotia, Canada: Efficiency Nova Scotia, Aug. 2022. [Online].
20 Available:
21 [https://assets.ctfassets.net/hro74sf4x6k2/3FYoaL3ZijRHShoWVccO4Q/5a0847c03528fc3f2dbad](https://assets.ctfassets.net/hro74sf4x6k2/3FYoaL3ZijRHShoWVccO4Q/5a0847c03528fc3f2dbad2ad4c00417f/NC-Program-Guide-v2_2022.pdf)
22 [2ad4c00417f/NC-Program-Guide-v2_2022.pdf](https://assets.ctfassets.net/hro74sf4x6k2/3FYoaL3ZijRHShoWVccO4Q/5a0847c03528fc3f2dbad2ad4c00417f/NC-Program-Guide-v2_2022.pdf). Accessed: Jun. 17, 2026.