

E1 Responses to Synapse Energy Economics (Synapse) Information Requests
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Request IR-01:

Refer to EfficiencyOne’s (E1) Evidence at page 28, which includes the list of distribution impacts included in the new benefit-cost analysis (BCA) test.

(a) Did the Demand Side Management Advisory Group (DSMAG) consider including Distribution Voltage in the proposed Nova Scotia Jurisdictional Benefit Cost Test (“Nova Scotia Test” or “BCA Test”) but valuing the impact at zero? Please explain why or why not.

(b) Did Energy Futures Group (EFG) consider including Distribution Voltage in the proposed Nova Scotia Jurisdictional Benefit Cost Test (“Nova Scotia Test” or “BCA Test”) but valuing the impact at zero? Please explain why or why not.

Response IR-01:

The following IR response has been provided by Energy Futures Group (EFG).

(a) Please refer to Table 2, on page 13 of the EFG Report.¹ When reviewing utility system impact categories, EFG and the Demand Side Management Advisory Group (DSMAG) identified distribution voltage as a possible impact. On specific circuits, distributed energy resources (DERs) can serve to either create or ameliorate voltage issues. While the ability of DERs to address or create voltage limit issues on distribution lines should be considered by NS Power when considering interconnection applications or potential non-wire

¹ M12282, E1 BCA Test Application, May 16, 2025, Appendix B: Development of a Jurisdictional Benefit Cost Analysis Framework for Nova Scotia (EFG Report), Prepared by Energy Futures Group, page 13 of 68.

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1 alternatives, the potential impacts on distribution voltage at the system wide level were
2 not easily quantified, and likely not material at this time. As electrification and distributed
3 resources increase in the future, further efforts to quantify the distribution voltage impacts
4 may likely be worthwhile.

5

6 (b) Please refer to part (a) of this IR response. Categorizing the distribution voltage impact as
7 “not material” is an implicit valuation of zero, it was not considered by EFG to likely be
8 material and therefore worthy of further consideration by the DSMAG even through the
9 use of approximation methods.

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Request IR-02:

Refer to E1’s Evidence at page 33, which states “EFG is proposing to apply the Federal social cost of carbon to the savings (after accounting for the avoided cost of carbon portion included in the current avoided cost of energy provided by NS Power in August 2024 – thus avoiding potential double counting).” Please provide an example of this calculation in Excel format with all formulas intact.

Response IR-02:

The following IR response has been provided by Energy Futures Group (EFG).

Please refer to EfficiencyOne’s (E1) response to NSEB IR-26, specifically the Demand Side Management Advisory Group (DSMAG) Illustrative Example Workbook, and the GHG Impacts worksheet. To avoid double counting of GHG impacts any carbon price that is embedded in the cost of fuels or of electricity should be subtracted from the social cost of carbon. For the illustrative example in the workbook and in EFG’s report there was some uncertainty around how much of the avoided costs of energy from NS Power were associated with avoided cost of carbon. Therefore, the cost of carbon was removed from all fuels, and the full social cost of carbon was applied to emissions.

These calculations achieved the same objective of avoiding double counting but through a different method than described on page 33 of E1’s Evidence.¹ If the portion of NS Power’s avoided costs of energy representing the embedded costs of avoided carbon are clarified, the approach of subtracting the embedded costs from the social cost of carbon method as described

¹ M12282, E1 BCA Test Application, May 16, 2025, E1 Evidence, page 33 of 38.

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- 1 above can be applied. In the illustrative example presented in the EFG Report² the carbon price
- 2 is subtracted from the fossil fuels and the avoided costs of energy, both electric and fossil fuels
- 3 are assumed to not have embedded avoided costs of carbon in them, so the full social cost of
- 4 carbon is applied.

² Ibid., Appendix B: Development of a Jurisdictional Benefit Cost Analysis Framework for Nova Scotia (EFG Report), Prepared by Energy Futures Group, page 19 of 68.

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Request IR-03:

Refer to E1's Evidence at page 35, Table 11: Test Case Application of BCA Test (Heat Pumps).

(a) Please provide all supporting analysis and workpapers in Microsoft Excel format with all cells unlocked, and formulas intact.

(b) Did E1 conduct a BCA using the current Total Resource Cost (TRC) Test for the heat pump example? If yes, please provide all supporting analysis and workpapers in Microsoft Excel format with all cells unlocked, and formulas intact. If not, please explain why not.

Response IR-03:

(a) The following IR response has been provided by Energy Futures Group (EFG).

Please refer to EfficiencyOne's (E1) response to NSEB IR-26, specifically Attachment 1, and Figures 1 and 2 in Appendix A, Direct Testimony of David Hill. The results for the illustrative example of 1,000 heat pumps using the recommended test are presented in Figure 1, and using the current TRC test are presented in Figure 2.¹

(b) E1 has not separately, from what is referenced by EFG above, performed cost-effectiveness testing using the TRC for the heat pump example. The heat pump example included in Table 11 of E1's Evidence was intended to provide an illustrative example only of how the proposed benefit cost analysis (BCA) framework would be applied in practice. It was not based on a specific E1 portfolio or program design.

¹ M12282, E1 BCA Test Application, May 16, 2025, Appendix A, Direct Testimony of David Hill, page 15-16 of 18.

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Request IR-04:

Refer to pages 8 and 9 of the Evidence of David Hill, regarding the statements “The numbers in the cells of this table indicate how many of the DSMAG organizations indicated each policy (in the rows) was relevant to each impact category (in columns) for consideration in the new BCA test” and “The EFG team’s interpretation of the results, represented in the final row in Table 2 above, indicates policy and legislative support for inclusion of electric utility system impacts, other fuels, resilience, GHG emissions, other environmental, public health, economic development/job, host customer – both for low/moderate income (LMI) households and for non-LMI customers, and diversity, equity, and inclusion (DEI) impacts in the BCA test.” Please explain why policy *relevance* indicates *support for inclusion* of an impact within a BCA test.

Response IR-04:

The following IR response has been provided by Energy Futures Group (EFG).

Based on guidance from the National Standard Practice Manual (NSPM)¹, the development of a jurisdictionally specific test should reflect that jurisdiction’s policy goals and objectives. The recommended method to do so is to review policy goals and objectives, including legislation, regulations, studies and planning documents, to ascertain what impact categories are relevant to include in a benefit cost analysis (BCA) test given the policy objectives. EFG conducted the review and homework assignment with the Demand Side Management Advisory Group (DSMAG) to gain insights into the relationship between Nova Scotia’s policies and possible impact

¹ M12282, E1 BCA Test Application, May 16, 2025, Appendix A, Attachment 2: National Standard Practice Manual, Table S-1 NSPM BCA Principles, Principle 2: Align with Policy Goals, page 16 of 302. “Principle 2: Align with Policy Goals. Jurisdictions invest in or support energy resources to meet a variety of goals and objectives. The primary cost-effectiveness test should therefore reflect this intent by accounting for the jurisdiction’s applicable policy goals and objectives.

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- 1 categories. EFG's understanding and opinion is that policy references and relevance to impact
- 2 categories provide a strong rationale for including the impacts in the jurisdiction's BCA
- 3 framework.

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Request IR-05:

Refer to Table 3 on pages 10 and 11 of the Evidence of David Hill.

(a) Please describe the basis for allocating 50% of transmission and distribution capacity to transmission and 50% to distribution.

(b) What specific assumptions did EFG make regarding program administration and direct incentive costs?

(c) What specific assumptions did EFG make regarding measure costs?

Response IR-05:

The following IR response has been provided by Energy Futures Group (EFG).

(a) The 50/50 split was a simplifying assumption by EFG. It is roughly consistent with the most recent information provided by NS Power on avoided transmission and distribution costs on August 23, 2024 (see tables below). The demand side portfolio could be expected to have greater impacts on the distribution system costs than on transmission, and the portfolio may or may not also have elements that target “constrained” areas on the distribution system, which have higher avoided cost values.

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Table 1 - System Wide Avoided T&D Costs			
Year	Transmission \$/kW-yr	Distribution \$/kW-yr	Total \$/kW-yr
2023	\$ 28.3241	\$ 30.4417	\$ 58.77
2024	\$ 28.89	\$ 31.05	\$ 59.94
2025	\$ 29.4684	\$ 31.6715	\$ 61.1400
2026	\$ 30.0578	\$ 32.3050	\$ 62.3628
2027	\$ 30.6590	\$ 32.9511	\$ 63.6100
2028	\$ 31.2721	\$ 33.6101	\$ 64.8822
2029	\$ 31.8976	\$ 34.2823	\$ 66.1799
2030	\$ 32.5355	\$ 34.9679	\$ 67.5035
2031	\$ 33.1862	\$ 35.6673	\$ 68.8535
2032	\$ 33.8500	\$ 36.3806	\$ 70.2306
2033	\$ 34.5270	\$ 37.1083	\$ 71.6352
2034	\$ 35.2175	\$ 37.8504	\$ 73.0679
2035	\$ 35.9219	\$ 38.6074	\$ 74.5293
2036	\$ 36.6403	\$ 39.3796	\$ 76.0199
2037	\$ 37.3731	\$ 40.1672	\$ 77.5403
2038	\$ 38.1206	\$ 40.9705	\$ 79.0911
2039	\$ 38.8830	\$ 41.7899	\$ 80.6729
2040	\$ 39.6606	\$ 42.6257	\$ 82.2863
2041	\$ 40.4538	\$ 43.4782	\$ 83.9321
2042	\$ 41.2629	\$ 44.3478	\$ 85.6107
2043	\$ 42.0882	\$ 45.2348	\$ 87.3229
2044	\$ 42.9299	\$ 46.1394	\$ 89.0694
2045	\$ 43.7885	\$ 47.0622	\$ 90.8508
2046	\$ 44.6643	\$ 48.0035	\$ 92.6678
2047	\$ 45.5576	\$ 48.9636	\$ 94.5211
2048	\$ 46.4687	\$ 49.9428	\$ 96.4116
2049	\$ 47.3981	\$ 50.9417	\$ 98.3398
2050	\$ 48.3461	\$ 51.9605	\$ 100.3066

Table 2 - Constrained System Avoided T&D Costs			
Avoided T&D Costs	Transmission \$/kW-yr	Distribution \$/kW-yr	Total \$/kW-yr
2023	\$ 82.99	\$ 89.20	\$ 172.19
2024	\$ 84.65	\$ 90.98	\$ 175.64
2025	\$ 86.35	\$ 92.80	\$ 179.15
2026	\$ 88.07	\$ 94.66	\$ 182.73
2027	\$ 89.84	\$ 96.55	\$ 186.39
2028	\$ 91.63	\$ 98.48	\$ 190.12
2029	\$ 93.46	\$ 100.45	\$ 193.92
2030	\$ 95.33	\$ 102.46	\$ 197.80
2031	\$ 97.24	\$ 104.51	\$ 201.75
2032	\$ 99.19	\$ 106.60	\$ 205.79
2033	\$ 101.17	\$ 108.73	\$ 209.90
2034	\$ 103.19	\$ 110.91	\$ 214.10
2035	\$ 105.26	\$ 113.13	\$ 218.38
2036	\$ 107.36	\$ 115.39	\$ 222.75
2037	\$ 109.51	\$ 117.70	\$ 227.21
2038	\$ 111.70	\$ 120.05	\$ 231.75
2039	\$ 113.93	\$ 122.45	\$ 236.38
2040	\$ 116.21	\$ 124.90	\$ 241.11
2041	\$ 118.54	\$ 127.40	\$ 245.93
2042	\$ 120.91	\$ 129.95	\$ 250.85
2043	\$ 123.32	\$ 132.54	\$ 255.87
2044	\$ 125.79	\$ 135.20	\$ 260.99
2045	\$ 128.31	\$ 137.90	\$ 266.21
2046	\$ 130.87	\$ 140.66	\$ 271.53
2047	\$ 133.49	\$ 143.47	\$ 276.96
2048	\$ 136.16	\$ 146.34	\$ 282.50
2049	\$ 138.88	\$ 149.27	\$ 288.15
2050	\$ 141.66	\$ 152.25	\$ 293.91

2

3

4 For the application of the recommended benefit cost analysis (BCA) test to screen the DSM
5 portfolio, updated values for all utility system avoided costs should be used if available.

6

7 (b) For the illustrative example shown in Figure 1 of David Hill's Evidence,¹ EFG assumed an
8 \$8,000 measure cost with a 40% incentive (equal to \$3,200) and \$2,000 total of program
9 non-incentive administration and support costs. These are merely illustrative and do not

¹ M12282, E1 BCA Test Application, May 16, 2025, Appendix A, Evidence of David Hill Energy Futures Group, Inc.,
page 15 of 18.

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- 1 reflect actual EfficiencyOne (E1) program design or delivery costs, which would be included
- 2 as inputs in the application of the BCA test for a DSM Plan.
- 3
- 4 (c) Please refer to part (b) of this IR response.

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Request IR-06:

Refer to Figure 1 and Figure 2 on pages 15 and 16 of the Evidence of David Hill. Please provide Figure 1 and Figure 2 and all supporting analysis and workpapers in Microsoft Excel format with all cells unlocked, and formulas intact.

Response IR-06:

The following IR response has been provided by Energy Futures Group (EFG).

Please refer to EfficiencyOne's (E1) response to NSEB IR-26.

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Request IR-07:

Refer to lines 22-23 on page 15 of the evidence of David Hill and pages 30-33 of Appendix B.

(a) What specific instructions did EFG give to the DSMAG for completing the assignment for reviewing Nova Scotia energy policies?

(b) How many DSMAG participants submitted responses for this assignment?

Response IR-07:

The following IR response has been provided by Energy Futures Group (EFG).

(a) The instructions and definitions given to the Demand Side Management Advisory Group (DSMAG) group for completing the homework assignment 1, reviewing Nova Scotia energy policies, has been provided in Attachment 1 of this IR response, filed electronically.

(b) Please refer to EfficiencyOne's response to NSEB IR-09.

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1 **Request IR-08:**

2
3 **Refer to Appendix B, *Development of a Jurisdictional Benefit Cost Analysis Framework for Nova***
4 ***Scotia* report prepared by EFG (hereinafter, the “EFG Report”) on pages 12-14. Table 1 indicates**
5 **that all Electric Utility System Impacts are included in the Nova Scotia Test while Tables 2 and**
6 **3 indicate that some Utility System Impacts are not applicable and not material.**

7
8 **(a) Please confirm that all Electric Utility System Impacts, even those that are considered not**
9 **applicable and/or not material, are included in the proposed Nova Scotia Test. If not**
10 **confirmed, please explain.**

11
12 **Response IR-08:**

13
14 The following IR response has been provided by Energy Futures Group (EFG).

15
16 (a) Partially confirmed. The proposed Nova Scotia benefit cost analysis (BCA) test framework,
17 consistent with the National Standard Practice Manual (NSPM) recommendations, includes
18 all utility system impacts. However, also consistent with guidance from the NSPM, when
19 the proposed Nova Scotia test framework is applied, some utility system impacts may not
20 be applicable to a certain distributed energy resource (DER), or they may be deemed to be
21 immaterial. This highlights a nuance between the theoretical framework for the proposed
22 test and its application.

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1 **Request IR-09:**

2
3 **Refer generally to the proposed Nova Scotia Test as included in the EFG Report. If an impact is**
4 **deemed not to be material, is it still included in the Nova Scotia Test but will have a value of**
5 **zero? If not, please explain why not.**

6
7 Response IR-09:

8
9 The following IR response has been provided by Energy Futures Group (EFG).

10
11 Yes, please refer to EfficiencyOne's (E1) response to Synapse IR-08. An impact can be included in
12 the framework, but in application of the test, it may be considered not applicable to a specific
13 distributed energy resource (DER) or not material, and therefore not of sufficient scale to warrant
14 making a proxy estimate. To avoid an implicit zero valuation, a proxy estimate could be made for
15 every impact, but such effort is not likely to significantly change the results or enhance the
16 analysis.

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Request IR-10:

Refer to the EFG Report on page 17, which states “The gas utility system non-commodity impacts are not recommended for quantification for the new jurisdictional test. Additional data on gas system costs would be required to quantify the non-commodity gas system impacts.”

(a) Please provide a definition of non-commodity impacts.

(b) Are non-commodity impacts considered applicable to distributed energy resources (DER) in Nova Scotia? Please explain why or why not.

(c) What gas system cost data is required to enable quantification of gas utility system non-commodity impacts?

(d) Will non-commodity impacts be discussed qualitatively within E1’s future DSM plan filings? Please explain why or why not.

(e) Did EFG consider use of a proxy adder for gas utility system non-commodity impacts? Please explain why or why not.

Response IR-10:

The following IR response has been provided by Energy Futures Group (EFG).

(a) Gas utility system non-commodity impacts are distribution delivery costs, and other variable operating and infrastructure costs.

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1 (b) Distributed energy resources (DERs) in Nova Scotia could have impacts on gas system non-
2 commodity costs, but the majority of the impact is related to the gas commodity cost
3 impact.

4
5 (c) Please refer to EfficiencyOne's (E1) response to NSEB IR-22.

6
7 (d) It is not determined at this time whether E1 will qualitatively or quantitatively address the
8 non-commodity gas system impacts. EFG's recommendation is that for this Application,
9 relying on the commodity cost of gas to represent the system impacts is an appropriate
10 approach for the proposed Nova Scotia benefit cost analysis (BCA) test.

11
12 (e) EFG considered using a proxy adder approach for non-commodity gas system impacts, but
13 also reflected on the effort and attention given to the Demand Side Management Advisory
14 Group (DSMAG) discussions around the proxy adders for host customer non-energy
15 benefits. EFG's opinion, as reflected in the EFG Report and in discussions and presentations
16 with the DSMAG was that relying on the gas commodity cost to represent gas system
17 impacts was an appropriate and efficient method.

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Request IR-11:

Refer to the EFG Report on page 17, which states “For host customer impacts the new jurisdictional test should include both measure costs and non-energy benefits. EFG recommends a proxy adder approach to estimate the combined impact of the harder to measure non-energy benefits. The recommended proxy adders vary by DER type and customer segment. The rationale for applying proxy adders to harder to quantify non-energy benefits is discussed further in Section V. (See Tables 12-15 in Section V, and Appendix F).”

(a) Did the DSMAG or EFG discuss the merits of a jurisdiction-specific study to estimate non-energy benefits (NEB) for host customers? Please explain.

(b) Does EFG recommend proxy adders in place of a jurisdiction-specific study? Please explain why or why not.

Response IR-11:

The following IR response has been provided by Energy Futures Group (EFG).

(a) Yes, in general terms EFG discussed with the Demand Side Management Advisory Group (DSMAG) how a Nova Scotia specific study or evaluation could be used in place of proxy adders to estimate host customer non-energy benefits.

(b) Yes, EFG recommends a proxy adder approach be adopted for the Nova Scotia benefit cost analysis (BCA) test. The approach, the rationale, and the recommended values by impact category and market segment were shared and reviewed with the Demand Side Management Advisory Group (DSMAG) in workshops 4-6, and during follow on discussions.

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1 If over time, through evaluation or other studies, more information is available to refine
2 the proxy adder estimates, then that could be applied. However, EFG's opinion is that
3 approval of a new Nova Scotia jurisdictional test, or its application to a new E1 DSM
4 portfolio need not, and should not, be delayed until such further studies or information
5 may become available. Undertaking a jurisdiction-specific study to estimate non-energy
6 benefits to host customers is a significant undertaking. The time and resources required to
7 carry out this work should be balanced against the value that will be gained.

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1 **Request IR-12:**

2

3 **Please provide Table 5 on page 19 of the EFG Report in Microsoft Excel format with all**
4 **supporting analysis and workpapers with formulas intact.**

5

6 Response IR-12:

7

8 Please refer to EfficiencyOne's (E1) response to NSEB IR-26.

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Request IR-13:

Refer to page 32 and Table 7 in the EFG Report.

(a) Please list the “Other” Non-Utility System Impacts that the stakeholder organizations recommended.

(b) EFG states that “the checks are aligned with cases where 3 or more stakeholders and 3 or more policies indicated support for including an impact.” Please explain why Energy Security is not included in the proposed Nova Scotia Test when 3 or more stakeholders indicated support for including the impacts in Table 7.

Response IR-13:

(a) Please refer to EfficiencyOne’s (E1) response to NSEB IR-09.

(b) The following IR response has been provided by Energy Futures Group (EFG).

Table 7 of the EFG Report¹ indicates that three respondents identified energy security as a relevant impact to include based on two policies. Energy security does not therefore meet the threshold of having 3 or more stakeholders and 3 or more policies for being selected. It is possible to argue that energy security impacts should be considered, but based on the policy/impact relevance exercise it was found to not be at the same level as the other impacts, and due to this, EFG did not recommended it for inclusion, and shared this

¹ M12282, E1 BCA Test Application, May 16, 2025, Appendix B: Development of a Jurisdictional Benefit Cost Analysis Framework for Nova Scotia (EFG Report), Prepared by Energy Futures Group, page 32 of 68.

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- 1 recommendation with the Demand Side Management Advisory Group (DSMAG) in
- 2 discussions and in the draft and final reports.

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Request IR-14:

Page 35 of the EFG Report states that the “best option may be to consider ancillary services as embedded within the generation and capacity avoided costs.”

(a) Please explain how the avoided costs for generation and capacity account for the impact of ancillary services.

Response IR-14:

The following IR response has been provided by Energy Futures Group (EFG).

(a) Part of NS Power’s electric service is the provision of ancillary services, such as voltage and frequency regulation, spinning reserves and black start capabilities. The avoided costs provided by NS Power for use by EfficiencyOne (E1) for demand side management (DSM) portfolio screening include energy, and generation, transmission and distribution capacity. The costs associated with ancillary services may be embedded in these avoided costs, and that is what the statement cited above refers to. If the avoided costs provided by NS Power do not include accounting for ancillary services, then adjustments to the avoided costs, or provision of a separate set of ancillary service costs may be warranted. However, as stated, EFG’s recommendation is that the best option may be to assume the costs associated with ancillary services are embedded in the generation and capacity avoided costs.

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Request IR-15:

Refer to page 36 of the EFG Report, which states that “Program administration and financial incentives – In Nova Scotia these refer to E1 costs as the DSM program administrator.” Please clarify whether Nova Scotia Power costs for developing and implementing demand response programs are included. If not, why not?

Response IR-15:

The following IR response has been provided by Energy Futures Group (EFG).

Program administration and incentive costs could be borne by EfficiencyOne (E1) or by NS Power. If there are administrative or incentive costs borne by NS Power associated with program services delivered by E1 these should be included. It is assumed for the E1 DSM portfolio that all the administrative and incentive costs will be borne by E1.

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Request IR-16:

Refer to the NEB proxy adder recommendations included in Table 14 on page 45 of the EFG Report.

(a) Please provide all workpapers, analysis, and sources used to develop each Non-Income Qualified proxy adder for each Measure Category and Customer Segment. Please provide all workpapers and supporting analysis in Microsoft Excel with all cells unlocked and formulas intact.

(b) Please explain the rationale for the difference between the non-income qualified and income-qualified proxy adders. As part of your response please cite all sources relied on to inform the difference.

Response IR-16:

The following IR response has been provided by Energy Futures Group (EFG).

(a) Please refer to EfficiencyOne's (E1) response to NSEB IR-15 for discussion on proxy adders, how they were developed and why they are recommended. The proxy adders are not based on an excel spreadsheet analysis with formulas and calculations arriving at "an answer of X%". The recommended values are considered by EFG as appropriate and reasonable estimations of the non-energy host customer benefits. Please see the EFG Report¹ for further discussion, rationale and citations.

¹ M12282, E1 BCA Test Application, May 16, 2025, Appendix B: Development of a Jurisdictional Benefit Cost Analysis Framework for Nova Scotia (EFG Report), Prepared by Energy Futures Group.

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- 1 (b) Please refer to part (a) of this IR response.

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Request IR-17:

Page 46 of the EFG report cites the use of non-energy impacts adopted in Vermont, Colorado, and Nevada.

(a) To what extent did EFG use the adders adopted in these jurisdictions to inform its recommended proxy adders for the Nova Scotia Test?

(b) Does Vermont, Colorado, or Nevada use adders for non-energy impacts associated with on site solar, on site battery, solar plus storage, or beneficial electrification? If yes, please provide the adder for each instance. If not, please explain how EFG developed the NEB proxy adder recommendations for those DERs.

(c) EFG does not cite Massachusetts on page 46. To what extent did EFG model the recommended NEB proxy adders after Massachusetts?

(d) Did EFG consider using NEB data and values from evaluations and studies conducted in similar jurisdictions? If yes, please explain why that data wasn't used. If not, please explain why not.

Response IR-17:

The following IR response has been provided by Energy Futures Group (EFG).

(a) EFG based its recommendations on the professional judgement of its team members. Values adopted or considered by other jurisdictions helped to inform EFG's thinking, but

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1 the recommendations are not a direct outcome of an analysis of practices in other
2 jurisdictions.

3
4 (b) In drafting this response, and during the research for this report, EFG is not aware of
5 whether Vermont, Nevada and Colorado apply adders for non-energy benefits for the DER
6 types listed in this question. If the benefit cost tests for these states are applied to all DERs,
7 and if they are applied in accordance with guidance from the National Standard Practice
8 Manual (NSPM), EFG would expect that host customer non-energy benefits would be
9 included - either through proxy adders or via other means. As explained in the EFG Report,
10 Demand Side Management Advisory Group (DSMAG) benefit cost analysis (BCA) workshops
11 and several other IR responses, EFG recommends the proxy adder values as a reasonable
12 and appropriate means for capturing these benefits in the new Nova Scotia test.

13
14 (c) Please refer to part (b) of this IR response. EFG reviewed the work conducted by the DSMAG
15 and EfficiencyOne (E1) for the last DSM plan filing, including references to the valuation of
16 non-energy benefits work that was undertaken previously in matter M08888.¹¹ This work,
17 conducted by Vermont Energy Investment Corporation (VEIC) included adopting and
18 modifying values from Massachusetts for adoption in Nova Scotia. After a prolonged study
19 period, the values were not adopted, and host customer non-energy benefits were not
20 counted in the total resource cost (TRC) test used for screening the last demand side
21 management (DSM) portfolio. See Tables 15 and 16 in the EFG Report and associated
22 discussion for a comparison of the values for host customer non-energy benefits derived
23 from EFG's recommended proxy value adders with the values derived from the work done

¹¹ M08888, E1 Application for Approval of the use of Non-Energy Benefits within Cost-Effectiveness Testing,
September 19, 2018.

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1 in Massachusetts.² As noted, the proxy value adders being recommended by EFG result in
2 a lower range of values for the host customer non-energy benefits.

3
4 Quoting from the bottom of page 48 in the EFG Report: *“The consultant team recommends*
5 *the proposed proxy levels and approach for estimating [non-energy benefits] NEBs in Nova*
6 *Scotia are conservative and appropriate. While they indicate the value of non-energy*
7 *benefits for host customers is not zero, the proxy percentages recommended, result in*
8 *values per kWh that are consistently less than the values estimated in Massachusetts and*
9 *the consultant team considers the recommended approach as providing an appropriate*
10 *balance between complexity required to estimate the [non-energy impacts] NEI’s*
11 *separately for each individual measure, and the past default of not counting host customer*
12 *NEI benefits in the BCA test.”*

13
14 (d) Please refer to parts (b) and (c) of this IR response.

² M12282, E1 BCA Test Application, May 16, 2025, Appendix B: Development of a Jurisdictional Benefit Cost
Analysis Framework for Nova Scotia (EFG Report), Prepared by Energy Futures Group, page 47-48 of 68.

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Request IR-18:

Refer to Table 14 on page 45 of the EFG Report.

(a) Please identify which Measure Categories will be applied to both the residential customer segment and the business, non-profit, and institutional (BNI) customer segment. For example, will the same proxy adder for distributed storage be applied to both residential and BNI host customers?

(b) Please confirm that the percentage adders in the non-income qualified column would be applied to both Residential and BNI host customers, except for the measure category of BNI Customer Measures. If not confirmed, please explain.

(c) Please explain how the Measure Categories of Building Shell Measures, BNI Custom Measures, and Other Equipment Energy Efficiency align with E1's existing measures and programs. As part of your response, please list E1's existing measures and programs that would be included in those Measure Categories.

Response IR-18:

The following IR response has been provided by Energy Futures Group (EFG).

(a) Unless specified the recommended proxy adders by measure category would be applied to residential and business, non-profit and institutional (BNI) customers. Yes, the proxy adders for distributed storage would be applied to both residential and BNI customers.

(b) Confirmed with exception of custom measures as noted.

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- 1 (c) For the purpose of developing a jurisdiction specific benefit-cost analysis (BCA) test for
2 Nova Scotia, EFG has not undertaken the assigning of E1 measures to the appropriate
3 measure categories. In general, building shell measures include air sealing, insulation and
4 other measures that improve a building's thermal shell performance. Custom measures
5 include a wide range of measures and services for BNI customers. Other equipment
6 measures would capture the remaining measures that are not classified as building shell
7 measures or custom BNI measures. Mapping each measure to the appropriate category will
8 be undertaken by E1 as part of the implementation of cost effectiveness screening using
9 the new jurisdictional test, subject to the Nova Scotia Energy Board's approval.

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Request IR-19:

Refer to the statement on page 44 of the EFG Report, which states that the recommended proxy values are “calculated as a percent adder of the estimated energy benefits for efficiency measures and as a percent of non-incentivized measure costs for beneficial electrification measures.” Please also refer to page 4 of the Application of E1, which states that “host customer non energy benefits will be quantified using proxy adders applied as a percentage of net energy benefits.”

(a) Please confirm whether E1’s proposal is to apply proxy adders to energy benefits or net energy benefits.

(b) Does “energy benefits” have the same meaning as Electric Utility System Impacts as included in the proposed Nova Scotia Test? If not, please explain.

(c) Please explain the rationale for applying a proxy adder to non-incentivized measure costs for beneficial electrification instead of applying the adder to net-other fuel savings or other resulting impacts.

(d) If E1 reduces incentive levels for beneficial electrification measures, will that result in a higher resulting NEB value?

Response IR-19:

The following IR response has been provided by Energy Futures Group (EFG).

(a) EfficiencyOne’s (E1) proposal is to apply proxy adders to net energy benefits.

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- 1 (b) Energy benefits and net energy benefits are different than electric utility system impacts
2 and incorporate changes to other fuels, in addition to changes to the electric utility system.
3
- 4 (c) The rationale for considering the non-incentivized measure cost as the basis for the proxy
5 adder for host customer non-energy benefits for beneficial electrification is the non-energy
6 benefits customers may be gaining (such as added cooling, enhanced cooking or driving)
7 are better represented by measure cost than by energy savings. For efficiency measures
8 energy savings were considered more appropriate.
9
- 10 (d) No, under the proposed approach of using the non-incentivized measure cost as the basis
11 for calculation, the estimated host customer non-energy benefit would not increase.

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Request IR-20:

EFG states that the “consultant team developed two quantitative examples to translate proxy values into impacts per kWh and per MMBtu NEI values” on page 47 of the EFG report. Please provide all associated workpapers in Microsoft Excel with all cells unlocked and all formulas intact.

Response IR-20:

The following IR response has been provided by Energy Futures Group (EFG).

Please refer to EfficiencyOne’s (E1) response to NSEB IR-26, specifically please see ‘Levelized NEI’ worksheet rows 31 to 54 in Attachment 1.

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Request IR-21:

Refer to Table 17 on page 49 of the EFG report.

(a) Table 17 indicates that electric vehicles (EV) do not provide resilience benefits. Did the DSMAG or EFG consider vehicle-to-building applications, such as using EV batteries to power critical customers? If yes, please explain how EVs would not have an impact on resilience. If not, please explain why not.

(b) Please explain why the impact of Public Health is not material for EVs but is material for building electrification (BE).

Response IR-21:

The following IR response has been provided by Energy Futures Group (EFG).

(a) The potential for vehicle-to-building support was considered insufficiently developed in the marketplace to be counted as an impact in the recommended test. If a program design or market conditions warrant a resilience impact, this could be considered in the future.

(b) In responding to this IR response, EFG notes that the public health/electric vehicle (EV) impact cell in Table 17 of the EFG Report should be a check instead of an NM (not material).¹

¹ M12282, E1 BCA Test Application, May 16, 2025, Appendix B: Development of a Jurisdictional Benefit Cost Analysis Framework for Nova Scotia (EFG Report), Prepared by Energy Futures Group, page 49 of 68.

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Request IR-22:

Table 14 on page 45 of the EFG Report indicates that Host Customer Non-Energy Benefit Impacts from Building Shell Measures and Beneficial Electrification measures have impacts on indoor air quality and health. Page 51 of the EFG Report identifies Other Air Pollutants, recommending the inclusion of a benefits-per-kilowatt-hour (BPK) of air quality-related public health benefits of investments in energy efficiency.

(a) Please explain how health benefits are not being double counted between host customer NEBs and Other Air Pollutants.

(b) Should host customer NEBs related to health be subtracted from the air pollution emission impacts?

Response IR-22:

The following IR response has been provided by Energy Futures Group (EFG).

(a) Building shell measures and beneficial electrification have direct impacts on indoor air quality and other potential factors such as mold and mildew. The other air pollutant impacts are associated with changes in emissions of particulate matter and precursors from electric generation and are associated with ambient outdoor air quality. The two impacts are measuring distinctly different elements related to air quality and health. The host customer NEBs focus on direct benefits to the individuals within the building, while the Other Air Pollutants impacts address broader public health benefits from reduced air pollution. Therefore, these health benefits are not considered to be double counting.

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- 1 (b) No. Please refer to part (a) of this IR response.

E1 Responses to Synapse Energy Economics (Synapse) Information Requests
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Request IR-23:

**Provide Table 18, Table 19, Table 20, Table 21, Table 22, and Table 23 in the EFG Report in Excel
format with all formulas intact.**

Response IR-23:

The following IR response has been provided by Energy Futures Group (EFG).

Please refer to EfficiencyOne's (E1) response to NSEB IR-26, specifically Other Fuel impact sheets
in Attachment 1.

E1 Responses to Synapse Energy Economics (Synapse) Information Requests
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Request IR-24:

Refer generally to the EFG Report and the DSMAG stakeholder process for developing the proposed Nova Scotia Test. Please provide a summary of all non-consensus issues. For each non-consensus issue, please identify which organizations did not support the consensus position. For each non-consensus issue, please identify any alternative positions that were proposed by any organizations.

Response IR-24:

Please refer to EfficiencyOne's (E1) response to NSEB IR-09.