Synapse
Energy Economics, Inc.

December 16, 2021

Crystal Henwood
Regulatory Affairs Officer/Clerk of the Board
Nova Scotia Utility and Review Board
3rd Floor
1601 Lower Water Street
Halifax, Nova Scotia B3J 3S3

RE: M10321 – EfficiencyOne - 2021 Rate and Bill Impact Analysis Report

Dear Ms. Henwood:

Synapse Energy Economics, Inc. (Synapse) respectfully submits the following comments regarding the 2021 Rate and Bill Impact Analysis (R&BIA) filed by EfficiencyOne (E1) on November 1, 2021.

We wish to acknowledge the work that was done by Nova Scotia Power (NSPI) and E1 to further improve the R&BIA modeling in 2021. The improvements include:

- Transparent documentation of demand-side management (DSM) cost-savings allocations by rate class for calculating rate and bill impacts at a class level,
- Update of the avoided energy and capacity cost inputs,
- Refinement of avoided transmission and distribution (T&D) cost methodology, and
- A sensitivity analysis including the avoided cost of carbon.

We appreciate the efforts that NSPI and E1 put into making these improvements, which address many of Synapse's outstanding concerns with the R&BIA. The update to the avoided energy and capacity values resulted in higher rate impacts and lower bill reductions in the 2021 R&BIA relative to the 2020 R&BIA. Figures 1 through 4 below show the rate impacts, participant bill impacts, non-participant bill impacts, and total customer bill impacts, respectively.[1] However, the range of rate and bill impacts across rate classes continues to be reasonable. Also, the rate classes with higher rate increases (such as Small

[1] 2021 data was not provided for the non-participant bill impacts for the municipal rate class as it is assumed that all municipal customers participate in programs.

General and Small Industrial) are also the rate classes with the higher bill reductions for participants. Therefore, every effort should be made to maximize participation by customers in these rate classes.

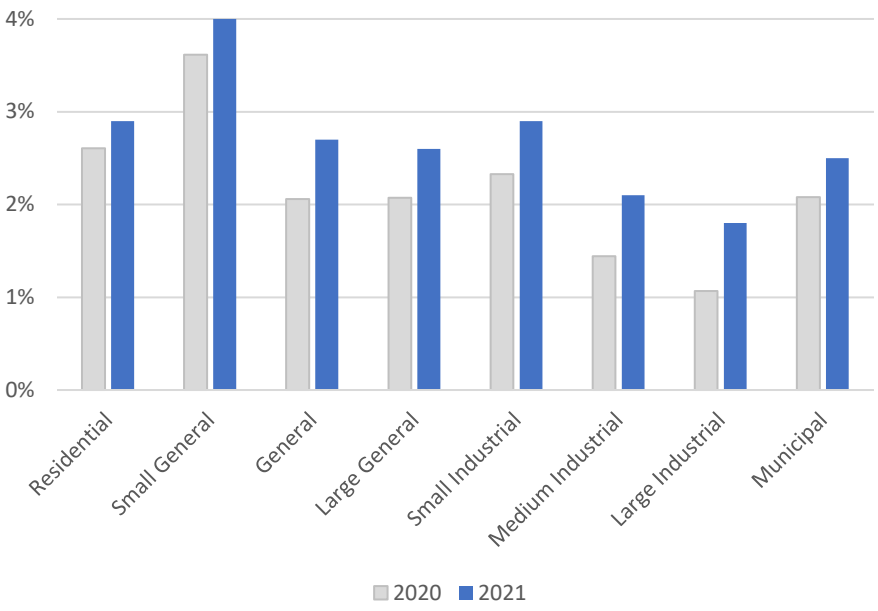

Figure 1 – Rate Impacts by Rate Class, 2021 vs. 2020

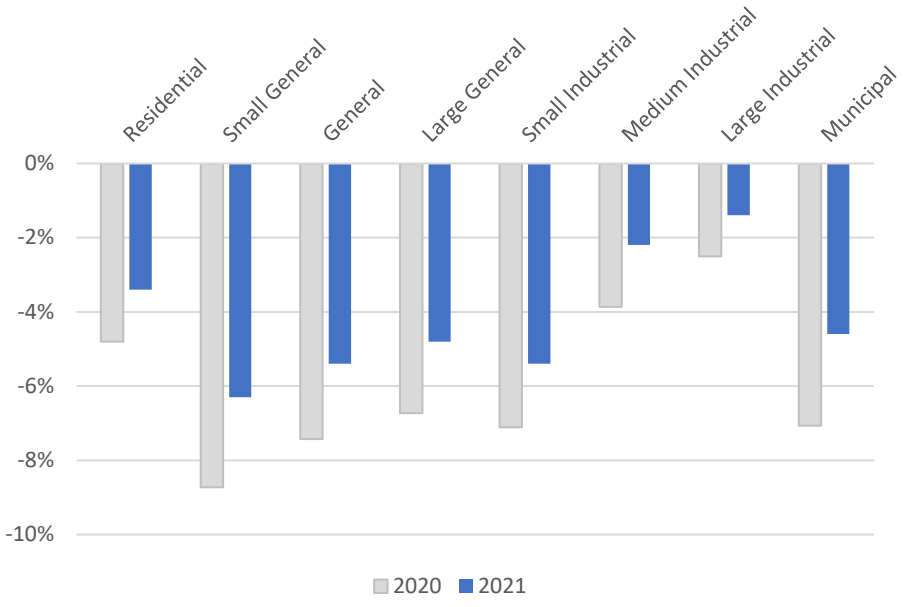

Figure 2 – Participant Bill Impacts by Rate Class, 2021 vs. 2020

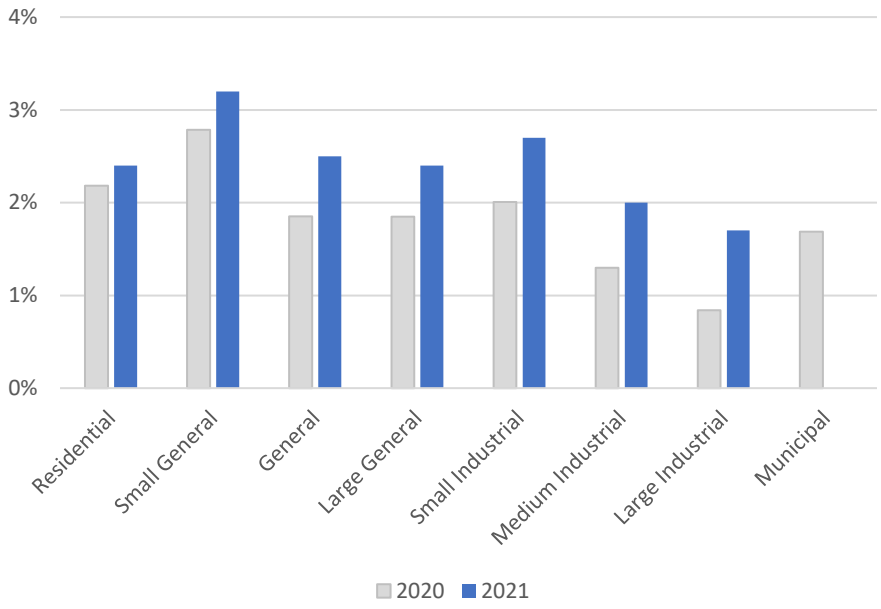

Figure 3 – Non-Participant Bill Impacts by Rate Class, 2021 vs. 2020

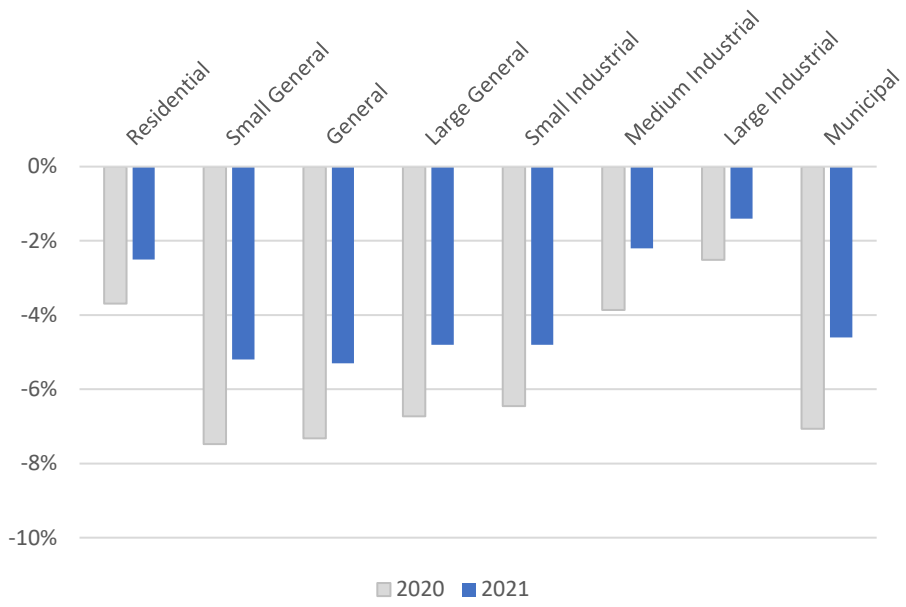

Figure 4 – Total Customer Bill Impacts by Rate Class, 2021 vs. 2020

Synapse has some clarifying questions on the report and models, which we include as Attachment 1.

Additionally, there is one issue that needs to be addressed in future years. In updating the avoided costs, the DSM Advisory Group (DSMAG) discovered that NSPI developed "no DSM" cases based on its integrated resource plan (IRP) scenarios 2.0C and 2.1C after the IRP process was complete. The "no

DSM" cases did not include energy efficiency but they did include more demand response than the "with DSM" cases (i.e., 2.0C and 2.1C). This resulted in lower capacity costs for the "no DSM" cases than for the "with DSM" cases, which is not a reasonable modeling outcome. The difference in levels of the demand response resource between the "no DSM" cases and the "with DSM" cases complicated the development of avoided capacity costs that could be applied in energy efficiency benefit-cost analysis and R&BIA modeling. Stakeholders proposed, debated, and ultimately agreed on an adjustment to the near-term avoided capacity costs to improve its accuracy. While we feel the near-term avoided capacity costs are as good as can be given the circumstances, we note that these values are not accurate and should be improved moving forward. We request that, in future IRPs, the DSMAG be engaged up front in the IRP process on how energy efficiency and demand response should be handled. The inputs and modeling that are vetted by stakeholders in the IRP process should include parameters for "no DSM" and "with DSM" cases, which can be used to calculate the differential in energy and capacity costs that are avoidable with DSM.

Lastly, Synapse emphasizes the need for discussion and analysis of the impacts of the adoption of Act 57 on DSM and other clean energy investment planning. The discussion and analysis of Act 57 and carbon regulations are more relevant to the upcoming forward-looking R&BIA analysis that will be used to inform the 2023–2025 DSM Plan than to the 2021 Historical R&BIA. To inform any supporting analysis for the following three-year DSM plan (including a potential study, if E1 plans to conduct one) we propose two topics for discussion and analysis by 2023.

1. First, NSPI is in the process of updating the 2020 IRP to reflect the impacts of recently adopted legislation and other changes. As part of the updates, we request the addition of a "no DSM" case that does not include energy efficiency and demand response.

2. Second, we note that DSM planning needs to be integrated with the planning for other clean energy resources. For example, the DSMAG should be aware of the cost of other clean energy resources and how these costs compare to the cost of DSM resources. We request that NSPI provide the DSMAG with this data.

We thank the Board for the opportunity to provide these comments.

Sincerely,

Jennifer Kallay, Senior Associate

Alice Napoleon, Principal Associate

Attachment 1: Synapse Questions

Report

1. On page 15 of 37 in Table 5: Calculation of avoided cost of carbon, please provide the formula and data source for the NSP emissions intensity values.
2. On page 31 of 37 in Figure 9: Annual Participation Rates by Rate Class (tracked + untracked), E1's annual tracked + untracked participation rates for the General, Small Industrial, and Small General rate classes increased significantly in 2021 and 2022 as compared to historical levels. Please provide an explanation of the rationale for and magnitude of these increases.

Attachment 1, NSP Input tab

3. Row 34 in columns E to N, Forecast Unit Revenue Before DSM Program Cost and Customer Charges (¢/kWh), contains no values. Please populate these values.
4. Row 66 in columns E to N, Forecast Unit Revenue Before DSM Program Cost and Customer Charges (¢/kWh), does not appear to reflect a total or average. Please indicate if these values need to be corrected. If these values need to be corrected, please indicate whether these corrections impact the rate and bill impact results in any way.
5. Row 34 in columns O to X, Forecast Unit DSM Program Charges (¢/kWh), does not appear to reflect a total or average. Please indicate if these values need to be corrected. If these values need to be corrected, please indicate whether these corrections impact the rate and bill impact results in any way.
6. In columns Y through AH, Sales Forecast at Customer's Meter (GWh), the sales forecast for 2023 on increased from the 2020 Historical R&BIA to the 2021 Historical R&BIA. Please provide an explanation of the rationale for and magnitude of this increase.
7. In columns AI to AR, Avg Monthly Demand Forecast (MW), there no values for the Without DSM case. Please indicate if these values need to be added. If these values need to be added, please indicate whether these additions impact the rate and bill impact results in any way.

Appendix E, E1 Data Inputs tab

8. Column BC, Average Life of Measures, appears to be a sum rather than an average. Please indicate if these values need to be corrected. If these values need to be corrected, please indicate whether these corrections impact the rate and bill impact results in any way.
9. Column U, DSM Costs, shows costs for 2020, 2021, 2022, and 2023 but no participating customers in column V. Please indicate if these values need to be corrected and if not, explain why not. If these values need to be corrected, please indicate whether these corrections impact the rate and bill impact results in any way.
10. Column AJ, DSM Costs, shows costs for 2020 and 2023 but no participating customers in column AK. Please indicate if these values need to be corrected and if not, explain why not. If these

values need to be corrected, please indicate whether these corrections impact the rate and bill impact results in any way.

11. Column AO, DSM Costs, shows costs for 2012 onward but no participating customers in column AP. Please indicate if these values need to be corrected and if not, explain why not. If these values need to be corrected, please indicate whether these corrections impact the rate and bill impact results in any way.