[Evidence]

Request IR-01:

Please refer to p. 10 of the DSM Plan Application, regarding the alignment of the Settlement Plan with the IRP Reference Plan.

(a) Why isn't E1 proposing a plan with investment levels as high as the investment levels assumed in the 2020 IRP?

(b) Why isn't E1 proposing a plan with investment levels higher than the investment levels assumed in the 2020 IRP, given the recent environmental legislation noted on p. 6-7 of the DSM Plan?

(c) Does E1 plan to file proposal(s) during the term of this DSM Plan (2023-2025) related to electrification? How does E1 expect to coordinate issues related to electrification with the DSMAG?

Response IR-01:

(a) EfficiencyOne's (E1) Settlement Plan proposes an investment of $173 million that includes both energy efficiency and demand response. The investment in energy efficiency of $163 million slightly exceeds the Base DSM scenario that was selected as the IRP Reference Plan of $159 million. The balance of the difference is driven by the level of Demand Response (DR) in the Settlement Plan of $10 million as compared to the Base DR scenario selected in the 2020 IRP of $29 million (excluding the critical peak pricing rate option, which will be administered by NS Power) for a difference of $19 million. For the first time, E1 is proposing targeted DR activities in a DSM Plan and although E1 and NS Power have been working collaboratively on the launch of DR pilots, the Base DR investment and demand savings appear to be too aggressive and it would be challenging for E1 to ramp up to that level by 2025.

(b) E1 used the 2020 IRP as the most recent IRP to inform the 2023-2025 DSM Plan. Although it is reasonable to assume that higher levels of DSM may be optimal because of the recent legislative change, a more appropriate IRP scenario and the associated level of DSM has not been identified. E1 is expecting this to occur with NS Power's 2020 IRP update.

(c) E1 is participating in the 2022 IRP update and anticipates being fully engaged in the development of the NS Power's Electrification Strategy. E1's decision to formally file an Electrification Plan will be informed by this strategy. As with any matter E1 intends to file with the Nova Scotia Utility and Review Board (NSUARB), E1 would expect to have a fulsome stakeholder engagement plan with the DSMAG to support any application.

[Evidence]

Request IR-02:

Please refer to p. 13 of the DSM Plan, where E1 states that "Low-income investment is 17-22% of the total energy efficiency investment. This aligns with 2016 Census data for low-income prevalence in Nova Scotia." Did E1 analyze applying the 17-22% to savings, rather than to investment? If so, please describe the portfolio or portfolios that achieve 17-22% of savings for the low income sector, including characteristics such as total investment, residential and BNI savings and investment split, cost effectiveness, carbon emissions reductions, and average measure life (if known). If not, why not?

Response IR-02:

EfficiencyOne (E1) did not analyze applying the low-income design objective of 17-22% to savings, rather only to investment. If E1 were to apply the 17-22% to savings, this would require a significant increase in the investment to achieve the savings level. Low-income programs typically have a much higher unit cost. The Settlement Plan includes 21% of the total DSM investment and 9.5% of the energy savings for low-income. E1 did note the American Council for an Energy-Efficient Economy (ACEEE) State Energy Efficiency Scorecard commented that "*In most cases, however, low-income program requirements take the form of a legislative spending set-aside, through either the creation of a separate fund that receives a minimum annual contribution from ratepayers or a requirement that utilities spend a minimum amount or percentage of their revenues on low-income programs*."[1] E1 also examined both its historical low-income spending and savings as shown in the tables below and notes that the Settlement Plan advances both compared to recent trends.

[1] ACEEE, 2019 State Energy Efficiency Scorecard, page 49, https://www.aceee.org/sites/default/files/publications/researchreports/u1908.pdf

Table 1, below, provides E1's historic spending on low-income from both dedicated low-income programming and incidental low-income participation.

Table 1: E1 Historic Low-Income Spending

	Achieved Results*					
	2015	2016	2017	2018	2019	2020
Residential Sector ($M)	2.6	2.2	2.2	1.3	1.8	1.3
BNI Sector ($M)	0.4	0.7	0.9	0.6	1.0	0.1
Total ($M)	3.1	2.9	3.1	2.0	2.8	1.4
Percent of Total Spending (%)	10%	9%	10%	6%	8%	5%

**As reported in E1's Annual Progress Reports*

Table 2, below, provides E1's historic low-income savings from both dedicated low-income programming and incidental low-income participation.

Table 2: E1 Historic Low-Income Savings

	Achieved Results*					
	2015	2016	2017	2018	2019	2020
Residential Sector (GWh)	8.5	7.7	9.0	5.3	5.7	3.6
BNI Sector (GWh)	1.8	3.3	5.5	3.7	2.5	0.6
Total (GWh)	10.3	11.0	14.5	8.9	8.1	4.3
Percent of Total Savings (%)	7%	8%	11%	6%	7%	5%

**As reported in E1's Annual Progress Reports*

Request IR-03:

Please refer to p. 15 of the DSM Plan, regarding the Incentive Setting Process. E1 indicates that "The incentive setting methodology is used when adding new measures or changing incentive levels on existing measures to confirm incentive levels fall within an acceptable range." Are incentives for existing measures reassessed periodically? If so, how often? If not, how does E1 know that incentives remain reasonable over time?

Response IR-03:

Yes, incentives for existing measures are reassessed periodically. In addition to assessing incentives against the CLEAResult thresholds when incentives are initially set or changed, the entire portfolio of incentives has been assessed twice, once in 2017 and once in 2022, which compared the average spend of each measure in the previous year to CLEAResult thresholds that could be calculated using the most recent pricing data available to EfficiencyOne (E1) at the time. Additionally, in 2017 a more detailed review of incentives for high-spend measures was performed. Since that time, measures modeled in both the 2020-2022 and 2023-2025 DSM Plans underwent a similar full-portfolio incentive simulation to what was performed on historical incentives in 2017 and 2022. These periodic reviews are useful to see if average incentive levels drift beyond the Incentive Setting threshold amounts due to factors other than changes in the incentive levels themselves, e.g., as product prices change (affecting thresholds such as retail price and incremental cost) or as savings change due to evaluation results (affecting thresholds such as first-year unit cost).

For Custom programs, incentives are (and have always been) calculated for each project individually, based on the costs and savings of each project, using methodologies that meet or exceed the constraints provided by CLEAResult.

Request IR-04:

Please refer to p. 17 and Appendix E, the evidence of Scott Robinson, regarding cost effectiveness testing for low-income program components.

(a) In E1's opinion, how should low-income program components be handled in cost effectiveness testing? (e.g., exempted from a strict cost effectiveness threshold, assumed to have an adder for assumption about LI NEBs, etc.)

(b) In Mr. Robinson's opinion, how should low-income program components be handled in cost effectiveness testing?

Response IR-04:

(a) The current practice in Nova Scotia, as approved by the Nova Scotia Utility and Review Board (NSUARB) in 2012, requires that cost effectiveness screening be applied at the program level, where the components (including low-income specific program components) are not required to pass cost effectiveness testing. As a principle EfficiencyOne (E1) routinely scans other jurisdictions to inform understanding of best practices and planning activities. As noted in Scott Robinson's evidence, included as Appendix E of EfficiencyOne's (E1) 2023-2025 DSM Plan Application, many states do carve low-income out of the benefit cost testing as an exemption. While E1 is aware that such exemptions are in place in other jurisdictions, E1 has not formed a position at this time on how low-income program components should best be treated in cost effectiveness testing in Nova Scotia.

(b) The following response has been provided by Scott Robinson.

Energy efficiency is of extra importance to low-income households and qualifying businesses because energy bills tend to make up a larger portion of income and thus have a regressive component. Similarly, voluntary equipment retrofits that require significant capital investment to generate long term returns from energy savings may not be accessible to these customers. If low-income programs have traditional cost-effectiveness requirements, then it could perpetuate further inequities as program dollars would be disproportionately allocated to non-low-income households and businesses. Thus, low-income energy efficiency programs tend to be focused primarily on equity rather than providing alternatives to utility generation, transmission, and distribution investments. With this context, it is useful to consider low-income program components' place in a broader portfolio, the role of cost effectiveness screening, and the role of cost effectiveness reporting.

There is no single best way to handle low-income programs, since this will depend on the program's market and regulatory context. However, in general, low income components' place in the broader portfolio is perhaps best handled by a carve-out, because the objectives and constraints developed in the design phase for low-income can be quite different. Carving these components out can allow for disparate objectives to be addressed simultaneously.

Cost-effectiveness screening of low-income components, especially against a total resource cost test (TRC), program administrator cost test (PAC), or rate impact cost test (RIM) is problematic since the desired benefit from low-income measures is participant energy savings rather than utility avoided costs. It may be appropriate to screen against the participant cost test (PCT) to ensure that low-income customer participants can expect a return on their investment in energy efficiency. It is my opinion that counting non-energy benefits for only low-income customers is not an efficient way to design programs. If non-energy benefits are found to exist in an area, these benefits should apply to all customer segments.

Cost-effectiveness reporting for low-income is not problematic for any of the cost tests and may guide the program between alternatives in measure mix choices that, for example, offer similar low-income customer benefits but have different costs or utility avoided cost benefits.

Request IR-05:

Please refer to p. 17-18, where E1 states that "E1's methodology for cost allocation undervalues the cost-effectiveness of the Settlement Plan at the measure level. E1 applies all costs, both fixed and variable, at all levels of testing including the measure level. Measure and program component level results are rolled up to program level results for screening purposes. In particular, E1 applies administrative costs at the measure level of testing, which is not in accordance with best practices if screening is to be performed at the measure level, as such allocations may not be reflective of the cost to administer such measures. E1 applies costs in this way because the screening level in Nova Scotia is at the program level, not the measure level." Please explain in more detail why program level screening requires E1 to apply all costs at the measure level.

Response IR-05:

Program level screening does not strictly require that Total Resource Cost (TRC) test costs only be applied at the program level. EfficiencyOne (E1) has historically allocated costs at the measure level in the modelling of previous DSM Resource Plans. This approach was used because cost-effectiveness screening is performed at the program level, therefore, strict adherence to best practice at the measure level was not undertaken since screening is not performed at the measure-level.

Request IR-06:

Over the period of the 2023-2025 Plan, does E1 plan to conduct any studies, including but not limited to potential studies, other than impact evaluations? Please provide an evaluation plan, indicating the type of study (e.g., process evaluation, saturation/baseline, participation, benchmarking, potential), schedule for conducting it, focus (e.g., sector, program, end use), need for the study, and rationale for the proposed timing.

Response IR-06:

EfficiencyOne (E1) intends to conduct third-party annual program evaluations through the 2023-2025 DSM Plan period, consistent with the current approach and timing. It is expected that the annual DSM evaluation for 2023, 2024, and 2025 will perform an impact evaluation on each program and may include process and market evaluations. E1 has initiated discussions with its independent evaluation consultant on the strategic evaluation plan for 2023-2025. E1, and the evaluation consultant, will develop an Overall Strategic Evaluation Plan for the 2023-2025 period prior to the end of 2022. E1 expects to remain consistent with the current evaluation approach, whereby annual evaluation plans for 2023, 2024, and 2025 will be developed and finalized each spring following the filing of the previous year's annual DSM Evaluation Reports and Savings Verification Report. This allows the subsequent annual evaluation plan to respond to findings and incorporate recommendations from these two reports, both of which are used to inform the annual evaluation plans. The specific evaluation activities to be carried out for each program will be determined during development of the annual evaluation plans. Typical evaluation activities can include billing analyses, file and model reviews, partner and participant surveys, Delivery Agent interviews, and market evolution analysis. Outside of the annual program evaluations, it is anticipated that E1 may conduct a DSM Potential Study during the 2023-2025 period. The timing, scope and schedule of a Potential Study is unknown at this time.

[Evidence]

Request IR-07:

Please refer to Table 8 on p. 51. Please provide the underlying workbook, in native format with formulas intact, and with sources and assumptions clearly identified.

Response IR-07:

Please refer to Attachment 1 of this IR response for the underlying workbook for Table 8 (page 51 of 65) in the Evidence of EfficiencyOne's (E1) 2023-2025 DSM Plan Application.

[Evidence]

Request IR-08:

Please refer to Table 9 and Table 10 on p. 53-54. Please provide the underlying workbook, in native format with formulas intact, and with sources and assumptions clearly identified.

Response IR-08:

Please refer to Attachment 1 of this IR response for the underlying workbook with sources and assumptions.

[Evidence]

Request IR-09:

Please refer to barriers to program participation for residential and BNI customers listed on p. 55-56 and in Attachment 1, as well as the research described on p. 16-17 of Appendix A. For each barrier, please indicate whether E1 is aware of its presence in the province. If E1 is aware that the barrier exists in Nova Scotia, please describe where E1 has seen the barrier and provide related studies and documentation, if available.

Response IR-09:

EfficiencyOne (E1) is aware that the participation barriers listed on page 55-56 of 65 of E1's Evidence, and in Attachment 1 to E1's Evidence, exist in Nova Scotia, based on insights gathered from a variety of sources, including public awareness and attitudes surveys, customer satisfaction surveys, and program evaluations. The 2021 DSM Evaluation Reports were filed with the Nova Scotia Utility and Review Board (NSUARB) on March 31, 2022.

E1 has also conducted internal program specific barrier research over the last decade. The most recent study was conducted in 2021 to inform the 2023-2025 DSM Plan. The DSM Stakeholder Consultation Survey results are being provided as Attachment 1 to this IR response as these represent the most recent feedback from both residential and business customers on program barriers.

Business Development Managers, Energy Solutions Advisors, and service delivery staff also gather insights on participation barriers during their interactions with customers, contracted service delivery partners, and Preferred Partner Network members.

NARRATIVE RESEARCH

2021 DSM Report

January 2022

Prepared for:
EfficiencyOne

In this report, the survey questions have been classified and reported by theme, as follows:

In order to assess perceptions on a variety of topics related to energy efficiency and conservation among both residents and commercial organizations in the province, Efficiency Nova Scotia (ENS) commissioned Narrative Research to undertake a quantitative research study broadly focussing upon Demand Side Management (DSM) topics. Between November 19 and December 1, 2021, an online survey was distributed and made available to Nova Scotia residents and organizations. Sample records discussed in this report were drawn from a random selection of contact records from Nova Scotia Power's email ratepayer database.

Through this research, it has been determined that the vast majority of Nova Scotians were previously aware of Efficiency Nova Scotia, although a history of reaching out to ENS through the Energy Solutions Advisor resource is less common. Most Nova Scotians are, however, willing to use this service should they have a need, but several cite a preference for virtual communication options.

While a small majority have previously participated in the offered programs and services, a more robust proportion exhibit interest in one or more programs. Both residents and businesses tend to be motivated by the potential cost and energy savings such programs can provide. Interestingly, about one-half of Nova Scotians have a decidedly favourable opinion of Efficiency Nova Scotia largely because of these savings opportunities, but only one-quarter or fewer consider the organization to be influential in their decisions to conserve energy.

A sizable minority have plans to undertake energy efficiency upgrades in the next two years. The factor prohibiting these plans continues to be cost, rather than lack of concern for the climate change or perceived importance of investing in energy efficiency upgrades; beliefs which are both held by the majority of the population. In fact, there is greater agreement that efficiency upgrades serve to limit climate change impact, than there is that behaviour changes serve to limit climate change impact; albeit the majority of Nova Scotians agree in this regard as well. Even with strong agreement that climate change is a concern and that investing in change can limit its impact, only one-half of Nova Scotians are willing to become more energy efficient. Additionally, a sizable minority feel they need more help understanding how they can become energy efficient.

Recommendations focus on filling in this gap indicating a lack of understanding, and making Efficiency Nova Scotia's experts more accessible to customers.

Awareness of the organization is strong, but Efficiency NS is under-utilized as a key source of information.

Nine in ten (91%) Nova Scotians were previously aware of Efficiency Nova Scotia and its commitment to helping residents and businesses reduce their energy use, while awareness of Efficiency Nova Scotia in the business community is near universal, with 96% indicating they had previously heard of the organization. Both residents and organizations rely on word of mouth to inform how they reduce their energy consumption, but organizations also frequently look to Efficiency Nova Scotia for this information. Additionally, there is room to improve awareness and uptake of the Energy Solution Advisor service as only one-third (35%) of residents, and four in ten (43%) organizations, that know of Efficiency Nova Scotia have utilized this service in the past.

Customers would like to have more access to virtual support in the future, and continued access to programs supporting energy efficiency upgrades.

Emailing with an efficiency solutions expert is the most preferred method of communication by both residents (40%) and organizations (50%), indicating that virtual access to efficiency experts is highly desirable. A proportion of both residents and organizations that are less keen on using the Energy Solutions Advisor service often express dislike for having telephone conversations, and/or propose a chat message option of communicating with experts instead, echoing this sentiment. In terms of programming, those programs centering on increasing home and building efficiency through smaller, more attainable upgrades (e.g., lighting, air sealing, water heating, smart technology installation) attract the most interest from both residents and organizations.

Nova Scotians offer very few suggestions with respect to additional programs/services they would like to see offered.

Over eight in ten Nova Scotians (83% of residents and 85% of organizations) are unable to provide suggestions of additional programs or services they would like to see offered by Efficiency Nova Scotia. Limited suggestions for additional programming centre on efficiency upgrade programs/services such as solar products/ options, heating systems, insulation, air sealing/draft proofing, wind energy/generation and windows/doors. Because suggestions are so limited, there is reason to conclude that Efficiency Nova Scotia is already meeting the majority of its customers' needs.

The majority of Nova Scotians acknowledge both the importance of funding DSM initiatives and the positive impact these efforts have on climate change.

Over six in ten of residents (64%) and organizations (62%) believe it is important that Efficiency provide funding or programs to help encourage behaviour changes that reduce consumption. A similar proportion of residents (58%) and businesses (61%) agree that investing in DSM will serve to reduce climate change and its effects.

A priority for nearly four in ten Nova Scotians, investing in energy efficiency upgrades is considered more important than other energy conservation efforts.

Approximately one-third of Nova Scotians (35%) and four in ten organizations (40%) anticipate undertaking energy efficiency upgrades or renovations in the next two years. Cost is the number one prohibiting factor for all Nova Scotians in deciding not to undertake renovations. Even so, both residents and organizations place a greater importance on funding and programs for energy efficiency (78% residents and 75% for organizations), than for encouraging energy saving behaviours (64% for residents and 62% for organizations).

Most Nova Scotians feel that COVID-19 has little to no impact on their likelihood to become more energy efficient.

Approximately two-thirds of residents (65%) and six in ten organizations (61%) indicate that the COVID-19 pandemic has no impact on their likelihood to undertake steps to improve household energy efficiency in the next year. Remaining Nova Scotians are divided whether their likelihood to renovate was increased or decreased as a result of the pandemic.

Those Nova Scotians with unfavourable opinions of Efficiency NS identify some key barriers to program entry and efficacy.

The small proportion of Nova Scotians with a less than favourable opinion of Efficiency Nova Scotia point to barriers such as programs being perceived as poor, unhelpful or not worthwhile, lack of information on the programs/upgrades available, programs being complicated or difficult to access, and/or upgrades not qualifying for a rebate. It is noteworthy that residents who rent are more likely than homeowners to find programs or services unhelpful or not worthwhile.

Nova Scotians are concerned about climate change and generally understand the link between energy consumption and climate impact, but even so, they are not always willing to take action to become more efficient.

Seven in ten residents and organizations (70% and 67% respectively), indicate that it is important for them to *reduce use of energy*. Meanwhile, a similar proportion of residents and organizations (67% and 62% respectively), say that it is important for them to *take actions to reduce their impact on climate*. This similarity between the importance ratings points to the notion that most people who believe in limiting their energy consumption also believe in limiting climate change impact, highlighting an understanding of the link between energy conservation and climate action. However, a more notable gap exists in agreement ratings of climate change concern (approximately seven in ten), and willingness to become more energy efficient (approximately five in ten). This suggests that a limited number of people, either running a household or running a business, are not always willing to take steps prevent furthering climate change, even if it is of concern to them.

The money and energy savings that Efficiency NS provides is one of the aspects Nova Scotians like best about the organization.

Those residents and organizations with a favourable opinion of Efficiency Nova Scotia offer a variety aspects they like best about the organization, including how it helps people save energy/money, benefits the environment, helps provide efficiency upgrades, and offers good/helpful programs among others.

There are opportunities for Efficiency Nova Scotia to improve understanding among Nova Scotians about how to achieve energy efficiency.

Approximately four in ten residents and businesses still feel they need some help understanding how they achieve energy efficiency, highlighting an important opportunity for Efficiency Nova Scotia. Additionally, only one-quarter of residents and two in ten organizations feel Efficiency is influential in their decisions to become energy efficient, presenting an opportunity for improvement.

Methodology: Between November 19 and December 1, 2021, an online survey was distributed to a random sample of Nova Scotia Power (NSP) residential and commercial ratepayers for whom NSP has an email address in their proprietary database. It is quite possible that ratepayers not represented in the NSP email database would display attitudes and perceptions regarding energy efficiency matters that would differ from those with an email address in the NSP database, with this latter group being the sampling frame for the current research. It is difficult to speculate or to offer a precise quantitative 'impact' of what these attitudinal or perceptual differences might be, although the fact that many ratepayers do not engage with NSP via email may suggest that there is a reticence among some vis-à-vis newer technologies or modes of communication – a circumstance that could influence their attitudes towards energy efficiency matters, or the marketing thereof. Of course, it is also for certain the case that some ratepayers simply have a preference for communicating with the electrical utility by means other than via email (e.g., by telephone, paper mail, in-person, etc.). An initial email invitation containing a unique survey link, in addition to two email reminders, were forwarded to sampled ratepayers. This sampling method yielded 1,535 usable residential, and 373 usable commercial surveys. The data collected from these sample records is summarized in this report and in the appended tables. Additionally, a *generic survey link* was circulated by Efficiency Nova Scotia (ENS) / EfficiencyOne (E1) via its Facebook and Instagram social media sites, as well as being posted on its corporate website and advertised via free, traditional outlets (e.g., an interview on Global News). Via this generic link, there were a total of 1,896 usable surveys collected. Results for these surveys are summarized in the appended tables. This generic link approach permitted all adult Nova Scotians the opportunity to participate in this important research, i.e., the opinions of all residents and organizations were welcomed, beyond NSP ratepayers. All survey respondents had the opportunity to submit their name in a participation incentive draw for one of two prizes of $100 each.

Research Objectives: This survey was conducted as means of providing information on a variety of topics of interest to ENS. These topics are summarized as follows:

- *What is the level of awareness of Efficiency Nova Scotia? ; What would Nova Scotians like to see more of in the future? ; What types of supports do Nova Scotians want/what types of programs would they like to see in the future? ; What is the perceived importance of funding DSM, i.e., behaviour changes to conserve energy? ; What is the relative priority of investing in energy efficiency versus other types of supply? ; What impact has the COVID-19 pandemic had on plans surrounding energy efficiency? What barriers exist to participation in Efficiency Nova Scotia programs? ; How important is energy efficiency in relation to climate change/the environment? ; What do/don't Nova Scotians like about what Efficiency Nova Scotia offers? ; What could Efficiency Nova Scotia be doing better?*

Data Weighting: To statistically weight collected survey data is a standard and accepted data analysis process within quantitative research studies of this type. Weighting aims to facilitate having the collected survey data more closely mimic the true distribution of a study's target populations, along known or estimated population parameters - in this case, weights were introduced in terms of region within the province.

In the current instance, all residential survey data was weighted to the regional distribution (Halifax Regional Municipality/HRM, Rest of Mainland Nova Scotia, Cape Breton Island) of Nova Scotia Power residential ratepayer records with email contact information, as provided by Efficiency Nova Scotia. All commercial/ organizational survey data was weighted to the regional distribution (HRM, Rest of Mainland Nova Scotia, Cape Breton Island) of Nova Scotia Power commercial rate class records with email contact information, as provided by Efficiency Nova Scotia.

Disposition Summary: The following is a summary of the outcomes of contact records utilized in the 'Sample Records' components (i.e., the Residential and the Business/Commercial/Organizational components) of the assignment. A random sample of 15,000 residential records from the database was assembled. As well, a total of 9,111 commercial records were sampled from those available. It is not feasible to assemble a disposition summary for the 'Generic Link' data collection, as no survey invitations were utilized in these data collection endeavours. Across all populations/survey modes, the questionnaire required 17 minutes to complete on average:

	Residential Records	Commercial Records
Email Invitations Sent	**14,909**	**9,032**
Undeliverable Email Invitations	9	22
Usable Emails	**14,900**	**9,010**
Unanswered Email Invitations	12,851	7,956
Screened Out*	1	184
Dropped/Incomplete Surveys	634	513
Completed/Usable Surveys	**1,414**	**357**

* Residents were screened out if they were under the age of 18. Commercial respondents were screened out if they could not provide an answer to the ownership status of their location (i.e., owned, leased or rented), if their organization did not participate in decision-making about heating and/or lighting upgrades at their location(s), or if the organization had fewer than one full-time employee.

Residential Participation Rate = 9.5% ; Commercial Participation Rate = 4.0%

Generic Link

Clicks: 2,787
Completed: 1,896
Dropped: 880
Screened Out: 11

Nova Scotia Residents

Awareness and Perceptions

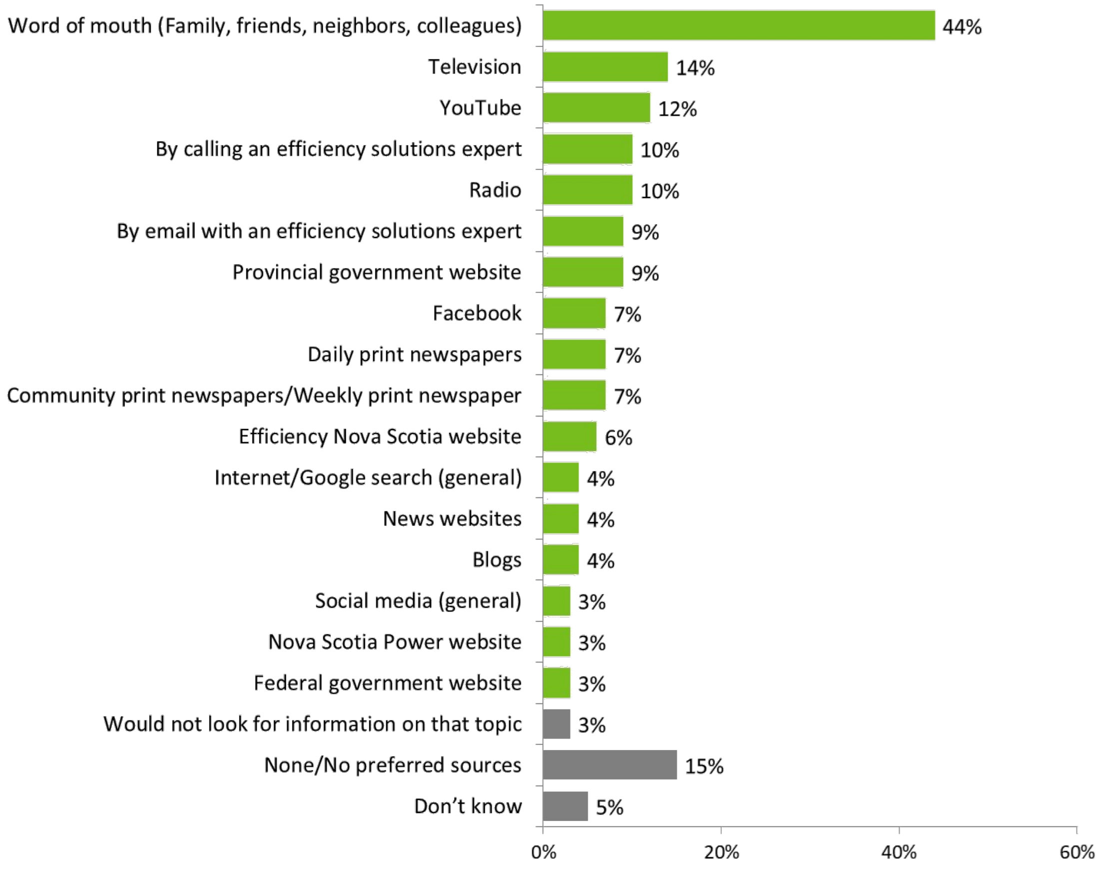
When looking for information on reducing household energy consumption, word of mouth is the most commonly relied upon source.

When asked what sources they use when looking for information on reducing household energy use, nearly one-half of Nova Scotia residents (44%) reference word of mouth from friends, family, neighbours or colleagues, by far the most prevalent method. The second most common source is television (14%), closely followed by YouTube (12%), calling an efficiency solutions expert (10%), and radio (10%).

Women are notably more likely to rely on word of mouth compared to men, while residents age 45 or older are more likely to turn to television for information on household energy reduction, compared to younger residents. (Table B1)

Sources of Information on Reducing Energy in Household

Residential – Top Mentions



Q.B1: When looking for information on reducing energy use in your household, what sources do you use to find that information? (n=1,535)

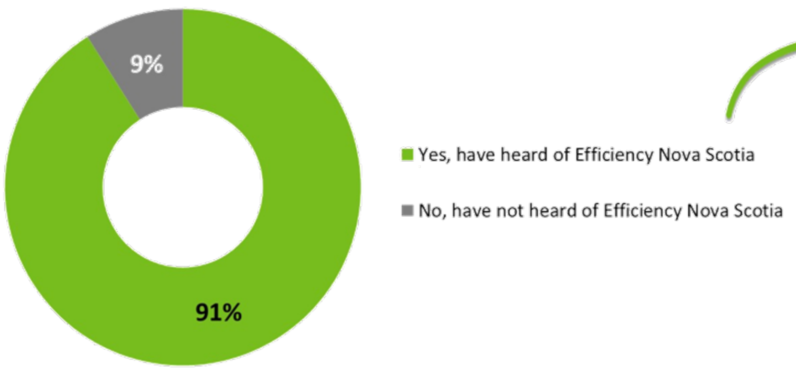
While the vast majority of Nova Scotians have heard of Efficiency Nova Scotia, only one-third have previously contacted an Energy Solutions Advisor.

Nine in ten (91%) Nova Scotians were previously aware of Efficiency Nova Scotia and its commitment to helping residents and businesses reduce their energy use. Awareness is markedly more common among those who own their residence compared to those who rent (95% vs. 78%). Those born in Nova Scotia are also among the most likely to have a prior awareness of Efficiency Nova Scotia, while those born outside Canada are least likely.

Meanwhile, nearly one-half of residents (47%) indicate they have not previously contacted an Efficiency Nova Scotia Energy Solutions Advisor, while one-third (35%) say they have contacted an Energy Solutions Advisor, and two in ten indicate that they were unaware the service existed (18%). Those whose primary heat source is a heat pump are the most likely to have contacted an Energy Solutions Advisor in the past. Unsurprisingly, those who have participated in an Efficiency Nova Scotia program were far more likely to make contact than those who had not, as are those who are willing to become energy efficient compared to those who are not. (Tables B2-B3)

Prior Awareness of Efficiency Nova Scotia

Residential

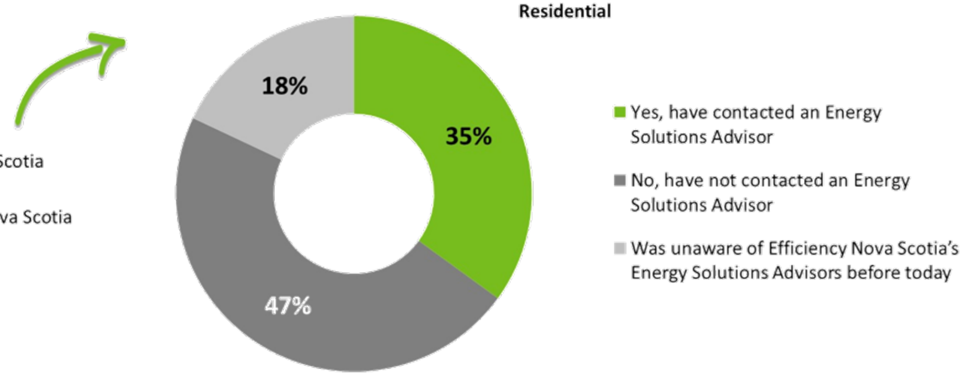


Q.B2: Prior to today, had you ever heard of Efficiency Nova Scotia, the organization that helps Nova Scotian residents and organizations reduce their energy use? (n=1,535)

Previously Contacted an Efficiency Nova Scotia Advisor to Discuss Ways to Save Energy in Household

Among Those Aware of ENS

Residential

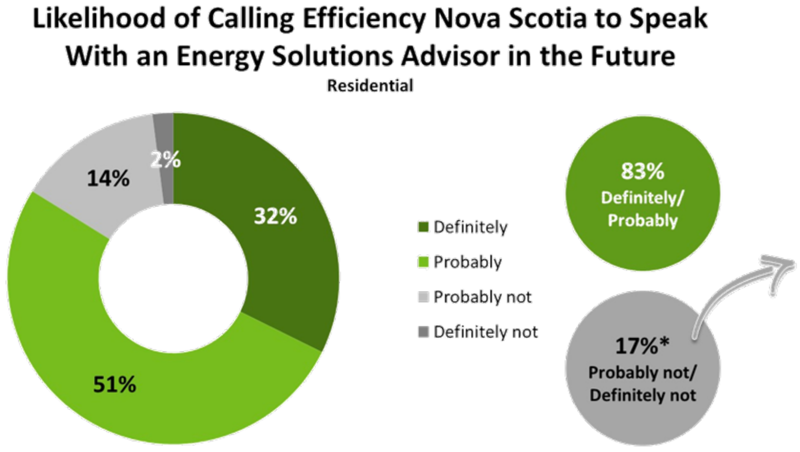


Q.B3: **[IF 'YES' IN Q.B2]** Efficiency Nova Scotia offers a free service where you can call to speak to an Energy Solutions Advisor for customized energy efficiency expertise and advice. Have you previously contacted an Efficiency Nova Scotia Energy Solutions Advisor to discuss ways to save energy for your household? *Please indicate if you were unaware of this service prior to today.* (n=1,405)

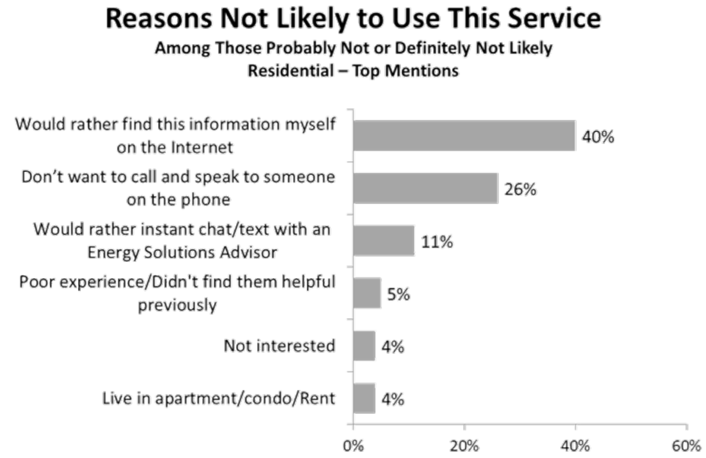
Happily, most residents indicate they would reach out to an Energy Solutions Advisor by telephone should they be considering upgrades, although extending the service to provide virtual support may improve its popularity.

Eight in ten residents (83%) indicate that they would *definitely* or *probably* reach out by telephone to an Energy Solutions Advisor if they were thinking about energy solutions for their household. Residents with a favourable opinion of Efficiency Nova Scotia are more likely to say they would access this service, compared to those with an unfavourable opinion, as are those who are likely to renovate in the next two years compared to those who are unlikely.

Among the fewer than two in ten (17%) residents who indicate they would *probably not* or *definitely not* use the advisor service, four in ten (40%) indicate that it is because they would rather find the information themselves on the Internet. One-quarter (26%) of residents cite not wanting to speak to someone on the telephone as key reason, and one in ten (11%) echo this sentiment by indicating that they would prefer to instant chat or text with an Energy Solutions Advisor. Younger residents (age 18-44) are more likely to have an aversion to speaking on the telephone, and to prefer chat communication as an alternative. Meanwhile, one in twenty (5%) of those not likely to use the Energy Advisor service suggest that they had a negative experience with the service in the past preventing them from accessing it in the future. (Tables B4-B5)



Q.B4: **[DISPLAY IF 'NO' AT B2:** *Efficiency Nova Scotia offers a free service where you can call to speak to an Energy Solutions Advisor for customized energy efficiency expertise and advice.***]** In the future, if you were thinking about energy efficiency solutions for your household, how likely would you be to call Efficiency Nova Scotia to speak with an Energy Solutions Advisor? (n=1,535) **Due to rounding.*

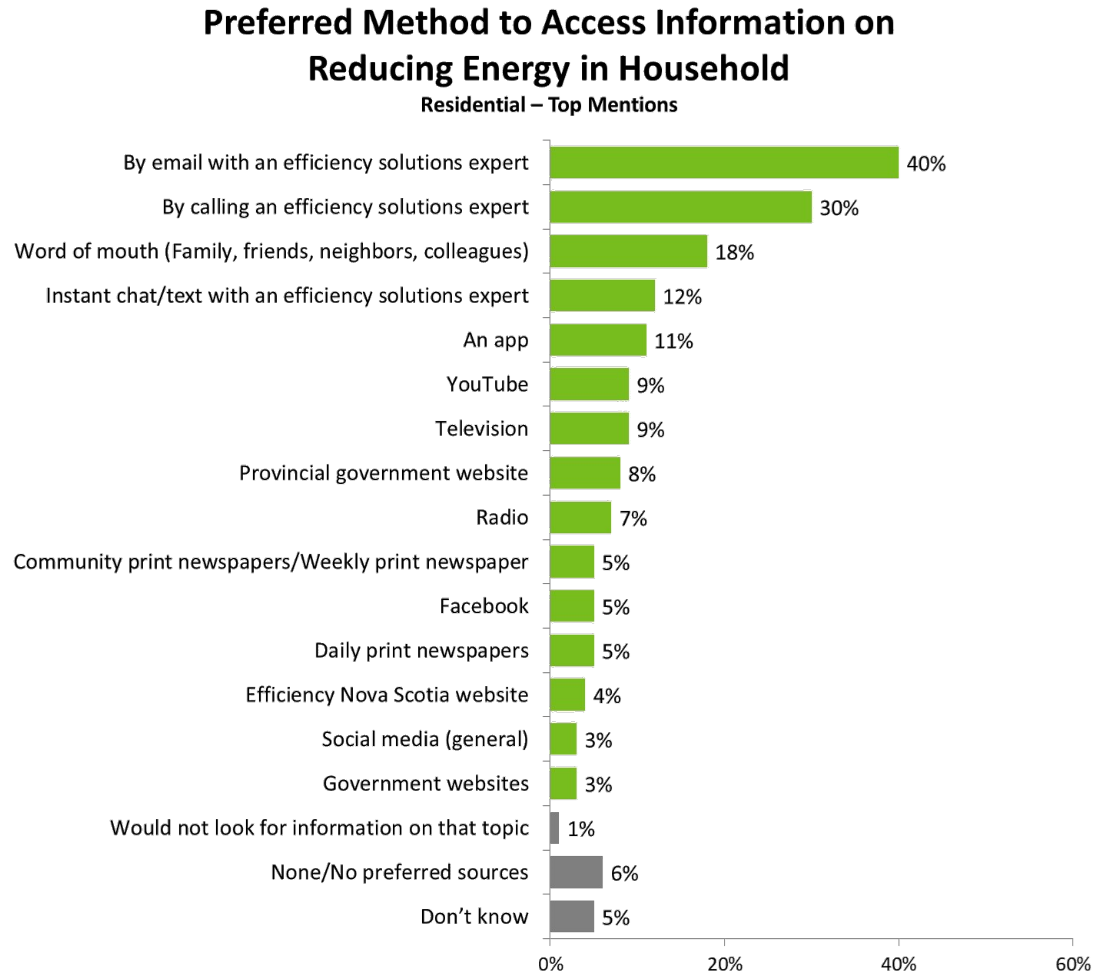


Q.B5: **[IF 'PROBABLY NOT' OR 'DEFINITELY NOT' IN Q.B4]**

Approximately eight in ten residents would prefer to access information about reducing household energy consumption through an efficiency solutions expert.

For their future energy solutions needs, four in ten (40%) Nova Scotians would prefer to access information by emailing with an efficiency solutions expert. Meanwhile, three in ten (30%) have a preference for calling an efficiency solutions expert, and approximately two in ten (18%) prefer word of mouth. Less frequently preferred but still notable is instant chat/text with an efficiency solutions expert (12%), and through the use of an app (11%).

Those with a favourable opinion of Efficiency Nova Scotia are more likely to have a preference for sources of information involving an energy solutions expert, compared to their counterparts with a less favourable opinion. (Table B6)



Q.B6: In the future, how would you *prefer* to access information about reducing energy use for your household? (n=1,535)

A slight majority of residents have previously participated in or used a program or service offered by Efficiency Nova Scotia.

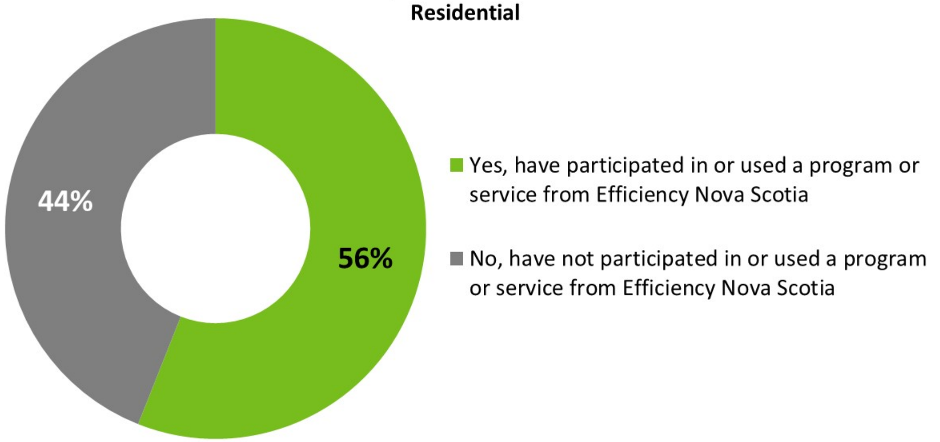
Just over one-half (56%) of Nova Scotians have previously participated in a program or service from Efficiency Nova Scotia, while the remainder have not.

Cape Breton residents are the least likely to have participated in the past, while those in Mainland Nova Scotia (excluding HRM) are most likely. Older adults (age 45+) are more likely than their younger counterparts to have participated, as are those who own their residence compared to those who rent.

Additionally and unsurprisingly, those willing to become more efficient are more likely to have previously participated, than those who are unwilling. Residents with a household income exceeding $100,000 are the most likely to have participated, followed by those whose income is less than $50,000, whereas those in the middle income category are the least likely. (Table B7)

Prior Participation/Use of Program or Service Offered by Efficiency Nova Scotia

Among Those Aware of ENS
Residential

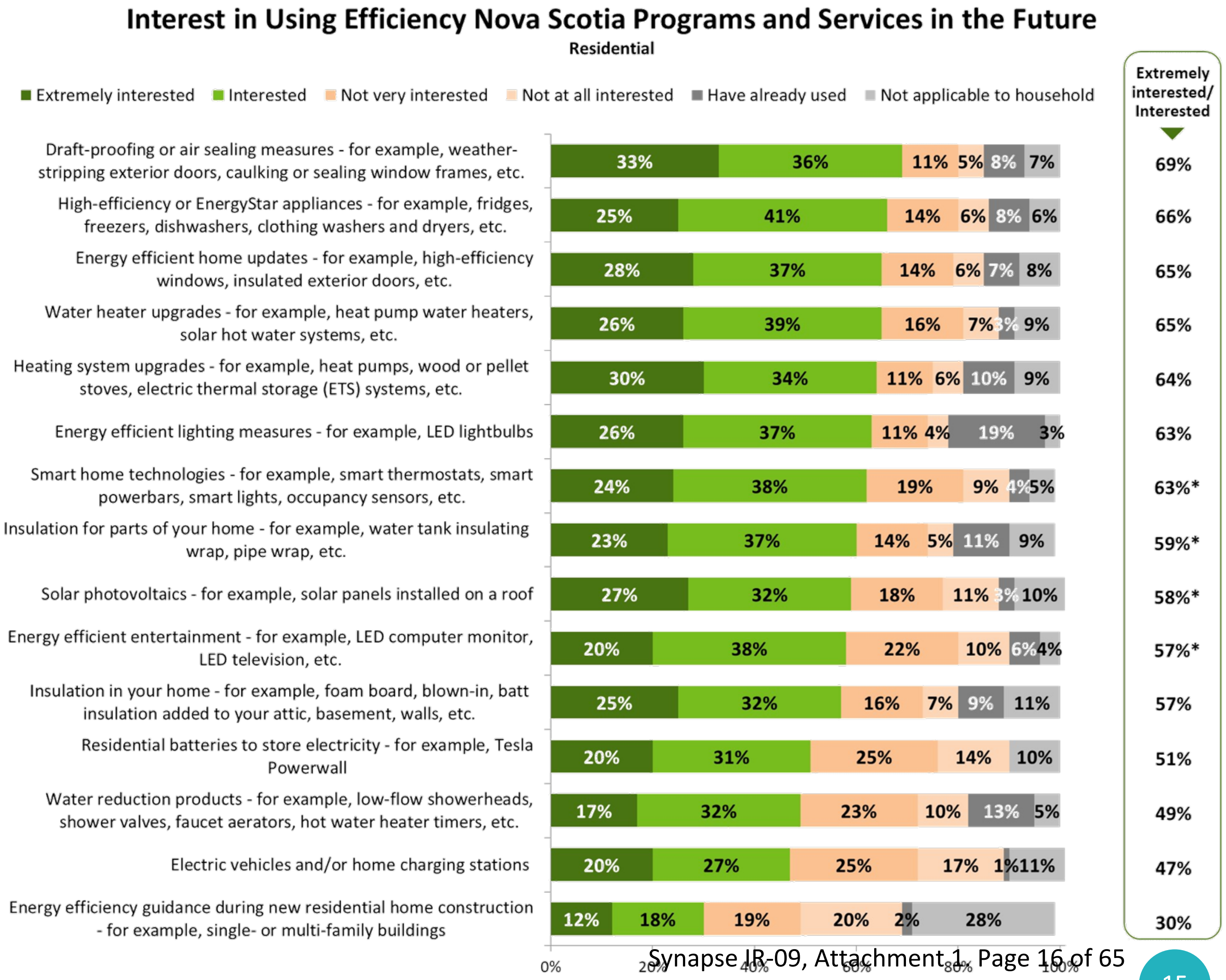


Q.B7: **[IF 'YES' AT B2]** Prior to today, had you ever participated in or used a program or service offered by Efficiency Nova Scotia? (n=1,405)

Approximately three-quarters of Nova Scotians express some level of interest in at least six of the 15 available residential programs.

Seven in ten (69%) residents indicate they are either *extremely interested* or *interested* in using a program supporting **draft-proofing or air sealing measures**. Two-thirds of residents are keen on programs for **high-efficiency or EnergyStar appliances** (66%), **energy efficient home updates** (65%), and **water heater upgrades** (65%). Programs **for heating system upgrades** (64%), **energy efficiency lighting measures** (63%), and **smart home technologies** (63%), are also popular among over six in ten residents. A slight majority of Nova Scotians show interest in programming surrounding **insulation for parts of their home** (59%), **solar photovoltaics** (58%), **energy efficient entertainment** (57%), and **insulation for their entire home** (57%). Approximately one-half of residents are intrigued by **residential batteries to store electricity** (51%), **water reduction products** (47%), **and electric vehicles and/or home charging stations** (49%). Just three in ten Nova Scotians express interest in **energy efficiency guidance during new residential construction** (30%). (Tables B8a-n, p)

Number of Programs and Services 'Extremely Interested' or 'Interested' in Using		
11-15	41%	Mean 8.6
6-10	32%	
0-5	27%	



Q.B8a-n, p: Efficiency Nova Scotia offers a variety of programs and services to Nova Scotian households and organizations that provide financing or rebates for energy efficiency upgrades. How interested would your household be in using the following programs or services in the future? (n=1,535) *Due to rounding.

Residents commonly cite cost savings, comfort and environmental concern as key reasons they are interested in Efficiency Nova Scotia's programs and services.

Among those residents who indicated they were 'extremely interested' in one or more of the available programs and services, a variety of factors were cited explaining why they are interested. Rationale for each of the top four programs of interest is as follows:

Draft-proofing and air-sealing is of interest mainly to reduce heat loss for both comfort and to save on home heating expenses. Residents also mention their homes being drafty, often because the home itself is quite old. Meanwhile, high interest in *high efficiency or EnergyStar appliances* is a reflection of the ability to lower costs by lowering energy consumption, with some mentioning that it is better for the environment and the convenience brought about by efficient appliances. The appeal of *energy efficient home upgrades* is largely around reducing heating costs, or the opportunity to upgrade features on older homes including windows and doors. And lastly, interest in *water-heater upgrades* is driven by a desire to move away from oil as a water-heating source, as well as for the financial savings, and also to limit the environmental impact.

Draft-proofing and air-sealing:
"It's an older home with lots of windows and a sliding glass door. I want to make sure we aren't losing too much heat."

EnergyStar appliances:
"Saving power use and cost. We may need to upgrade soon, technology improves efficiency, heard maybe there was a program for reclaiming and or removing old appliances."

Energy efficient home upgrades:
"Fuel is expensive. I have oil and a wood stove/furnace and started on solar. Have invertor but need panels and batteries but fuel costs are going up 'n up."

Water-heater upgrades:
"Because my house is more than 20 years old and I already upgraded the water heater when I changed my furnace from oil to propane a year ago, but new technologies are always welcome."

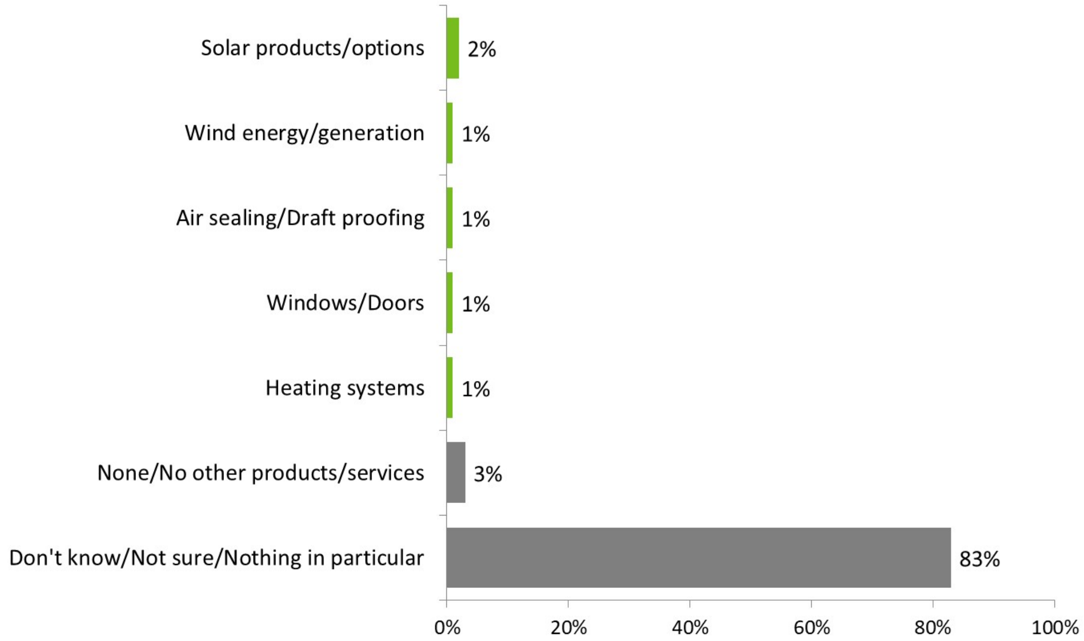
Suggestions for additional programs and service offerings are very limited, and no single suggestion emerges as most desired.

Approximately eight in ten residents were unable or chose not to provide suggestions for additional programs or services they would like to see offered by Efficiency Nova Scotia, thus speaking highly of Efficiency's ability to meet the needs of a wide variety of residents. No single suggestion was mentioned by more than two percent of residents. Areas for additional programming mentioned include solar products/options, wind energy/generation, air sealing/draft proofing, windows/doors, heating systems, and insulation.

Renters are more likely than homeowners to offer suggestions for additional programs/services, as are those who have an unfavourable opinion of Efficiency Nova Scotia compared to those with a favourable opinion. (Table B10)

Other Products or Services Efficiency Nova Scotia Should Offer

Unaided Top Mentions
Residential



Q.B10: Besides the list of current and potential program and service offerings from Efficiency Nova Scotia mentioned in the previous question [DISPLAY THE B8 LIST], are there any other products or services that you think Efficiency Nova Scotia should offer? (n=250)
Note: 250 responses were coded at random for this question.

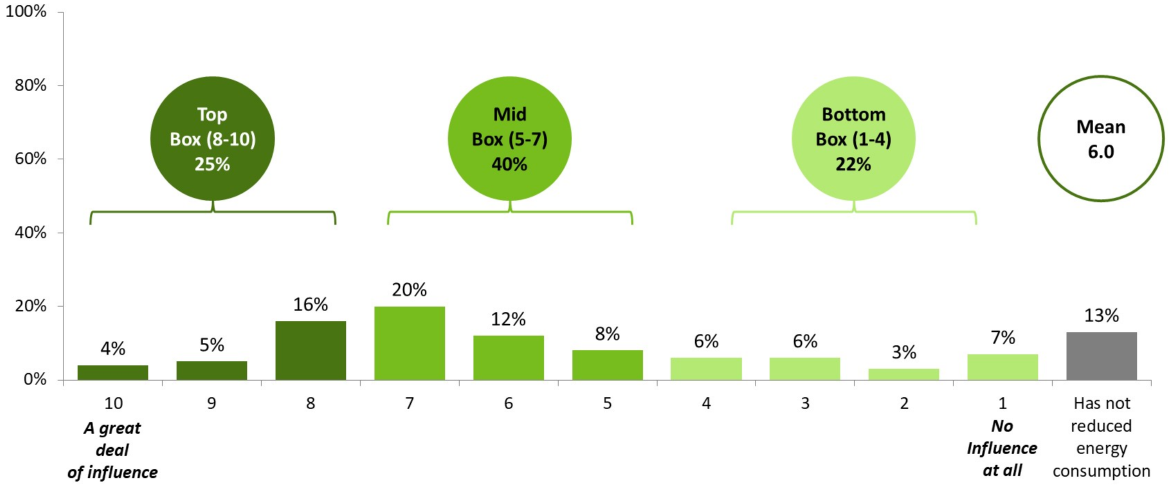
One-quarter of residents suggest Efficiency Nova Scotia has been highly influential in their decision to reduce their household energy consumption, but this figure skews heavily depending on an individual's prior experience with ENS, and their drive to take action to conserve energy.

Residents were asked to rate on a scale from 1 to 10 Efficiency Nova Scotia's influence in terms of leading them to reduce their household's energy consumption, in which 1 indicates 'no influence at all' and 10 indicates a 'great deal of influence.' One-quarter of Nova Scotians (25%) gave a rating of 8-10 on this scale, indicating that Efficiency Nova Scotia was highly influential in their decisions to conserve energy. On the same scale, four in ten residents (40%) gave a rating of 5-7, and a approximately one-in-five gave a rating of 1-4 (22%).

Older residents aged 45+ were marginally more likely to indicate that Efficiency Nova Scotia was highly influential (i.e., providing a rating of 8-10), compared to younger residents. Additionally, previous program participants, those with a favourable opinion of Efficiency Nova Scotia, those likely to renovate, and those willing to become energy efficient are all more likely than their respective counterparts to say Efficiency Nova Scotia is highly influential. (Table B11)

Influence of Efficiency Nova Scotia in Reducing Household's Energy Consumption

Residential



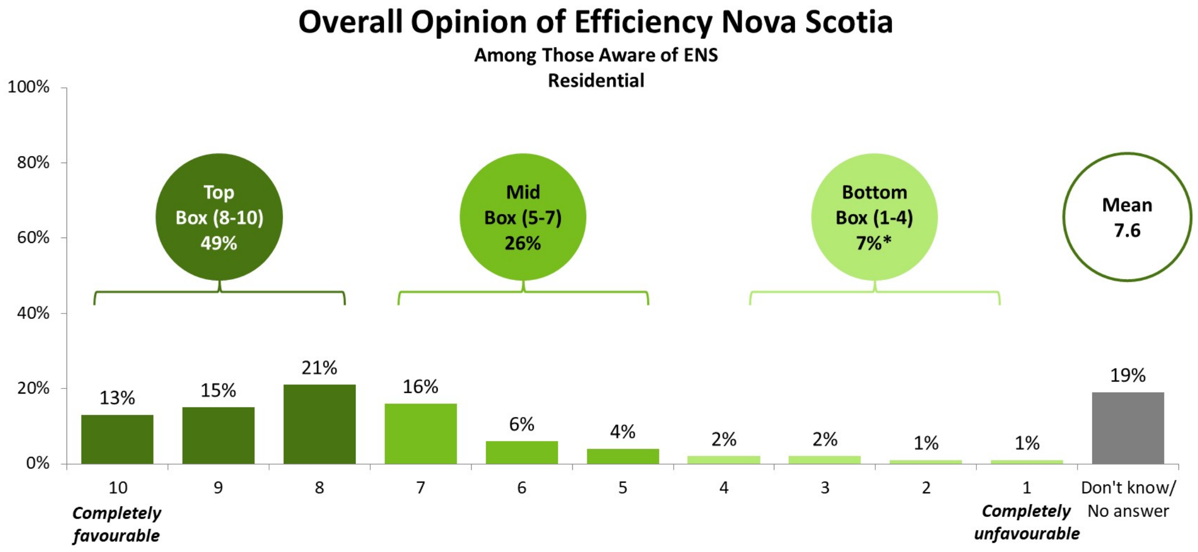
Q.B11: As mentioned, Efficiency Nova Scotia is the organization that helps Nova Scotia residents and organizations reduce their energy use. How much influence, if any, has Efficiency Nova Scotia had in terms of leading you to reduce your household's energy consumption? (n=1,350)

Note: Responses of 'Household has not reduced energy consumption' have been excluded from the calculation of the Mean.

One-half of Nova Scotians hold a favourable opinion of Efficiency Nova Scotia, and experience with the organization improves opinion.

Nova Scotians were asked to indicate their overall opinion of Efficiency Nova Scotia on a scale of 1 to 10, where 10 is 'completely favourable' and 1 is 'completely unfavourable.' One-half of residents (49%) provide a rating of 8-10, indicating that they have a favourable overall opinion of Efficiency Nova Scotia. One-quarter (26%) give a rating of 5-7, while fewer than one in ten provide a rating of 1-4 (7%).

Residents who have previous experience with Efficiency Nova Scotia programs and services are more likely to have a favourable opinion of ENS (i.e., a rating of 8-10). Additionally, residents who are likely to renovate in the next two years and those who are willing to become efficient, are more likely than their respective counterparts to hold a favourable opinion of Efficiency Nova Scotia. (Table B12)

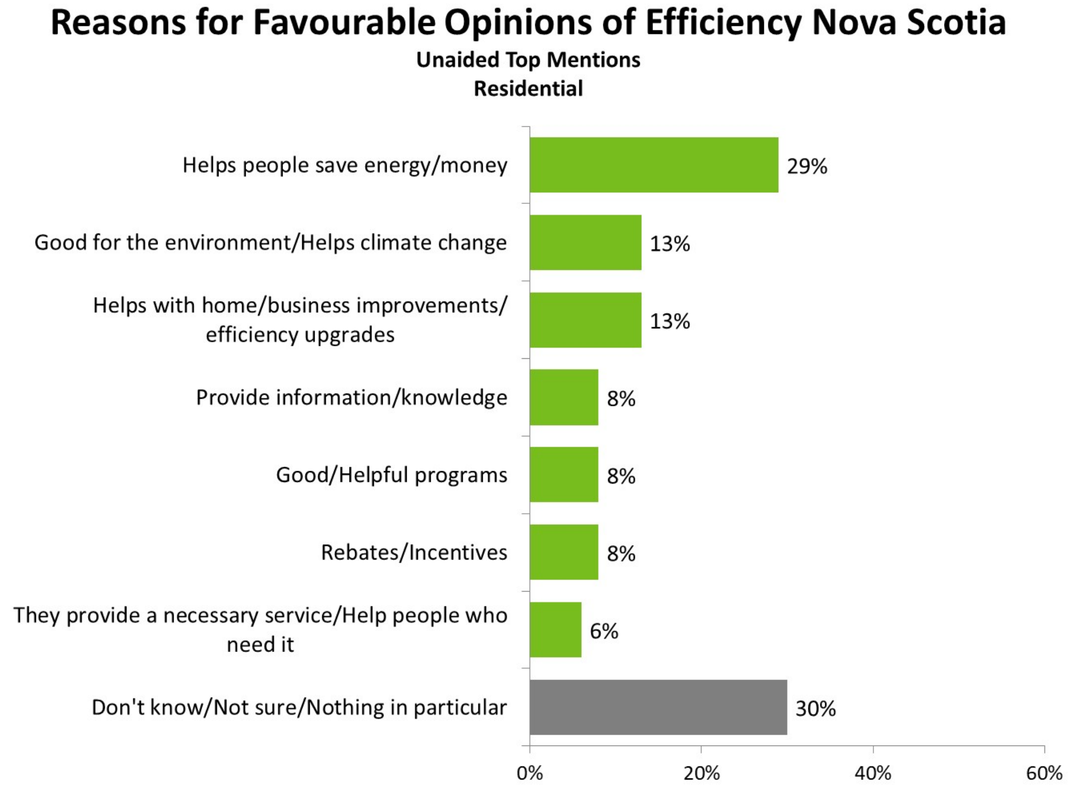


Q.B12: **[IF 'YES' IN B2]** What is your overall opinion of Efficiency Nova Scotia? (n=1,349)
*Note: Responses of 'Don't know/No answer' have been excluded from the calculation of the Mean. *Due to rounding.*

Among those who have a favourable opinion of Efficiency Nova Scotia, the most common reason is that the organization helps people save energy and money.

When those residents who have a favourable opinion (i.e., a rating of 7-10) of Efficiency Nova Scotia were asked why this is the case, the most common reason is that it **helps people save energy/money** (29%). Approximately one in eight say that ENS is **good for the environment/climate change** (13%), and the same proportion mention that Efficiency **helps with home/business improvements/efficiency upgrades** (13%) as part of their rationale. Other reasons include ENS providing **information/knowledge**, **good/helpful programs**, **rebates/incentives**, **a necessary service to help people who need it**, and **friendly/helpful representatives/staff**. Notably, three in ten residents (30%), were unable or chose not to provide rationale for when they have a favourable opinion.

Residents with a household income under $50,000 are less likely than their counterparts to state that Efficiency Nova Scotia helps people save energy and money, as are those in Mainland Nova Scotia (excluding HRM), compared to other regions. (Table B13 - Favourable)



Q.B13: **[IF CODES 7-10 IN Q.B12]** a. What is the single most important reason why you have a favourable opinion of Efficiency Nova Scotia? b. Any other reasons? (n=193) *Note: 250 responses were coded at random for this question.*

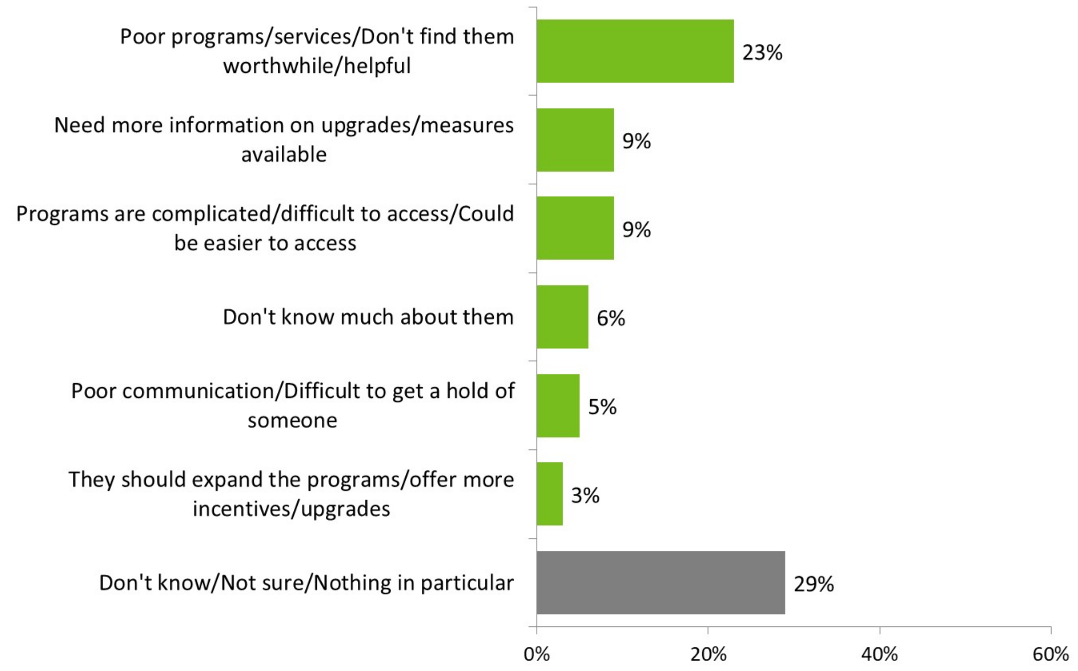
Unfavourable Opinion of Efficiency Nova Scotia

Those who have an unfavourable opinion of Efficiency Nova Scotia are most likely to attribute this to perceived poor or unhelpful programs/services.

Among the limited number of residents who view Efficiency Nova Scotia unfavourably (i.e., a rating of 1-6), one-quarter feel this way because they find the **programs/services to be poor, not worthwhile or unhelpful** (23%). One in ten residents suggest that they **need more information on upgrades/measures available** (9%), and the same number feel the **programs are complicated or difficult to access** (9%). Other reasons for an unfavourable opinion include **not knowing much about the organization**, **the need to expand programs/incentives**, **need to improve the website**, and **not qualifying for the rebate**, among other miscellaneous reasons. Meanwhile, approximately three in ten residents (29%) do not attribute their unfavourable opinion to anything in particular. Among those more likely than their respective counterparts to not find the programs worthwhile/helpful are residents whose primary heat source is oil, who rent their accommodation, have been in contact with an Efficiency Solutions Advisor (perhaps, one could speculate, as a result of heightened expectations of program outcomes), are likely to renovate, unwilling to become energy efficient, and have a household income of less than $100,000. (Table B13 - Unfavourable)

Reasons for Unfavourable Opinions of Efficiency Nova Scotia

Unaided Top Mentions
Residential



Q.B13: **[IF CODES 1-6 IN Q.B12]** a. What is the single most important reason why you have an unfavourable opinion of Efficiency Nova Scotia? b. Any other reasons? (n=57) *Note: 250 responses were coded at random for this question.*

Energy Efficiency & Demand Side Management

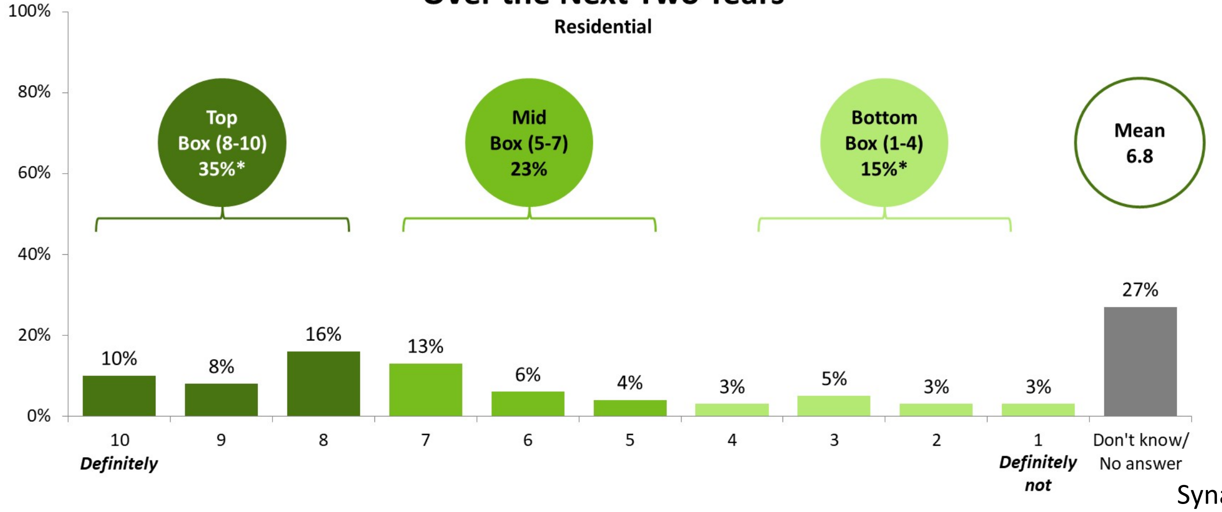
Approximately one-third of residents are likely to undertake energy efficiency renovations or upgrades in the next two years.

Residents were asked to indicate how likely their household is to undertake energy efficiency upgrades or renovations in the next two years on a scale from 1 to 10, where 1 is 'definitely not' and 10 is 'definitely.' Over one-third of Nova Scotians (35%) anticipate that their household will undertake energy efficiency upgrades or renovations (i.e., providing a certainty rating of 8-10) in the next two years. Meanwhile one-quarter (23%) are uncertain (i.e., giving a rating of 5-7), and one in seven (15%) are unlikely to undertake renovations (i.e., providing a rating of 1-4).

Residents whose primary heat source is oil are slightly more likely than residents who use other heat sources to indicate they are likely to renovate in the near future. Those who own their residence, have a favourable opinion of Efficiency Nova Scotia, and are willing to become energy efficient are more likely than their respective counterparts to indicate they are likely to undertake energy efficiency upgrades. The likelihood of undertaking renovations of this nature also increases with higher household income. (Table C1)

Likelihood of Household Undertaking Energy Efficiency Upgrades or Renovations Over the Next Two Years

Residential



Q.C1: Over the next two years, how likely is it that your Nova Scotian household will undertake energy efficiency upgrades or renovations? (n=1,468)
*Note: Responses of 'Don't know/No answer' have been excluded from the calculation of the Mean. *Due to rounding.*

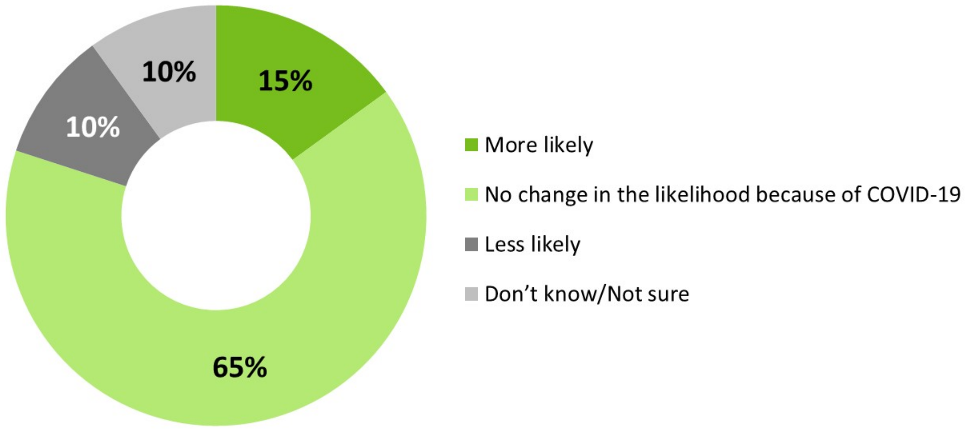
The majority of Nova Scotians do not feel that the pandemic has had an effect on the likelihood of their undertaking energy efficiency upgrades or renovations next year.

Approximately two-thirds of residents (65%) indicate that the COVID-19 pandemic has had no impact on their likelihood to undertake steps to improve household energy efficiency in the next year. The remainder are fairly evenly split between thinking the pandemic has made them more likely to renovate (15%), less likely to renovate (10%), and being unsure about the impact the pandemic has had on their likelihood (10%).

Residents who indicate that they are very likely to renovate in the next two years are more likely than their counterparts to agree that the COVID-19 pandemic has positively influenced their likelihood to undertake these renovations. (Table C2)

COVID-19 Pandemic's Impact on Likelihood of Taking Steps to Improve Household's Energy Efficiency in the Next Year

Residential



Q.C2: Has the COVID-19 pandemic made it more likely, less likely, or has there been no change in the likelihood that your Nova Scotian household over the next year will take steps to improve your household's energy efficiency? (n=1,466)
Note: Some respondents may not have answered this question as partial survey completes were included in the analysis.

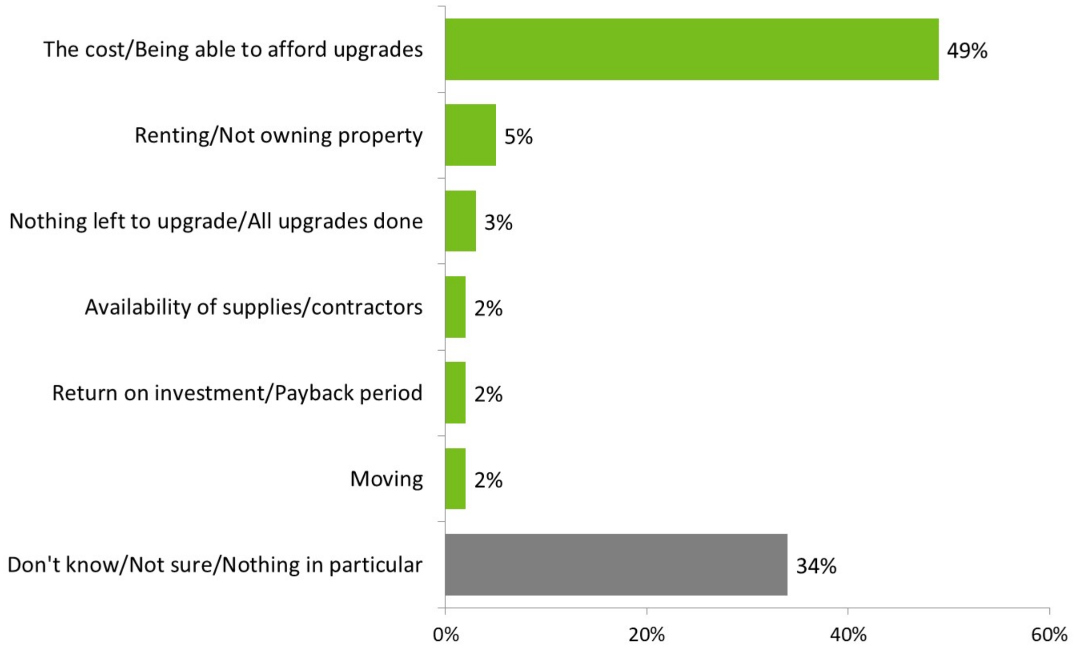
The cost and being able to afford upgrades emerges by far as the biggest factor preventing Nova Scotians from pursuing energy efficiency upgrades.

The largest factor preventing households from pursuing energy efficiency upgrades is **cost/affordability** of upgrades, mentioned by approximately one-half of residents (49%). One in twenty Nova Scotians (5%) indicate **renting/not owning property** as a key factor preventing them from pursuing upgrades, and all other factors – **nothing left to upgrade**, **concerns about return on investment**, **moving**, **having time to do upgrade**s, and **lack of incentives/rebates** – are less frequently mentioned, Meanwhile, one-third of residents (34%) are unable to cite any factor in particular.

Cape Breton residents are most likely to indicate concerns with costs, followed by mainland Nova Scotia residents, with HRM residents being least likely to be concerned for this reason. Those whose primary heat source is oil, followed by residents with a heat pump, are also more concerned about costs than residents who rely on propane/natural gas or electricity. (Table C2a)

Would Prevent Household From Pursuing Energy Efficient Upgrades in the Next Two Years

Unaided Top Mentions
Residential

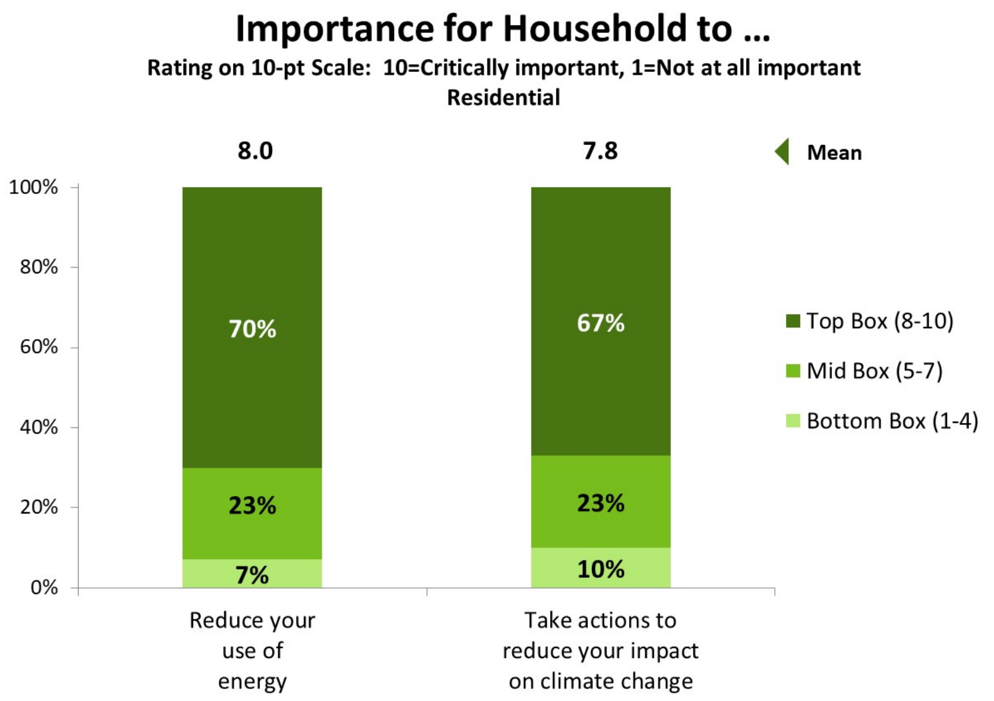


Q.C2a: What if anything might prevent your household from pursuing energy efficiency upgrades in the next two years? (n=250)
Note: 250 responses were coded at random for this question.

The majority of Nova Scotians place a high degree of importance on both reducing their energy consumption and their impact on climate change.

Residents were asked to rate the importance of two types of actions on a scale of 1 to 10 where 1 is 'not at all important' and 10 is 'critically important.' Seven in ten Nova Scotians (70%) indicate that it is important (i.e., a rating of 8-10) for their household to *reduce its use of energy*. Meanwhile, two-thirds of residents (67%) say that it is important for them to *take actions to reduce their impact on climate*. This similarity between the importance ratings points to the notion that most people who believe in limiting their energy consumption also believe in limiting climate change impact, highlighting an understanding of the link between energy conservation and climate action.

Those with a favourable opinion of Efficiency Nova Scotia, a high likelihood to renovate, and a willingness to become energy efficient are more likely than their respective counterparts to deem as important both reducing energy use, and reducing their impact on climate change. (Tables C3a-b)



Q.C3a-b: In your opinion how important is it for your Nova Scotia household to: …? (n=1,453)

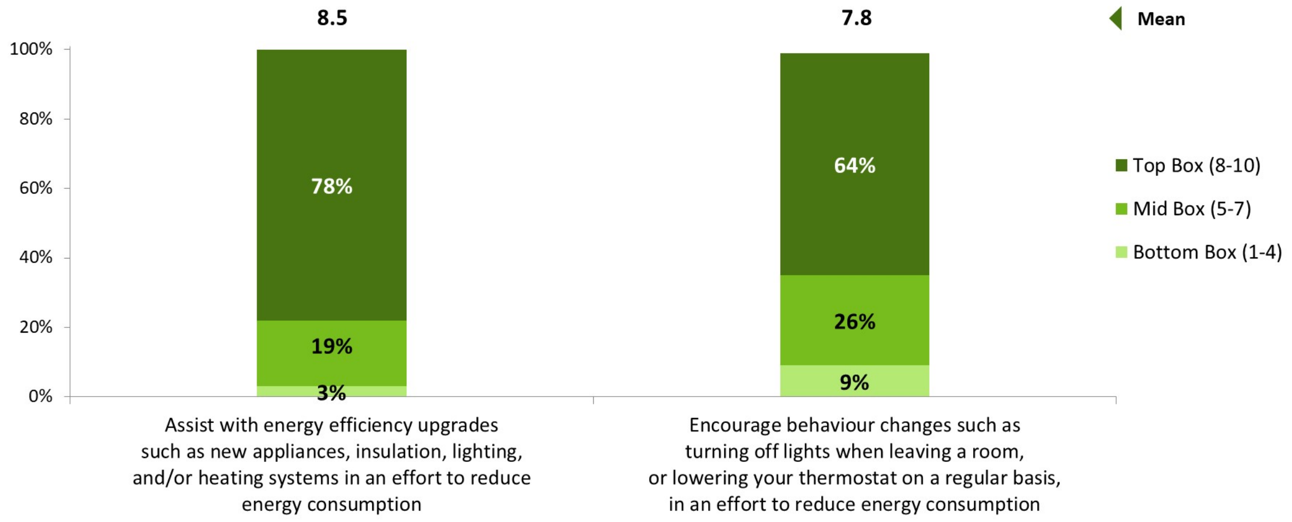
Most residents believe it is important for Efficiency Nova Scotia to provide funding and programs related to both efficiency upgrades and demand side management.

On a scale of 1 to 10 where 1 is 'not at all important' and 10 is 'critically important', Nova Scotians were asked to rate how important it is for Efficiency Nova Scotia to provide different types of funding and programs. Nearly eight in ten residents (78%) offered ratings of 8-10 on this scale when it comes to *Efficiency providing funding or programs to assist households with energy efficiency upgrades*. Meanwhile, nearly two-thirds of Nova Scotians (64%) placed the same importance on programs to *encourage behaviour changes* related to demand side management efforts. This finding suggests that fewer Nova Scotians are interested in and/or fewer see the value of changing their behaviour to conserve energy, compared to undertaking upgrades, albeit the proportion who do recognize its importance is still robust. Women are more likely than men to acknowledge the importance of both types of programming. Consistent with findings already reported, residents with a favourable opinion of Efficiency Nova Scotia, those likely to renovate in the short term, and those willing to become energy efficient are more likely than their respective counterparts to see the importance in both types of funding/programming. (Tables C4a-b)

Importance of Efficiency Nova Scotia Providing Funding and Programs to Assist With Energy Efficiency Upgrades and to Encourage Behaviour Changes

Rating on 10-pt Scale: 10=Critically important, 1=Not at all important

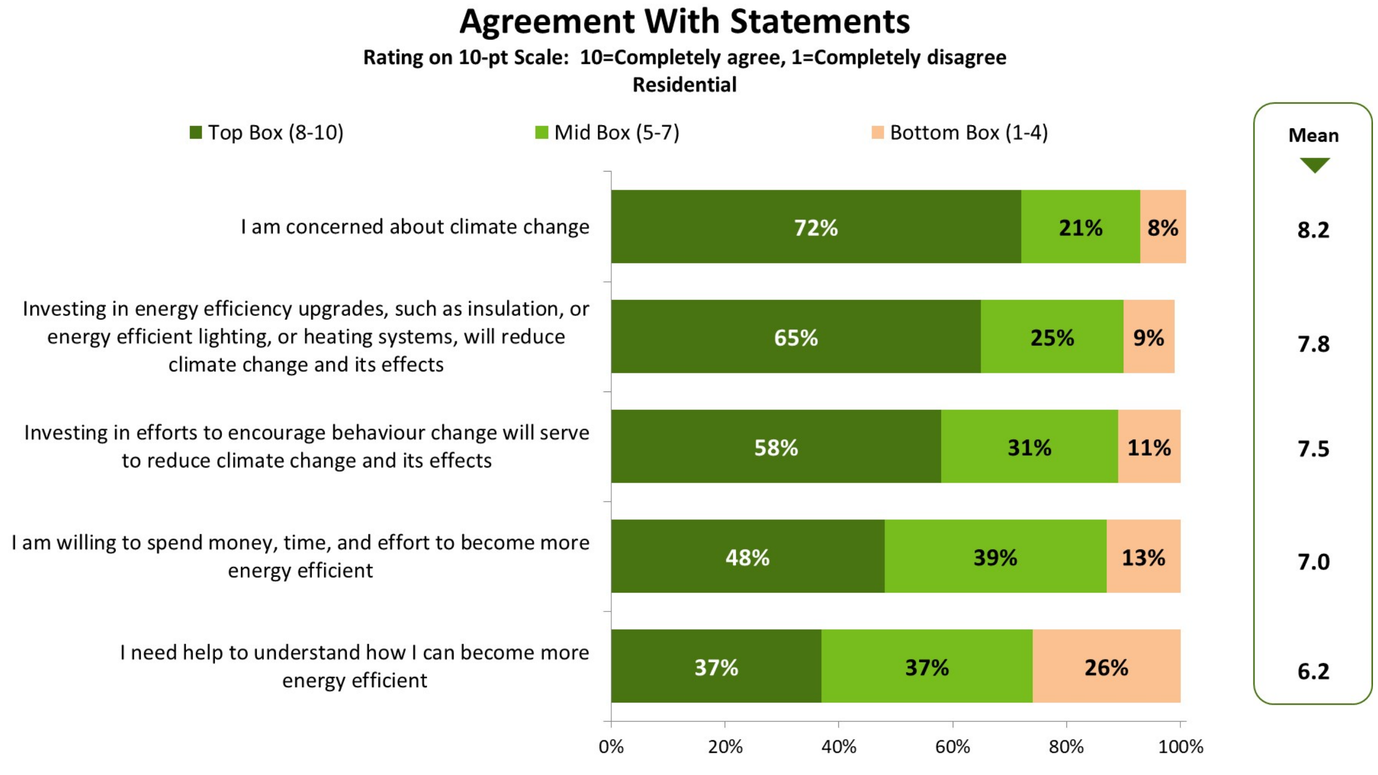
Residential



Q.C4a-b: Although both are methods of reducing energy consumption, it is possible to distinguish between taking steps to improve energy efficiency through ***upgrades such as improved insulation or a more energy efficient heating system***, on the one hand, and changing ***behaviours such as turning off lights when leaving a room, or lowering your thermostat on a regular basis***, so as to limit your household's energy use, on the other hand. In your opinion how important is it for Efficiency Nova Scotia to provide funding and programs to Nova Scotian households to: ...? (n=1,443)

A robust majority of Nova Scotians are concerned about climate change, while notably fewer are willing to invest the time and effort required to become energy efficient.

Nova Scotians were asked to indicate their level of agreement with a series of statements on a scale of 1 to 10, where 1 is 'completely disagree' and 10 is 'completely agree.' Seven in ten residents (72%) agree (i.e., offer a rating of 8-10) that they are *concerned about climate change*. Two-thirds of residents (65%) agree that investing in *energy efficiency upgrades will reduce climate change and its effects*, while six in ten (58%) agree that *investing in efforts to encourage behaviour change will serve to reduce climate change and its effects*. One-half of residents (48%) agree that they *are willing to spend money, time and effort to become more energy efficient*, while just over one-third (37%) agree that they *need help to understand how they can become more energy efficient*. The gap between those concerned by climate change and the belief in investment suggests that not everyone is convinced energy conservation has a robust impact on climate change.



Q.C5a-e: To what extent do you agree or disagree with each of the following statements? (n=1,431)

Further, willingness to become energy efficient is lower still than belief that energy efficiency investment curbs climate change, suggesting that even when actions are regarded as effective, it is still not always enough to convince everyone to commit their time, money and effort to change. Finally, the finding that one-half of residents still feel they need help to become more energy efficient presents a sizeable opportunity for Efficiency Nova Scotia. (Tables C5a-e)

Classification / Profile Data

Gender

45% 54%

0% Gender diverse

1% Prefer not to say

(n=1,535)

Age

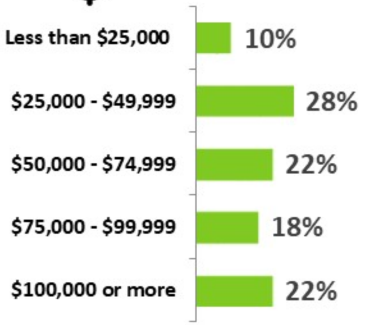
31% 68%

18-44 45+

1% Prefer not to say

(n=1,535)

Household Income



(Among Valid %, n=1,221)

Primary Residence

80% Own

20% Rent

(n=1,535)

Primary Ethnic/ Cultural Origin

Top Mentions

40% English

16% Scottish

13% Canadian

11% Irish

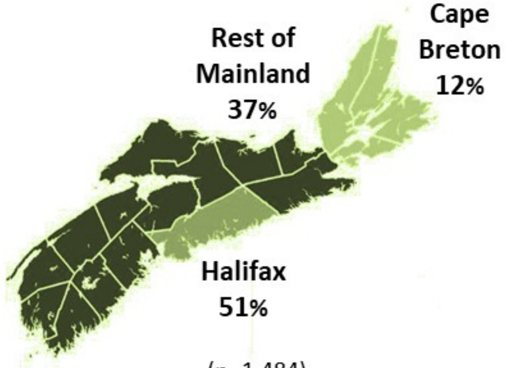
9% Acadian

6% German

13% Prefer not to say

(n=1,426)

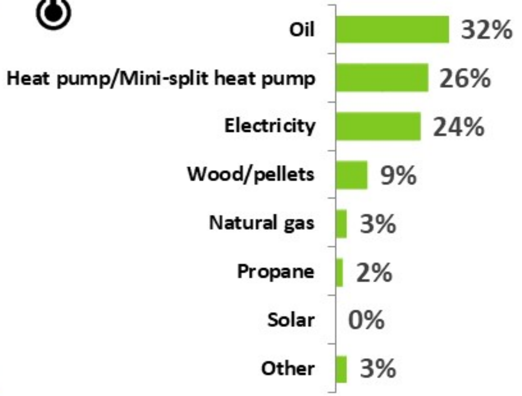
Region



(n=1,484)

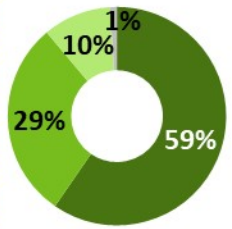
(Some did not provide a valid postal code)

Primary Heating Source



(n=1,535)

Born



(n=1,431)

Nova Scotia Commercial Organizations

Awareness and Perceptions

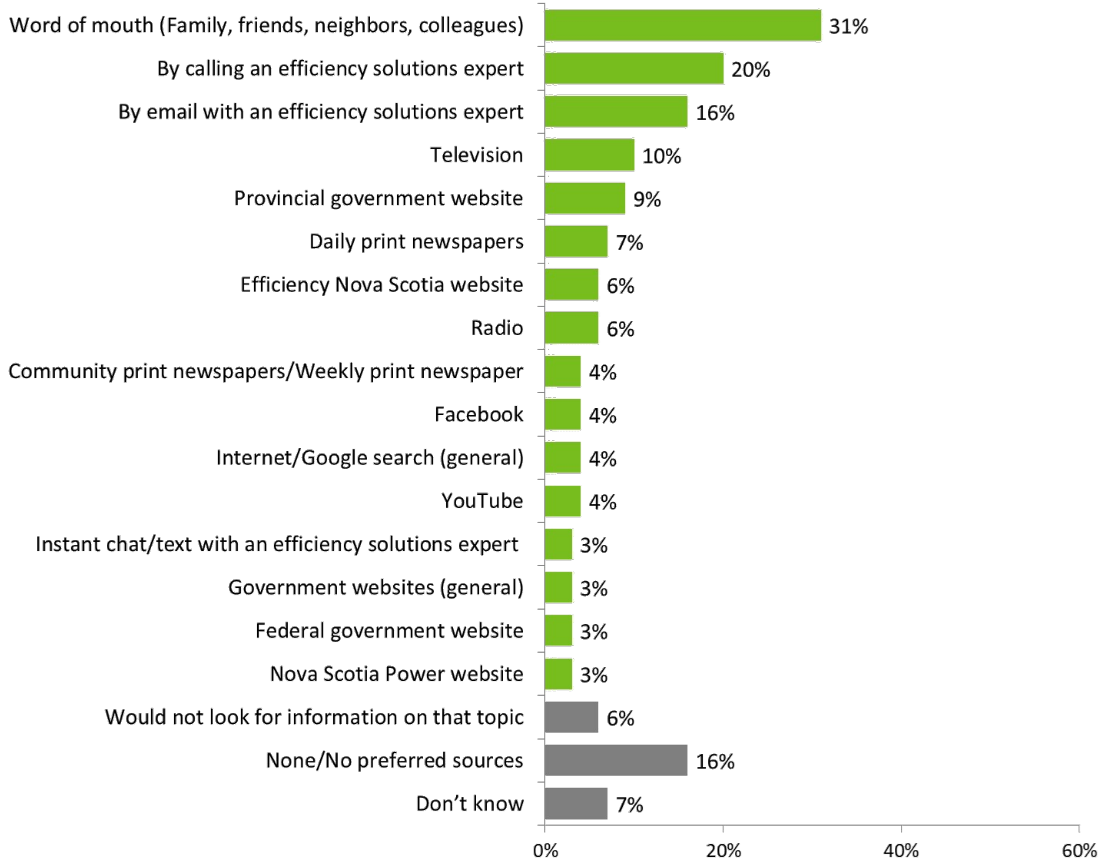
Word of mouth is the most common way businesses get information on how to reduce energy, closely followed by interaction with efficiency solutions experts.

When commercial decision-makers were asked which sources they use to find information on reducing energy use in their Nova Scotia location(s), three in ten (31%) suggest they rely on word of mouth. Meanwhile, two in ten (20%) find this information by calling an efficiency solutions expert, and one in six (16%) say they email an efficiency solutions expert. One in ten commercial organizations (10%) turn to the television for this information, while a similar proportion (9%) access the provincial government website.

Organizations in HRM are more likely to rely on word of mouth as compared to those in other regions. Meanwhile, those with a favourable opinion of Efficiency Nova Scotia, and those willing to become more energy efficient are more likely than their respective counterparts to call an efficiency solutions expert for information. (Table B1)

Sources of Information on Reducing Energy in NS Business Location(s)

Commercial – Top Mentions



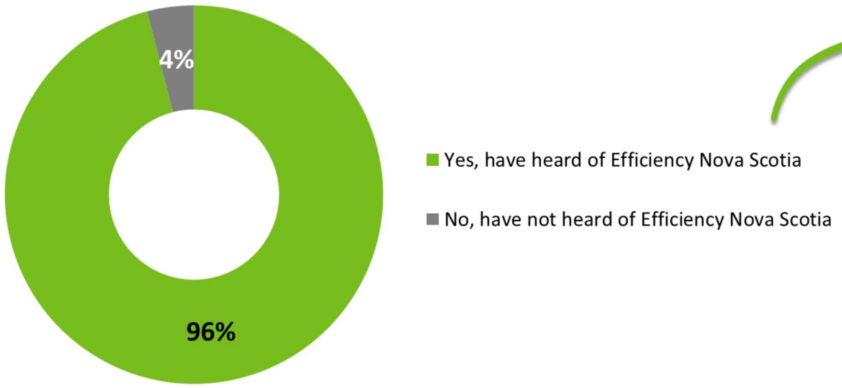
Q.B1: When looking for information on reducing energy use in your Nova Scotian business location(s), what sources do you use to find that information? (n=373)

Awareness of Efficiency Nova Scotia is impressively high among commercial organizations, but fewer than one-half of these have contacted an Energy Solutions Advisor in the past.

Awareness of Efficiency Nova Scotia in the commercial community is near universal, with 96% indicating they had previously heard of the organization. Awareness is lowest among business decision-makers born outside of Canada, compared to those born in the country.

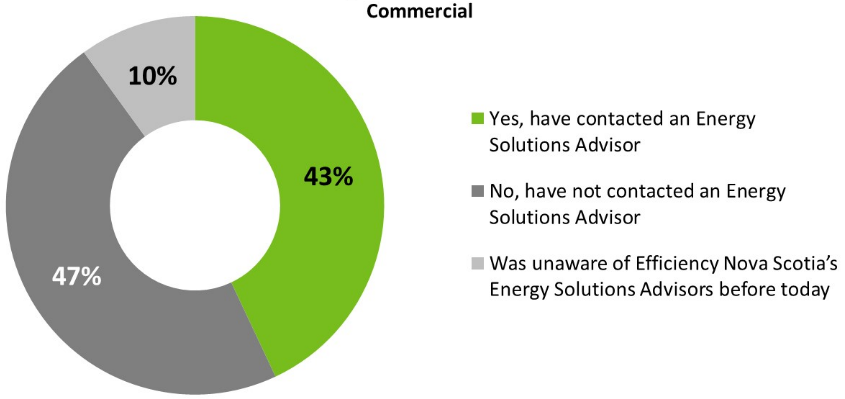
Of those who were previously aware of ENS, four in ten (43%) have contacted an Energy Solutions Advisor in the past. Nearly one-half (47%) of these organizations have not contacted an Energy Solutions Advisor, and the remainder (10%) were previously unaware of this service. Organizations that own their location are more likely to have contacted an advisor compared to those who lease or rent, as are those who previously participated in an Efficiency Nova Scotia program compared to those that have not. Additionally, those decision-makers born outside of Canada are more likely than those born in Canada to have made contact. (Tables B2-B3)

Prior Awareness of Efficiency Nova Scotia
Commercial



Q.B2: Prior to today, had you ever heard of Efficiency Nova Scotia, the organization that helps Nova Scotian residents and organizations reduce their energy use? (n=373)

Previously Contacted an Efficiency Nova Scotia Advisor to Discuss Ways to Save Energy in Business Location(s)
Among Those Aware of ENS
Commercial

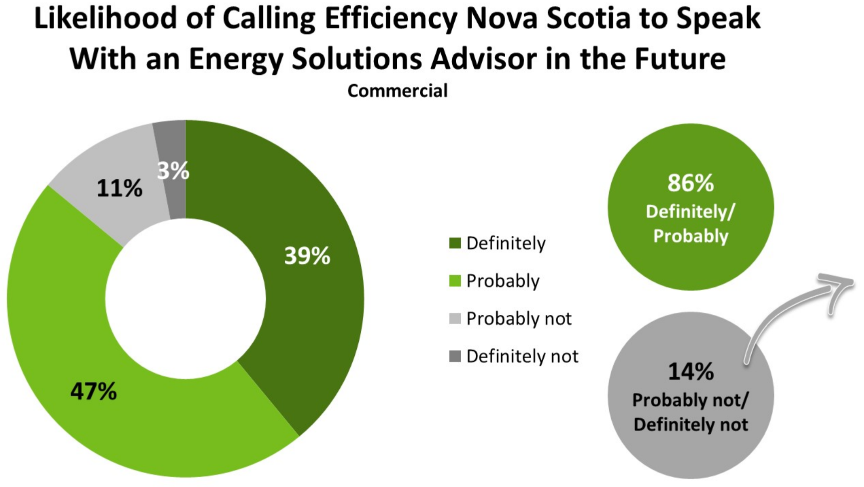


Q.B3: **[IF 'YES' IN Q.B2]** Efficiency Nova Scotia offers a free service where you can call to speak to an Energy Solutions Advisor for customized energy efficiency expertise and advice. Have you previously contacted an Efficiency Nova Scotia Energy Solutions Advisor to discuss ways to save energy for your Nova Scotian business location(s)? *Please indicate if you were unaware of this service prior to today.* (n=359)

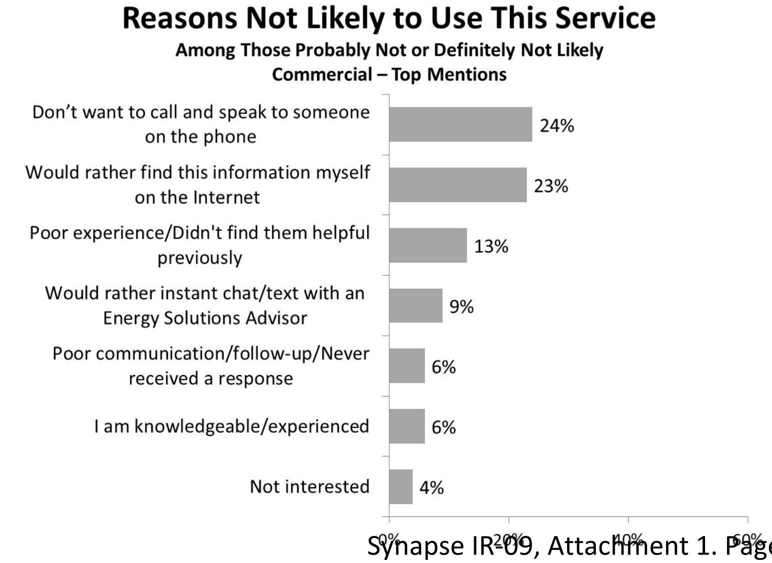
A robust majority of organizations would reach out to an Energy Solutions Advisor if they have a need.

Eighty-six percent of Nova Scotian businesses indicate that they would *definitely* or *probably* call an Energy Solutions Advisor if they were thinking about energy efficiency solutions. The remainder (14%) indicate they would *probably not* or *definitely not*. Those organizations with a favourable opinion of Efficiency Nova Scotia are notably more likely to reach out to an Energy Solutions Advisors, as compared to those with an unfavourable opinion, and those with an annual revenue up to $500,000 are also more likely than those with greater revenue.

Among those not interested in accessing this service, a variety of reasons supporting their feelings emerge. One-quarter of business decision-makers ***don't want to call and speak to someone on the phone*** (24%), while a ***similar proportion would rather find the information themselves*** (23%). Additionally, one in eight had a ***poor experience in the past*** (13%), and one in ten ***would rather instant chat/text with an Energy Solutions Advisor*** (9%). Not wanting to call and speak on the telephone is a more common reason among those who are unlikely to renovate, and those less willing to become energy efficient, as compared to their respective counterparts. (Tables B4-B5)



Q.B4: [DISPLAY IF 'NO' AT B2: *Efficiency Nova Scotia offers a free service where you can call to speak to an Energy Solutions Advisor for customized energy efficiency expertise and advice.*] In the future, if you were thinking about energy efficiency solutions for your Nova Scotian business location(s), how likely would you be to call Efficiency Nova Scotia to speak with an Energy Solutions Advisor? (n=373)



Q.B5: [IF 'PROBABLY NOT' OR 'DEFINITELY NOT' IN Q.B4] Why are you not likely to use this service? (n=52)

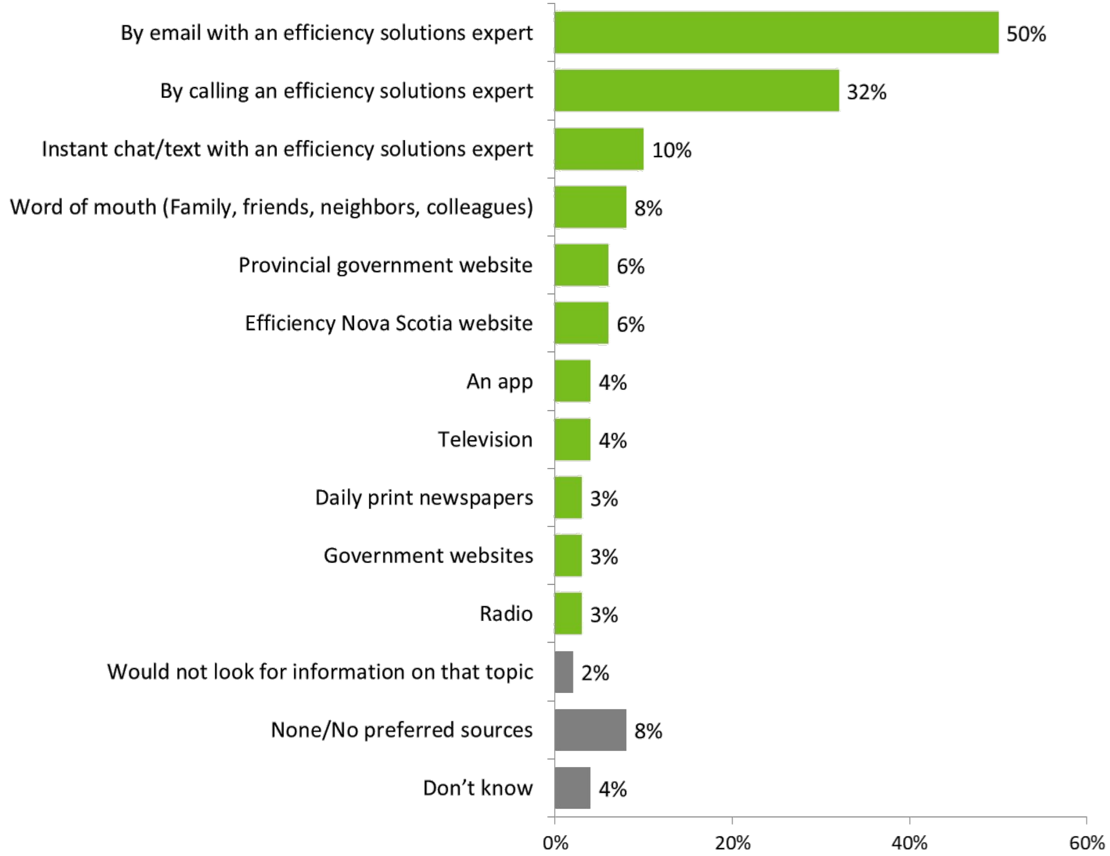
Nova Scotia businesses display a strong preference for sourcing information through an efficiency solutions expert, especially via email.

One-half of businesses (50%) prefer to access information about reducing energy use via an email exchange with an Efficiency Solutions Expert, and one-third (32%) have a preference for calling an efficiency solutions expert. Additionally one in ten businesses (10%) have a preference for instant messaging with an efficiency solutions expert, and slightly fewer prefer to learn information by word of mouth (8%). All other media are less frequently preferred. Interestingly, the top three responses all involve a desire to engage with an efficiency solutions expert, further reinforcing the strong interest in the service.

Calling an efficiency solutions expert is more likely to be preferred by those organizations that have previously been in contact, previously participated in an Efficiency Nova Scotia program, have a high opinion of ENS, have a high likelihood of renovating, and are willing to become energy efficient, compared to their respective counterparts. Those organizations located in Cape Breton, and those that lease their location are also more likely to prefer this method of sourcing information than are their counterparts. (Table B6)

Preferred Method to Access Information on Reducing Energy in Business Location(s)

Commercial – Top Mentions



Q.B6: In the future, how would you ***prefer*** to access information about reducing energy use for your Nova Scotian business location(s)? (n=373)

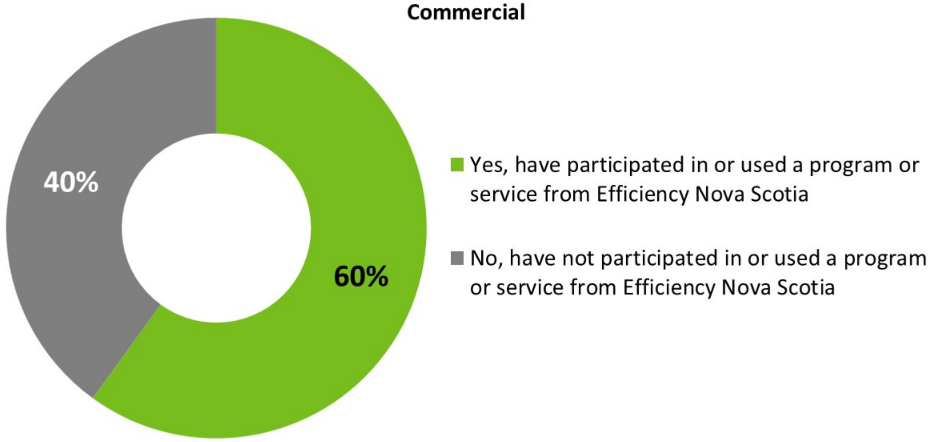
Over one-half of Nova Scotia businesses have participated in Efficiency Nova Scotia programs in the past.

Of those aware of the organization, a modest majority, six in ten (60%), have previously taken part in or used a program or service offered by Efficiency Nova Scotia. The remaining four in ten (40%) have not.

Participation is highest among those located in mainland Nova Scotia, followed by HRM, with Cape Breton organizations participating least often. Those who rent their location are less likely to have participated compared to those who lease or own, and women decision-makers are less likely than men to have taken part. Organizations with multiple locations are more likely to have participated in a program in the past than those with one location, as are those who have contacted an Energy Solutions Advisor, and those willing to become energy efficient compared to their respective counterparts. (Table B7)

Prior Participation/Use of Program or Service Offered by Efficiency Nova Scotia

Among Those Aware of ENS
Commercial



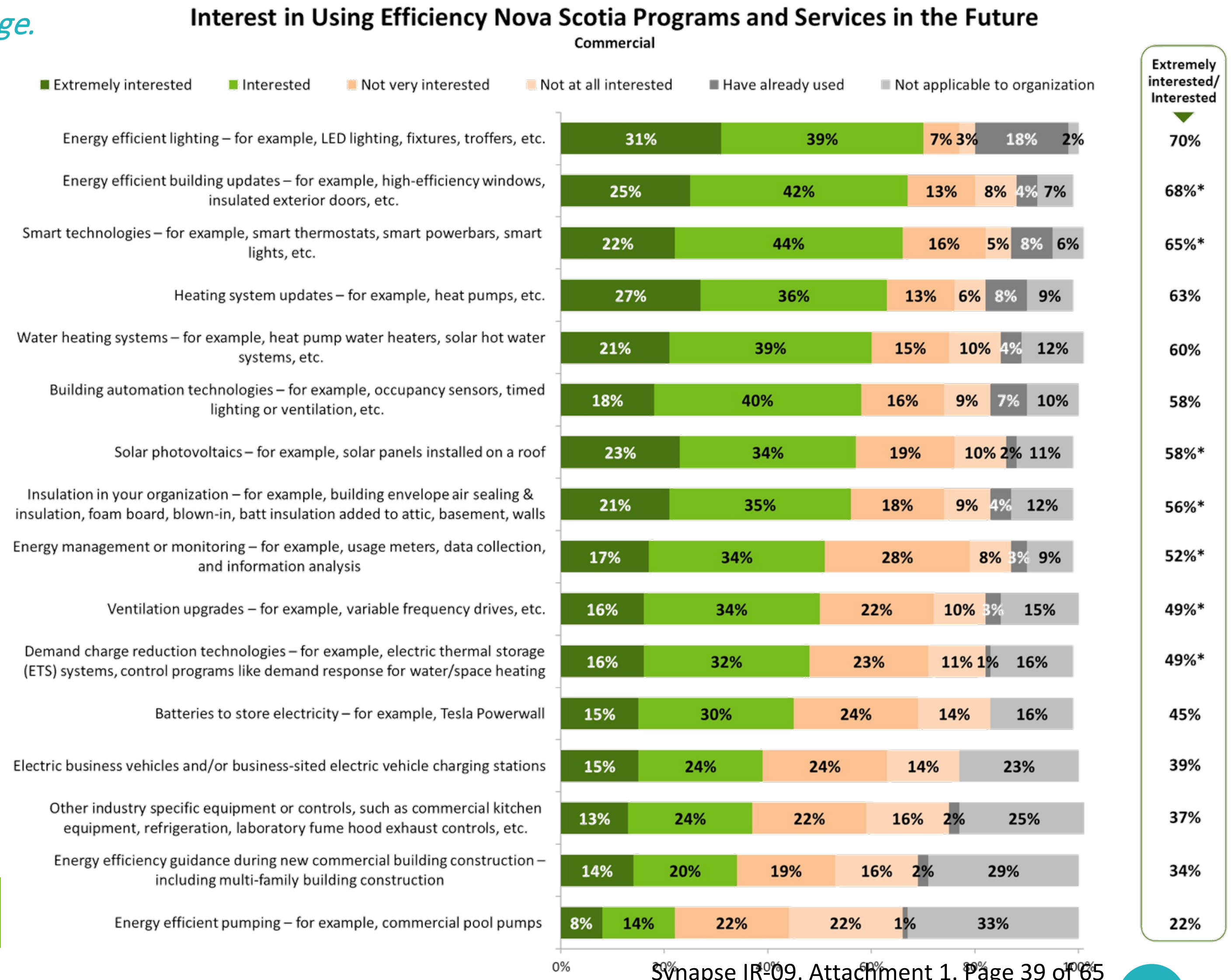
Q.B7: **[IF 'YES' AT B2]** Prior to today, had you ever participated in or used a program or service offered by Efficiency Nova Scotia? (n=359)

Businesses show interest in more than seven of the 16 programs, on average.

Nova Scotia organizations were presented with a list of programs and services offered by ENS and asked to indicate their level of interest in each. Seven in ten organizations (70%) note that they are either *extremely interested* or *interested* in programs for **energy efficiency lighting**, and a similar proportion (68%) is interested **in energy efficient building updates**. Two-thirds of organizations (65%) showed interest in **smart technologies**, and slightly fewer (63%) are interested in programming for **heating system updates**. **Water heating system** (60%), **solar photovoltaics** (58%), and **building automation technologies** (58%) programming are all of interest to most, while **insulation in the organization** (56%), **energy management or monitoring** (52%), **ventilation upgrades** (49%), and **demand charge reduction technologies** (49%) are all of interest to approximately one-half of organizations. Less than one-half are interested in programs for **batteries to store electricity** (45%), **vehicle electrification** (39%), and programs for **other industry equipment** (37%). Only two-thirds (34%) show interest in **energy efficient guidance during new commercial construction**, and two in ten (22%) are interested in **energy efficient pumping**. (Tables B8a-l, n-q)

Number of Programs and Services 'Extremely Interested' or 'Interested' in Using	
11-16	36%
6-10	33%
0-5	31%

Mean 7.6



Q.B8a-l, n-q: Efficiency Nova Scotia offers a variety of programs and services to Nova Scotian households and organizations that provide financing or rebates for energy efficiency upgrades. How interested would your organization be in using the following programs or services in the future? (n=373) *Due to rounding.

Financial savings and the need upgrade older, outdated systems are the primary reasons organizations express interest in Efficiency Nova Scotia programs.

Among those organizations who indicated they were ‘extremely interested’ in one or more of the available programs and services, a variety of factors were cited as rationale. The four programs deemed of most interest and their corresponding rationale are listed below:

Decision-makers indicate that ***energy efficient lighting*** is of interest primarily because it can allow for saving on electricity expenses. ***Energy efficient building updates*** are of interest largely because the buildings, or parts of them, are old and in need of upgrades, but available cost savings are also frequently mentioned. A main draw of ***smart technologies*** is that it reduces the potential for human error related to powering down equipment or lighting, and improves the ability of decision-makers to save and monitor energy usage. Meanwhile, older heating systems, costs and environmental concerns all factor in to the rationale for high interest in ***heating system updates.***

Energy efficient lighting:
“Always looking for ways to save on electricity.”

Energy efficient building updates:
“To improve our heating and cooling costs and make our space more comfortable for staff and customers.”

Smart technologies:
“To monitor utility usage and ensure equipment is being turned off correctly by staff etc.”

Heating system upgrades:
“My heating system is getting old, will need to replace soon.”

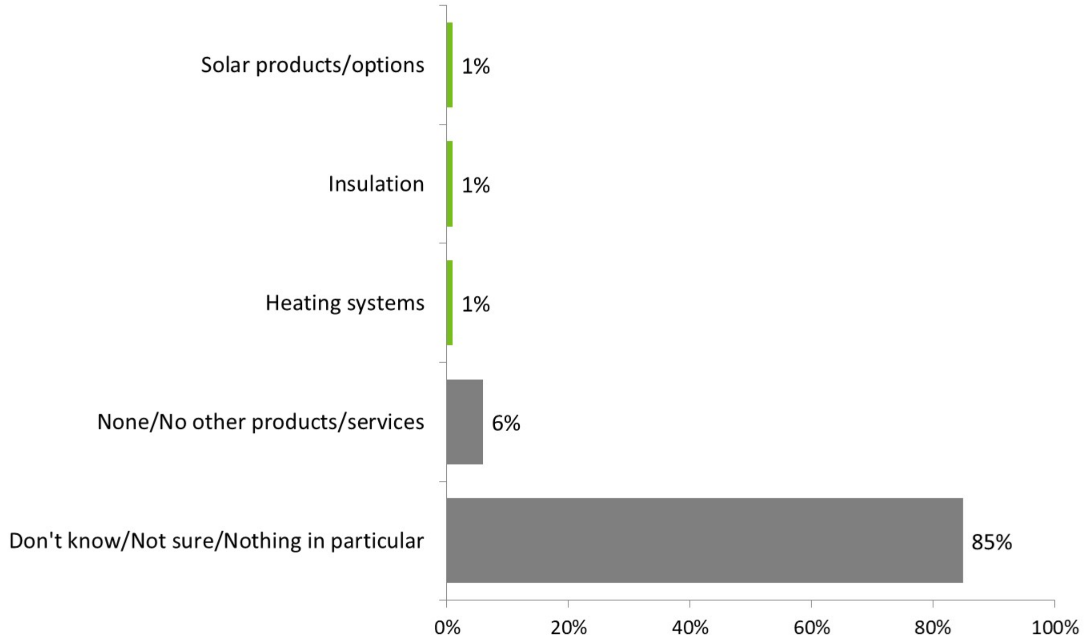
Most organizations are unable to offer suggestions for additional programs or services.

Besides those programs already available, most organizations are unable to suggest additional programs or services they would like to see offered by Efficiency Nova Scotia. This finding suggests that Efficiency Nova Scotia is already doing a good job of offering a breadth of programs and services to meet client needs. Other, very infrequent, suggestions for commercial programming including ***solar products/options***, ***insulation***, and ***heating systems***.

Those who have previously participated in an ENS program and have a high likelihood of renovating are more likely than their respective counterparts to offer some suggestion for a potential new program or service. (Table B10)

Other Products or Services Efficiency Nova Scotia Should Offer

Unaided Top Mentions
Commercial



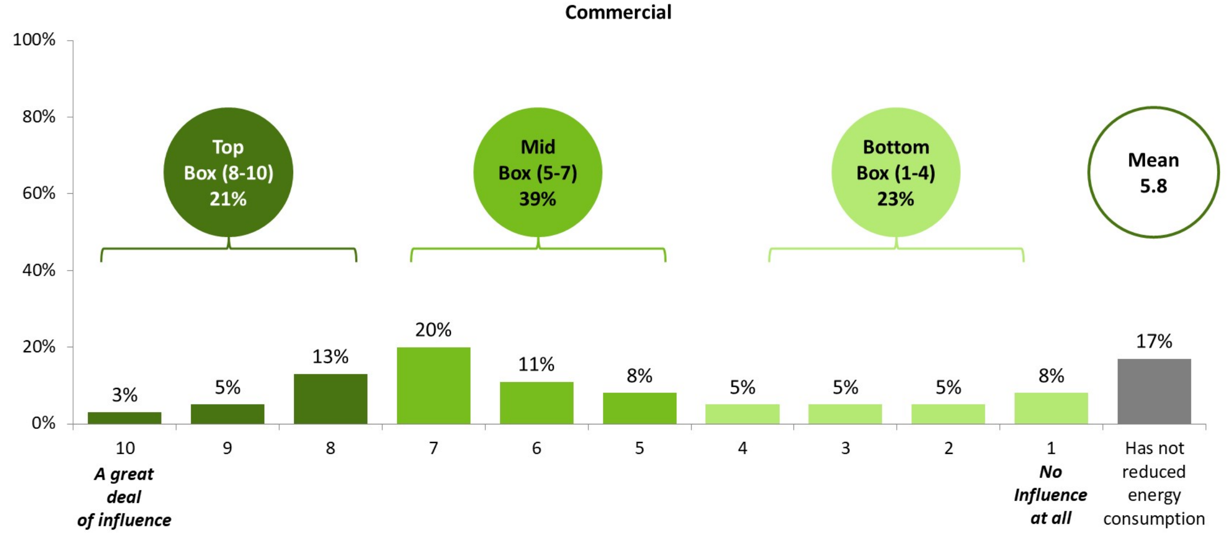
Q.B10: Besides the list of current and potential program and service offerings from Efficiency Nova Scotia mentioned in the previous question [DISPLAY THE B8 LIST], are there any other products or services that you think Efficiency Nova Scotia should offer? (n=150)
Note: 150 responses were coded at random for this question.

Just two in ten organizations consider Efficiency Nova Scotia highly influential in their decision-making, although this number skews depending on prior experience with ENS and with intentions of become more energy efficient.

Those who had heard of Efficiency Nova Scotia were asked to rate the level of influence ENS had on their decision to reduce their organization's energy consumption on a scale of 1 to 10, where 1 is 'no influence at all' and 10 is 'a great deal of influence'. Two in ten organizations (21%) gave a rating of 8-10, indicating that Efficiency Nova Scotia was highly influential in their decision. Four in ten (39%) suggest that ENS has a moderate amount of influence (i.e., a rating of 5-7), and a similar proportion (23%) indicate they had very little influence (i.e., they provide a rating of 1-4). Meanwhile, one in six businesses (17%) mention that their organization has not reduced its energy consumption.

Renters, and women decision-makers are less likely than their respective counterparts to indicate that Efficiency Nova Scotia had a high level of influence over their decision to reduce energy consumption. Additionally, those organizations with two or more locations, previous contact with an Energy Solutions Advisor, previous participation in an Efficiency program, a favourable opinion of Efficiency, a high likeliness to renovate, and a high willingness to become energy efficient are all more likely than their respective counterparts to suggest that Efficiency Nova Scotia has been highly influential. (Table B11)

Influence of Efficiency Nova Scotia in Reducing Organization's Energy Consumption

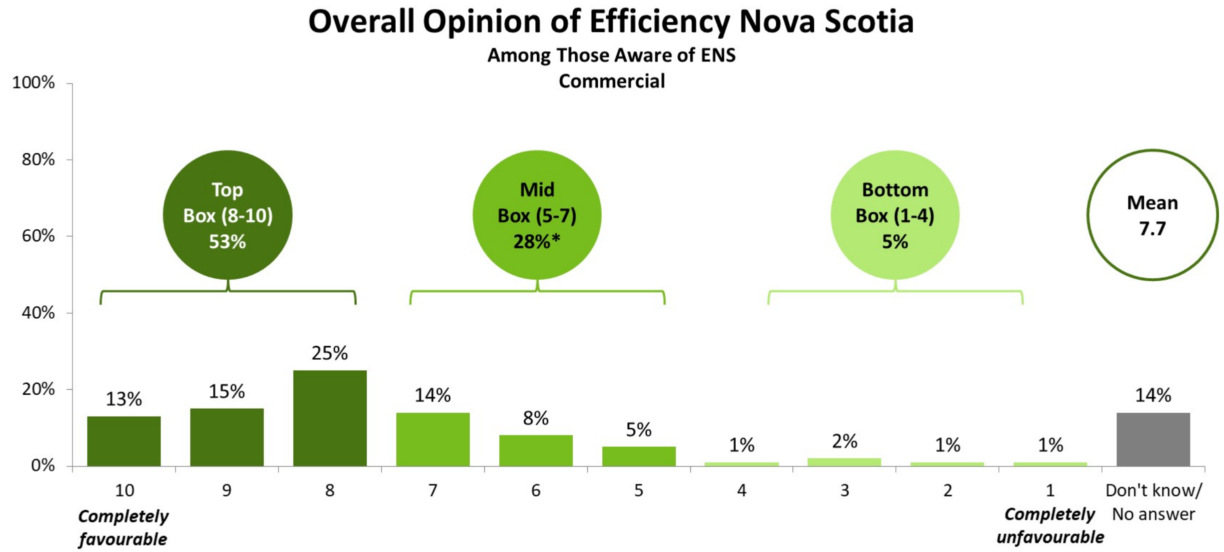


Q.B11: As mentioned, Efficiency Nova Scotia is the organization that helps Nova Scotia residents and organizations reduce their energy use. How much influence, if any, has Efficiency Nova Scotia had in terms of leading you to reduce your organization's energy consumption? (n=352)
Note: Responses of 'Household has not reduced energy consumption' have been excluded from the calculation of the Mean.

The majority of Nova Scotia commercial organizations have a favourable opinion of Efficiency Nova Scotia.

Among those organizations previously aware of Efficiency Nova Scotia, approximately one-half (53%) have a favourable opinion of ENS; i.e., they provide a rating of 8-10 on a 1 to 10 scale where 1 is 'completely unfavourable' and 10 is 'completely favourable.' Three in ten (28%) have a moderately favourable opinion of Efficiency Nova Scotia (i.e., a rating of 5-7), while one in twenty (5%) have an unfavourable opinion (i.e., a rating of 1-4). One in seven organizations (14%) are unable to provide a rating.

Once again, those who have contacted an Energy Solutions Advisor, have previously participated in an ENS program, are likely to renovate, and are willing to become energy efficient are more likely than their respective counterparts to hold a favourable opinion of Efficiency Nova Scotia. Additionally, those born outside Canada are more likely to have a favourable opinion than those born in the country. (Table B12)



Q.B12: **[IF 'YES' IN B2]** What is your overall opinion of Efficiency Nova Scotia? (n=352)
*Note: Responses of 'Don't know/No answer' have been excluded from the calculation of the Mean. *Due to rounding.*

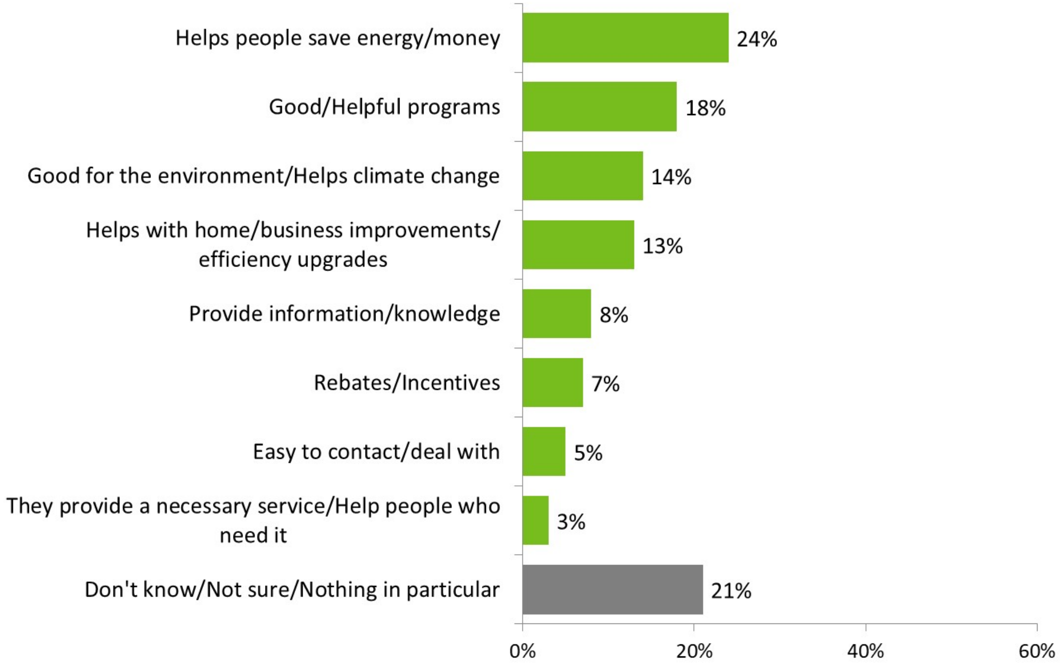
Businesses cite several reasons for their favourable opinion of Efficiency Nova Scotia including energy and money savings, good programs and environmental benefit.

When Nova Scotia organizations were asked why they have a favourable opinion of Efficiency Nova Scotia, a variety of answers emerged. One-quarter (24%) credited their favourable opinion to how Efficiency Nova Scotia ***helps people save energy/money***. Two in ten organizations (18%) mentioned the ***good/helpful programs***, and one in seven mentioned the ***benefit to the environment*** (14%) and the ***help it provides home/business improvements/efficiency upgrades*** (13%). Other, less frequently cited reasons include providing ***information/knowledge***, ***rebates/incentives***, ***easy to contact/deal with***, ***providing a necessary service/helping people who need it***, and ***friendly/helpful staff/representatives***. Notably, two in ten (21%) organizations are unable to provide a reason for their favourable opinion.

Notably, organizations with one location are more likely that those with multiple locations to cite helps people save energy/money as a top reason. (Table B13 - Favourable)

Reasons for Favourable Opinions of Efficiency Nova Scotia

Unaided Top Mentions
Commercial

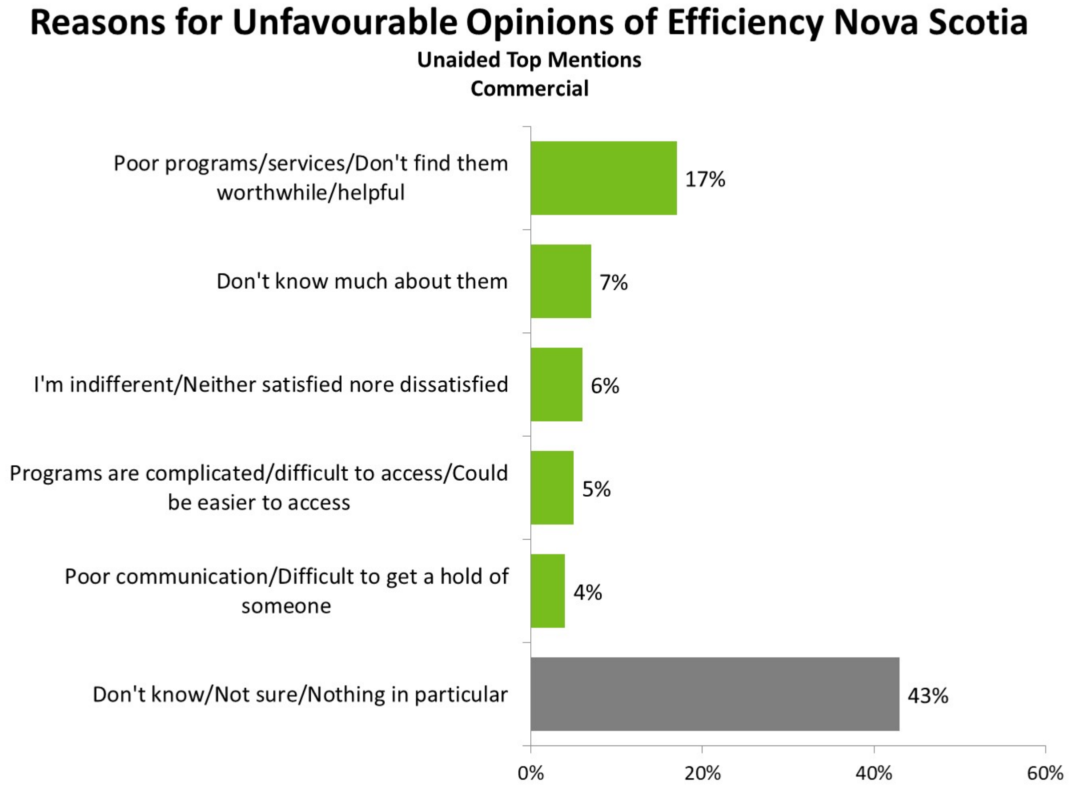


Q.B13: **[IF CODES 7-10 IN Q.B12]** a. What is the single most important reason why you have a favourable opinion of Efficiency Nova Scotia? b. Any other reasons? (n=110) *Note: 150 responses were coded at random for this question.*

No single reason emerges as the principal cause of the relatively few unfavourable opinions of ENS.

Among the limited number of organizations with an unfavourable opinion of Efficiency Nova Scotia, the most commonly cited reason is ***poor programs/services that are not worthwhile/helpful*** (17%). Other reasons mentioned less frequently include ***don't know much about them***, ***indifference***, ***programs are complicated/difficult to access***, ***poor communication***, ***need for more programs/upgrades/incentives***, ***upgrades didn't qualify for the rebate***, and ***need for more information on upgrades/measures available***. A larger proportion, four in ten (43%), are unable to give a specific reason for their unfavourable opinion.

Note: Individual category base sizes are too small to draw meaningful comparisons here. (Table B13 - Unfavourable)



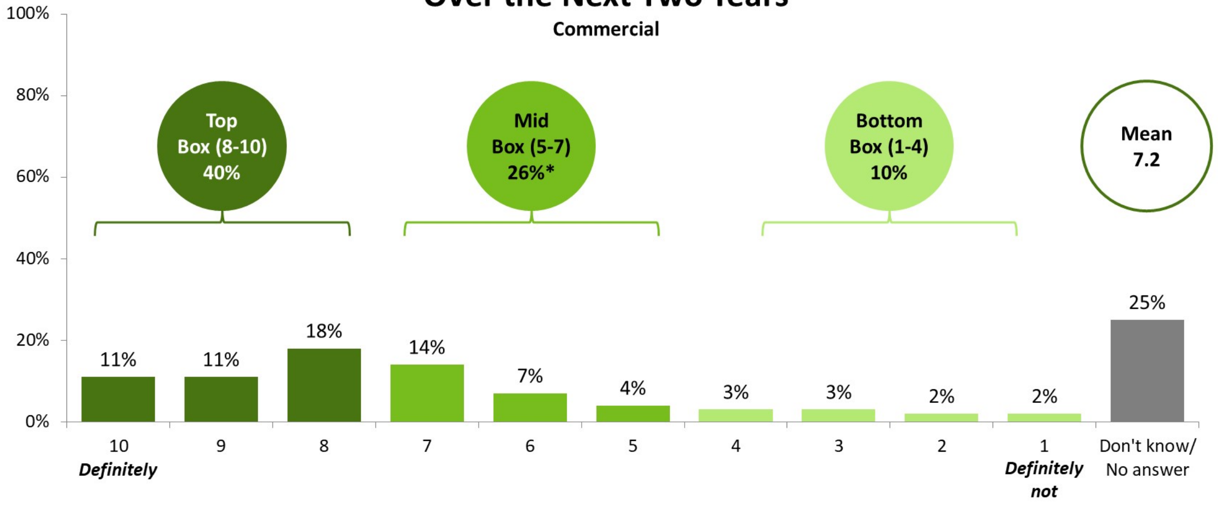
Q.B13: **[IF CODES 1-6 IN Q.B12]** a. What is the single most important reason why you have an unfavourable opinion of Efficiency Nova Scotia? b. Any other reasons? (n=40*) *Note: 150 responses were coded at random for this question.* **Caution: Small sample size.*

Energy Efficiency & Demand Side Management

Four in ten organizations anticipate undertaking energy efficiency upgrades or renovations within the next two years.

Commercial organizations were asked on a scale of 1 to 10 where 1 is ‘definitely not’ and 10 is ‘definitely,’ how likely they were to undertake energy efficiency upgrades or renovations over the next two years. Four in ten businesses (40%) indicate they are likely to undertake renovations (i.e., offering a rating of 8-10). One-quarter (26%) are moderately likely (i.e., a rating of 5-7), while one in ten (10%) indicate they are unlikely to undertake renovations i.e., a rating of 1-4). One-quarter of organizations (25%) remain unsure. Organizations with multiple locations, and those run by men decision-makers are more likely than their respective counterparts to suggest they are planning renovations in the near future. Those with a high opinion of Efficiency Nova Scotia, as well as those who are willing to become more energy efficient are more likely than their respective counterparts to have plans to renovate. Meanwhile, decision-makers born outside Canada are the most likely to have plans to renovate, compared to those born within Canada. Finally, organizations with an annual revenue exceeding $500,000 are more likely to have plans to renovate than their counterparts that earn less. (Table C1)

Likelihood of Household Undertaking Energy Efficiency Upgrades or Renovations Over the Next Two Years



Q.C1: Over the next two years, how likely is it that your Nova Scotian business or organization will undertake energy efficiency upgrades or renovations? (n=365)
**Due to rounding. Note: Responses of ‘Don’t know/No answer’ have been excluded from the calculation of the Mean.*

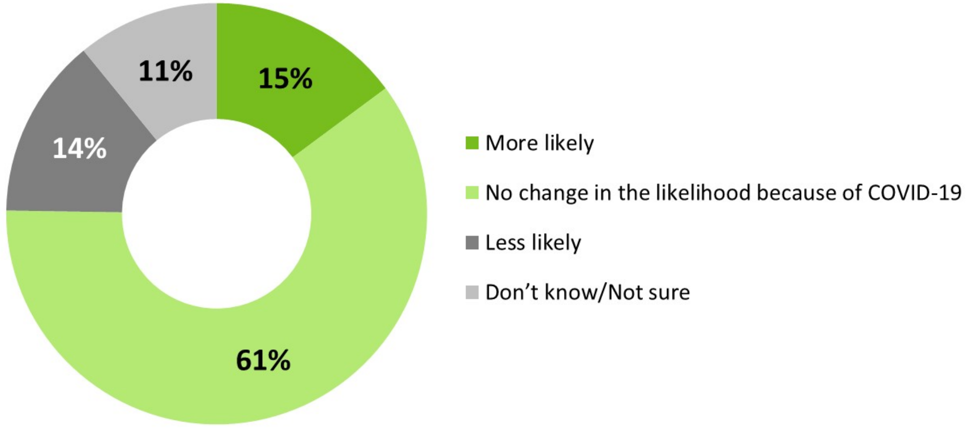
Most organizations conclude that there has been no change in their likelihood to improve energy efficiency as a result of the pandemic.

Six in ten organizations (61%) indicate that the COVID-19 pandemic has had no impact on their likeliness to take steps to improve their organization's energy efficiency. The remaining organizations are divided about whether the pandemic has made them more likely (15%) or less likely (14%) to undertake these types of improvements. One in ten (11%) remain unsure on the topic.

Organizations located in mainland Nova Scotia (excluding HRM) are more likely than those in other regions indicate that the pandemic has had no impact. Those who rely on heat pumps, followed by electricity as their primary heating source are also more likely than their counterparts to feel this way. Decision-makers born outside Canada are more likely than those born in Canada to conclude that the pandemic has made them more likely to undertake improvements. (Table C2)

COVID-19 Pandemic's Impact on Likelihood of Taking Steps to Improve Household's Energy Efficiency in the Next Year

Commercial



Q.C2: Has the COVID-19 pandemic made it more likely, less likely, or has there been no change in the likelihood that your Nova Scotian business or organization over the next year will take steps to improve your business's or organization's energy efficiency? (n=363) *Note: Some respondents may not have answered this question as partial survey completes were included in the analysis.*

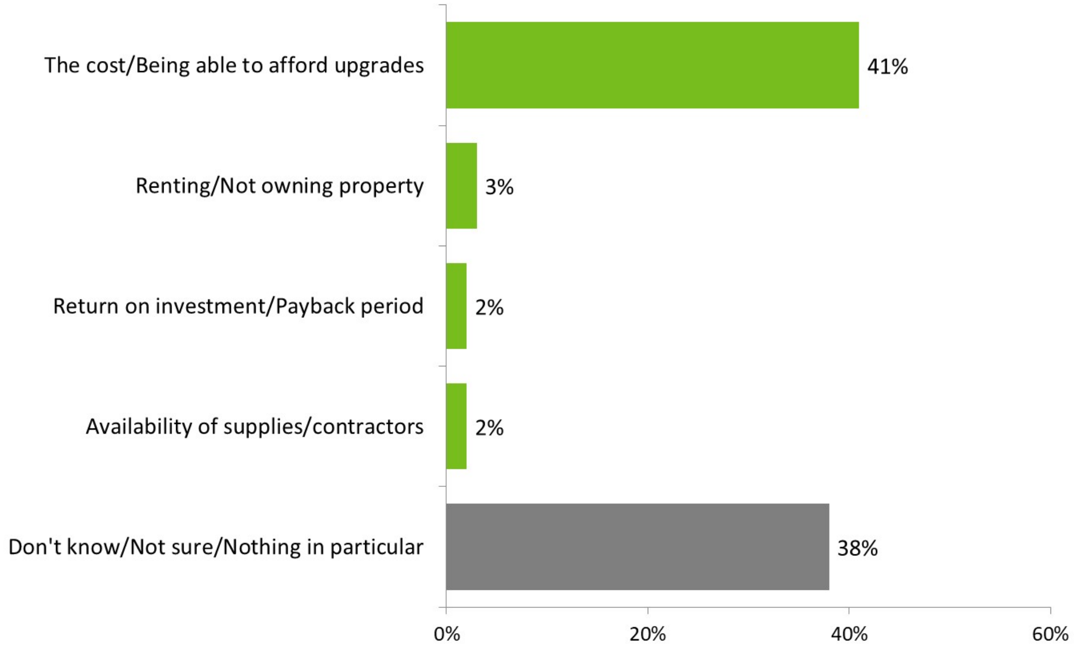
Four in ten organizations are concerned about the cost of energy upgrades, but the same proportion cannot cite a factor preventing them from pursuing improvements.

Four in ten organizations (41%), unaided, indicate that the ***cost/being able to afford upgrades*** might prevent them from pursuing energy efficiency upgrades. Other mentions, all indicated by fewer than one in twenty, ***include renting/not owning property***, **return on investment/payback period**, ***availability of supplies/contractors***, ***moving***, ***nothing left to upgrade***, ***having the time***, and ***lack of incentives/rebates***. Notably, four in ten (38%) cannot identify a factor that may prevent them from pursuing energy efficiency upgrades.

Organizations located in mainland Nova Scotia (excluding HRM), are more likely to be concerned about the cost of upgrades compared to those in other regions, as are organizations that lease their location compared to their counterparts. Additionally, organizations with a history of participating in Efficiency Nova Scotia programs, and those for whom renovation is likely are more likely to be concerned about cost than their counterparts. Decision-makers born in Nova Scotia are least likely to cite cost as a reason preventing them from undertaking upgrades compared to decision-makers born elsewhere. (Table C2a)

Would Prevent Household From Pursuing Energy Efficient Upgrades in the Next Two Years

Unaided Top Mentions
Commercial

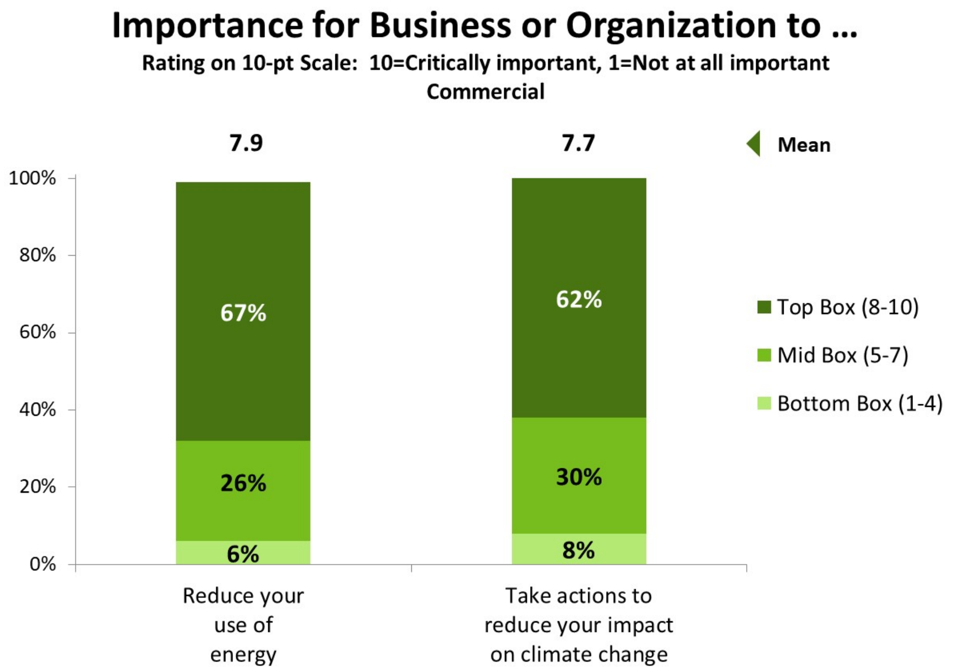


Q.C2a: What if anything might prevent your organization from pursuing energy efficiency upgrades in the next two years? (n=150)
Note: 150 responses were coded at random for this question.

A majority of organizations recognize the importance of reducing their energy use, and taking steps to limit their impact on climate change.

Organizations were asked to the rate the importance they place on two different types of actions on a scale of 1 to 10, where 1 is 'not at all important' and 10 is 'critically important.' Two-thirds of organizations (67%) offer a rating of 8-10 in terms of the importance for their organization to reduce their energy use. Similarly, six in ten (62%) believe it is important (i.e., a rating of 8-10) for their organization to take actions to reduce their impact on climate change.

Those organizations that lease their location are less likely than their counterparts to see the importance of reducing their energy use, compared to their counterparts. Meanwhile, those who have previously participated in an Efficiency Nova Scotia program, have a favourable opinion of ENS, are likely to renovate and are willing to become energy efficiency are all more likely than their respective counterparts to see the importance. Interestingly, organizations with lower annual revenue (up to $500,000) are more likely to see the importance in these actions than their higher revenue counterparts. (Tables C3a-b)



Q.C3a-b: In your opinion how important is it for your Nova Scotia business or organization to: …? (n=360)

A robust majority believe it is important for Efficiency Nova Scotia to support programming for both upgrades and behaviour changes, althought more see the importance in initiatives to support upgrades.

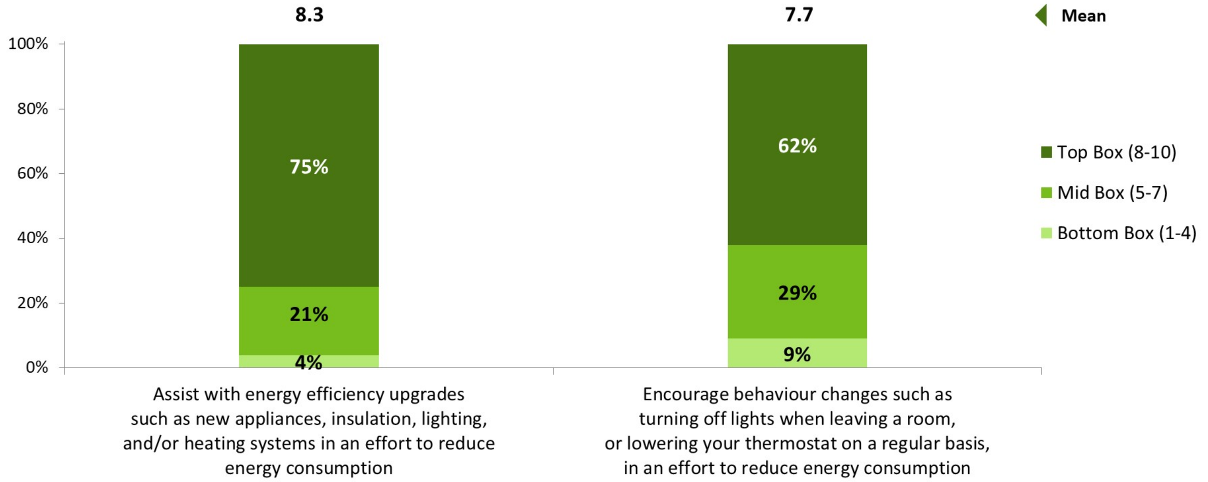
Organizations were asked to the rate the importance they place on two different types programming and funding initiatives offered by Efficiency Nova Scotia on a scale of 1 to 10, where 1 is 'not at all important' and 10 is 'critically important.' Three–quarters of organizations (75%) indicate that it is important (i.e., a rating of 8-10) for Efficiency Nova Scotia to providing funding and programs to assist with energy efficient upgrades. Meanwhile, six in ten organizations (62%) believe it is important that ENS provide funding or programs to help encourage behaviour changes that reduce consumption. This finding suggests that business believe it is better for Efficiency Nova Scotia to focus on upgrades rather than behaviour changes, but should continue to support both type of programming/funding.

Those who have previously contacted an Energy Solutions Advisor are more likely to recognize the importance in energy efficiency upgrades. Once again, those who have previously participated in an Efficiency Nova Scotia program, have a favourable opinion of ENS, are likely to renovate and are willing to become energy efficiency are all more likely than their respective counterparts to see the importance in both types of programming/funding. (Tables C4a-b)

Importance of Efficiency Nova Scotia Providing Funding and Programs to Assist With Energy Efficiency Upgrades and to Encourage Behaviour Changes

Rating on 10-pt Scale: 10=Critically important, 1=Not at all important

Commercial

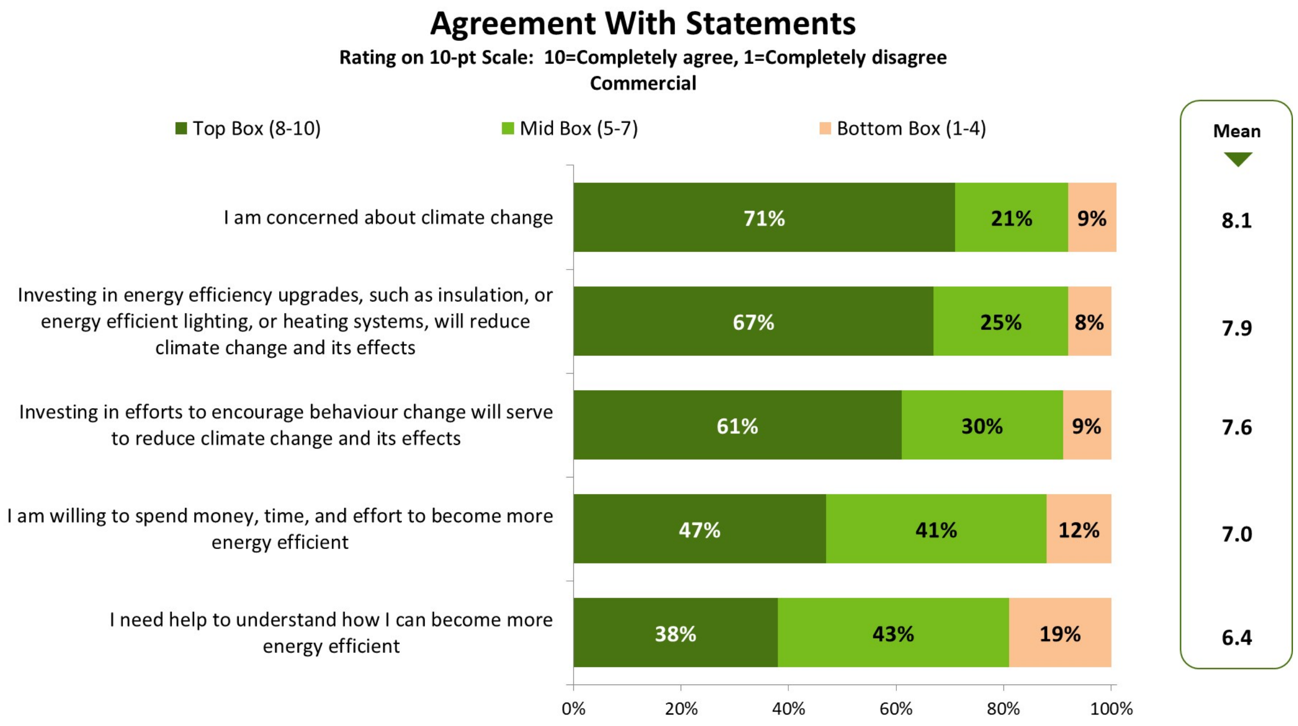


Q.C4a-b: Although both are methods of reducing energy consumption, it is possible to distinguish between taking steps to improve energy efficiency through ***upgrades such as improved insulation or a more energy efficient heating system***, on the one hand, and changing ***behaviours such as turning off lights when leaving a room, or lowering your thermostat on a regular basis***, so as to limit your organization's energy use, on the other hand. In your opinion how important is it for Efficiency Nova Scotia to provide funding and programs to Nova Scotian organizations to: …?

While seven in ten organizations express concern about climate change, only one-half are willing to take the steps necessary to become more energy efficient.

Nova Scotia organizations were asked to indicate their level of agreement with a series of statements on a scale of 1 to 10, where 1 is 'completely disagree' and 10 is 'completely agree.' Decision-makers at seven in ten organizations (71%) indicate they are *concerned about climate change* (i.e., offering a rating of 8-10). Meanwhile two-thirds (67%) agree that *investing in energy efficiency upgrades will reduce climate change and its effects*, while six in ten (61%) think *investing in efforts to encourage behaviour changes will reduce climate change impact*. Just under one-half of organizations (47%) are *willing to commit time, effort and money to become more energy efficient*, while four in ten (38%) say they still *need some help understanding how they can achieve energy efficiency*.

The gaps in agreement responses across statements observed here mirrors that observed in the residential survey. This suggests that a limited number of people, either running a household or running a business, are not always willing to take steps prevent furthering climate change, even if it is of concern to them. (Tables C5a-e)



Q.C5a-e: To what extent do you agree or disagree with each of the following statements? (n=358)

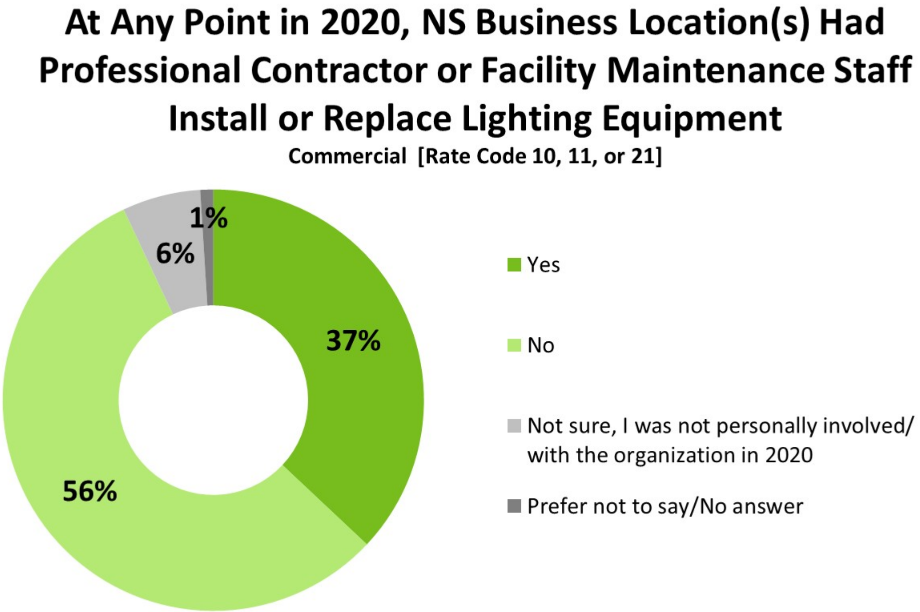
NARRATIVE RESEARCH

Small Business Energy Solutions (SBES)

Over one-third of organizations had lighting professionally installed or replaced in 2020.

Over one-third of organizations (37%) report having a professional contractor or facility maintenance staff install or replace lighting equipment at some point in 2020. Meanwhile, over one-half (56%) indicate they did not have lighting replaced. This suggests that there is still ample opportunity to pursue lighting upgrade projects with Nova Scotia organizations.

Organizations whose primary heat source is a heat pump were notably less likely to have lighting replaced in 2020. Additionally, those with a high likelihood to renovate, who are willing to be energy efficient, and whose revenue exceeds $500,000 annually are more likely than their counterparts to have had lighting replaced in 2020. (Table D1)



Q.D1: **[IF RATE CODE 10,11, OR 21]** At any point in 2020, did your Nova Scotia business locations have a professional contractor or have facility maintenance staff install or replace lighting equipment? (n=292)

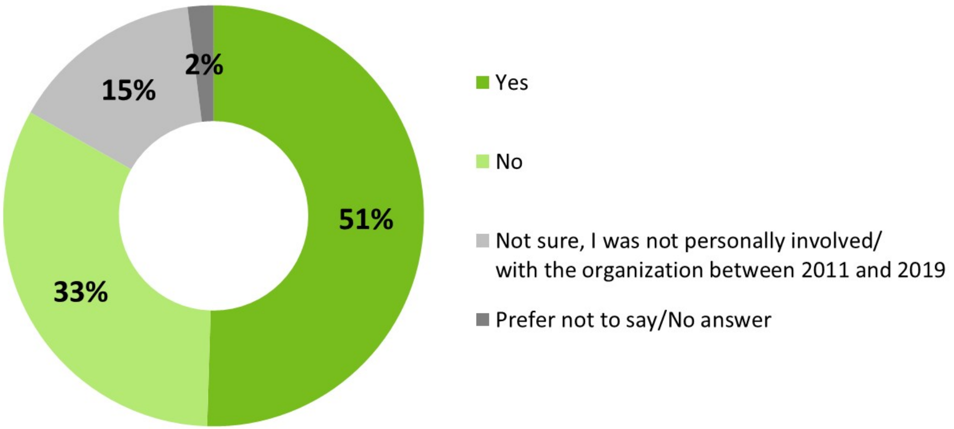
One-half of organizations undertook lighting upgrades between the years of 2011 and 2019.

One-half of organizations (51%), indicate they had lighting professionally installed or replaced sometime between 2011-2019. Given the longer timeframe, it is unsurprising that a greater proportion had lighting upgrades between 2011-2019 as compared to in 2020 alone. Even still, one-third of organizations (33%) did not have their lighting upgraded between 2011-2019.

Men decision-makers are more likely to report lighting upgrades for this timeframe than their female counterparts. Additionally, organizations with two or more locations, who have contacted an Energy Solutions Advisor, who are willing to become energy efficient and who have an annual revenue greater than $500,000 are more likely than their respective counterparts to have had lighting upgrades in this timeframe. (Table D2)

At Any Point Between 2011 and 2019, NS Business Location(s) Had Professional Contractor or Facility Maintenance Staff Install or Replace Lighting Equipment

Commercial [Rate Code 10, 11, or 21]



Q.D2: **[IF RATE CODE 10,11, OR 21]** And at any point between 2011 and 2019, did your Nova Scotia business locations have a professional contractor or facility maintenance staff install or replace lighting equipment? (n=292)

One in seven organizations have not had lighting upgrades in over ten years, representing an opportunity for Efficiency Nova Scotia.

To further identify the opportunity for Efficiency Nova Scotia to gain new lighting equipment upgrade customers, the table below was constructed. Of the one-third of organizations (33%) that did not have their lighting upgraded at all between 2011 and 2019, over four in ten (46%) also did not have their lighting upgraded in 2020. Therefore, approximately one in seven (~15%) have not had their lights upgraded in over ten years, representing a notable opportunity for Efficiency Nova Scotia to pursue these organizations as potential customers.

	Lighting Equipment Installed/Replaced in 2020			
		Yes	**No**	**Not sure/ Prefer not to say**
Lighting Equipment Installed/Replaced at Any Point Between 2011 and 2019	Yes	70%	43%	10%
	No	18%	**46%**	5%
	Not sure, I was not personally involved/ with the organization between 2011 and 2019	12%	10%	73%
	Prefer not to say	0%	1%	12%

Classification / Profile Data

Gender

53% 42%

1% Gender diverse

4% Prefer not to say

(n=373)

Total Revenue Last Year

Up to $100,000	13%
$100,001 - $500,000	25%
$500,001 - $1,000,000	18%
More than $1,000,000	25%
Prefer not to say	20%

(n=357)

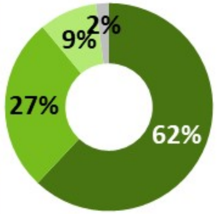
Primary Ethnic/ Cultural Origin

Top Mentions

- 37% English
- 14% Canadian
- 11% Scottish
- 9% Acadian
- 9% Irish
- 17% Prefer not to say

(n=357)

Born



- In Nova Scotia
- In Canada, but beyond Nova Scotia
- Born outside of Canada
- Prefer not to say

(n=358)

100% Have one or more full-time employees (including self) working at operations within NS (n=373)

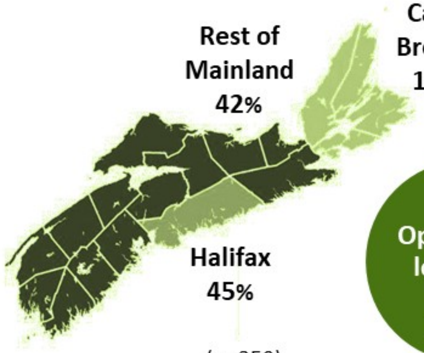
Primary Premises

- 76% Own
- 15% Rent
- 13% Lease

(n=373)

100% Of those who rent/lease participate in decision-making about heating/ lighting-related upgrades (n=77)

Region of Primary NS Office



Rest of Mainland 42%

Cape Breton 12%

Halifax 45%

3.9 Operational locations in NS (n=373)

(n=359)

(Some did not provide a valid postal code)

Primary Heating Source

Electricity	39%
Heat pump/Mini-split heat pump	30%
Oil	29%
Propane	11%
Natural gas	8%
Wood/pellets	2%
Solar	1%
Other	3%

(n=373)

Payment for Electricity at NS Locations

- 92% Pay for own
- 6% Head office/ other department pays
- 1% Someone else pays
- 1% Other

(n=357)

Climate Change Perceptions History

While for the last two years the majority of residents have been concerned with climate change and in agreement that the need for action is urgent, there has been a decline in the proportion that recognize the importance in changing behaviours at a personal level.

A random, probability-based general public survey of Atlantic Canadians conducted in Fall 2021, the same quarter as this DSM survey, reveals that nearly nine in ten Atlantic Canadians are concerned about climate change, a figure that is somewhat higher than the proportion reported for Nova Scotian residents in this DSM survey. This is the only available Narrative Research 'historical' data that asks specifically about concern, however it does affirm that a robust proportion of residents are concerned about climate change at the present time.

Belief that climate action should be prioritized mirrors that of climate concern among Atlantic Canadian residents. In both 2020 and 2021, over eight in ten residents agree on the importance of climate action in a general sense. Though this question is not directly asked of Nova Scotians in this iteration of the DSM survey, the results overall suggest a concern for climate change and an understanding that actions need to be taken to mitigate its effects.

Date	Sample	Question	Scale	Result
2021, Q4	Atlantic Canadian Residents	I am concerned about climate change	5-point 'agreement', Top 2 box shown	88%
Present	**Nova Scotia Residents**	**I am concerned about climate change**	**10-point 'agreement', Top 4 box shown**	**80%**

Date	Sample	Question	Scale	Result
2020, Q2	Atlantic Canadian Residents	In the economic recovery after COVID-19, how important is it for government actions to consider climate change?	5-point 'importance', Top 2 box shown	82%
2021, Q4	Atlantic Canadian Residents	Urgent action is needed to address climate change	5-point 'agreement', Top 2 box shown	86%

In terms of the belief that personal behaviour changes are needed to curb the effects of climate change, a greater proportion of residents agreed with this is sentiment in 2019, compared to the proportion that feel this way at present. Perhaps some of this decline is owed to the pandemic forcibly affecting many behaviours or attitudes, or behaviour changes feeling too onerous in (post-)pandemic society. Regardless, it is important to consider when attempting to encourage DSM practices.

Date	Sample	Question	Scale	Result
2019, Q4	Atlantic Canadian Residents	To what extent do you believe it is important that we as individuals need to change our behaviour to address climate change?	5-point 'importance', Top 2 box shown	93%
2021, Q4	Atlantic Canadian Residents	I am personally taking action to help address climate change	5-point 'agreement', Top 2 box shown	80%
Present	**Nova Scotia Residents**	**Investing in efforts to encourage behaviour changes will serve to reduce climate change and its effects.**	**10-point 'agreement', Top 4 box shown**	**70%**

Recommendations

Overall, public awareness and perceptions of Efficiency Nova Scotia are commendable, and the programs and services offered appear to be satisfying the needs of its diverse customer base. That said, there remains opportunity for improvement in terms of increasing the uptake of programs and services, becoming a more influential player when it comes to energy efficiency decisions, and helping customers understand the link between their own actions and the impact they have on the environment. The following are a selection of data-driven recommendations arising from the conclusions drawn from the current research:

1. *Remove barriers to access Energy Solution Advisors by exploring opportunities for virtual communication.*
   Despite strong awareness of the organization, the Energy Solutions Advisory service perhaps remains under-utilized, to the extent that an opportunity to expand this service is identified via the survey data. This is not a symptom of a lack of awareness of this specific service offering, but rather is a result of several different factors raised in this research. One of the key reasons why selected residents and organizations have not contacted an Energy Solutions Advisor in the past is an aversion to communicating over the telephone. Nova Scotians are clearly interested in ascertaining important energy efficiency information directly from experts, given that over eight in ten residents and organizations note some form of correspondence with an energy solutions expert as their preferred source for this type of information. In fact, top mentions for preferred sources of information include communicating by email, telephone, and instant chat/text with an expert.

   With this survey information in mind, it is recommended that Efficiency Nova Scotia explore ways to extend the Energy Solutions Advisor Service into the virtual realm in order increase uptake. By offering this service across multiple platforms it will facilitate customers engaging with experts, and in turn hopefully increase their likelihood to participate in ENS's program and service offerings. The aim is that by increasing the number of people accessing this pivotal service, the proportion who participate in Efficiency Nova Scotia's various programs and services will increase, and the proportion who lack understanding of how they can become more energy efficient will correspondingly decrease.

2. *Increase and refine messaging concerning the cost-savings available through DSM.*

While a majority of Nova Scotians understand in the abstract the importance of changing one's behaviour to conserve energy, the actual practice of demand side management (DSM) is perceived as a modestly lower priority compared to investing in efficiency upgrades. Of course, implementing both upgrades as well as DSM practices are important pieces of the energy efficiency puzzle in Nova Scotia. Cost as a behavioural and attitudinal consideration among residents as well as organizations arises in several instances in the survey data collected, for example in the form of cost-savings opportunities as a key reason why Efficiency Nova Scotia is well regarded, and as the main reason to not undertake energy efficiency upgrades. Therefore, it stands to reason that if Efficiency Nova Scotia can effectively communicate that DSM requires little to no upfront cost, and can result in significant cost-savings at the residential as well as at the organizational level, then perceptions about this practice will change for the better and behaviours will shift as well.

3. *Help customers further understand the impact their actions have on climate change.*

Given the existence of the gap between the proportion of Nova Scotians who express concern about climate change, on the one hand, and the (smaller) proportion of those willing to become more energy efficient, on the other hand, it suggests there is a lack of 'buy-in' among some with respect to how much impact one's own climate-related actions can have. In examining selected available historical data on this topic, the perception that it is important for individuals to change their behaviour in order to mitigate the effects of climate change actually and unfortunately has become less prevalent over the last two years. Perhaps this is a symptom of post-pandemic society somewhat shifting its attention away from climate change, with more attention correspondingly being paid to pandemic-related concerns. This would perhaps not be surprising. Alternatively, it may be that in the face of increasingly worrisome climate change events and prognostications, there perhaps has been less attention paid to the need for individual-level behavioural changes to address climate change, and greater attention paid to larger-scale societal-level changes. Either way, helping customers to understand exactly how changing their behaviours could have a tangible and favourable impact on climate change will be imperative in engaging all Nova Scotians to take personal action. It is possible that determining how to best convey this message forcefully and simply to Nova Scotians will require further research into exactly why certain residents and organizations currently are less likely to take climate-related actions.

2021 DSM Report

January 2022

Prepared for:
EfficiencyOne

[Evidence]

Request IR-10:

Please refer to p. 58, regarding the collaboration between E1 and NS Power on two pilot programs for the 2021-2022 timeframe. Please describe the two pilots, including their status and lessons learned to date. If there are any progress reports on these pilots, please provide them.

Response IR-10:

EfficiencyOne (E1) and NS Power have worked collaboratively since 2019 to develop, assess and evaluate Demand Response (DR) pilot programs in an effort to ascertain feasibility and scalability. Presently, E1 and NS Power are collaborating on two pilot programs through the joint E1 and NS Power Demand Response Working Group (Working Group). A subcommittee of the Working Group (Demand Response Technical Working Group or DR Tech Group) has worked on these two pilot initiatives over the 2021-2022 period, including pilot development, design and logistics.

<u>Domestic Hot Water Direct Load Control Pilot</u>

The Domestic Hot Water Direct Load Control Pilot (DLC) involves installing control equipment on residential electric resistance water heaters to participate in demand response events called by NS Power. 2021 activities included the following.

- A public procurement was initiated, and equipment was procured for testing.
- The equipment procured for testing included direct load control water heater technologies from two different vendors/manufacturers utilizing either cellular or Wi-Fi communication. Technologies were selected by an Evaluation Committee comprised of members from the DR Tech Group. A total of 202 controllers were procured.

- A test period was planned to trial the installation of controllers and DR event dispatch for electric resistance water heaters in partnership with the Nova Scotia Community College's (NSCC) Applied Research Laboratory. The sample size for testing purposes was six controllers/participants with two controllers at NSCC's lab.
- Launched the first participant recruitment campaign in August 2021 with additional campaigns in November and December 2021; past participants from E1's programs (e.g. Efficient Product Installation and New Home Construction) were invited to join via email. from this campaign, close to 300 potential participants requested to join the pilot:
- Bookings and installations of controllers in participants homes began in September 2021, resulting in a total of 119 controllers in participant homes by the end of 2021.
- Dispatching of demand response events to the fleet of participant controllers started November 2021.
- A survey plan was developed for participant feedback, with the first of three surveys issued to participants.

2022 pilot activities have included the following.

- Additional recruitment campaigns were conducted from January through March 2022, inviting past participants from E1 programs via email (e.g. Efficient Product Installation, New Home Construction, Home Energy Assessment, Green Heat, Appliance Retirement). From these campaigns, 233 potential participants requested to join the pilot.
- Booking and installation of controllers in participant homes continued; as of April 15, 2022, 197 installers have been installed in Nova Scotian homes.
- Execution of demand response events to the full controller fleet, including:
  - an average of 3 events per week, over varying weekdays and morning and evening times;
  - events ranging from 2-4 hours in duration;

- execution of peak shifting and generation contingency events (peak shifting events are to help shift electrical consumption away from when the grid is expected to experience a peak in demand. Generation contingency applies the same mechanisms but may be executed when there are difficulties in supplying the required electricity, such as during a plant outage which may not align with peak demand);
- developmental activities to execute renewable following events (renewable following events look to shift load away from time periods when renewable sources are generating less power to time periods when renewable sources are generating more, such as by looking at wind forecasts to estimate the power generated from wind turbines);
- gathered and shared data on controllers installed at the Nova Scotia Community College's Applied Research Facility for NSCC's use in developing a testing summary report; and
- commenced early measurement and verification activities for DR events conducted over the winter peak period.

- Final participant controller installations are expected to complete in Q2 2021.

E1 has completed its first winter season (2021/2022) of the DLC pilot and has begun reviewing the results of this first season. Outputs of this exercise will include, for example, evaluation of pilot savings and recommendations for how the pilot could be scaled to a full program offering. E1 will use these results to inform planning for 2023 activities outlined in the 2023-2025 DSM Plan, e.g. when to order additional controllers, how many, which model(s), etc.

NS Power will continue calling events throughout 2022, including DR use cases other than peak demand reduction such as renewable following. E1's independent Evaluation Consultant will provide evaluated savings generated by the pilot as part of E1's 2022 annual impact evaluation (annual E1 DSM Evaluation Report).

Pilot Learnings/Observations to date:

The E1 and NS Power DR Tech Group has provided progress updates to the E1/NS Power Demand Response Working Group on various metrics, results, and pilot observations to date. Two updates were provided to the Working Group in the 2021/2022 period (November 2021 and February 2022). These updates are provided in Attachment 1 of this IR response. E1 also provided 2021 pilot updates to stakeholders and the NSUARB in its Q2 and Q3 2021 DSM Quarterly Report and 2021 Annual Progress Report[1] and will continue to provide these updates in 2022.

NSCC is currently preparing a summary report for the DR Tech Group and Working Group, providing analysis of the data, information, observations, and/or noted conditions of the water heaters and/or water heater controllers, collected during the equipment testing and pilot implementation activity phases, including considerations or lessons learned regarding installation and use of each type of water heater controller and associated control applications. Additionally, Narrative Research is conducting surveys with pilot participants to better understand their perceptions of the pilot and associated technology and processes, and motivations for participating; these results are to be compiled and provided in reports following each survey. E1 is anticipating several pilot learnings and observations from these reports.

Commercial Demand Response Pilot

The Commercial Demand Response Pilot for Business, Non-Profit & Institutional (BNI) customers is the second initiative of the DR Tech Group. This pilot is being conducted in two phases. Phase One involves working with Siemens, NS Power's distributed energy resource management system (DERMS) provider. An annual incentive of $125/kW is to be provided to customers that have demand response controls/technologies in place (e.g. Siemens building automation systems) and participate in demand response events called by NS Power over the winter peak

[1] M10243, E1 Q2 DSM 2021 Report; M10363, E1 Q3 DSM 2021 Report; M10473, E1 2021 DSM Annual Progress Report.

periods. Phase Two involves procuring an "aggregator" to conduct recruitment, identify opportunities, select equipment and execute events to expand DR opportunities in the commercial sector.

2021 pilot activities involved the following.

- Development of the pilot's design and logistics for the two phases.
- Developed pilot documentation for Phase One applicants.
- Conducted meetings with Siemens and potential customers from E1's On-Site Energy Managers to identify demand response opportunities for Phase One.
- Drafted a scope of work for use in the Preliminary Market Consultation (PMC) for Phase Two.
- Feedback obtained from the PMC was used in a Request for Proposals, issued in Q4 2021.

2022 activities have included the following.

- Continued recruitment of potential Phase One pilot participants, including the development of a 1-pager to share with pilot participants about the benefits of DR.
- Enrolled the pilot's first participant for Phase One and executed demand response events in the participant's facility in February 2022. This included early measurement and verification activities for the events conducted in February.
- Formed an Evaluation Committee, as part of the DR Tech Group, to review and score submissions to the request for proposals for Phase Two.
- Received and evaluated proposals from three proponents, including reference calls, interviews, and demonstrations, resulting in the selection of a single proponent.
- Began drafting a contract between E1 and the aggregator, as well as a contract between E1 and Nova Scotia Power, to govern Phase Two pilot activities.

Demand response activities and events for Phase One of the Commercial DR pilot are expected to continue through to February 2023, while Phase Two activities are expected to continue through to February 2024.

Pilot Learnings/Observations to-date:

The DR Tech Group expects pilot learnings/observations as the pilot progresses in 2021. In April 2022, the E1 and NS Power DR Tech Group provided an update to the Working Group on the commercial DR procurement activities for Phase Two. This update contained confidential information on the bids received.

E1 has also provided 2021 pilot activity updates to stakeholders and the Nova Scotia Utility and Board (NSUARB) in its Q2 and Q3 2021 DSM Quarterly Report and 2021 Annual Progress Report and will continue to provide updates on these pilot activities in 2022.

WH DR Pilot
E1/NSP DRWG Update

Nov. 26, 2021

Metrics

Metric	Results (Nov 23, 2021)
Estimated demand savings per controller	0.5 kW
# of test controllers installed	4 (2 in NSCC lab & 2 in E1 homes)
# of customer controllers installed	98 (73 Shifted Energy & 25 Aquanta)
Pre-Pilot Testing	• Testing functionality of controllers and control applications with NSCC lab and E1 employees ongoing since Oct 22.
Pilot Testing	• Completed 4 events (*comfort considered) with customer controllers during daily peak demand period. 4 automatic opt outs and 0 manual opt outs were observed in total.

*Shifted Energy Load Shift events use machine learning to detect if individual tank usage is higher than forecasted during event, and if so, will automatically and temporarily opt tank out of event.

*Aquanta DR Setpoint events allow scheduler to set minimum temp and hot water available % setpoints that are used to automatically opt individual tanks out of remainder of event.

Observations and Learnings

- Measurements, forecasts, and automatic and manual opt outs for customer comfort are functioning as expected.
- NSCC lab testing resulted in identifying and solving a cell carrier timestamp issue with Shifted Energy controllers in a timely manner.
- Site installations are relatively simple and quick with visits being completed within an hour, inclusive of helping set customers up and answering questions.
- Experienced 1 customer issue out of the 98 installed to date. Installer returned to customer home and solved issue with vendor support.
- Detailed demo sessions were critical in completing RFP evaluation.
- Vendors with controller options for heat pump water heaters are less common.

WH DR Pilot
E1/NSP DRWG Update

Mar. 01, 2022

Metrics

	Results (As of Feb 25, 2022)
Estimated demand savings per controller	0.545 kW
# of participant controllers installed	119 (target is 200)
# of customer calls	39 calls since Nov 1, 2021
# of Pilot events called	43 (full fleet, excluding tests)
Event types called	• Peak Shifting (38) • Generation Contingency (5)
Avg. manual opt-out rate*	0%
Longest event duration	4 hours

* Aquanta users can manually opt out of events through the app.

Shifted Energy devices have a physical opt out button on the device, but customers were not made aware of this for the pilot.

Observations and Learnings

- Typically scheduling three events per week, with variations in day of the week and event times. Peak Shifting events have been scheduled based on system load and wind generation forecasts.
- As expected, have observed that the first hour of an event provides the most reduction capacity and there is a significant snapback following the event, which is considered when scheduling event start/end times.
- For Aquanta controllers, auto opt-out thresholds have been set conservatively to keep from receiving cold-water complaints. To date, Min. Top Temp. & Hot Water Available thresholds set to 30 °C and 45-50% respectively. However, this has resulted in high opt-out rates for longer duration events. Avg. opt-out rates to date were 13%, 32% & 49% for 2-, 3- and 4-hour events, respectively.
- Shifted Energy controllers use machine learning to automatically and temporarily opt individual tanks out of event based on forecasted baseline usage, which seems to be conservative enough to keep from receiving cold water complaints.
- For Shifted Energy controllers, Fast Frequency Response threshold has been set at 59.7 Hz with no under frequency events being initiated to date.
- Results from events called this winter will be used to update demand savings estimates for use in future programming.
- Customer call topics include obtaining more information about the pilot before signing up, how participant electricity bills would be impacted, participant benefits, and what data participants have access to and how to see it.
- Common confusion participants identified to E1's installer include what savings may be seen on electricity and water bills, as well as the likelihood of having no hot water from pilot activities. Simplifying and streamlining the Customer Agreement may remove some enrollment barriers.

[Evidence]

Request IR-11:

Please refer to p. 61, Section 12.1, on the historical rate and bill impact analysis.

(a) Please indicate the source of the requirement for E1 to conduct a historical RBIA. If the source is a Board Order or Decision, please provide the Board Order or Decision, or provide the matter number and date.

(b) Please describe what E1 would provide if the historical RBIA was only conducted in DSM Plan years rather than every year. Does E1 propose to combine the historical RBIA with the forward looking RBIA, or would each of these be conducted separately? Do any assumptions, methodologies, or inputs vary between the existing historical and forward looking RBIAs that would need to be reconciled if these RBIAs are combined? If so, what assumptions, methodologies, or inputs conflict, and how does E1 propose to reconcile them?

(c) Please describe communications that E1 has had with other DSMAG members about the proposal to eliminate the historical RBIA in non-DSM Plan years.

Response IR-11:

(a) The Nova Scotia Utility and Review Board ("NSUARB", "the Board") Order in the 2016-2018 DSM Resource Plan (M06733) directed EfficiencyOne (E1) to file a historical-looking Rate and Bill Impact Analysis (RBIA) by October 31st of each year. Specifically, Article 4 of the Order states:

"The Board approves the Consensus Agreement without amendment which was signed by E1, NSPI, the CA, the SBA, the EAC, the AEC, and the Industrial Group and is attached as "Schedule B".

Article 6 of Schedule B (the Consensus Agreement) includes the following:
"E1 agrees to file historical-looking rate and bill impact analyses by October 31st of each year."

The NSUARB Order in the 2016-2018 DSM Resource Plan (M06733) has been included in this IR response as Attachment 1.

(b) If the historical RBIA was only conducted in DSM Plan years rather than every year, E1 would expect to provide two separate RBIA analyses with future DSM Plan Applications:

- Historical RBIA
- Forward looking RBIA for the proposed DSM Plan

By way of example for the 2026-2028 DSM Plan Application, E1 would anticipate providing the following RBIA analyses:

- Historical RBIA: Rate and Bill Impacts as a result of DSM activities carried out 2011-2025
- Forward looking RBIA: Rate and Bill Impacts as a result of the proposed DSM activities carried out 2026-2028

E1 has not explored how the historical RBIA could be combined with the forward looking RBIA and what the implications would be to assumptions, methodologies or inputs under this approach. E1 is open to exploring this option further with the Demand Side Management Advisory Group (DSMAG) and E1's RBIA consultant Elenchus pending NSUARB approval of the proposed change to RBIA reporting timeline.

(c) Through email correspondence with those DSMAG members that have been most engaged in the RBIA in recent years, E1 shared that the organization was considering the inclusion of a timing change for the historical RBIA filing, from every year to every three years as part of DSM Plan Applications in the 2023-2025 DSM Plan Application and asked for any initial feedback on this change. Subsequent to the initial email correspondence, E1 included this reporting change in the DSM Portfolio Scenario Plan Round 3 Model Results that was shared with the DSMAG on February 14, 2022 in advance of the DSMAG Session February 17, 2022, an excerpt of which is provided below.

REPORTING

As part of the 2023-2025 DSM Plan Application E1 is proposing a change to current reporting of Rate and Bill Impact Analysis results. E1 is proposing that both the historical RBIA as well as the forward-looking RBIA are filed as part of DSM Plan Applications rather than filing the historical RBIA annually. The reason that E1 is proposing this change is because our understanding is that the historical RBIA is used to inform decision making/consideration of the DSM Plan and in non-DSM Plan years it is viewed for informational purposes only.

ORDER **M06733**

NOVA SCOTIA UTILITY AND REVIEW BOARD

IN THE MATTER OF THE PUBLIC UTILITIES ACT

- and -

IN THE MATTER OF AN APPLICATION for Approval of a Supply Agreement for electricity efficiency and conservation activities between EfficiencyOne and Nova Scotia Power Incorporated, the establishment of a final agreement between the parties, and approval of a 2016-2018 Demand Side Management Resource Plan

BEFORE: Peter W. Gurnham, Q.C., Chair
Kulvinder S. Dhillon, P. Eng., Member
Roberta J. Clarke, Q.C., Member

WHEREAS EfficiencyOne ("E1") filed an Application with the Nova Scotia Utility and Review Board ("Board") on February 27, 2015, requesting approval of a Supply Agreement for electricity efficiency and conservation activities between E1 and Nova Scotia Power Incorporated ("NSPI"), the establishment of a final agreement between the parties, and approval of a 2016-2018 Demand Side Management Resource Plan;

AND WHEREAS a Notice of Hearing was published in the Chronicle Herald and the Cape Breton Post on March 7, 14 and 18, 2015;

AND WHEREAS Intervenor status was granted to the Consumer Advocate ("CA"), the Small Business Advocate ("SBA"), the Affordable Energy Coalition ("AEC"), Clean Nova Scotia Foundation, Ecology Action Centre ("EAC"), Industrial Group, Nichent Energy Inc., Nova Scotia Department of Energy, Port Hawkesbury Paper LP, and Rhyno LED Lighting Solutions;

AND WHEREAS the Board held a public hearing on June 15, 16, 18 and 19, 2015, and issued its Decision [2015 NSUARB 204] on August 12, 2015;

AND WHEREAS E1 filed a Compliance Filing with the Board on September 15, 2015 and comments were received on the Compliance Filing from the SBA and the Industrial Group on September 25, 2015;

IT IS HEREBY ORDERED that:

1. The Board approves a DSM Plan for 2016-2018 in the aggregate amount of $102,150,000 with a target of total cumulative energy savings of 405.9 GWh and demand savings of 62.5 MW. Approved spending is $33,210,000 during 2016; $34,020,000 during 2017; and $34,920,000 during 2018.

2. The Board approves the Supply Agreement for electricity efficiency and conservation activities between E1 and NSPI made as of the 5th day of October, 2015 and effective as of the 1st day of January, 2016, attached as Schedule "A".

3. If at any time during this 2016-18 period E1 determines that it cannot achieve the target energy or demand savings, then an application to adjust those targets must be filed with the Board.

4. The Board approves the Consensus Agreement without amendment which was signed by E1, NSPI, the CA, the SBA, the EAC, the AEC and the Industrial Group, and is attached as Schedule "B".

5. In accordance with the Consensus Agreement, unresolved items are to be submitted to the Board no later than June 30, 2016 for determination.

6. The Board accepts E1's August 4, 2015 Q2 filing of the update on the status of 2014 evaluation and verification recommendations.

7. E1 is to file the results of its review regarding possible financing of deferrals by November 16, 2015.

8. NSPI is to file its proposed accounting treatment and cost recovery for 2015 DSM programs and 2016-18 DSM programs by November 30, 2015.

9. The Board directs E1 to undertake research and make recommendations on a more rigorous program for determining incentives, which is to be filed by June 30, 2016, provided that any revisions can be implemented shortly thereafter and any long-term contracts with embedded incentives preserve the right to vary such incentives.

10. NSPI and E1 are to jointly file their collaborative report on locational DSM efforts (i.e. geotargeting) and associated locational avoided costs by December 31, 2016.

11. The Board finds that the TRC test for cost effectiveness screening is to remain in place for the time being.

12. The Board directs E1, in future applications, to provide one or more alternate scenarios of DSM budgets for the Board to consider, and NSPI is to provide rate impact analysis on those scenarios.

DATED at Halifax, Nova Scotia, this 7th day of October, 2015.

Elaine Wagner

Clerk of the Board

SCHEDULE "A"

Nova Scotia POWER An Emera Company

Supply Agreement for

Electricity Efficiency and Conservation Activities

Between

Nova Scotia Power Incorporated

and

EfficiencyOne

Effective Date – January 1, 2016

Table of Contents

List of Schedules

THIS AGREEMENT made as of the 5th day of October, 2015 and effective as of the 1st day of January, 2016 (the "**Effective Date**").

BETWEEN:

NOVA SCOTIA POWER INCORPORATED,
a body corporate, organized under the laws of the Province of Nova Scotia

(hereinafter called "**NSPI**")

- and -

EFFICIENCYONE,
a body corporate, organized under the laws of Canada

(hereinafter called "**EfficiencyOne**")

WHEREAS:

A. EfficiencyOne and NSPI are both public utilities pursuant to the Act; and

B. Pursuant to the Act, EfficiencyOne has the exclusive right to supply NSPI with reasonably available, cost-effective Electricity Efficiency and Conservation Activities as the Franchise Holder; and

C. Pursuant to the Act, NSPI is obligated to undertake cost-effective Electricity Efficiency and Conservation Activities that are reasonably available in an effort to reduce costs for its customers; and

D. Pursuant to the Act, NSPI shall meet its obligations by entering into an agreement with the Franchise Holder for the supply of cost-effective Electricity Efficiency and Conservation Activities.

NOW THEREFORE witnesses that in consideration of the premises and the mutual covenants and obligations herein and other good and valuable consideration, the sufficiency and receipt of which are hereby acknowledged, the parties agree as follows:

1. INTERPRETATION

1.1 The following terms shall be interpreted as follows in this Agreement:

(a) "**Act**" shall mean the *Public Utilities Act*, R.S.N.S. 1989, c.380, as amended from time to time.

(b) "**Agreement**" means this agreement between NSPI and EfficiencyOne including all Schedules attached hereto.

(c) "**Business Day**" means Monday to Friday, except federal, provincial, and civic holidays within the Province of Nova Scotia.

(d) "**Consequential Losses**" means consequential, special, incidental, multiple, exemplary or punitive damages including lost profits, whether such claim of lost profits is categorized as indirect, direct or consequential damages or under any alternative theory of recovery.

(e) **"Contract Documents"** means without limitation, the following documents, including any amendments thereto agreed in writing by the parties:

(i) this Agreement; and

(ii) all Schedules to the Agreement.

(f) "**Contract Price**" has the meaning ascribed to it in Section 4.1.

(g) "**EECA Plan**" means the plan prepared by EfficiencyOne and approved by the UARB and attached hereto as Schedule "E".

(h) **"Electricity Efficiency and Conservation Activities"** or "**EECA**" means the electricity efficiency and conservation activities as identified in Schedule "A" attached hereto.

(i) "**Event of Default**" has the meaning ascribed to it in Section 20.4.

(j) "**Environmental Laws**" means all applicable federal, provincial, regional, municipal or local laws with respect to environmental matters contained in the statutes, regulations, rules, standards, requirements, ordinances, policies, guidelines, orders, approvals, notices, permits or directives having the force of law, in effect as at the date hereof and as may be brought into effect at future date.

(k) "**Force Majeure Event**" means any event or circumstance not reasonably within the control of the Party affected which wholly or partly prevents the performance by that Party of its obligations under this Agreement, provided that such Party is in good faith unable to perform such obligations by any commercially reasonable substitute. A Force Majeure Event includes acts of God, war, riot, fire, explosion, flood, hurricane, epidemics, acts of governmental authorities, acts of terrorism. Notwithstanding anything else contained herein, a Force Majeure Event excludes (a) any event or circumstance causing direct or indirect delay in, or failure to perform any of a Party's obligations under this Agreement, attributable to a lack of reasonable diligence on the part of a Party or on the part of any vendor or subcontractor of a Party, including any event or circumstance which a Party or any vendor or subcontractor, acting diligently, could reasonably have been expected to foresee, avoid or overcome in the performance of its obligations; and (b) any event or circumstance caused by the breach of a Party's obligations or the fault or negligence of a Party or the fault or negligence of any vendor or subcontractor, or by violation of applicable laws or regulations by a Party or any of a Party's vendors or subcontractors. For certainty, adverse weather of any kind other than events specified above shall not be considered a Force Majeure Event.

(l) "**Franchise**" has the meaning ascribed to it in the Act.

(m) "**Franchise Holder**" has the meaning ascribed to it in the Act.

(n) **"Governmental Authority"** means any federal, provincial, regional, municipal or local government or authority or other political subdivision thereof and entity or person exercising executive, legislative, judicial, regulatory or administrative functions of, or pertaining to, government.

(o) **"Hazardous Substances"** means any substance or material that is prohibited, controlled or regulated by any Governmental Authority pursuant to Environmental Laws, including any contaminants, pollutants, petroleum or other hydrocarbons and their derivatives and by-products, dangerous substances or goods, including asbestos, liquid wastes, special wastes, toxic substances, hazardous or toxic chemicals, hazardous wastes, hazardous materials or hazardous substances as defined in or pursuant to any Environmental Law, or any substance or material not inherently hazardous but which would, in sufficient quantities, be hazardous.

(p) **"Indemnified Costs"** means all liabilities, claims, actions, causes of action, judgments, orders, damages, costs (including those incurred in connection with any investigation of site conditions or any clean-up, environmental remediation, removal or restoration work), expenses (including all reasonable consultant, expert and legal fees and expenses), fines, penalties, losses, or any resulting damages, harm or injuries to the person or property of any third parties or to any natural resources and for which the indemnified party is liable and has incurred losses. Without limiting the foregoing, Indemnified Costs shall include:

(i) the costs of defending and/or counterclaiming or claiming over and against third parties in such manner as the indemnified party in its sole discretion may determine;

(ii) the costs relating to any governmental investigation, proceeding or claim; and

(iii) any costs, liabilities or damages arising out of a settlement of a claim by the indemnified party, with or without the consent of the indemnifying party.

(q) "**Law**" means the common law, the law of equity and all federal or provincial statutes or municipal by-laws and all regulations, orders, directives, permits and licenses thereunder, which apply to or otherwise affect NSPI or EfficiencyOne with respect to the supply of the EECA, or the property of NSPI or EfficiencyOne, real or personal, or any part thereof, including the Act and all environmental, occupational, health and safety laws.

(r) "**Liens Indemnities**" has the meaning ascribed to it in Section 18.1.

(s) "**Liens and Claims**" has the meaning ascribed to it in Section 18.1.

(t) "**Minister**" has the meaning ascribed to it in the Act.

(u) "**Party**" means either EfficiencyOne or NSPI. "**Parties**" means EfficiencyOne and NSPI.

(v) "**Personal Information**" shall mean the information provided by NSPI to EfficiencyOne pursuant to Section 79K of the Act.

(w) **"Release"** or **"Released"** means a releasing, adding, spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, migrating, dispersing, dispensing, disposing or dumping.

(x) **"Significant Changes"** means any proposed change to the EECA Plan for which the UARB orders or directs EfficiencyOne to obtain the approval of the UARB prior to the implementation of such proposed change.

(y) **"Subcontractor"** means any contractor, supplier or consultant hired by EfficiencyOne in accordance with this Agreement to perform any portion of the EECA.

(z) **"Term"** has the meaning ascribed to it in Section 2.1.

(aa) **"UARB"** means the Nova Scotia Utility and Review Board.

1.2 Unless otherwise specified in this Agreement or unless the context otherwise requires:

(a) words of any gender include each other gender;

(b) using the singular or plural number also include the plural or singular number, respectively;

(c) the insertion of headings in this Agreement is for convenience only and shall not be construed so as to affect the interpretation or construction of this Agreement;

(d) the terms "hereof," "herein," "hereto," "hereunder" and words of similar or like import refer to this entire Agreement and not to any particular Section, Schedule or other subdivision of this Agreement;

(e) references to a particular "Section" or "Schedule" are, unless otherwise noted, references to that Section of, or Schedule to this Agreement;

(f) the words "include," "includes" and "including" shall be deemed to be followed by "without limitation" or "but not limited to";

(g) references to any applicable law, legislation or regulation shall be construed as a reference to such law, legislation or regulation as each may be in effect from time to time;

(h) references to any agreement or document (including this Agreement) shall (i) include all Schedules, appendices, and other attachments thereto, and (ii) be construed at the particular time as a reference to such agreement or document as amended, modified or supplemented and in effect from time to time and shall include a reference to any document which amends, modifies or supplements it, or is entered into, made or given pursuant to or in accordance with its terms;

(i) references to (i) days shall refer to calendar days unless Business Day is specified, (ii) weeks and months shall refer to calendar weeks and months, respectively, and (iii) years shall refer to calendar years;

(j) in computing any period of time prescribed or allowed under this Agreement, the day of the act, event or default from which the designated period of time begins to run shall be included. If the last day of the period so computed is not a Business Day, then the period shall run until the close of business on the next Business Day;

(k) the Contract Documents are complementary, and what is required by any one shall be as binding as if required by all;

(l) words and abbreviations which have well known technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings; and

(m) as both Parties were actively involved in preparing the terms and conditions of this Agreement and as they both had access to and relied upon counsel in this process, there shall be no presumption that any one or the other Party prepared this Agreement and no provision of this Agreement shall be construed against either Party based upon the process of preparation of proposals and drafts of the Agreement.

1.3 If there is a conflict within the Agreement, the order of precedence of documents, from highest to lowest, shall be:

(a) Sections 1 to 27;

(b) Schedule "A" – Electricity Efficiency and Conservation Activities; and

(c) all other Schedules.

2. TERM & RESERVATION OF RIGHTS

2.1 The term of this Agreement shall be three (3) years from the Effective Date and shall automatically terminate on December 31, 2018 unless terminated earlier in accordance with the terms of this Agreement and the Act (the "**Term**").

2.2 During the Term, NSPI shall purchase from EfficiencyOne and EfficiencyOne shall supply to NSPI, the EECA in accordance with the terms and conditions of this Agreement and the Act.

2.3 Notwithstanding anything contained herein, and subject to any requirement for review or approval by the UARB, nothing contained in this Agreement shall in any way effect the rights of NSPI pursuant to Section 79I(3) of the Act.

3. ELECTRICITY EFFICIENCY and CONSERVATION ACTIVITIES

3.1 For the Term of this Agreement, EfficiencyOne will,

(a) provide the EECA in accordance with this Agreement;

(b) provide sufficient resources to enable EfficiencyOne to perform its obligations on time and in accordance with this Agreement;

(c) carry out the EECA in a professional, expeditious and economical manner, in accordance with the Act;

(d) manage the EECA in an efficient manner; and

(e) perform and supply the EECA in a safe and environmentally sound manner and in compliance with applicable Law.

3.2 The Parties acknowledge and agree that EfficiencyOne shall be solely responsible for the delivery of the EECA Plan. For greater certainty and notwithstanding the attachment of the EECA Plan as Schedule "E" – Approved EECA Plan, NSPI shall have no liability with respect to the EECA Plan saving and excepting any liability which may arise as a result of NSPI's failure to comply with the Act.

4. PRICE & PAYMENT

4.1 NSPI agrees to pay EfficiencyOne for EECA as set out in Schedule "B" – Compensation (the "**Contract Price**").

4.2 The Contract Price shall constitute full compensation for the EECA, and no additional compensation shall be payable to EfficiencyOne arising out or resulting from any productivity losses, overhead or indirect costs or other costs and expenses of any kind whatsoever.

4.3 NSPI shall make monthly payments on the first Business Day of each month in accordance with Schedule "B" to EfficiencyOne on account of the Contract Price when due, together with applicable HST. EfficiencyOne will submit an invoice to NSPI in advance of the payment date referenced in Schedule "B".

4.4 Unless otherwise indicated all dollar amounts referred to in this Agreement are in lawful money of Canada.

4.5 If applicable, payments shall be subject to harmonized sales tax (as defined in the *Excise Tax Act* (Canada)) ("**HST**"). No additional taxes (foreign or domestic), customs, duties or brokerage fees shall apply.

4.6 If applicable, NSPI will withhold from payments to EfficiencyOne any amounts required to be withheld under applicable Laws and treaties in respect of services rendered in Canada by a non-resident and may remit them to the relevant authority. Where available, statutory withholding may be waived if EfficiencyOne delivers to NSPI a formal waiver of the withholding requirement issued and signed by Canada Revenue Agency. The Parties shall cooperate at all times to ensure that all proper withholdings are deducted from payments and if any withholdings are overlooked then such withholdings may be deducted from later payments.

5. NOTIFICATION OF SIGNIFICANT CHANGES

5.1 EfficiencyOne shall provide notice of Significant Changes to NSPI at the same time as EfficiencyOne makes application to the UARB for the approval of the Significant Changes. Subject to the terms of the Act and the general discretion of the UARB under the Act, NSPI shall, have the right to make written submissions to the UARB on any such Significant Changes to the EECA Plan.

6. SAFETY

6.1 EfficiencyOne shall at all times be responsible for safety and loss management in the supply or performance of the EECA.

6.2 EfficiencyOne shall ensure that all employees, Subcontractors, agents and representatives of EfficiencyOne comply with all federal, provincial and municipal health, safety and environmental statutes, regulations, policies and guidelines and all health, safety and environmental rules as prescribed by EfficiencyOne.

7. PROTECTION OF PROPERTY

7.1 EfficiencyOne shall take all commercially reasonable steps to protect the property of NSPI's customers and other third parties from damage which may occur as the result of the performance of the EECA.

7.2 Should EfficiencyOne damage the property of NSPI's customers or property of other third parties while performing the EECA, EfficiencyOne shall make good such damage at EfficiencyOne's expense and shall indemnify NSPI from and against all liabilities, claims, damages, settlements, awards, costs, expenses and proceedings incurred by NSPI or its servants, employees and/or agents in respect of such damage, except to the extent such damage occurs as a result of the negligent acts of NSPI or those for which NSPI is responsible at Law.

8. ENVIRONMENT

8.1 EfficiencyOne and its Subcontractors shall at all times comply with all Environmental Laws that apply in any way to the supply or performance of the EECA. EfficiencyOne and its Subcontractors shall not cause, permit or suffer the Release of a Hazardous Substance in contravention of any Environmental Laws.

8.2 Notwithstanding any other provision in this Agreement (and in addition to any other right to indemnity held by NSPI under the terms of the Agreement) EfficiencyOne shall indemnify NSPI, NSPI's parent, their respective subsidiaries, affiliates and related companies, and their respective officers, directors, employees, agents and shareholders, and agrees to hold each of them harmless from and against any and all Indemnified Costs resulting from any Release of any Hazardous Substance which is caused or contributed to by EfficiencyOne or its Subcontractors or any breach of any Environmental Law by EfficiencyOne or its Subcontractors.

9. EFFICIENCYONE'S COVENANTS

9.1 EfficiencyOne warrants, covenants and agrees with NSPI that:

(a) it has all requisite capacity and authority to execute, deliver and perform its obligations under this Agreement;

(b) this Agreement has been duly and validly executed and delivered by EfficiencyOne and constitutes a legal, valid and binding obligation of EfficiencyOne enforceable against EfficiencyOne in accordance with its terms;

(c) to its knowledge, there is no matter, thing or event, including without limitation, any litigation, proceeding, breach, default or financial circumstance that would adversely affect EfficiencyOne's ability to perform its obligations under this Agreement;

(d) it will furnish all labour, materials, products, tools, and other necessary components necessary to perform and provide the EECA, unless otherwise provided herein;

(e) it shall diligently perform or cause to be performed the EECA in a proper and workmanlike manner;

(f) it has the skills, expertise and resources to carry out the EECA and to comply, observe and perform the obligations to which it is subject in accordance with the terms of this Agreement;

(g) prior to commencing any work hereunder, it shall obtain and maintain all permits, licenses and notices that a prudent supplier acting in accordance with industry standards would be required to obtain, maintain and provide in comparable circumstances and shall comply with all applicable Laws, ordinances, rules, regulations, codes and orders of any and all authorities having jurisdiction which are or become in force during the Term in respect of the EECA;

(h) it will comply with applicable federal, provincial and municipal statutes, regulations and bylaws pertaining to the EECA performed by or on behalf of EfficiencyOne under this Agreement. EfficiencyOne shall be responsible for ensuring similar compliance by any suppliers and Subcontractors;

(i) it is the Franchise Holder pursuant to the Act;

(j) it is not a non-resident of Canada for the purposes of the *Income Tax Act*;

(k) it will execute or cause to be made, done and executed all further acts, deeds, assurances, agreements, instruments or other documents as may be reasonably required to ensure fulfillment of the terms of this Agreement;

(l) the EECA shall be delivered and performed by individuals duly licensed and authorized by Law, if applicable, to perform said undertakings;

(m) the EECA shall be delivered and performed solely by EfficiencyOne or its Subcontractors and EfficiencyOne acknowledges that EfficiencyOne shall at all times remain responsible for the proper completion of this Agreement; and

(n) upon becoming aware of a potential disruption having a material impact in the supply of the EECA, EfficiencyOne shall provide notification to the UARB and NSPI.

10. SUBCONTRACTORS

10.1 EfficiencyOne shall be permitted to subcontract the performance of any part of the EECA without the prior written approval of NSPI.

10.2 Where EfficiencyOne subcontracts any part of the EECA, EfficiencyOne shall preserve and protect the rights of the Parties under this Agreement with respect to the EECA to be supplied or performed under subcontract, and shall be as fully responsible to NSPI for the acts and omissions of Subcontractors and of persons directly or indirectly employed by them, as if they were acts and omissions of persons directly employed by EfficiencyOne.

10.3 Nothing contained in the Contract Documents shall create a contractual relationship between a Subcontractor and NSPI.

11. CONFIDENTIAL AND PERSONAL INFORMATION

11.1 The Parties have executed or agree to execute the confidentiality agreement attached hereto as Schedule "D" - Confidentiality ("**Confidentiality Agreement**").

11.2 EfficiencyOne shall be responsible for all physical and electronic security required to ensure the security of the Personal Information which has been provided by NSPI to EfficiencyOne.

11.3 EfficiencyOne shall indemnify and hold harmless NSPI for any liabilities, claims, damages, settlements, awards, costs, expenses and proceedings incurred by NSPI or its servants, employees and/or agents in consequence of EfficiencyOne's misuse of the Personal Information or any disclosure, whether intentional, inadvertent, negligent or otherwise of any of the Personal Information by EfficiencyOne contrary to the terms of this Agreement or the Act.

12. PERFORMANCE REQUIREMENTS AND EVALUATIONS

12.1 EfficiencyOne's performance under the terms of this Agreement shall be measured in accordance with the performance requirements established by the UARB pursuant to Section 79M of the Act as set out in Schedule "C" – Performance Requirements.

13. FORCE MAJEURE

13.1 Neither Party shall be in breach of its obligations under this Agreement where failure to perform or delay in performance of any obligation is due, wholly or in part, to a Force Majeure Event.

13.2 Each Party shall notify the other Party promptly of any Force Majeure Event and shall take reasonable steps to minimize the impact of the failure or the delay and to resolve the event or occurrence that has given rise to the Force Majeure Event in order to resume performance. The time for performing an obligation as a result of Force Majeure Event shall be extended for the period lost, subject to the condition that the Term of this Agreement shall not be extended as a result of any Force Majeure Event.

13.3 Each Party suffering a Force Majeure Event shall take, or cause to be taken, such action as may be necessary to void, or nullify, or otherwise to mitigate, in all material respects, the effects of such Force Majeure Event. The Parties shall take all reasonable steps to ensure normal performance under this Agreement, including the resumption of any disrupted obligations.

13.4 For certainty, in no case shall the failure or omission of EfficiencyOne to carry out or observe any of the terms, provisions, or conditions of this Agreement or any negligent act or omission of EfficiencyOne, or others for whom EfficiencyOne is responsible constitute an event of Force Majeure or result in an extension of the time to perform the EECA.

14. INDEMNITY

14.1 EfficiencyOne shall assume all risk of loss, damage or injury, including death, to person or property, caused by its directors, officers, employees, Subcontractors, agents or representatives, and agrees not to make or bring any claim, action or demand against NSPI or its directors, officers, servants, agents, or employees in respect of such loss, damage or injury excepting such loss, damage or injury caused by the negligence or wilful misconduct of NSPI or NSPI's directors, officers, servants, agents or employees.

14.2 EfficiencyOne agrees to indemnify and save harmless NSPI, its directors, officers, servants, agents, or employees, and their heirs, executors, administrators, successors and assigns, or any of them, from and against any liabilities, losses, expenses (including legal costs on a solicitor-client basis), claims, demands, actions, and causes of action, whatsoever suffered by NSPI by reason of, or in any way arising out of or in connection with a breach of this Agreement by EfficiencyOne excepting only to the extent caused by the negligence or wilful misconduct of NSPI or NSPI's directors, officers, servants, agents or employees.

14.3 NSPI agrees to indemnify and save harmless EfficiencyOne, its directors, officers, servants, agents, or employees, and their heirs, executors, administrators, successors and assigns, or any of them, from and against any liabilities, losses, expenses (including legal costs on a solicitor-client basis), claims, demands, actions, and causes of action, whatsoever suffered by EfficiencyOne by reason of, or in any way arising out of or in connection with a breach of this Agreement by NSPI excepting only to the extent caused by the negligence or wilful misconduct of EfficiencyOne or EfficiencyOne's directors, officers, servants, agents or employees.

14.4 The provisions set forth in this Section shall apply and be effective with respect to any claim, cause of action, or legal theory whatsoever including without limitation, claims based upon breach of contract, failure to meet performance guarantees, tort (including negligence) and strict liability.

14.5 EfficiencyOne shall defend, indemnify and hold harmless NSPI from any claim, suit, cause of action, judgment, cost or expense (including legal fees) based on a claim by a third party that any intellectual property which is part of the EECA or supply or performance of EfficiencyOne's obligations under this Agreement infringes any patent, copyright, trade secret or other intellectual property right, provided the EfficiencyOne is promptly notified of such claim and is given complete authority for defense of same. EfficiencyOne shall pay all damages, costs and expenses resulting from such a claim, including legal fees and settlement costs, but shall not be responsible for any cost, expense or compromise incurred by NSPI without EfficiencyOne's prior consent.

15. LIMIT OF LIABILITY

15.1 Neither Party shall be liable to the other Party for any Consequential Losses with respect to the performance or non-performance under this Agreement or for any actions undertaken in connection with or related to this Agreement.

15.2 EfficiencyOne's total liability to NSPI with respect to the performance or non-performance under this Agreement or for any actions undertaken in connection with or related to this Agreement shall be limited to the greater of the sum of two million dollars ($2,000,000) or the proceeds of the applicable insurance policies taken out by

EfficiencyOne under this Agreement ("**EfficiencyOne Limit of Liability**") provided that the EfficiencyOne Limit of Liability shall not apply to:

(a) indemnification of NSPI by EfficiencyOne under the terms of this Agreement for any third party claims (including but not limited to EfficiencyOne's obligations pursuant to Sections 7.2, 8.2, 11.3, 14.5 and 18.1);

(b) any wilful misconduct or fraud of EfficiencyOne or its employees, agents or representatives; and

(c) any obligation on the part of EfficiencyOne to refund in whole or in part the Contract Price pursuant to this Agreement or the Act.

15.3 NSPI's total liability to EfficiencyOne with respect to the performance or non-performance under this Agreement or for any actions undertaken in connection with or related to this Agreement shall be limited to the sum of two million dollars ($2,000,000) ("**NSPI Limit of Liability**") provided that the NSPI Limit of Liability shall not apply to:

(a) any wilful misconduct or fraud of NSPI or its employees, agents or representatives; and

(b) NSPI's liability for payment of the Contract Price pursuant to the Agreement or the Act.

16. INSURANCE

16.1 EfficiencyOne shall obtain, maintain and pay for, during the entire Term of this Agreement, the following minimum insurance coverage as follows, such insurance as it relates to this Agreement shall be in a form and from an insurer acceptable to NSPI:

(a) General liability insurance shall be in the name of EfficiencyOne and shall name NSPI as an additional insured and shall have limits of not less than five million dollars ($5,000,000) inclusive per occurrence for bodily injury, death, and damage to property including loss of use thereof. Such insurance shall be primary and non-contributing with, and not in excess of, any other insurance available to NSPI.

(b) Environmental impairment insurance with limits of not less than five million dollars ($5,000,000);

(c) Automobile liability insurance in respect of licensed vehicles shall have limits of not less than two million dollars ($2,000,000) inclusive per occurrence for bodily injury, death, and damage to property. For automobiles not owned or operated by or on behalf of EfficiencyOne the insurance shall be in the form of a standard non-owned automobile policy and shall include standard contractual liability endorsement. For automobiles owned or operated by or on behalf of EfficiencyOne the insurance shall be in the form of a standard owner's form automobile policy and shall provide third party liability and accident benefits insurance covering licensed vehicles owned or operated by or on behalf of EfficiencyOne.

(d) Property Insurance covering all loss of or damage to EfficiencyOne's property and equipment of EfficiencyOne or for which EfficiencyOne is legally liable or responsible used in performance of the EECA for the full replacement value, which insurance shall not allow subrogation claims by the insurer against NSPI.

(e) To the extent that the EECA includes the provision of professional services, professional liability errors and omissions insurance covering all claims arising out of errors and omissions of EfficiencyOne in the performance of professional services as part of the EECA with a limit of two million dollars ($2,000,000). In the event other claims erode EfficiencyOne's professional errors and omissions insurance below two million dollars ($2,000,000), in the annual aggregate, EfficiencyOne agrees to reinstate the limit.

(f) Workers' compensation to the full extent required in Nova Scotia and wherever EfficiencyOne's personnel contracts of employment are made or are expressed to be made.

16.2 If EfficiencyOne fails to effect or keep in force any of the foregoing insurances, NSPI may, without prejudice to any other right or remedy, effect such insurance and pay the premiums due and recover the same as a deduction from any other monies due to EfficiencyOne under this Agreement.

16.3 EfficiencyOne shall be responsible to pay deductible amounts and for determining the deductible amount in respect of each policy. EfficiencyOne shall not violate, nor knowingly permit to be violated, any conditions of the policies maintained according to the provisions of this Section, and it shall be EfficiencyOne's duty and responsibility to impose upon each Subcontractor the same responsibilities and obligations imposed upon EfficiencyOne under such provisions.

16.4 EfficiencyOne agrees to provide proof of insurance to NSPI on an annual basis. Such proof shall be in the form of a certificate of insurance signed by EfficiencyOne's insurance broker.

17. INTELLECTUAL PROPERTY

17.1 NSPI acknowledges that all branding, trade and business marks of EfficiencyOne used in the course of provision of EECA pursuant to this Agreement, (the "EfficiencyOne Brands") are, and shall remain, the sole and exclusive property of EfficiencyOne and shall not be used by NSPI without EfficiencyOne's express consent. Upon termination of this Agreement, NSPI shall immediately upon instruction from EfficiencyOne return or destroy, as instructed by EfficiencyOne, the EfficiencyOne Brands.

17.2 Any trademarks, brands, logos or other branding or trade or business marks used in NSPI's business ("**NSPI Brands**") shall remain the sole and exclusive property of NSPI and shall not be used by EfficiencyOne for any purpose except in connection and as necessary for the provision of the EECA. Upon termination of this Agreement, EfficiencyOne shall immediately upon instruction from NSPI return or destroy, as instructed by NSPI, the NSPI Brands.

18. LIENS AND CLAIMS

18.1 EfficiencyOne shall indemnify and hold harmless NSPI, NSPI's parent and their subsidiaries and affiliates (collectively the "**Lien Indemnitees**" or singularly "**Lien Indemnitee**") and defend each of them from and against any and all losses and costs arising out of any and all claims for payment, liens, attachment or any other process, filed against any property of the Lien Indemnitees by or in respect of a Subcontractor of any tier or any other party providing work, materials in respect of the EECA or any part thereof (referred to in this Section as "**Liens or Claims**"), including solicitor and client fees and expenses incurred by NSPI in discharging any such Liens or Claims or similar encumbrances.

18.2 EfficiencyOne shall discharge promptly any Liens or Claims. If EfficiencyOne does not promptly satisfactorily discharge such Liens or Claims, NSPI at its sole option may (i) require EfficiencyOne to pay, within five (5) Business Days after request by NSPI, or (ii) subject to any requirements of the *Builders' Lien Act* of Nova Scotia, offset against any holdback or other amounts due or to become due to EfficiencyOne, all costs and expenses incurred by NSPI or other Lien Indemnitee in causing the release of, paying or settling such Liens or Claims. EfficiencyOne shall have the right to contest any such Liens or Claims, provided it first provides to NSPI a bond or other assurance of payment reasonably satisfactory to NSPI in the amount of such Liens or Claims and in form and substance reasonably satisfactory to NSPI. In no circumstance whatsoever shall NSPI be liable for a greater amount than the amount payable by NSPI to EfficiencyOne.

19. DISPUTE RESOLUTION

19.1 In the event of a dispute in connection with this Agreement, a senior representative of EfficiencyOne and a senior representative of NSPI shall promptly meet to discuss and resolve the dispute and the Parties shall have thirty (30) days to resolve the dispute (or ten (10) days if either Party notifies the other Party that the matter requires urgent resolution).

19.2 Unless the parties agree otherwise, in the event resolution cannot be achieved in accordance with Section 19.1 of this Agreement, then such dispute or difference shall be referred to the UARB in accordance with Section 79P of the Act.

19.3 Notwithstanding any dispute, EfficiencyOne shall diligently carry out the EECA, and shall not suspend, impair, interfere with, restrict or discourage the prompt completion of any portion of the EECA, unless specifically authorized to do so by the UARB. .

20. DEFAULT AND TERMINATION

20.1 This Agreement may be terminated immediately by either Party, in whole or in part, upon the happening of one or more of the following events:

(a) EfficiencyOne's Franchise is terminated and the Agreement has not been assigned by the Minister; or

(b) The UARB approves the termination of the Agreement.

In the event of a termination pursuant to this Section 20.1, neither Party shall be entitled to any compensation or damages for any Consequential Losses as a result of such termination. Immediately upon receipt of such termination notice, EfficiencyOne will discontinue all EECA under this Agreement and will only finish such portions of the EECA as may be necessary to preserve and protect the EECA already in progress. Such termination does not relieve either Party from any of their respective obligations under this Agreement for EECA provided up to the date of termination. Any claim for payment by EfficiencyOne must be asserted within thirty (30) days from the date of such termination.

20.2 Notwithstanding any other provision in this Agreement, in the event this Agreement is terminated in accordance with Section 20.1(a), EfficiencyOne shall:

(a) Immediately return all monies paid on account of the Contract Price which amounts have not been legitimately incurred or subject to contractual commitments for expenditure which cannot otherwise be mitigated to NSPI; and

(b) Provide to NSPI all reasonable required termination assistance to allow the EECA provided under this Agreement to continue and to facilitate the orderly transition of the EECA to NSPI or any third party as directed by NSPI, provided that EfficiencyOne shall be entitled to commercially reasonable payment for such transition services on a time and material basis.

20.3 The Parties acknowledge that this Agreement is subject to the general supervision of the UARB.

20.4 A Party shall be determined to be in default of its obligations under this Agreement if (each a "**Event of Default**"):

(a) it is in breach of any material term or condition of this Agreement, which breach is not cured by the Party within thirty (30) days after written notice from the other Party;

(b) it assigns this Agreement other than as permitted by the Act and/or the UARB;

(c) any representation or warranty made by either Party shall prove to be untrue when made in any material respect;

(d) there is a sale, transfer or relinquishment, voluntary or involuntary, by operation of law or otherwise, of legal control of the business of either Party except for a transfer to a related corporation or a transfer resulting from a merger, acquisition, amalgamation or reorganization, or, in the case of EfficiencyOne, a change in the Membership of the corporation;

(e) Either Party sells, transfers or assigns all or substantially all of its assets;

(f) a petition in bankruptcy is filed with respect to either Party; or

(g) any proceeding is commenced under any bankruptcy or insolvency legislation or under any other federal, state or provincial law relating to insolvency or bankruptcy, the adjudication of either Party as a bankrupt, the appointment by any competent court having jurisdiction of a temporary or permanent receiver, trustee or other officer having similar powers over either Party its business or assets, or the making of any assignment by either Party for the benefit of its creditors.

20.5 If a breach notified pursuant to Sections 20.4(a) cannot be corrected within the period required therein, the defaulting Party shall not be in breach or violation if it:

(a) commences and diligently and continuously carries out the correction of the breach or violation within the specified time;

(b) provides to the non-defaulting Party, and the UARB an acceptable plan for such correction; and

(c) corrects the breach or violation in accordance with such plan.

20.6 Upon the occurrence of an Event of Default, the non-defaulting Party may apply to the UARB to terminate this Agreement in whole or in part.

21. NOTIFICATIONS

21.1 All notices to be given to either Party under this Agreement shall be written and addressed to the NSPI and to EfficiencyOne as follows:

To NSPI:

Nova Scotia Power Incorporated
1223 Lower Water Street
PO Box 910
Halifax, NS B3J 3S8
Attention: Corporate Secretary
Facsimile: (902) 428-6171

To EfficiencyOne:

EfficiencyOne
230 Brownlow Avenue
Suite 300
Dartmouth, NS B3B 0G5
Attention: CEO
Facsimile: (902) 470-3599

21.2 All notices may be sent by facsimile, a nationally recognized overnight courier service, first class mail or hand delivered. Notice shall be given when received by the addressee on a Business Day. In the absence of proof of the actual receipt date, the following presumptions will apply:

(a) Notices sent by facsimile shall be presumed to have been received upon the sending Party's receipt of its facsimile machine's confirmation of successful transmission. If the day on which such facsimile is received is not a Business Day or is after five p.m. (local time for the recipient) on a Business Day, then such facsimile shall be deemed to have been received on the next following Business Day.

(b) Notice by overnight courier shall be presumed to have been received on the next Business Day after it was sent.

(c) Notice by first class mail shall be presumed delivered five (5) Business Days after mailing.

21.3 Either Party may modify its address for notices by advance written notice to the other Party.

22. AUDIT AND INSPECTION

22.1 EfficiencyOne shall, during the Term and for a period of thirty-six (36) months thereafter, keep accurate records of all EECA supplied to NSPI, as necessary to determine that the EECA was provided in accordance with the terms and conditions of this Agreement.

22.2 NSPI shall have the right to apply to the UARB to request access to any of the records referred to in 22.1.

22.3 NSPI shall have the right to apply to the UARB to inspect or observe the EECA at all times, whether using its own forces or those of a designated third party. EfficiencyOne shall facilitate such inspections and provide sufficient, safe and proper facilities at all times for inspection of the EECA.

23. ASSIGNMENT

23.1 Neither Party shall assign all or any portion of this Agreement without the prior written approval of the UARB and/or the Minister as the situation requires.

24. SHARING OF DATA AND INFORMATION

24.1 EfficiencyOne shall work co-operatively with NSPI to provide NSPI with information and data from time to time in order to assist NSPI with planning and load forecasting as may be reasonably required by NSPI. For greater certainty, such information and data shall be consistent with the past practices of the Parties.

24.2 In the event of a dispute regarding any request for information by NSPI, NSPI shall have the right to apply to the UARB to request access to the information and data referred to in 24.1.

25. COORDINATION MEETINGS AND REPORTS

25.1 During the Term of this Agreement, EfficiencyOne shall prepare and deliver to the UARB and NSPI a quarterly report (the "**Quarterly Report**") in a form acceptable to the UARB.

25.2 EfficiencyOne shall prepare and deliver to the UARB and NSPI an annual report (the "**Report**") in a form acceptable to the UARB. For greater certainty, the Report shall summarize and provide details as to the EECA and milestones achieved in the prior year, contain a discussion and analysis of major discrepancies relative to the EECA Plan's intent and forecasts, EfficiencyOne's financial statement for the previous year with respect to the EECA, evaluation reports and a summary of planned versus actual savings and costs for each metric.

25.3 The Parties agree that ongoing coordination and regular communication between NSPI and EfficiencyOne is important in order to ensure effective planning. To that end, the Parties shall meet quarterly or as otherwise agreed upon to discuss the provision of the EECA.

25.4 Notwithstanding ss. 25(1) and (2), EfficiencyOne shall provide evaluation and reporting in accordance with s. 5 of the Consenus Agreement among EfficiencyOne, NSPI, Consumer Advocate, Small Business Advocate, Industrial Group, Affordable Energy Coalition and Ecology Action Centre, dated June 16, 2015, pursuant to the UARB's Decision of August 12, 2015 (M06733).

26. GENERAL

26.1 This Agreement shall only be renewed in accordance with the provisions of the Act.

26.2 This Agreement shall extend to, be binding upon and enure to the benefit of the respective successors and permitted assigns of the Parties hereto.

26.3 EfficiencyOne will be an independent contractor. EfficiencyOne shall not act as an agent for NSPI, bind NSPI to any obligation with a third party, nor hold itself out as having authority to bind or obligate NSPI. None of the persons engaged by EfficiencyOne or any of its Subcontractors in the performance of the EECA will be considered employees of NSPI.

26.4 This Agreement shall be deemed to have been made in and shall be governed by, construed and interpreted in accordance with the laws of the Province of Nova Scotia and the laws of Canada, as applicable therein. Where the provisions of this Agreement or the Act permit or require a matter to be referred to or proceeded with before a court, or in any other case where the Parties bring a matter in respect of this Agreement before a court, the Parties irrevocably attorn to the jurisdiction of the Supreme Court of Nova Scotia.

26.5 No consent or waiver, express or implied, by any Party to this Agreement of any breach or default by any other Party in the performance of its obligations under this Agreement or of any of the terms, covenants or conditions of this Agreement shall be deemed or construed to be a consent or waiver of any subsequent or continuing breach or default in such Party's performance.

26.6 Time shall be of the essence for purposes of this Agreement.

26.7 This Agreement, upon approval by the UARB, shall represent the entire Agreement between the Parties with respect to the subject matter hereto and shall not be modified, varied or amended except by an instrument in writing signed by the Parties and approved by the UARB or as ordered or directed, by the UARB at any time.

26.8 Should any provision of the Agreement be declared by a judicial or other competent authority to be unenforceable, the remaining provisions of the Agreement shall remain in full force and effect.

26.9 The Parties acknowledge that this Agreement and all related documents shall be in English.

26.10 This Agreement may be executed by the Parties in counterparts, each of which when so executed and delivered shall be deemed to be an original and when taken together shall be deemed to be one and the same instrument. The electronic delivery, including, without limitation, by email or facsimile transmission, of any signed original of this Agreement shall be the same as the delivery of an original.

27. SURVIVAL

27.1 Subject to the provisions of the Act, all provisions of this Agreement which by their express terms or nature are continuing shall survive the expiration or termination of this Agreement, including, without limitation, this provision, and the provisions relating to the EECA Plan (s. 3.2), EfficiencyOne's covenants (s.9), confidentiality (s. 11), indemnity (s.14), intellectual property (s. 17), notification (s. 21) and general provisions (s. 26) as well as any provisions which are required to determine, or which exclude or limit, any liability or which are otherwise required to give effect to or interpret any such provisions which are continuing.

[Remainder of page intentionally left blank]

IN WITNESS THEREOF, the Parties have duly executed this Agreement, in duplicate, as of the date set forth above.

NOVA SCOTIA POWER INCORPORATED

Witness

Per:
Name:
Title:

Witness

Per:
Name:
Title:

EFFICIENCYONE

Witness

Per:
Name: STEPHEN MACDONALD
Title: CEO

Witness

Per:
Name:
Title:

IN WITNESS THEREOF, the Parties have duly executed this Agreement, in duplicate, as of the date set forth above.

NOVA SCOTIA POWER INCORPORATED

Witness

Per:
Name: Robert J. S. Hanf
Title: President and CEO

Witness

Per:
Name: Wayne O'Connor
Title: EVP, Operations

EFFICIENCYONE

Witness

Per:
Name:
Title:

Witness

Per:
Name:
Title:

SCHEDULE A

ELECTRICITY EFFICIENCY AND CONSERVATION ACTIVITIES

The figure below identifies the scope of savings (3-year Cumulative Annual Net Energy and Net Peak Demand Savings) associated with carrying out EECAs over the Term.

	Cumulative Annual Net Energy Savings at Generator over the Term (GWh)	**Cumulative Annual Net Peak Demand Savings at Generator over the Term (MW)**
Performance Targets*	405.9	62.5

The Performance Targets will be achieved in accordance with the EECA Plan as set out in Schedule E and the Consensus Agreement as adopted by the Board.

* For certainty, in accordance with the performance requirements set out in Schedule "C" attached hereto, EfficiencyOne shall be deemed to be in substantial compliance with the approved Performance Targets if 90 percent (90%) or greater achievement is reached on both Performance Targets. If less than 90 percent (90%) of either Performance Target is achieved, a regulatory process will be triggered.

SCHEDULE B

COMPENSATION

(Page 1 of 2)

I. Net Contract Price

The figure below identifies the net Contract Price to be paid by NSPI allocated for each year of the Term.

	2016	2017	2018	Total
UARB Approved	$33,210,000	$34,020,000	$34,920,000	$102,150,000
Balance Adjustment[1]	($8,518,030)	nil	nil	($8,518,030)
Net Contract Price to be Paid by NPI[2]	$24,691,970	$34,020,000	$34,920,000	$93,631,970

The Parties acknowledge that any surplus realized by EfficiencyOne in delivering the Performance Targets at the end of the Term shall be reported to the UARB and refunded to NSPI unless EfficiencyOne is directed otherwise by the UARB.

1 The term "Balance Adjustment" refers to the 2014 surplus of DSM funds in the amount of $8,518,030 that is to be returned by EfficiencyOne in accordance with the UARB-approved cost-allocation methodology. The return of the Balance Adjustment is to be accounted for through a reduction in the payment of the 2016 portion of the Contract Price.

2 The Parties acknowledge that the portion of Contract Price approved by the UARB for 2016 is to be reduced by the amount of the Balance Adjustment. As such, the amount to be paid by NSPI to EfficiencyOne in 2016 shall not exceed $24,691,970 and the total amount to be paid by NSPI over the Term shall not exceed $93,631,970.

SCHEDULE B (PAGE 2 OF 2)

COMPENSATION

II. **Payments**

In accordance with Section 4.3 of the Agreement, the monthly payments to be made by NSPI to EfficiencyOne over the Term, accounting for the Balance Adjustment, shall be as set out below. The monthly payment amounts referred to following are exclusive of required HST. HST shall be remitted to EfficiencyOne in addition to these monthly amounts.

On the First Business Day of:	2016	2017[3]	2018[4]	Total
January	$0	$2,900,436	$2,977,167	
February	$0	$2,641,338	$2,711,215	
March	$0	$2,833,345	$2,908,301	
April	$2,596,090	$3,010,077	$3,089,709	
May	$2,483,522	$2,544,095	$2,611,400	
June	$2,307,508	$2,363,788	$2,426,322	
July	$2,368,453	$2,426,220	$2,490,406	
August	$2,388,522	$2,446,778	$2,511,508	
September	$3,029,041	$3,102,920	$3,185,008	
October	$3,953,232	$4,049,652	$4,156,786	
November	$2,796,894	$2,865,111	$2,940,907	
December	$2,768,709	$2,836,238	$2,911,271	
Total	$24,691,970	$34,020,000	$34,920,000	$93,631,970

3 The 2017 payments owing by NSPI will be reduced to reflect any 2015 under-spending by EfficiencyOne, if any, against the 2015 UARB-approved DSM Resource Plan, together with any 2014 Balance Adjustment interest earned in 2015.

4 The 2018 payments owing by NSPI will be reduced to reflect any Balance Adjustment interest earned in 2016.

SCHEDULE C

PERFORMANCE REQUIREMENTS

(PAGE 1 OF 2)

I. UARB-APPROVED PERFORMANCE TARGETS, THRESHOLDS, AND INDICATORS[5]

a) Performance Targets and Thresholds:
   i. Performance Targets are set over the three-year contract period, rather than annually.
   ii. EfficiencyOne is deemed to be in substantial compliance with the UARB-approved Plan Performance Targets if 90 percent or greater achievement is reached on the two Performance Targets as listed below. If less than 90 percent of any Performance Target is achieved, a regulatory process will be triggered.

b) Performance Targets consist of:
   i. Cumulative annual energy savings
   ii. Cumulative annual peak demand savings

c) Performance Indicators (for UARB reporting) consist of:
   i. Annual incremental energy savings (reported by program)
   ii. Cumulative annual energy savings (reported by program)
   iii. Lifetime savings (once methodology is developed) (reported by program)
   iv. Annual incremental peak demand savings (reported by program)
   v. Cumulative annual peak demand savings (reported by program)
   vi. Total ratepayer benefits (once methodology is developed)
   vii. Total spending (reported by program and rate class)
   viii. Customer satisfaction

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5 These Performance Targets, Indicators and Thresholds were established under the terms of the Consensus Agreement among EfficiencyOne, NSPI, the Consumer Advocate, the Small Business Advocate, the Industrial Group, the Affordable Energy Coalition and the Ecology Action Centre, dated June 16, 2015, which was approved by the UARB in its Decision dated August 12, 2015 (M06733).

SCHEDULE C (PAGE 2 OF 2)

PERFORMANCE REQUIREMENTS

ix. An analysis of the impact on rates through the implementation of the 2016-2018 programs will be included as part of EfficiencyOne's historical-looking rate and bill impact analysis, filed by October 31st of each year.

x. Reporting on low income program participation, expenditures, and savings through a variety of methods, including estimation based on geographic census information.

d) For the Performance Indicators reported by program, EfficiencyOne will also report on them by rate class, as soon as available, but not later than within its Q3 report to the UARB.

SCHEDULE D

CONFIDENTIALITY AND NONDISCLOSURE AGREEMENT

THIS CONFIDENTIALITY AGREEMENT made this 5th day of October, 2015

Between:

EfficiencyOne, hereinafter "EfficiencyOne"

Party of the First Part

And

Nova Scotia Power Incorporated, hereinafter "NSPI"

Party of the Second Part

Whereas the Parties have entered into a Supply Agreement for Electricity Efficiency and Conservation Activities made effective as of January 1, 2016 ("Supply Agreement") whereby Efficiency One is to provide EECA (as that term is defined in the Supply Agreement) to NSPI;

And whereas in accordance with the Supply Agreement, and the Electricity Efficiency and Conservation Act (Nova Scotia) and the Public Utilities Act (Nova Scotia) (together hereinafter referred to as the "Legislation"), and as may be directed by the Nova Scotia Utility and Review Board, and as may be further agreed between the Parties, the Parties will be receiving, reviewing, and analyzing Confidential Information from each other;

And whereas the Parties wish to clarify the manner in which any Confidential Information disclosed by one Party ("Disclosing Party") to the other is to be treated by the recipient of the Confidential Information ("Recipient");

In consideration of the agreements of the Parties set forth below, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

Confidential Information

1. The Parties agree that for the purpose of this Agreement "Confidential Information" means all information, regardless of the form in which it is communicated or maintained and prepared by the Disclosing Party, and is disclosed directly or indirectly to the Recipient, pursuant to the Supply Agreement, the Legislation, as directed by the Nova Scotia Utility and Review Board or as otherwise agreed between the Parties. Confidential Information includes, but is not limited to the following: all reports analyses, notes, memoranda, correspondence, spreadsheets, drawings, survey plans, maps, contracts, commercial arrangements, intellectual property, trade secrets, corporate strategies, business plans or other information that is based on, contain or reflect any Confidential Information, material, whether printed or electronic, which has been designated by the Disclosing Party as confidential information, including proprietary information and other commercially sensitive information. This includes but is not limited to information which has been or may be filed with the Nova Scotia Utility and Review Board ("the Board") in confidence in answer to Information Requests and any further material that may be filed with the Board in confidence whether in response to future Information Requests or otherwise, and whether printed or electronic. Confidential Information shall also include any explanation or other information provided by either Party to the Recipient concerning the foregoing and which has been identified by the Party providing the information as confidential at the time it is initially provided, whether printed or electronic. Confidential Information may also include any password or other information necessary to access electronic copies of Confidential Information.

Permitted Scope of Use

2. The Recipient may use the Confidential Information solely for the purposes of providing or receiving EECA, as the case may be, in accordance with the Legislation and the Supply Agreement and for no other reason or purpose.

No Obligation to Disclose

3. This Agreement does not obligate either Party to disclose any Confidential Information to the other.

Protection of Confidential Information

4. The Recipient shall hold the Confidential Information in strict confidence and shall strictly protect the Confidential Information from all harm, loss, theft, reproduction and unauthorized access, employing at least the same degree of care that the Recipient employs to protect its own confidential information of a similar nature, but in any event, not less than reasonable care. The Recipient shall ensure that such Confidential Information is not disclosed, published,

released, transferred or otherwise made available in any form to, for the use or benefit of, any person except as provided in this Agreement.

Acknowledgements

5. The Recipient acknowledges that the Confidential Information is confidential and a trade secret and is owned by the Disclosing Party and is highly valuable and material to the interests, business and affairs of the Disclosing Party and that any unauthorized disclosure thereof by the Recipient would be detrimental to the Disclosing Party.

Permitted Disclosures

6. The Recipient shall be permitted to disclose relevant aspects of the Confidential Information to its employees and professional advisors to the extent that such disclosure is reasonably necessary for the performance of its duties and obligations; provided, however, that prior to such disclosure the Recipient shall inform such persons and parties of the confidential nature of the Confidential Information and each such person or party signs the undertaking attached to this Confidentiality Agreement. The Recipient shall inform the Disclosing Party of the name of each person to whom it has disclosed the Confidential Information in accordance with this provision and shall provide to the Disclosing Party the signed undertaking. The Recipient shall be fully responsible for ensuring that any such persons to whom it discloses the Confidential Information complies with the confidentiality obligations contained in this Agreement and shall be liable for any breach of this Agreement by such persons.

7. The non-disclosure obligations in this Agreement shall not restrict any disclosure by the Recipient pursuant to any applicable law or an order of any court of competent jurisdiction or regulatory body with regulatory responsibilities over the Recipient, provided that the Recipient shall provide the Disclosing Party with prompt prior written notice of its obligation to disclose so that the Disclosing Party may seek a protective order or other appropriate remedy concerning the disclosure of its Confidential Information and/or waive compliance with the confidentiality provisions of this Agreement. In addition, the Recipient shall take reasonable steps, to the extent permitted by law, to remove from the Confidential Information that is required to be disclosed, any information that is commercially sensitive to the Disclosing Party. In the event of an order for disclosure by a court of competent jurisdiction or regulatory body with regulatory responsibilities over the Recipient, the Recipient shall first notify the Disclosing Party of such order and allow the Disclosing Party not less than ten (10) days to remove any such information that is commercially sensitive.

Term

8. The term of this Agreement shall commence on the effective date of the Supply Agreement unless superceded by another form of writing, and notwithstanding the return of any Confidential Information or any other event, shall continue in full

force and effect for a period of FIVE (5) years from the effective date of this Agreement.

Equitable Remedy

9. The Recipient acknowledges that any unauthorized use of the Confidential Information or any breach of its obligations under this Agreement will result in irreparable harm to the Disclosing Party which cannot be adequately compensated for by damages. Neither the Recipient, nor any term in this Agreement, shall interfere with, delay, or prevent the Disclosing Party from seeking an interim and interlocutory equitable remedy to enforce any provision of this Agreement. The Recipient agrees not to oppose an application for equitable relief by the Disclosing Party in such circumstances. Any such relief or remedy shall not be exclusive, but shall be in addition to all other available legal or equitable remedies. The Recipient agrees that the provisions of this Section are fair and reasonable in the commercial circumstances of this Agreement. This Article shall survive the termination of this Agreement.

Return of Information

10. On the earlier of either thirty (30) days following the termination of the Supply Agreement or at the written request of the Disclosing Party (and unless superceded by another form of writing), the Recipient shall return or destroy (at the Disclosing Party's direction) and delete from all electronic devices all Confidential Information provided to it, including all copies (and all notes and documents prepared by the Recipient that may incorporate same) and still in the Recipient's possession (and otherwise under its control or in the possession of other persons to whom it has been provided as permitted hereunder) and, if requested by the Disclosing Party, shall provide written confirmation to the Disclosing Party to that effect. Notwithstanding the forgoing, the Recipient shall be entitled to retain the Confidential Information in one legal file copy that may be retained solely for the determination of its legal obligations under this Agreement.

Residual Information

11. The Recipient or its designate or any other person having access to the Confidential Information pursuant to this Agreement shall not, during and after the termination of this Agreement, use in its business any Residual Information. "Residual Information" means the ideas, know-how and techniques that would be retained in the unaided memory of an ordinary person skilled in the art, not intent on appropriating the proprietary information of the disclosing party, as a result of such person's access to, use, review, evaluation, or testing of the Confidential Information of the disclosing party for the purposes described herein. An employee's memory is unaided if the employee has not intentionally memorized the Confidential Information for the purpose of retaining and subsequently using or disclosing it.

Limited Rights

12. The Recipient agrees that no rights are granted to Recipient other than the limited rights to use the Confidential Information on the terms of this Agreement. For certainty, no license is granted under this Agreement (directly or indirectly) under any patent, discovery, copyright, or other intellectual or industrial property right now or in the future.

Indemnity

13. The Recipient shall indemnify and hold the Disclosing Party harmless from any and all loss, liability, cost or expense (including, without limitation, solicitor's costs on a solicitor and client basis and all other costs of defence) caused in whole or in part by the Recipient's breach of any provision of this Agreement. This Article shall survive the termination of this Agreement.

Governing Law

14. This Agreement is governed and shall be construed in accordance with the laws of the Province of Nova Scotia.

General Provisions

15. This Agreement is binding on the Parties, their administrators, successors, executors and assigns.

Executed and delivered this 5th day of October, 2015.

EfficiencyOne	Nova Scotia Power Incorporated
By: Steve MacDonald	By:
Name: STEPHEN MACDONALD	Name:
Title: CEO	Title:

Limited Rights

12. The Recipient agrees that no rights are granted to Recipient other than the limited rights to use the Confidential Information on the terms of this Agreement. For certainty, no license is granted under this Agreement (directly or indirectly) under any patent, discovery, copyright, or other intellectual or industrial property right now or in the future.

Indemnity

13. The Recipient shall indemnify and hold the Disclosing Party harmless from any and all loss, liability, cost or expense (including, without limitation, solicitor's costs on a solicitor and client basis and all other costs of defence) caused in whole or in part by the Recipient's breach of any provision of this Agreement. This Article shall survive the termination of this Agreement.

Governing Law

14. This Agreement is governed and shall be construed in accordance with the laws of the Province of Nova Scotia.

General Provisions

15. This Agreement is binding on the Parties, their administrators, successors, executors and assigns.

Executed and delivered this 5TH day of OCTOBER, 2015.

EfficiencyOne	Nova Scotia Power Incorporated
By: ____________	By: Wayne O'Connor
Name:	Name: Wayne O'Connor
Title:	Title: EVP, Operations

SCHEDULE "A" to CONFIDENTIALITY AGREEMENT

UNDERTAKING

I ____, HAVE READ AND AGREE TO ABIDE AND AM BOUND BY THE TERMS AND CONDITIONS SET OUT IN THE CONFIDENTIALITY AGREEMENT DATED THE ____DAY OF ________________ BETWEEN EFFICIENCYONE AND NOVA SCOTIA POWER INCORPORATED.

Dated the day of 2014.

______________________________	____
Witness	Name:
	Recipient Designate

SCHEDULE E

APPROVED EECA PLAN

[As approved by the UARB]

Schedule E

EECA Plan

(2016-2018 DSM Resource Plan)

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TABLE OF CONTENTS

TABLE OF FIGURES

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1. INTRODUCTION

The 2016-2018 Demand-Side Management (DSM) Resource Plan has been developed based on ENS's growing experience and history in delivering successful DSM programs and services to Nova Scotians. As part of the process, ENS engaged Navigant Consulting and Dunsky Energy Consulting to assist in developing inputs and proposals to the Plan.

The proposed Plan represents a comprehensive suite of program and service offerings for Nova Scotia electricity users. The programs and services included in the Plan have been developed, assessed and modelled based on ENS's experience delivering DSM, expected market conditions, technology availability, and customer behaviour. As with prior DSM Plans, this Application is not an implementation Plan; it has been developed for planning and cost-effectiveness testing purposes. Over the course of the three-year implementation period, ENS anticipates the need to make appropriate mid-course adjustments that react to lessons learned through program implementation experience and independent evaluations, as well as circumstances such as changing market conditions, changes in technology and changes in codes and standards. Such flexibility to make appropriate mid-course adjustments is an essential tool in providing ENS with the ability to achieve its overall energy and demand savings performance requirements. When making such adjustments, ENS will follow the process agreed to by Stakeholders in the Consensus Settlement Agreement and as ordered by the Board in its August 12, 2015 Decision.

The Plan addresses affordability by balancing multiple short- and long-term considerations, including bill impacts, rate impacts, and long-term planning analyses. The Plan maintains a balanced portfolio of program and service offerings, enabling opportunities for participation by a broad range of Nova Scotian electricity consumers while ensuring that capacity additions to the electrical system are avoided, per NS Power's IRP and subsequent analyses.

This Plan has been modified to comply with the Utility and Review Board (UARB)'s August 12, 2015 Decision, which set annual DSM investment amounts of $33.21 million,

$34.02 million and $34.92 million for 2016, 2017, and 2018 respectively. It outlines ENS's proposed programs and strategies for achieving the overall energy and demand savings targets as specified in EfficiencyOne's original 2016-2018 DSM Resource Plan. However, program-level investment and energy and demand savings targets have been revised to achieve the overall result within the approved investment level.

In 2016-2018, ENS's programs and services will continue to advance a personalized, customer-centric approach, aimed at reducing the need for customers to research exactly which technologies are eligible for rebates and incentives.

Enabling Strategies will also continue to be included in ENS's portfolio in 2016-2018. As in past years, Enabling Strategies activities have the objectives of strengthening Nova Scotia's energy efficiency culture, allowing for best-practice evolution of program and service offerings, encouraging market transformation for efficient technologies, and allowing for ENS to continue to complete and advance its regulatory obligations.

Section Two of this Plan describes ENS's proposed Residential programs. Section Three describes the proposed programs for Business, Non-Profit and Institutional (BNI) customers. Enabling Strategies are discussed in Section Four.

1.1 2016-2018 DSM Resource Plan Savings and Investment

Figure 1.1.1 provides a summary of the energy savings and investment for the 2016-2018 DSM Resource Plan.

Figure 1.1 - 2016-2018 DSM Resource Plan Investment and Savings

Year	Investment ($ million)	Lifetime Benefits ($ million)[a]	Incremental Annual Net Energy Savings at Generator (GWh)	Incremental Annual Net Demand Savings at Generator (MW)	Total Resource Cost Test (TRC)[b]	Program Administrator Cost Test (PAC)[c]
2016	33.21	126.6	133.1	20.4	2.3	4.2
2017	34.02	138.7	136.5	21.0	2.4	4.4
2018	34.92	148.3	136.3	21.0	2.5	4.6
Total	**102.15**	**413.5**	**405.9**	**62.5**	**2.4**	**4.4**

Investment is expressed in nominal dollars. Columns may not add correctly, due to rounding.
Annual avoided costs, calculated using ENSC's DSM Potential Study at the Base Level, were provided by NS Power. They include the cost of energy and capacity.
[a] Lifetime benefits are expressed as the net present value of the avoided costs, including energy and capacity, over the life of the program measures.
[b] TRC is a benefit/cost ratio comparing lifetime benefits to the sum of ENS's and participants' costs.
[c] PAC is a benefit/cost ratio comparing lifetime benefits to ENS's costs.

Figures 1.2, 1.3, and 1.4 provide the program level investment and savings for 2016, 2017, and 2018, respectively.

Figure 1.2 - 2016 DSM Resource Plan Investment and Savings

2016	Investment ($ million)	Lifetime Benefits ($ million)[a]	Incremental Annual Net Energy Savings at Generator (GWh)	Incremental Annual Net Demand Savings at Generator (MW)	Total Resource Cost Test (TRC)[b]	Program Administrator Cost Test (PAC)[c]
Residential DSM Programs						
Efficient Product Rebates	3.20	6.2	12.4	1.1	1.5	1.9
Existing Residential	9.47	47.2	39.4	7.1	2.5	5.0
Low Income Participation[d]	*1.77*		*7.6*	*1.0*		
New Residential	1.23	7.2	3.8	1.1	2.5	5.9
Business, Nonprofit and Institutional Programs						
Efficient Product Rebates	5.89	24.6	33.1	5.3	2.3	4.2
Custom Incentives	6.79	33.4	34.0	4.3	3.0	4.9
Direct Installation	3.80	8.1	10.5	1.4	1.2	2.1
Enabling Strategies						
Education and Outreach	1.32					
Development and Research	1.00					
Other Enabling Strategies	0.52					
Total	**33.21**	**126.6**	**133.1**	**20.4**	**2.3**	**4.2**

Investment is expressed in 2016 dollars. Columns may not add correctly, due to rounding.
Annual avoided costs, calculated using ENSC's DSM Potential Study at the Base Level, were provided by NS Power. They include the cost of energy and capacity.
[a] Lifetime benefits are expressed as the net present value of the avoided costs, including energy and capacity, over the life of the program measures.
[b] TRC is a benefit/cost ratio comparing lifetime benefits to the sum of ENS's and participants' costs.
[c] PAC is a benefit/cost ratio comparing lifetime benefits to ENS's costs.
[d] Reflects ENS's planned participation by low income customers, per the 2015 DSM Resource Settlement Agreement.

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Figure 1.3 - 2017 DSM Resource Plan Investment and Savings

2017	Investment ($ million)	Lifetime Benefits ($ million)[a]	Incremental Annual Net Energy Savings at Generator (GWh)	Incremental Annual Net Demand Savings at Generator (MW)	Total Resource Cost Test (TRC)[b]	Program Administrator Cost Test (PAC)[c]
Residential DSM Programs						
Efficient Product Rebates	3.31	6.7	12.6	1.1	1.5	2.0
Existing Residential	10.62	53.7	43.3	7.9	2.5	5.1
Low Income Participation [d]	*1.82*		*7.8*	*1.0*		
New Residential	1.28	7.7	3.9	1.1	2.6	6.2
Business, Nonprofit and Institutional Programs						
Efficient Product Rebates	5.65	26.6	32.6	5.3	2.5	4.7
Custom Incentives	6.49	35.6	34.1	4.3	3.2	5.3
Direct Installation	3.62	8.3	10.0	1.4	1.2	2.3
Enabling Strategies						
Education and Outreach	1.43					
Development and Research	1.04					
Other Enabling Strategies	0.58					
Total	**34.02**	**138.7**	**136.5**	**21.0**	**2.4**	**4.4**

Investment is expressed in 2017 dollars. Columns may not add correctly, due to rounding.
Annual avoided costs, calculated using ENSC's DSM Potential Study at the Base Level, were provided by NS Power. They include the cost of energy and capacity.
[a] Lifetime benefits are expressed as the net present value of the avoided costs, including energy and capacity, over the life of the program measures.
[b] TRC is a benefit/cost ratio comparing lifetime benefits to the sum of ENS's and participants' costs.
[c] PAC is a benefit/cost ratio comparing lifetime benefits to ENS's costs.
[d] Reflects ENS's planned participation by low income customers, per the 2015 DSM Resource Settlement Agreement.

Figure 1.4 - 2018 DSM Resource Plan Savings and Investment

2018	Investment ($ million)	Lifetime Benefits ($ million)[a]	Incremental Annual Net Energy Savings at Generator (GWh)	Incremental Annual Net Demand Savings at Generator (MW)	Total Resource Cost Test (TRC)[b]	Program Administrator Cost Test (PAC)[c]
Residential DSM Programs						
Efficient Product Rebates	3.42	7.2	12.6	1.1	1.6	2.1
Existing Residential	11.10	55.7	43.0	7.9	2.5	5.1
Low Income Participation [d]	*1.75*		*7.3*	*0.9*		
New Residential	1.32	8.4	4.0	1.1	2.8	6.5
Business, Nonprofit and Institutional Programs						
Efficient Product Rebates	5.69	30.3	32.6	5.2	2.5	4.9
Custom Incentives	6.49	38.1	34.4	4.3	3.4	5.6
Direct Installation	3.62	8.5	9.6	1.3	1.3	2.4
Enabling Strategies						
Education and Outreach	1.43					
Development and Research	1.09					
Other Enabling Strategies	0.76					
Total	**34.92**	**148.3**	**136.3**	**21.0**	**2.5**	**4.6**

Investment is expressed in 2018 dollars. Columns may not add correctly, due to rounding.
Annual avoided costs, calculated using ENSC's DSM Potential Study at the Base Level, were provided by NS Power. They include the cost of energy and capacity.
[a] Lifetime benefits are expressed as the net present value of the avoided costs, including energy and capacity, over the life of the program measures.
[b] TRC is a benefit/cost ratio comparing lifetime benefits to the sum of ENS's and participants' costs.
[c] PAC is a benefit/cost ratio comparing lifetime benefits to ENS's costs.
[d] Reflects ENS's planned participation by low income customers, per the 2015 DSM Resource Settlement Agreement.

1.2 Programs and Services Overview

The 2016-2018 Residential and Business, Non-profit and Institutional (BNI) programs are expected to include ongoing gradual evolution in order to address the following objectives:

- Respond to changes in the market, such as updated codes and standards;
- Incorporate the findings of ongoing research, such as assessments of technology penetration;
- Maintain access to programs and services across residential, commercial and industrial ratepayers;

- Provide the stability required to ensure availability of industry capacity to achieve future targets; and
- Continue to sustain a reasonable balance of investments between the Residential and BNI sectors.

ENS will focus on program and service changes aimed to further improve the customer's experience and simplify participation. These changes will also allow more industry partners to supply services and products through programs, and encourage participants to achieve more energy savings with each transaction. ENS is referring to this evolution as Programs 2.0. It will include alterations to marketing and delivery that provide access to all services through a one-window approach; enhanced information technology for tracking of participant information; and more flexible support options that allow tailoring of incentives and technical support to match the requirements of each participant. These modifications are being researched, designed and piloted in Q1 through Q3 of 2015, with rollout expected in Q4 and full implementation expected in 2016. The intent is to enhance the customer experience while streamlining access to programs and services, without altering the inherent structure and operation of ENS programs and services. ENS will continue to report on its results under the programs proposed in this Application throughout 2016-2018.

2. RESIDENTIAL PROGRAMS AND SERVICES

Efficiency Nova Scotia's Residential sector offerings include a variety of initiatives to help homeowners, renters and landlords become more efficient in their use of electricity. Educating potential participants about the benefits of energy efficiency is an important component of these initiatives to help encourage them to take action. Incentives vary from the installation of low-cost energy efficiency products at no charge, to incenting the removal of old inefficient appliances, to offering incentives to upgrade or replace inefficient products. For customers, interactions with ENS will range from instant rebates for purchasing an efficient product at a participating retail location to an in-depth test and assessment of the energy use of the home.

Through its Residential service offerings, ENS educates participants on the benefits of taking part in more than one energy efficiency service. The intent is to help participants save electricity by encouraging multiple actions to help them maximize their energy savings. For reporting purposes, the services offered to Nova Scotians are categorized into the following programs:

- Efficient Product Rebates
- Existing Residential
- New Residential

Efficiency Nova Scotia will continue to enhance its Residential services over the three-year agreement, in response to new product availability, market shifts, client needs, and program evaluations.

2.1 Efficient Product Rebates (Residential)

Nova Scotians benefit from energy savings by using products that are energy efficient. In many cases, this involves making a decision to purchase an energy efficient product, often at a higher upfront cost, rather than a less-expensive and less-efficient product. ENS will continue to work with retailers and distributors to provide a service that educates consumers and helps to offset the higher price of the more efficient product.

Incentives for energy-efficient products are available to all Nova Scotians. Financial incentives are offered for selected products that meet or exceed the ENERGY STAR® level of performance. For some energy efficient products for which ENERGY STAR® certification is not currently available, rebates will continue to be offered to help participants reduce electricity use. Eligible measures include a variety of lighting products, appliances and electronics.

ENS will continue to offer a financial incentive, no-charge pick-up and recycling of inefficient, but functioning, large appliances such as refrigerators, freezers and room air conditioners. This service permanently removes old, inefficient appliances from use in Nova Scotia, eliminating them as a load on the system. While ENS has already removed many of these appliances from homes, more recently, a growing number of landlords are taking part. ENS is also exploring options for offering incentives for energy-efficient appliances to participants with multiple inefficient ones.

2.2 Existing Residential

The Existing Residential program is designed to help reduce electricity consumption for space and water heating and lighting. The goal is to promote cost-effective energy efficiency improvements to Nova Scotia's housing stock of single detached houses, duplexes, rental housing, mobile/mini homes and multi-family buildings. Most Existing Residential services are offered to participants via service organizations, contracted to deliver the services following a competitive Request for Proposals process.

A broad range of incentives are available for Nova Scotians, including rebates or financing for electrically heated buildings to improve the efficiency of the structure. These particular types of upgrades are especially valuable within older buildings as they provide energy savings as well as non-energy benefits, such as increased comfort in the residence and a potential increase in resale value. In addition, rebates or financing are offered for installing efficient heating systems, which can lead to reductions in electricity use for both space and water heating systems. Additional services include the installation of efficient lighting and other low-cost products at no cost to participants.

Services are offered province-wide and modifications can be made over time to include new products and additional offerings. Recent examples include offering a personal energy planner to participants in the Home Energy Assessment service, working with a municipality to pilot financing on property tax bills for energy efficiency improvements to the home, and providing a searchable list of trade partners on the ENS website to help Nova Scotians seek out contractors to conduct various upgrades. ENS will continue to conduct promotional activities with contractors across the province to raise awareness and provide details on how they can be added to the list.

2.2.1. Low-Income Initiatives

Beginning in 2015, NS Power shareholders are committing up to $37 million dollars over 10 years to support the HomeWarming program. The program, in partnership with the Clean Foundation, will offer free energy efficiency improvements to nearly 6,600 low-income homeowners who heat with electricity. Intake will be completed by ENS.

ENS will continue to explore and support opportunities for electricity efficiency upgrades for low-income Nova Scotians through its direct installation service. In addition, in 2015, Efficiency Nova Scotia is working with Housing Nova Scotia to develop a building-envelope initiative for multi-unit residential buildings under their authority. This initiative is expected to continue into the 2016-2018 time period.

In 2015, ENS will be conducting research on low-income rental accommodations with electric heating, per ENSC's 2015 DSM Resource Plan Settlement Agreement, approved by the UARB on September 8, 2014. Additional opportunities for low-income services will be assessed and developed, where appropriate, following this research.

2.3 New Residential

To encourage energy efficient design and use of energy efficient products in new residential construction, Efficiency Nova Scotia's New Residential services are offered to builders and owners of new houses, including row housing and semi-detached houses, in Nova Scotia. It is expected that incentives will continue to focus on having homes meet or exceed the ENERGY STAR® certification. The Federal government, in consultation with building professionals, developed the ENERGY STAR® for New Homes standard. On average, homes achieving the ENERGY STAR® certification use 20 percent less energy than a home built to the Nova Scotia Building Code.

As part of the current service, energy assessments and design advice are provided to builders before construction. Data on the planned building envelope, equipment and minimum Building Code standards are used to determine the expected energy consumption of the home. A Certified Energy Advisor then recommends options that will improve the energy efficiency of the home design, allowing for informed decisions. After the home is constructed, a final inspection and rating is provided.

The Nova Scotia Building Code requires all new houses to either comply with specific prescriptive requirements or perform better than the modeled energy use of a reference home that meets those prescriptive requirements. Based on an Efficiency Nova Scotia study, a new home meeting prescriptive requirements achieves an EnerGuide score of 78. The EnerGuide rating system is maintained by Natural Resources Canada and uses software to estimate the energy use of a home. The ENS service requires the house to achieve an ENERGY STAR® certification or an EnerGuide score of 85 (or higher) to obtain incentives. If the minimum Building Code requirement for new homes is updated, Efficiency Nova Scotia will adapt its offering as appropriate to continually encourage further energy efficiency improvements in new homes.

2.4 Update on Energy Saving Actions

Efficiency Nova Scotia's 2016-2018 DSM Resource Plan does not include a target or investment for Energy Saving Actions. ENS piloted the Home Energy Report in 2013, and it will continue until early 2016. ENS is not proposing to continue the pilot due to near-term affordability considerations, which have resulted in a lower DSM Plan level than was approved for 2013 and 2014. Given the need to reduce and/or eliminate programs to address these considerations, the Home Energy Report was determined to have the least negative impact on ENS's ability to deliver a balanced portfolio and on industry capacity, despite its success in terms of achievement of energy savings.

Behaviour-based energy efficiency activities are important components to a balanced portfolio of options for customers. While ENS is not able to offer the Home Energy Report due to short-term affordability considerations, ENS may continue exploring ways in which it can offer services for customers in this area. As specific plans have not been developed, ENS may conduct research and development through its Enabling Strategies during 2016-2018.

3. BUSINESS, NON-PROFIT AND INSTITUTIONAL (BNI) PROGRAMS AND SERVICES

Efficiency Nova Scotia's Business, Non-Profit and Institutional (BNI) programs are designed to provide customers with easy access to energy efficiency solutions. The programs and services combine technical and financial support to improve the demand for, and affordability of, energy efficient technologies and practices. Aspects of these programs and services also encourage incorporation of energy efficiency into customers' business practices and long-term plans. The BNI initiatives are packaged, wherever possible, to provide a full suite of solutions for a range of businesses, industries and institutions to facilitate a 'one-window' service-based approach.

In the lead-up to 2016, ENS will continue to adopt and modify the BNI programs to better meet changing market demands. The focus will shift by adopting a more customer-centric approach when delivering services, providing BNI customers with a simplified, one-window approach to maximizing energy savings. These efforts are intended to enhance access to ENS services, maintain high levels of customer satisfaction and maximize energy savings per customer. ENS will also continue to leverage the support of qualified industry professionals to deliver BNI initiatives.

While ENS continues to adapt programs and services to improve the customer experience, reporting will continue to be based on the following three services:

- Efficient Product Rebates
- Custom Incentives
- Direct Installation

3.1 Efficient Product Rebates (BNI)

The BNI Efficient Product Rebates program provides financial incentives, through prescriptive rebates, on a wide variety of products to encourage BNI end-users to reduce electrical energy consumption and peak demand. Customers are able to select from a predefined list of energy efficient measures that correspond to a per-unit rebate. The program is designed to provide end users with a streamlined application process and quick turnaround times. Rebates are delivered through mail-in applications or discounts at the point of purchase through a province-wide network of distribution partners.

As in 2015, supported measures include lighting; heating, ventilation and air conditioning (HVAC); adjustable speed drives for motors; refrigeration; compressed air; food service and hospitality equipment; agricultural and food processing equipment; and IT technologies. Supported measures will continue to change as the market transforms and more efficient technologies are available. For example, in 2016, ENS expects to begin offering rebates for pumping technologies employing electronically commutated motors.

The objectives of this program are to:

- Raise customer awareness of energy efficient products;
- Encourage the use of energy efficient products in the design of new facilities and retrofits;
- Increase the market penetration of supported technologies; and
- Transform the market by raising the efficiency of standard practices.

Commercial, industrial, not-for-profit and institutional customers are eligible to participate in the program.

In 2016-2018, the Efficient Product Rebates (BNI) program will continue to leverage the support of qualified trade partners, expand on rebate offerings as the market transforms, and continue to work on ways to streamline the program.

3.2 Custom Incentives

The Custom Incentives program provides financial incentives to help commercial, industrial, not-for-profit and institutional customers reduce their electrical energy consumption and peak demand. Incentives are provided to help eligible participants complete energy audits and implement technical changes within their existing or new facilities.

The program is designed to accommodate a wide range of customer requirements. Delivery of the program is structured so customers may participate by incorporating energy-efficient options or designs at any phase of their project, regardless of their current level of energy management expertise. Project energy and peak demand savings are assessed on a case-by-case basis. The program supports engineering studies and installation of energy efficient measures for which operation and characteristics are not conducive to a prescriptive rebate structure. Eligible measures within the Custom Incentives program must save electrical energy and vary based on custom applications. Measures may include energy efficiency upgrades to existing or new compressed air, refrigeration, heating, cooling, and ventilation systems as well as other technologies not offered through other ENS programs. ENS also intends to offer feasibility study support, incentives and financing for cogeneration projects that are not participating in the Province's Community Access Feed-In Tariff (COMFIT) program. Supported measures are categorized in the following ways:

- New or replacement-on-burnout: intended for equipment replacement, new construction and renovation and expansion, by which the program can result in higher efficiency choices than would otherwise have been purchased;
- Discretionary retrofit: efficient components intended to replace existing equipment before the end of its useful life as a cost-effective retrofit.

Technical and financial services supporting the above measures are intended to achieve the following:

- Provide rebates for initial scoping studies and incentives or technical assistance towards detailed engineering assessments for specific retrofit projects at new or existing facilities;
- Provide project financing through low- or no-interest repayable loans, or, where available, other financing options to support the program;
- Direct program participants to qualified third-party sources of technical expertise;
- Promote the implementation of complex and innovative energy efficient technology and designs in BNI facilities;
- Provide incentives for the use of best practices in commissioning existing building systems; and
- Influence electrical energy conservation projects within Nova Scotia.

The implementation of energy efficiency measures is conducted by third parties or qualified participant staff, as selected by the participant. The recruitment of participants depends largely upon direct contact, referrals and networking among industry professionals.

While all BNI customers will remain eligible to participate in the Custom Incentives program, ENS will continue refinement of services for targeted retrofit and new construction market segments. This is in alignment with ENS's customer-focused approach, where custom and prescriptive services can provide a unique solution for the needs of specific types of participants. Targeted markets could include retail services, schools, universities, small-large commercial buildings and industrial facilities.

The New Construction component of the Custom Incentives program is expected to continue providing participants with financial and technical support to design and build efficient facilities. ENS will explore the promotion of a cost-effective structured commissioning process for new buildings. A structured commissioning process would offer technical support and guidance for participants who are interested in commissioning their new building to ensure it operates as designed. Financing will be made available as an incentive option for these participants. Additional implementation incentives through the Custom Incentives and Efficient Products Rebates programs will be available for measures that qualify but that are not supported by the New Construction Program.

The Custom Incentives program will continue to provide offerings tailored for market segments and targeted end uses such as the following:

- Retro-commissioning;
- Compressed air system optimization;
- Support for Energy Management Information Systems (EMIS), which are performance management tools that allow organizations to monitor and analyze their energy usage;
- Strategic Energy Management (SEM), which provides organizations with a comprehensive approach to energy management through continuous business process and energy performance improvements, along with organizational culture change;
- Onsite Energy Manager (OEM) service, which places a trained technical energy manager at a customer's workplace in order to have a dedicated person for the development of energy management plans and to facilitate participation in ENS programs; and
- Employee engagement.

ENS also expects to continue developing services for new market segments, recruiting additional trade partners and building expertise through program staff training as required.

3.3 Direct Installation

The Direct Installation program is designed to assist small to medium-sized businesses reduce their energy consumption through access to no-charge energy audit services and financial incentives for energy-efficient technologies. Changes to the program allow customers to work with a contractor of their choice to implement energy efficiency upgrades. ENS has developed an Efficiency Partner Network, which provides customers with a list of qualified contractors in their area; however, customers are not limited to hiring from this list.

Typical customers of the program are small offices, retail shops, convenience and grocery stores, service stations, restaurants, lodgings, non-profit and community organizations, churches, cafeterias, pharmacies, bakeries and farms. Because the program targets smaller customers, many of which are independent operations with small staff complements, much of the value of the service will be provided through the initial energy audits and access to the new Efficiency Partner Network.

In 2016-2018, supported measures are expected to be largely consistent with the Efficient Product Rebates (BNI) Program. Relevant examples of measures include lighting technologies, HVAC equipment, refrigeration equipment, food service and hospitality equipment, as well as agricultural and food processing equipment.

In 2016-2018, ENS will continue its evolution of the Direct Installation program to meet changing market demands. This will provide access to more products to meet a variety of needs and support the ongoing development of industry capacity.

4. ENABLING STRATEGIES

Enabling Strategies are essential to ensure that ENS is able to increase awareness about energy efficiency, evolve services, and provide information and tools needed by Nova Scotians to make informed energy choices. This, in turn, drives program participation and fosters market transformation. Enabling Strategies include the following categories:

- Education and Outreach;
- Development and Research; and
- Other Enabling Strategies:
    - Property-Assessed Clean Energy (PACE) Financing Support;
    - Working with Governments;
    - Capacity Building; and
    - Regulatory Affairs.

Enabling Strategies have three key objectives:

1. To increase awareness and education of DSM programs and services, which is key to driving participation in energy efficiency activities;
2. To evolve DSM services through innovation and improve delivery of these services to Nova Scotians; and
3. To drive market transformation.

It is through Enabling Strategies that ENS is able to conduct activities that help to increase its overall efficiencies. As stated in the 2015 DSM Resource Plan, examples of cost efficiencies identified through research for the purposes of evolving DSM services include market research for optimal incentives for the Appliance Retirement service and the attribution of energy savings for participants in the Home Energy Assessments service who did not receive rebates. Other efficiencies are also created through Enabling Strategies activities. For example, through the LED Holiday Light Exchange, ENS achieves a small amount of energy savings from an outreach-based activity.

It is through Enabling Strategies that ENS will continue to develop innovative and cost-efficient ways in which to deliver on its DSM targets. Examples outlined below include a continued commitment to financing as a complement to tradition incentives; ongoing work to support codes and standards development; and initiating market transformation activities related to building construction, called Passive House. These initiatives are planned within an average investment that was evaluated at, or lower than, that of comparison jurisdictions in 2013[1], and has been reduced further for the 2016 to 2018 period in consideration of short-term affordability concerns. ENS remains committed, however, to the important results achieved through its Enabling Strategies activities and is of the position that, while it understands the need for short-term affordability considerations, increasing Enabling Strategies levels would help the organization achieve higher DSM results in the longer term.

4.1 Education and Outreach

The complexity of the electricity system means that many concepts and terms are not familiar or accessible to most Nova Scotians. The concept of energy efficiency is equally challenging to communicate effectively. Nova Scotians are more likely to embrace and adopt energy-efficient behaviours if they understand the value of energy efficiency to their own interests, to those of their communities and to the broader economy. As such, reaching out to Nova Scotians through Education and Outreach is a critical component of DSM efforts. Understanding the benefits of something intangible like energy efficiency is complex and takes time. This, along with the continual emergence of new technologies, changes in service delivery to improve programs and increase accessibility, and the cementing of energy efficiency as a part of Nova Scotia's electricity supply per the *Electricity Efficiency and Conservation Restructuring (2014) Act*, make education and

[1] Econoler, "Enabling Strategies Evaluation Final Report", February 21, 2014, pages 5 and 6

outreach activities as relevant and important now as they were when DSM was first introduced in Nova Scotia in 2008. The advancements made in public awareness of ENS (unaided awareness was at 35 percent in 2014) demonstrate that Enabling Strategies activities are having an impact on ENS's results. However, these same results also demonstrate that opportunities remain to reach additional Nova Scotians.

The objectives of Education and Outreach activities are to effectively communicate what energy efficiency is and the individual and collective benefits it provides, with an objective of achieving increased levels of participation in DSM programs. For example, as shown in ENS's rate and bill impact analysis, all NS Power customers benefit over the long-term from DSM programs, and participants benefit to a greater extent. However, the rate and bill impact model is a technical analysis that does not lend itself to quick understanding: "selling" intangible benefits is not easy, but it is required in order to maintain and increase uptake in programs.

Education and Outreach strategies for 2016 through 2018 will build on existing outreach efforts, services, research, and the continual feedback collected from Nova Scotians. This feedback includes customer and other input collected through surveys and at presentations, speeches, trade shows, online dialogue and experience gained through past DSM initiatives.

Areas of focus will include:

- Educating customers about energy efficiency through efforts to make it tangible;
- Educating customers on the value and collective and individual benefits provided by energy efficiency;
- Educating and engaging students and the education industry on energy and the role of efficiency;
- Educating customers on ways to conserve energy, reduce peak demand, achieve cost-effective energy savings and lower their electric utility bills;

- Increasing public awareness of the value of participating in DSM programs;
- Enabling and encouraging the adoption of energy efficiency as a social norm through a focus on both individual and community-based commitments to energy efficiency;
- Connecting customers to relevant DSM programs and services; and
- Learning from our customers – ensuring their experiences and advice are incorporated to improve programs and services.

The following components may be used to support this strategy:

- Engaging Nova Scotians on the ENS website with information, tools and calculators;
- Engaging Nova Scotians through social media (Facebook, Twitter, YouTube, LinkedIn) to drive awareness of energy efficiency;
- Electronic newsletters emailed to past participants;
- Advertising to increase awareness and understanding of programs and services offered by ENS;
- Continuing to build the Green Schools program, to supplement learning and educate teachers and students about energy efficiency to help build an energy-efficient culture in Nova Scotia;
- Making inroads into the education system with a goal of building energy efficiency into the P-12 curriculum;
- Working with post-secondary education institutions to build awareness of the opportunities and alignment of energy efficiency across all disciplines;
- Public speaking and presentations on energy efficiency;
- Stories in the media on energy efficiency; and
- Additional activities as opportunities arise.

Efficiency Nova Scotia staff will work with delivery agents, industry partners and educational institutions to develop, manage and deliver education and outreach programs.

4.2 Development and Research

Efficiency Nova Scotia uses evidence-based decision-making to improve program design and delivery and to guide business strategy. This approach ensures ENS is making the best possible decisions for evolving business requirements and reduces the risk and cost of making incorrect assumptions. ENS will invest in two areas of Development and Research:

1. Research and development initiatives to support the evolution of DSM Resource Plans and DSM programs;
2. Development activities that improve delivery of services and information to Nova Scotians.

4.2.1 Primary and Secondary Research

Innovation is critical to ensure ENS programs reflect current technologies and consumer behaviour patterns. As such, an important focus of research will be to explore new opportunities for DSM programs and services. The knowledge and experience gained through development and research activities are intended to increase the effectiveness of all DSM programs and develop new DSM opportunities for future years. ENS will use primary and secondary research, and partner with other DSM experts, to obtain evidence-based insights into business opportunities and risks. Specific research initiatives could include:

- Research and development work related to the development of the 2019-2021 DSM Resource Plan;
- Examining motivations and barriers to participation;
- Examining trends and preferences in energy consumption behaviour;

- Researching opportunities from other jurisdictions;
- Researching new measures, of which demand-response and/or demand-control measures are expected to be included;
- Piloting new programs and changes to existing programs, of which results from ENS's expected research into demand-response and/or demand-control options may be included, with savings expected to be tracked under Existing Residential or New Residential programs as applicable;
- Testing alternative marketing approaches;
- Undertaking a Small Business Energy Study in consultation with the Small Business Advocate; and
- Researching and making recommendations on a more formalized methodology for determining incentives, per the UARB's Decision.

4.2.2 Development of DSM Information Management and Program Execution Systems

Changes to enhance the customer experience through Programs 2.0 will require an information management system that can easily track and provide insight into all relevant customer interactions. This system will:

- Provide a better service experience for Nova Scotians (interactions with ENS will be improved through enhanced tracking of customers' historical interactions);
- Ensure ENS is communicating the right message at the right time to customers (better customer life-cycle messaging and marketing); and
- Streamline information management and reporting (easier access to information).

The system is expected to create efficiencies for program delivery, research, and marketing purposes. Efficiencies are expected to be in the form of reduced time spent on data processing and reporting, a reduction in external consultants required to develop reporting capabilities, and improved program uptake by using database marketing techniques. The changes will also enhance ENS's tracking of customer data for the purposes of its rate and bill impact analysis, per Synapse's recommendations through the

2013-2015 DSM Plan process. Due to the enhanced tracking, which is expected to automatically remove duplication of customers across programs, the new system is expected to result in efficiencies to the manual process ENS must complete for the filing of its analysis. ENS will continue to invest in these systems throughout 2016-2018, building on improvements completed in previous years.

4.3 Other Enabling Strategies

4.3.1 Property-Assessed Clean Energy (PACE) Financing

ENS recognizes a lack of upfront capital can be a barrier to customers adopting energy efficiency measures. For this reason, financing DSM activities is a complementary incentive structure to standard rebates. While uptake in existing financing initiatives has been historically low (the median participation rate in financing programs across North America was calculated at less than 0.5% in 2011)[2], ENS is continuing to support financing initiatives within its Residential and BNI programs.

To further these initiatives, ENS will provide support and a suite of tools for municipalities to use in developing and administering Property-Assessed Clean Energy (PACE) financing programs. Such programs allow participants to pay for energy efficient upgrades through an add-on to their property taxes. In 2016-2018, ENS will continue its work in supporting municipalities to launch and administer PACE programs. As the service is administered by the municipalities, the support provided by ENS is an Enabling Strategy, rather than a program or service provided by ENS. Individual participants in the municipalities' PACE programs would be eligible to enroll in ENS programs, under which related energy savings would be recognized.

[2] American Council for an Energy Efficiency Economy, 2011. *What have we learned from energy efficiency financing programs?*

4.3.2 Working with Governments

In 2016-2018, ENS will continue to work to advance discussion, development and implementation of energy efficiency related codes and standards. This will include discussions with provincial and federal stakeholders and will provide relevant market information to governments for decision-making purposes. In addition, ENS will participate in the technical development of energy efficiency related product standards through work with organizations such as the Canadian Standards Association.

4.3.3 Capacity Building

ENS will continue to foster industry capacity-building, focusing efforts in several areas, including enhancing existing training and quality assurance for ENS partners and contractors and providing marketing support for delivery partners and contractors.

ENS will continue promoting new home building standards and will explore opportunities to advance the introduction of the Passive House concept in Nova Scotia. The Passive House concept originated in Germany and has evolved for more than 15 years, becoming widely adopted in Europe as the top standard in energy-efficient buildings. The standard applies to all buildings, whether residential, commercial or institutional and incorporates energy efficiency engineering concepts of design, components, and construction to create buildings that function as comfortable, highly efficient units requiring minimal heating and cooling systems. For example, using Passive House design, heating an average-sized, single-family home would cost less than $500 per year.

To advance the Passive House concept in Nova Scotia, ENS intends to work with designers, architects, engineers, builders, component manufacturers, community colleges, universities, government, and stakeholders to educate and begin developing the capacity to incorporate the concept in newly constructed and retrofitted buildings.

4.3.4 Regulatory Affairs

As approved in the 2015 DSM Resource Plan, Regulatory Affairs initiatives outside of specific research conducted for DSM Resource Plans or Potential Studies are categorized as Enabling Strategies. As with other Enabling Strategies, regulatory activities lay the groundwork for future energy savings: without approvals for ongoing activities and changes to existing ones, future savings would not be possible. These activities include UARB costs, DSM Advisory Group and stakeholder consultation work, as well as legal work relating to regulatory initiatives.

SCHEDULE B
Consensus Agreement

M06733

IN THE MATTER OF: ***THE PUBLIC UTILITIES ACT***

And

IN THE MATTER OF: *An application by EfficiencyOne for Approval of a Supply Agreement for Electricity Efficiency and Conservation Activities between EfficiencyOne and Nova Scotia Power Inc., the establishment of a final agreement between the parties, and approval of a 2016-2018 Demand Side Management ("DSM") Resource Plan*

WHEREAS EfficiencyOne is the Franchise Holder in accordance with the *Public Utilities Act*;

AND WHEREAS EfficiencyOne has filed an application with the Nova Scotia Utility and Review Board, in accordance with the provisions of the *Public Utilities Act*, for the approval of a Supply Agreement with Nova Scotia Power Inc. ("NSPI") for the supply of electricity efficiency and resource conservation activities for the years 2016 through 2018 ("Supply Agreement");

AND WHEREAS NSPI is, in accordance with the *Public Utilities Act*, deemed to be a co-applicant with EfficiencyOne in the application for approval of the 2016 -2018 DSM Resource Plan ("2016-18 DSM Plan") and Supply Agreement;

AND WHEREAS EfficiencyOne and NSPI (together referred to as the "Co-Applicants") have each filed its evidence before the Board;

AND WHEREAS each of the Co-Applicants has served and responded to Information Requests of the other, and each of the Co-Applicants have responded to Information Requests filed by certain of the formal Intervenors in this proceeding;

AND WHEREAS the parties to this Agreement (collectively the "Parties" and individually a "Party") have reached an agreement on certain matters in relation to the approval of the 2016-2018 DSM Plan;

AND WHEREAS, based on the record before the Board, the Parties hereby approve the Terms of Consensus attached hereto as Appendix "A". The Parties reserve the right to amend their position based on any further evidence raised in the proceeding before the Board.

NOW THEREFORE the Parties agree as follows:

1) This Consensus Agreement may be executed by the Parties in counterparts, each of which when so executed and delivered shall be deemed to be an original and when taken together shall be deemed to be one and the same instrument. The electronic delivery, including, without limitation, by email or facsimile transmission, of any signed original of this Settlement Agreement shall be the same as the delivery of an original.

Signed and dated this 16th day of June 2015.

Witness	**EfficiencyOne** Per:
Witness	**Nova Scotia Power Incorporated** Per: DAVID LANDRIGAN
Witness	**Consumer Advocate** Per:
Witness	**Small Business Advocate** Per:
Witness	**Industrial Group** Per: NANCY RUBIN
Witness	**Affordable Energy Coalition** Per:
Witness	**Ecology Action Centre** Per:

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APPENDIX "A"

1) ESTABLISHMENT OF A STANDARDIZED FILING FOR FUTURE APPLICATIONS TO APPROVE A DSM SUPPLY AGREEMENT

a) The Parties agree to the establishment of a standardized filing for future applications, the substance of which will be vetted through the DSM Advisory Group for the Board's approval. The standardized filing will include a program description template based on Efficiency Maine (included as Attachment C to EfficiencyOne's Reply Evidence), with the addition of:

i) Lifetime energy and demand savings;

ii) Annual participation and participation rates by program;

iii) Cost-effectiveness testing analysis results by program;

iv) Levelized cost of saved energy for each program;

v) Detailed description of the rate and bill impact analysis; and

vi) Such other items as agreed to in the DSM Advisory Group.

b) EfficiencyOne is not precluded from providing additional information or sections as it may determine to be relevant.

c) EfficiencyOne will provide technical data in its Plan filing, by measure, or such similar information to the extent available.

2) ESTABLISHMENT OF A RESERVE FUND

a) In lieu of development of a DSM reserve fund, the Parties agree they will not challenge EfficiencyOne's ability to apply on an expedited basis to the Board for recovery of funds to address extraordinary or unforeseen circumstances outside of normal operations, if required, provided that Efficiency One has made a good faith effort to mitigate the costs of the extraordinary or unforeseen circumstances.

b) This clause is without prejudice to any Party's rights of participation in any such application and does not preclude any Party from challenging the merits of the claimed recovery, claimed recourse or any other matter.

c) EfficiencyOne agrees that, if a budget surplus exists at the end of the three-year contract period, the surplus will be returned to NS Power for the benefit of ratepayers as determined by the Board.

3) PERFORMANCE TARGETS, INDICATORS AND THRESHOLDS

a) The parties agree to the following Performance Targets and Performance Indicators:

i) Performance Targets are set over the three-year contract period, rather than annually.

ii) EfficiencyOne is deemed to be in substantial compliance with the approved Plan Performance Targets if 90 percent or greater achievement is reached on the two Performance Targets as listed below. If less than 90 percent of any Performance Target is achieved, a regulatory process will be triggered.

b) Performance Targets consist of:

i) Cumulative annual energy savings

ii) Cumulative annual peak demand savings

c) Performance Indicators (for indicating or monitoring progress toward Performance Targets) consist of:

i) Annual incremental energy savings (reported by program)

ii) Cumulative annual energy savings (reported by program)

iii) Lifetime savings (once methodology is developed) (reported by program)

iv) Annual incremental peak demand savings (reported by program)

v) Cumulative annual peak demand savings (reported by program)

vi) Total ratepayer benefits (once methodology is developed)

vii) Total spending (reported by program and rate class)

viii) Customer satisfaction

ix) An analysis of the impact on rates through the implementation of the 2016-2018 programs, to be included as part of EfficiencyOne's historical-looking rate and bill impact analysis as outlined in clause 6(b).

x) Reporting on low income program participation, expenditures, and savings through a variety of methods, including estimation based on geographic census information.

d) For the Performance Indicators reported by program, EfficiencyOne agrees to report on them additionally by rate class as soon as available and not later than within its Q3 report.

4) COST ALLOCATION

a) The Parties agree to collaboratively work to develop new DSM cost allocation and DSM cost recovery models to be submitted by October 31, 2015 for approval or Decision by the Board, or within a reasonable period of time in accordance with the Board's regulatory schedule. This engagement will include the following items:

i) 2015 DSM cost allocation

ii) 2016-2018 DSM cost allocation

iii) 2014 rate-smoothing adjustment ("RSA"); and

iv) Mid-course adjustments.

b) For clarity, this clause in no way restricts Nova Scotia Power's discretion in making application to the UARB regarding the accounting treatment and recovery mechanism of DSM costs.

5) EVALUATION AND REPORTING

a) The Parties support EfficiencyOne's proposal for annual program impact evaluations and process evaluations at the organizational level with program process evaluations if required. EfficiencyOne will provide an overview of potential condensed impact reporting to the DSM Advisory in 2016 for discussion.

b) EfficiencyOne will explore methodologies of demand savings evaluations with its evaluator.

c) EfficiencyOne agrees to provide a full report on its 2016-2018 Performance Requirements and Performance Indicators within its Annual Progress Report filed in 2019.

d) EfficiencyOne will provide explanations of substantial changes, defined as variance in energy savings or investment of 25 percent or more at a program level.

e) Dependent on an approved cost allocation methodology, EfficiencyOne will undertake reasonable efforts to avoid program changes that will result in substantial changes to any customer rate class on an annual basis.

f) The Parties agree to the timing of EfficiencyOne's reporting and the contents of those reports as set out in the attached Schedule 1, subject to revisions to the contents of the reports which may be agreed to or determined by the Board as a result of discussions within the DSM Advisory Group.

g) EfficiencyOne will provide written advance notice of its intent to implement mid-course adjustments by program and their customer rate class impacts. The Parties acknowledge EfficiencyOne's position that it is not able to provide advance notice of mid-course adjustments resulting from third-party evaluation reports, as these adjustments are made immediately after receipt of these reports.

6) RATE AND BILL IMPACT ANALYSIS

a) As with prior filings of its rate and bill impact analysis, EfficiencyOne agrees to develop, in consultation with the DSM Advisory Group, assumptions to its rate and bill impact analysis. This will include, but is not limited to, the inclusion of contribution to fixed costs. Once complete, the inclusions will be included in future filings of the analysis.

b) EfficiencyOne agrees to file historical-looking rate and bill impact analyses by October 31st of each year.

7) RESOLUTION PROCESS

a) If consensus is not achieved on any of the above items to be addressed within the DSM Advisory Group, such items will be presented to the UARB for determination not later than June 30th, 2016.

8) Reservation of Rights

a. This agreement is without prejudice to the rights of any Party or the position any Party may take on these issues in future proceedings.

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"Schedule 1"

Report Timing and Contents

Legend:

Filing has not historically triggered an automatic regulatory process (would be as required or by Decision of the UARB)	[illegible]

[illegible]	2015 Q2 Report	July/Aug	• Quarterly and YTD highlights: o Comparison of targets, mid-course adjustments, and results (by program) • YTD investment by rate class (compared to approved forecast) • Sector highlights (results, participation, and items of interest by program, plus low-income results) • Other activities (organized by Enabling Strategies component) • Advance notice of Significant Changes if relevant.
	2015 Q3 Report	Oct/Nov	• See 2015 Q2 Report for details
	Meetings with DSMAG	At least three times per year (generally following filing of quarterly reports)	• Discussion of quarterly report • Other topics as required/requested

[illegible]	2015 Annual Progress Report	End of March	• Summary of 2015 context, activities and milestones achieved • 2015 investment by rate class (compared to approved forecast) • Status of Performance Targets and Indicators • Energy savings and investment for each program component • Management discussion and analysis of any major discrepancies relative to the original plan's intent and forecasts • Summary of investment and savings for each program or target market area • Update to 2016 planned activities (mid-course adjustments by program plus updated program descriptions/highlights) o Corrective Action Plan (if required) o If mid-course adjustments result in substantial changes by program, explanation and justification will be provided) o Notice of significant changes (if required) • Update on items arising from the 2016-2018 DSM Plan process • Updated preliminary cost allocation (if relevant)
	2015 Evaluation Reports	End of March	• Impact evaluation (all programs) • Process evaluation
	2016 Q1 Report	April/May	See 2015 Q2 report for details
	2015 Audited Financial Statements	May	
	2016 Q2 Report	July/Aug	See 2015 Q2 report for details plus advance notice of Significant Changes if relevant.
	Historical-looking rate and bill impact analysis	End of October	• Results by rate class in graphical form • Overview and description of analysis • Commentary around results • Assumptions, including explicit identification of any changes from prior filings
	2016 Q3 Report	Oct/Nov	• Status of Performance Indicators by rate class

[illegible]	[illegible]	[illegible]
		• See 2015 Q2 report for remaining details
Meetings with ESMAG	At least three times per year (generally following filing of quarterly reports)	• Discussion of quarterly report • Other topics as required/requested
2016 Annual Progress Report	End of March	• See 2015 Annual Progress Report
2016 Evaluation Reports	End of March	• Impact evaluation (all programs) • Process evaluation (as proposed in EfficiencyOne's Evidence)
2017 Q1 Report	April/May	See 2015 Q2 report for details
2016 Audited Financial Statements	May	
2017 Q2 Report	July/Aug	See 2015 Q2 report for details
Historical Costing rate and bill impact analysis	End of October	• Results by rate class in graphical form • Overview and description of analysis • Commentary around results • Assumptions, including explicit identification of any changes from prior filings
2017 Q3 Report	Oct/Nov	See 2015 Q2 and 2016 Q3 report for details
Meetings with ESMAG	At least three times per year (generally following filing of quarterly reports)	• Discussion of quarterly report • Other topics as required/requested

[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
2018 Q1 Report	April/May	See 2015 Q2 report for details
2017 Audited Financial Statements	May	
2018 Q2 Report	July/Aug	See 2015 Q2 report for details
Historical Costing rate and bill impact studies	End of October	• Results by rate class in graphical form • Overview and description of analysis • Commentary around results • Assumptions, including explicit identification of any changes from prior filings
2018 Q3 Report	Oct/Nov	See 2015 Q2 and 2016 Q3 report for details
Meetings with ESMAG	At least three times per year (generally following filing of quarterly reports)	• Discussion of quarterly report • Other topics as required/requested
2018 Annual Progress Report	End of March	• Status of annual performance indicators • See 2015 Annual Progress Report for remaining items
2018 Evaluation Reports	End of March	• Impact evaluation (all programs; shortened version referencing 2016 evaluation for methodology unless it changed) • Process evaluation (as proposed in EfficiencyOne's Evidence)

[illegible]	[illegible]	[illegible]
2015 Q1 Report	April/May	See 2015 Q2 report for details
2015 Audited [illegible]	May	
2015 Q2 Report	July/Aug	See 2015 Q2 report for details plus advance notice of Significant Changes if relevant
[illegible]	End of October	• Results by rate class in graphical form • Overview and description of analysis • Commentary around results • Assumptions, including explicit identification of any changes from prior filings
2015 Q3 Report	Oct/Nov	See 2015 Q2 report for details plus advance notice of Significant Changes if relevant.
Meetings with [illegible]	At least three times per year (generally following filing of quarterly reports)	• Discussion of quarterly report • Other topics as required/requested

Request IR-12:

Please refer to Appendix A. To what extent has early replacement been included in the 2023-2025 Plan? Which programs are designed to achieve early replacement? If E1 proposes to change the emphasis on early retirement from the 2020-2022 programs, please describe how.

Response IR-12:

Early replacement has been included in the 2023-2025 DSM Resource Plan, seen in the "Decision Type" field included in Appendix A, Attachment 4 of EfficiencyOne's (E1) 2023-2025 DSM Plan Application. Measures within the 2023-2025 DSM Resource Plan use a mix of "ROB/NEW" (replace on burnout/new) and "RET" (early retirement) decision types, here used as a synonym for early replacement. Below, E1 has further described the design focus of the program component, or the predominant decision type, on a program component basis, as several have mixed decision types and delivery strategies and are difficult to holistically categorize.

- Appliance Retirement – the focus of this program component remains unchanged from the 2020-2022 DSM Resource Plan and is exclusively focused on early retirement measures (functioning home appliances).
- Instant Savings – modelled as a mix of replace on burnout/new and early replacement measures. This focus remains unchanged from the 2020-2022 DSM Resource Plan.
- Efficient Product Installation – measures within Efficient Product Installation are modelled as a mix of replace on burnout/new and early replacement measures. The predominant focus of the program is unchanged from the 2020-2022 DSM Resource Plan and remains early retirement.
- Green Heat – modelled as a mix of early replacement and replace on burnout/new measures within the 2023-2025 DSM Resource Plan, with the majority of measures being early retirement measures. This is consistent with the delivery of the program, which is

predominately focused on early replacement of existing heating equipment. This focus remains unchanged from the 2020-2022 DSM Resource Plan.

- Home Energy Assessment – modelled using early retirement measures and is intended to operate on a predominantly early replacement decision type – the replacement of functioning appliances and building envelope elements in existing homes. This focus remains unchanged from the 2020-2022 DSM Resource Plan.
- Mi'kmaw Home Energy Efficiency Project – modelled with early replacement measures. This is consistent with the intended operation of the program component, which is focused on existing homes.
- Affordable Muti-family Housing and Non-Profit Organizations – modelled as a mix of early replacement and replace on burnout measures, reflecting the varied participant needs within the program component. This operational focus remains unchanged from the 2020-2022 DSM Plan design intent.
- Affordable Single-family Homes – this is a new program component for the 2023-2025 DSM Resource Plan. It is modelled, and is intended to operate, on predominantly early replacement decision types – the replacement of functioning appliances and building envelope elements in existing homes.
- Residential Behaviour – this program component did not appear in the 2020-2022 DSM Resource Plan but has been reintroduced within the 2023-2025 DSM Resource Plan. It is comprised of a single measure, which is classified as replace on burnout/new. This is consistent with program operation, although E1 notes that behaviour measures are not easily described as either replace on burnout/new or early replacement.
- New Home Construction – is modelled using the replace on burnout/new decision type, and does not feature early replacement activity, consistent with the 2020-2022 DSM Resource Plan.

- Business Energy Rebates – this program component is associated with mail-in and instant rebates for BNI customers. The predominant decision type is replace on burnout/new. This remains unchanged from the 2020-2022 DSM Resource Plan.
- Custom – the focus of this program is unchanged from 2020-2022 and remains focused on a mix of customer decision types. Custom measures are modelled as replace on burnout/new measures within the PROCess model. Pay-for-performance, a new measure, is also modelled as replace on burnout/new.
- Strategic Energy Management – modelled using a single replace on burnout/new measure. As the Strategic Energy Management program component is not focused on capital equipment-based measures, similar to Residential Behaviour the exact decision type is difficult to fully categorize. This is consistent with the 2020-2022 DSM Resource Plan.
- Small Business Energy Solutions – this program component is modelled as mix of replace on burnout/new measures and early replacement measures. Both operational decision types feature in the operation of the program, although more activity associated with early replacement is expected, given the program component focus on existing small businesses.

Request IR-13:

Please refer to Appendix A, table 9 on p. 40 and Table 14, p. 45. Benefit-cost ratios for the Existing Residential component and the residential section as a whole are different. Please provide corrected tables.

Response IR-13:

In responding to this IR, EfficiencyOne (E1) discovered an error in Table 9 (page 40 of 149) of Appendix A, which was also present in Table 31 (page 82 of 149) of Appendix A, and Table 33 (page 84 of 149) of Appendix A. The three revised tables are provided below and included in E1's Errata to E1's 2023-2025 DSM Resource Plan Application.[1]

[1] M10473 Errata to EfficiencyOne's 2023-2025 DSM Resource Plan Application Filed March 11, 2022. Filed 28 April 2022.

Revised Table 9: 2023-2025 Settlement Plan Investment and Savings, by Program Component

2023-2025	Investment[a] ($ million)	Lifetime Benefits[b] ($ million)	First-Year Energy Savings (GWh)	Lifetime Energy Savings (GWh)	Peak EE Demand Savings (MW)	Available DR Capacity (MW)	Total Resource Cost Test (TRC)[c]		Program Administrator Cost Test (PAC)[d]	
							incl. carbon	excl. carbon	incl. carbon	excl. carbon
Residential (Res) Energy Efficiency (EE) Programs										
Efficient Product Rebates	14.1	30.8	32.3	279.0	3.5	-	1.1	0.7	2.2	1.4
Appliance Retirement	3.1	2.0	3.7	15	0.5		0.9	0.6	0.6	0.4
Instant Savings	11.0	28.8	28.6	264	2.9		1.1	0.7	2.6	1.7
Existing Residential	67.0	163.0	156.7	1,292	30.7	-	1.5	1.1	2.4	1.8
Efficient Product Installation	10.6	24.3	36.2	220	4.9		2.3	1.5	2.3	1.5
Affordable Multi-family Housing	4.0	11.6	5.6	102	1.7		1.2	0.9	2.9	2.1
Home Energy Assessment	11.7	66.9	25.7	515	13.0		2.0	1.6	5.7	4.4
Green Heat	6.7	29.7	10.7	193	8.2		1.5	1.2	4.4	3.5
Mi'kmaw Home Energy Efficiency Project	3.7	3.3	1.6	30	0.5		0.9	0.6	0.9	0.6
Affordable Single-Family Homes	24.7	18.0	8.6	164	2.5		0.7	0.5	0.7	0.5
Residential Behaviour	5.5	9.3	68.2	68	0.0		1.7	0.9	1.7	0.9
New Residential	0.8	3.9	0.4	13	1.3	-	2.6	2.4	4.8	4.4
Low-Income Participation[e]	*35.2*	*42.8*	*36.5*	*384*	*6.5*		*1.0*	*0.7*	*1.2*	*0.8*
Res EE Programs Total	81.9	197.8	189.4	1,584	35.4	-	1.5	1.0	2.4	1.7
Business, Non-Profit & Institutional (BNI) Energy Efficiency (EE) Programs										
Efficient Product Rebates	23.2	174.3	109.1	1,623	20.6	-	3.7	2.5	7.5	5.1
Custom Incentives	25.2	109.1	77.5	940	15.2	-	2.5	1.7	4.3	2.9
Custom	22.4	107.0	69.5	925	14.3		2.6	1.8	4.8	3.2
Strategic Energy Management & Energy Management Information Systems	2.8	2.1	8.0	15	0.9		0.9	0.5	0.8	0.4
Direct Installation	19.8	58.8	36.7	533	7.6	-	2.2	1.5	3.0	2.0
Low-Income Participation[e]	*0.6*	*4.7*	*2.9*	*43*	*0.8*		*2.8*	*1.9*	*7.6*	*5.2*
BNI EE Programs Subtotal	68.2	342.2	223.3	3,097	43.4	-	2.9	2.0	5.0	3.4
Total EE Programs	150.2	539.9	412.7	4,681	78.8	-				
Enabling Strategies (ES)										
Education & Outreach	4.4									
Development & Research	4.5									
Other Enabling Strategies	4.1									
Total ES	12.9									
EE Portfolio Total (EE + ES)	163.0	539.9	412.7	4,681	78.8	-	2.0	1.4	3.3	2.3
Demand Response (DR) Program										
Residential Demand Response	5.5					7.1		0.8		0.6
BNI Demand Response	4.6					10.7		2.7		0.8
DR Program Total	10.0	2.9	-	-	-	17.9		1.1		0.7
DSM Portfolio Total (EE + ES + DR)	173.0	542.8	412.7	4,681	78.8	17.9	2.0	1.4	2.9	2.0

Currency is expressed in nominal dollars. Currency in the total row is a straight sum of 3 years of nominal values. Columns may not add correctly, due to rounding.
Annual avoided costs of energy and capacity and annual avoided CO_2e emissions were provided by NS Power, from the 2020 IRP using the Base level of DSM for Scenario 2.0C. Avoided costs of transmission and distribution were provided by NS Power in 2021.
Cost-effectiveness ratios in the total row are calculated using 2023 present values of each year’s costs and lifetime benefits.
[a] Investment for DR includes only E1’s required investment for the Settlement Plan. It is recognized that in order for DR benefits to be realized, NS Power collaboration and investment will also be required. This may include investment for staff resource, event calling by the system operator, and Distributed Energy Resources Management System (DERMS) integration.
[b] Lifetime benefits for EE are expressed as the net present value of the avoided costs, including energy, capacity, transmission, distribution, and carbon over the life of the program measures, using utility WACC. For DR, lifetime benefits are expressed as the avoided costs, including capacity, transmission, and distribution, resulting from operating DR in 2023-2025 (three years of benefits).
[c] TRC is a benefit/cost ratio comparing lifetime benefits to the sum of E1's and participants' costs. For DR, 10-year lifetime costs and benefits are taken to include the expected full program life. TRC excluding carbon is provided for informational purposes only.
[d] PAC is a benefit/cost ratio comparing lifetime benefits to E1's costs. For DR, 10-year lifetime costs and benefits are taken to include the expected full program life. PAC excluding carbon is provided for informational purposes only.

Revised Table 31: 2023-2025 Existing Residential Performance Indicators

Year	Investment ($ million)	First-Year Energy Savings (GWh)	Lifetime Energy Savings (GWh)	Peak Demand Savings (MW)	Total Resource Cost Test (TRC)[a]		Program Administrator Cost Test (PAC)[b]		Participation (products)[c]	Participation (homes)[d]	Participation (projects)[e]	Lifetime Unit Cost ($/kWh)[f]
					incl. carbon	excl. carbon	incl. carbon	excl. carbon				
2023	20.9	37.3	403	10.3	1.5	1.1	2.4	1.7	239,998	40,633	42	0.05
2024	22.5	58.8	433	10.2	1.6	1.1	2.5	1.8	225,492	133,818	42	0.05
2025	23.6	60.6	456	10.2	1.6	1.2	2.5	1.8	218,261	133,818	42	0.05
Total	67.0	156.7	1,292	30.7	1.5	1.1	2.4	1.8	683,752	308,268	125	0.05

Currency is expressed in nominal dollars. Currency in the total row is a straight sum of 3 years of nominal values. Columns may not add correctly, due to rounding.

Revised Table 33: 2023-2023 Existing Residential Performance Indicators – Comparison of Settlement Plan and Alternate Scenario

Scenario	Year	Investment ($ million)	First-Year Energy Savings (GWh)	Lifetime Energy Savings (GWh)	Peak Demand Savings (MW)	Total Resource Cost Test (TRC)[a]		Program Administrator Cost Test (PAC)[b]		Participation (products)[c]	Participation (homes)[d]	Participation (projects)[e]	Lifetime Unit Cost ($/kWh)[f]
						incl. Carbon	excl. Carbon	incl. Carbon	excl. Carbon				
Settlement	2023	20.9	37.3	403	10.3	1.5	1.1	2.4	1.7	239,998	40,633	42	0.05
	2024	22.5	58.8	433	10.2	1.6	1.1	2.5	1.8	225,492	133,818	42	0.05
	2025	23.6	60.6	456	10.2	1.6	1.2	2.5	1.8	218,261	133,818	42	0.05
	Total	67.0	156.7	1,292	30.7	1.5	1.1	2.4	1.8	683,752	308,268	125	0.05
Alternate	2023	17.9	30.1	359	9.6	1.5	1.1	2.5	1.9	167,667	30,607	42	0.05
	2024	18.8	45.6	374	9.5	1.5	1.1	2.6	1.9	154,118	100,849	42	0.05
	2025	19.0	45.3	374	9.5	1.5	1.1	2.6	2.0	140,567	100,849	42	0.05
	Total	55.6	121.0	1,107	28.6	1.5	1.1	2.6	1.9	462,353	232,305	125	0.05
Variance from Settlement	2023	(15%)	(19%)	(11%)	(7%)	(0%)	1%	6%	7%	(30%)	(25%)	0%	(4%)
	2024	(16%)	(22%)	(14%)	(7%)	(2%)	0%	5%	7%	(32%)	(25%)	0%	(3%)
	2025	(20%)	(25%)	(18%)	(7%)	(3%)	(1%)	5%	8%	(36%)	(25%)	0%	(2%)
	Total	(17%)	(23%)	(14%)	(7%)	(2%)	0%	6%	7%	(32%)	(25%)	0%	(3%)

Currency is expressed in nominal dollars. Currency in the total row is a straight sum of 3 years of nominal values. Columns may not add correctly, due to rounding.
Annual avoided costs of energy and capacity and annual avoided CO_2e emissions were provided by NS Power, from the 2020 IRP using the Base level of DSM. Avoided costs of transmission and distribution were provided by NS Power in 2021.
Cost-effectiveness ratios in the total row are calculated using 2023 present values of each year's costs and lifetime benefits.
[a] TRC is a benefit/cost ratio comparing lifetime benefits to the sum of E1's and participants' costs.
[b] PAC is a benefit/cost ratio comparing lifetime benefits to E1's costs.
[c] The number of individual products rebated through Efficient Product Installation, Green Heat, Home Energy Assessment, Affordable Single-family Homes, Affordable Multi-family Housing & Non-Profit Organizations, and Mi'kmaw Home Energy Efficiency Project.
[d] The number of households completing upgrades through Home Energy Assessment, Affordable Single-family Homes, Affordable Multi-family Housing & Non-Profit Organizations, and Mi'kmaw Home Energy Efficiency Project.
[e] The number of projects completing upgrades through the Affordable Multi-family Housing & Non-Profit Organizations program component.
[f] Lifetime unit cost is the quotient of lifetime energy savings and investment.

Request IR-14:

Please refer to Appendix A, Table 23 starting on p. 64, regarding Affordable Housing Agreements.

(a) Does E1 have Affordable Housing Agreements in place?

(b) Please provide a sample agreement. If a sample is not available, please describe key elements of an agreement.

(c) Please describe the process for implementing the agreement, and how it would be enforced.

Response IR-14:

(a) Yes, EfficiencyOne (E1) has agreements in place.

(b) Please refer to Attachment 1 and Attachment 2 of this IR response, which are the templates for the agreements used by E1 in relation to the Affordable Multi-family Housing and Non-Profit Organization program component.

(c) The participant must sign the operating agreement, which identifies the rental rate requirements for the contract period. E1 performs annual audits by requesting rent levels for a sample of selected participants and confirming their rent levels against their respective agreements. E1 also establishes alerts through Viewpoint to monitor if past participant properties are listed for sale. If the participant is found to be in breach of contract, E1 may take legal action up to, and including, a recoup of the financial incentives provided.

AFFORDABLE MULTIFAMILY HOUSING OPERATING AGREEMENT

THIS AGREEMENT dated __________ day of _________________________, 2022.

BETWEEN:

Efficiency Nova Scotia

OF THE FIRST PART:

- and –

____

(the "Applicant")

OF THE SECOND PART:

WHEREAS the Applicant has requested technical support and/or financial assistance and whereas Efficiency Nova Scotia has agreed to provide technical support and/or financial assistance in whole to be earned over the term of this Agreement, provided that the owner complies with the prescribed conditions;

WHEREAS the owner is to undertake and complete all mandatory health and safety repairs to all non-eligible units and common areas in order to undertake and complete all mandatory repairs to all eligible units to an existing residential building comprising **One (1)** self-contained rental units, (the "Property") situated at:

Civic Address of rental property: _______________________________________

____

____

WHEREAS technical support and/or financial assistance has been provided to the Applicant on the basis that for the term of this agreement, a minimum of four (4) and at least half of the units in the Property will be rented to tenants at rents at or below the rental thresholds established by the program.

WHEREAS the Applicant is required to make every effort to maintain affordable rental rates for their current or future tenants.

Therefore, in consideration of the provision of the technical support and/or financial assistance and of the terms and conditions in this document, the parties agree to the following:

1. **RENT**

   a) The landlord shall not increase rents except in a manner contemplated by this agreement. The first year, upon completion of repairs, half of all self-contained rental units shall be rented at a monthly rent not in excess of the schedules in Appendix A – Maximum Rents in Year One. The completion date is estimated to be within 120 days from the preapproval document issued by Efficiency Nova Scotia.

   b) In subsequent years while this Agreement is in force, the Applicant shall only implement rent increases that do not exceed the national all-item Consumer Price Index (CPI) over the term of this agreement as set out in Section 11. All rental increases must comply with the Act respecting Residential Tenancies Chapter 401 of the Revised Statutes, 1989, Section 11 and all other provincial legislative and regulatory requirements.

   c) Any rent increases contemplated under this Agreement may occur annually or be compounded up to a maximum of three (3) years at one time.

   d) Where rent increases above the level set out in subclause 1(b) or subclause (c) herein are necessary because of increases in the eligible operating expenses, a Revenue and Expense Statement and a projected budget must be submitted to Efficiency Nova Scotia. These statements are required at least thirty (30) days before the Applicant wishes to enforce such rental increase and must also include the Applicant's plan to mitigate the need for additional increases for the duration of the term of this agreement. Efficiency Nova Scotia may request additional information to substantiate the requested rent increase. Upon review of the information supplied, Efficiency Nova Scotia, at its sole discretion, may approve the rent increase.

   e) Where provincial rent review/control legislation exists, the maximum rent that may be charged shall be the lesser of the amount approved by the provincial rent review board and the amount approved by the Minister.

2. **DEFAULT/PREPAYMENT**

   a) Should the Applicant be in default under the terms of the Agreement, Efficiency Nova Scotia shall have the right to declare any direct incentives received by the Applicant be repaid with interest from the date of default. The interest rate shall be the prime interest rate in effect at the time of loan approval. The Applicant must provide notice to tenants of any default within 30 days of providing notice of default to Efficiency NS.

3. **LEASING**

   a) The Applicant shall inform all new and existing tenants of the Applicant's participation in the Affordable Multifamily Housing Pilot in writing, using a form approved by Efficiency Nova Scotia. This notice must include the Applicant's commitment to limiting rental increases as set out in this

Agreement, the contact information for Efficiency Nova Scotia, the term of the Operating Agreement and the consequences of default as set out in this Agreement. This notice must be provided at the time of entering into a rental agreement with the tenant.

b) The Applicant will provide ample notice to tenants in order to gain access to operational spaces and tenant units at the property address set out herein for the purposes of energy audit(s) and verification visit(s), in accordance with requirements for written notice pursuant to the *Residential Tenancies Act*. The Applicant shall also provide Efficiency Nova Scotia and its affiliates with dedicated building staff for the purpose of energy audit(s) and verification visit(s).

4. REBATES

(a) Any rebates available under this Agreement are strictly for new equipment and cannot be combined with any other Efficiency Nova Scotia offer. Any rebates provided under this Agreement are subject to change without notice. Efficiency Nova Scotia may, at its sole discretion, approve or reject any rebate at any time.

(b) To be eligible for rebates, products must be installed in multifamily building(s) with four or more affordable units.

(c) For greater clarity, the following items are not available for rebates under this Agreement:

i. Mixed-use and commercial spaces within multifamily properties;
ii. Cogeneration;
iii. Self-generation;
iv. Demand-limiting; and
v. Power factor correction

(d) To be eligible for rebates and financing options (if applicable) under this Agreement, the Applicant is required to obtain pre-approval prior to purchase and installation of any equipment.

(e) To obtain pre-approval, the Applicant must submit the following:

i. Application;
ii. Labour and product quote(s); and
iii. Applicable worksheets

(f) To obtain a rebate payment, the Applicant must submit the following:

i. Proof of Purchase from the distributor or retailer on the eligible products installed; and
ii. Any other information deemed necessary by Efficiency Nova Scotia

For greater clarity, "Proof of Purchase" for the purposes of subclause 6(e) shall include any invoice(s) stating the size, type, manufacturer, model or part number, purchase date and vendor of the efficient equipment. Efficiency Nova Scotia reserves the right to verify sales transactions.

(g) The maximum rebate payment available under this Agreement will not exceed eighty percent (80%) net of the eligible equipment purchase and its associated installation costs and up to $15,000 per affordable unit.

(h) The Applicant is responsible for any and all tax liability associated with a rebate payment.

(i) Applicant must allow thirty (30) days for delivery of payment. For greater clarity, the submission of an application with incomplete or missing information will delay processing of payment.

5. NO REPRESENTATION, WARRANTY OR GUARANTEE

Efficiency Nova Scotia does not provide any representation, warranty or guarantee, either expressly or implicitly, with respect to the quality of any of the following:

(a) The performance of installed equipment; or

(b) Any particular manufacturers, products or system designs.

6. PRIVACY AND CONFIDENTIALITY

(a) Efficiency Nova Scotia may require the sharing and exchange of information between Efficiency Nova Scotia and third parties such as the Applicant's electricity provider. In applying and receiving rebates, the Applicant hereby irrevocably consents to the release, use, storage and exchange of information between Efficiency Nova Scotia and necessary third parties, including but not limited to name(s), addresses, energy usage history, and phone number for the purposes of administering rebates.

(b) Efficiency Nova Scotia is a franchise operated by EfficiencyOne, official Licensee of the Province of Nova Scotia. By providing your consent you agree to release your personal information to the current and successive holders of the Efficiency Nova Scotia franchise.

(c) By executing this Agreement, the Applicant hereby consents to the purposes for which Efficiency Nova Scotia is collecting, using and disclosing company information as set out in Efficiency Nova Scotia's Privacy Policy. More information on Efficiency Nova Scotia's Privacy Policy can be found online at efficiencyns.ca/privacy-policy or by email at privacy@efficiencyns.ca.

7. DISCRIMINATION

The Applicant agrees, in the renting of the Property, not to discriminate against any person by reason of race, national or ethnic origin, colour, religion, disability, sex, marital status, sexual orientation, or a conviction for which a pardon has been granted.

8. MAINTENANCE

(a) The Applicant shall be responsible for ensuring that the units are maintained to a minimum level of health and safety.

(b) Any contactor(s) hired by the Applicant will install at the property set out herein the energy construction measures agreed upon by the Applicant and the contractor. The contractor shall permanently disable all products replaced pursuant to this Agreement.

(c) Applicants and/or contractors are responsible for all costs associated with sales tax, disposal and recycling.

9. MONITORING

The Applicant shall maintain the verification of rents and other such records in a form satisfactory to Efficiency Nova Scotia and shall permit Efficiency Nova Scotia to have access to the project and to have a representative inspect such records at any reasonable time. The Applicant will supply such information as may be required by Efficiency Nova Scotia to confirm adherence to this agreement.

10. SALE OF PROPERTY

The Applicant agrees to notify Efficiency Nova Scotia in writing within twenty (20) working days prior to the closing date of sale of the Property.

The Applicant covenants that any purchaser shall agree to be bound by the terms and conditions of this Agreement and shall execute a new agreement in this form, before consent to the sale in writing may be given by Efficiency Nova Scotia. Rent increases will continue to be permitted in accordance with the terms of the original agreement; no increase in rents will be permitted at the time of sale.

In the event that the Property is sold or otherwise disposed of without the prior knowledge and written consent of Efficiency Nova Scotia, any direct incentives received by the Applicant will be repaid to Efficiency Nova Scotia, pro-rated over 144 months of the remaining agreement term, plus interest. The interest rate shall be the prime interest rate in effect at the time of loan approval.

11. TERM OF AGREEMENT

This Agreement shall continue in force for a period of **Twelve (12)** years from the date of execution.

12. NO LOSS OF RIGHTS AND RESPONSIBILITIES

This agreement should not be interpreted to derogate or deviate from the rights and responsibilities as between landlord and tenant under Residential Tenancies Act, except as required with respect to restrictions on rental increases.

13. APPLICABLE LAW

This Agreement (and all negotiations and any legal agreements prepared in connection herewith or other arrangements described herein) shall be governed by and construed in accordance with the laws of Province of Nova Scotia.

14. CURRENT RENTAL RATES

Please complete the table below.

Rental Property Civic Address:						
Rental Property City/Town:						
Rental Property County:						
Rental Property Tier*:						
Unit Number	**Number of Bedrooms**	**Current Monthly Rent ($)**	**Utilities Included in Rent (please check all that apply)**			**Affordable Unit?*** ***Indicate Yes or No***
			Heat	***Hot Water***	***Electricity***	

**Please see "Appendix A – Rental Rates: Year 1" to verify unit affordability and Tier.*

□ I am coordinating funding with Housing Nova Scotia and/or CMHC and have enclosed a copy of the applicable documentation to support alternative rental rates as accepted by this agency.

If you require additional space to complete your rent roll, please submit a supplemental page.

15. SIGNATURE OF AUTHORIZED REPRESENTATIVE

IN WITNESS WHEREOF the said parties hereto have caused these presents to be signed on the day and year first above-mentioned.

______________________	______/______/______
Authorized Signature	DD/MM/YYYY
______________________	______________________
Name (first, last)	Witness Name (first, last)
______________________	______________________
Business Name	Witness Signature

Appendix A: 2022 Maximum Rental Rates in Year One

Tier 1: HRM, Wolfville, and the Town of Antigonish			
	Includes No Utilities	*Includes Heat Only*	*Includes Heat & Electricity*
Bachelor	$741	$781	$814
1 Bedroom	$837	$881	$919
2 Bedroom	$1,047	$1,103	$1,154
3 Bedroom	$1,271	$1,338	$1,399
4+ Bedroom	$1,628	$1,711	$1,789

Tier 2: Town of Bridgewater and urban areas of: CBRM, Antigonish County, Pictou County, Colchester County, Hants County, and Kings County			
	Includes No Utilities	*Includes Heat Only*	*Includes Heat & Electricity*
Bachelor	$530	$557	$585
1 Bedroom	$646	$680	$713
2 Bedroom	$864	$909	$953
3 Bedroom	$975	$1,026	$1,075
4+ Bedroom	$1,477	$1,550	$1,628

Tier 3: All other areas			
	Includes No Utilities	*Includes Heat Only*	*Includes Heat & Electricity*
Bachelor	$480	$501	$529
1 Bedroom	$585	$613	$646
2 Bedroom	$725	$763	$797
3 Bedroom	$903	$947	$992
4+ Bedroom	$1,294	$1,360	$1,422

Note: The monthly charge for **rooming houses** may not exceed 60% of the one bedroom maximum rental rate listed in the tables above.

Revised: February 7, 2022.

AFFORDABLE MULTIFAMILY HOUSING OPERATING AGREEMENT

THIS AGREEMENT dated this _________ day of _________________________, 2022.

BETWEEN:

Efficiency Nova Scotia

OF THE FIRST PART:

- and –

____

(the "Applicant")

OF THE SECOND PART:

WHEREAS the Applicant has requested technical support and/or financial assistance and whereas Efficiency Nova Scotia has agreed to provide technical support and/or financial assistance in whole to be earned over the term of this Agreement, provided that the owner complies with the prescribed conditions;

WHEREAS the owner is to undertake and complete all mandatory health and safety repairs to all non-eligible units and common areas in order to undertake and complete all mandatory repairs to all eligible units to an existing residential building comprising **One (1)** self-contained rental units, (the "Property") situated at:

Civic Address of rental property: _______________________________________

____

____

WHEREAS technical support and/or financial assistance has been provided to the Applicant on the basis that for the term of this agreement, **<u>all units in the property</u>** will be rented to tenants at rents at or below the rental thresholds established by the program.

WHEREAS the Applicant is required to make every effort to maintain affordable rental rates for their current or future tenants.

Therefore, in consideration of the provision of the technical support and/or financial assistance and of the terms and conditions in this document, the parties agree to the following:

1. **RENT**

a) The landlord shall not increase rents except in a manner contemplated by this agreement. The first year, upon completion of repairs, half of all self-contained rental units shall be rented at a monthly rent not in excess of the schedules in Appendix A – Maximum Rents in Year One. The completion date is estimated to be within 120 days from the preapproval document issued by Efficiency Nova Scotia.

b) In subsequent years while this Agreement is in force, the Applicant shall only implement rent increases that do not exceed the national all-item Consumer Price Index (CPI) over the term of this agreement as set out in Section 11. All rental increases must comply with the Act respecting Residential Tenancies Chapter 401 of the Revised Statutes, 1989, Section 11 and all other provincial legislative and regulatory requirements.

c) Any rent increases contemplated under this Agreement may occur annually or be compounded up to a maximum of three (3) years at one time.

d) Where rent increases above the level set out in subclause 1(b) or subclause (c) herein are necessary because of increases in the eligible operating expenses, a Revenue and Expense Statement and a projected budget must be submitted to Efficiency Nova Scotia. These statements are required at least thirty (30) days before the Applicant wishes to enforce such rental increase and must also include the Applicant's plan to mitigate the need for additional increases for the duration of the term of this agreement. Efficiency Nova Scotia may request additional information to substantiate the requested rent increase. Upon review of the information supplied, Efficiency Nova Scotia, at its sole discretion, may approve the rent increase.

e) Where provincial rent review/control legislation exists, the maximum rent that may be charged shall be the lesser of the amount approved by the provincial rent review board and the amount approved by the Minister.

2. **DEFAULT/PREPAYMENT**

a) Should the Applicant be in default under the terms of the Agreement, Efficiency Nova Scotia shall have the right to declare any direct incentives received by the Applicant be repaid with interest from the date of default. The interest rate shall be the prime interest rate in effect at the time of loan approval. The Applicant must provide notice to tenants of any default within 30 days of providing notice of default to Efficiency NS.

3. **LEASING**

a) The Applicant shall inform all new and existing tenants of the Applicant's participation in the Affordable Multifamily Housing Pilot in writing, using a form approved by Efficiency Nova Scotia. This notice must include the Applicant's commitment to limiting rental increases as set out in this

Agreement, the contact information for Efficiency Nova Scotia, the term of the Operating Agreement and the consequences of default as set out in this Agreement. This notice must be provided at the time of entering into a rental agreement with the tenant.

b) The Applicant will provide ample notice to tenants in order to gain access to operational spaces and tenant units at the property address set out herein for the purposes of energy audit(s) and verification visit(s), in accordance with requirements for written notice pursuant to the *Residential Tenancies Act*. The Applicant shall also provide Efficiency Nova Scotia and its affiliates with dedicated building staff for the purpose of energy audit(s) and verification visit(s).

4. REBATES

(a) Any rebates available under this Agreement are strictly for new equipment and cannot be combined with any other Efficiency Nova Scotia offer. Any rebates provided under this Agreement are subject to change without notice. Efficiency Nova Scotia may, at its sole discretion, approve or reject any rebate at any time.

(b) To be eligible for rebates, products must be installed in multifamily building(s) with all units meeting the affordability threshold as set out in this agreement.

(c) For greater clarity, the following items are not available for rebates under this Agreement:

i. Mixed-use and commercial spaces within multifamily properties;
ii. Cogeneration;
iii. Self-generation;
iv. Demand-limiting; and
v. Power factor correction

(d) To be eligible for rebates and financing options (if applicable) under this Agreement, the Applicant is required to obtain pre-approval prior to purchase and installation of any equipment.

(e) To obtain pre-approval, the Applicant must submit the following:

i. Application;
ii. Operating Agreement
iii. Labour and product quote(s); and
iv. Rental agreements for all units in building.

(f) To obtain a rebate payment, the Applicant must submit the following:

i. Proof of Purchase from the distributor or retailer on the eligible products installed; and
ii. Any other information deemed necessary by Efficiency Nova Scotia

For greater clarity, "Proof of Purchase" for the purposes of subclause 6(e) shall include any invoice(s) stating the size, type, manufacturer, model or part number, purchase date and vendor of the efficient equipment. Efficiency Nova Scotia reserves the right to verify sales transactions.

(g) The maximum rebate payment available under this Agreement will not exceed eighty percent (80%) net of the eligible equipment purchase and its associated installation costs.

(h) The Applicant is responsible for any and all tax liability associated with a rebate payment.

(i) Applicant must allow thirty (30) days for delivery of payment. For greater clarity, the submission of an application with incomplete or missing information will delay processing of payment.

5. NO REPRESENTATION, WARRANTY OR GUARANTEE

Efficiency Nova Scotia does not provide any representation, warranty or guarantee, either expressly or implicitly, with respect to the quality of any of the following:

(a) The performance of installed equipment; or

(b) Any particular manufacturers, products or system designs.

6. PRIVACY AND CONFIDENTIALITY

(a) Efficiency Nova Scotia may require the sharing and exchange of information between Efficiency Nova Scotia and third parties such as the Applicant's electricity provider. In applying and receiving rebates, the Applicant hereby irrevocably consents to the release, use, storage and exchange of information between Efficiency Nova Scotia and necessary third parties, including but not limited to name(s), addresses, energy usage history, and phone number for the purposes of administering rebates.

(b) Efficiency Nova Scotia is a franchise operated by EfficiencyOne, official Licensee of the Province of Nova Scotia. By providing your consent you agree to release your personal information to the current and successive holders of the Efficiency Nova Scotia franchise.

(c) By executing this Agreement, the Applicant hereby consents to the purposes for which Efficiency Nova Scotia is collecting, using and disclosing company information as set out in Efficiency Nova Scotia's Privacy Policy. More information on Efficiency Nova Scotia's Privacy Policy can be found online at efficiencyns.ca/privacy-policy or by email at privacy@efficiencyns.ca.

7. DISCRIMINATION

The Applicant agrees, in the renting of the Property, not to discriminate against any person by reason of race, national or ethnic origin, colour, religion, disability, sex, marital status, sexual orientation, or a conviction for which a pardon has been granted.

8. MAINTENANCE

(a) The Applicant shall be responsible for ensuring that the units are maintained to a minimum level of health and safety.

(b) Any contactor(s) hired by the Applicant will install at the property set out herein the energy construction measures agreed upon by the Applicant and the contractor. The contractor shall permanently disable all products replaced pursuant to this Agreement.

(c) Applicants and/or contractors are responsible for all costs associated with sales tax, disposal and recycling.

9. MONITORING

The Applicant shall maintain the verification of rents and other such records in a form satisfactory to Efficiency Nova Scotia and shall permit Efficiency Nova Scotia to have access to the project and to have a representative inspect such records at any reasonable time. The Applicant will supply such information as may be required by Efficiency Nova Scotia to confirm adherence to this agreement.

10. SALE OF PROPERTY

The Applicant agrees to notify Efficiency Nova Scotia in writing within twenty (20) working days prior to the closing date of sale of the Property.

The Applicant covenants that any purchaser shall agree to be bound by the terms and conditions of this Agreement and shall execute a new agreement in this form, before consent to the sale in writing may be given by Efficiency Nova Scotia. Rent increases will continue to be permitted in accordance with the terms of the original agreement; no increase in rents will be permitted at the time of sale.

In the event that the Property is sold or otherwise disposed of without the prior knowledge and written consent of Efficiency Nova Scotia, any direct incentives received by the Applicant will be repaid to Efficiency Nova Scotia, pro-rated over 144 months of the remaining agreement term, plus interest. The interest rate shall be the prime interest rate in effect at the time of loan approval.

11. TERM OF AGREEMENT

This Agreement shall continue in force for a period of **Six (6)** years from the date of execution.

12. NO LOSS OF RIGHTS AND RESPONSIBILITIES

This agreement should not be interpreted to derogate, or deviate from the rights and responsibilities as between landlord and tenant under Residential Tenancies Act, except as required with respect to restrictions on rental increases.

13. APPLICABLE LAW

This Agreement (and all negotiations and any legal agreements prepared in connection herewith or other arrangements described herein) shall be governed by and construed in accordance with the laws of Province of Nova Scotia.

14. CURRENT RENTAL RATES

Please complete the table below.

Rental Property Civic Address:	
Rental Property City/Town:	
Rental Property County:	
Rental Property Tier*:	

Unit Number	**Number of Bedrooms**	**Current Monthly Rent ($)**	**Utilities Included in Rent (please check all that apply)**			**Affordable Unit?*** ***Indicate Yes or No***
			Heat	***Hot Water***	***Electricity***	

**Please see "Appendix A – Rental Rates: Year 1" to verify unit affordability and Tier.*

□ I am coordinating funding with Housing Nova Scotia and/or CMHC and have enclosed a copy of the applicable documentation to support alternative rental rates as accepted by this agency.

15. SIGNATURE OF AUTHORIZED REPRESENTATIVE

IN WITNESS WHEREOF the said parties hereto have caused these presents to be signed on the day and year first above-mentioned.

____________________________ ________/________/________
Authorized Signature DD/MM/YYYY

____________________________ ____________________________
Name (first, last) Witness Name (first, last)

____________________________ ____________________________
Business Name Witness Signature

Appendix A: 2022 Maximum Rental Rates in Year One

Tier 1: HRM, Wolfville, and the Town of Antigonish

	Includes No Utilities	*Includes Heat Only*	*Includes Heat & Electricity*
Bachelor	$741	$781	$814
1 Bedroom	$837	$881	$919
2 Bedroom	$1,047	$1,103	$1,154
3 Bedroom	$1,271	$1,338	$1,399
4+ Bedroom	$1,628	$1,711	$1,789

Tier 2: Town of Bridgewater and urban areas of: CBRM, Antigonish County, Pictou County, Colchester County, Hants County, and Kings County

	Includes No Utilities	*Includes Heat Only*	*Includes Heat & Electricity*
Bachelor	$530	$557	$585
1 Bedroom	$646	$680	$713
2 Bedroom	$864	$909	$953
3 Bedroom	$975	$1,026	$1,075
4+ Bedroom	$1,477	$1,550	$1,628

Tier 3: All other areas

	Includes No Utilities	*Includes Heat Only*	*Includes Heat & Electricity*
Bachelor	$480	$501	$529
1 Bedroom	$585	$613	$646
2 Bedroom	$725	$763	$797
3 Bedroom	$903	$947	$992
4+ Bedroom	$1,294	$1,360	$1,422

Note: The monthly charge for **rooming houses** may not exceed 60% of the one bedroom maximum rental rate listed in the tables above.

Revised: February 7, 2022.

Request IR-15:

Please refer to Appendix A, p. 78-79 regarding the Residential Behaviour component.

(a) How will E1 provide energy use feedback? What media will E1 use?

(b) How often will E1 provide energy use feedback?

(c) Who will receive energy use feedback? Will customers be able to opt-out of receiving the feedback?

(d) Please provide a sample communication with detailed energy-use feedback.

(e) Please describe assumptions about savings for this component.

Response IR-15:

(a) Please refer to EfficiencyOne's (E1) response to NSUARB IR-22.

(b) Please refer to E1's response to NSUARB IR-22.

(c) E1's assumption is that the Residential Behaviour program component would be delivered to residential customers as an opt-out service.

(d) Please refer to E1's response to NSUARB IR-22.

(e) Please refer to E1's response to NSUARB IR-22.

Request IR-16:

Please provide any agreements with NSPI regarding access to or transfer of AMI data.

Response IR-16:

EfficiencyOne (E1) and NS Power are presently working toward finalizing a Memorandum of Understanding (MOU) in advance of a formal Advanced Metering Infrastructure (AMI) Data Transfer Agreement. This MOU, which remains in draft form as of the date of this response, outlines the parties' mutual understanding of the scope, technical solution and commercial terms associated with the proposed transfer of AMI data from NS Power to E1.

The basis for the MOU and data request are found in section 79K(1) of the *Public Utilities Act* (PUA) and the Nova Scotia Utility and Review Board's (NSUARB) M08113 Decision and Order. This MOU, establishes a mutual understanding between the parties regarding the statutory right of E1 to certain AMI data in NS Power's possession in accordance with the M08113 Decision and *PUA*.

Request IR-17:

Please refer to Appendix A, p. 80, regarding the Mi'kmaw Home Energy Efficiency Project component. E1 states that "Housing Managers in each community select their participants based on need." Does "need" refer to income, energy expense, energy burden, or some other criteria? Please provide more information on how participants are selected.

Response IR-17:

Prior to launching the pilot in 2018, EfficiencyOne (E1) engaged Mi'kmaw communities and other stakeholders in designing the pilot. The communities identified their preference to select their own participants; therefore, E1 does not play a direct role in participant selection in the Mi'kmaw Home Energy Efficiency Project (MHEEP). The Housing Managers in the Mi'kmaw communities prepare their participant lists independently from E1 based on knowledge of their community and priorities, often with input from others in the community, such as Chief and Council. E1 recommends that each community consider homes and households with the highest energy burden.

Request IR-18:

For any of the proposed programs, does the same entity (e.g., a delivery agent or contractor) perform both installation of measures and the quality assurance site visit? If so, please indicate the program and component, and describe how E1 ensures that the measures are installed correctly and will perform as planned.

Response IR-18:

For the proposed programs, the entity performing the work would not be the same entity completing the quality assurance visit.

EfficiencyOne (E1) staff conduct quality assurance activities. In some residential programs, E1 has contracts with independent Quality Assurance contractors that complete file reviews and conduct site visits. In the Mi'kmaw Home Energy Efficiency Project program component, a contracted service provider will conduct quality assurance activities on the work of contractors hired to perform the upgrades. Measurement and verification also occur through independent evaluation activities for all programs. These activities would continue for the new and existing programs proposed under the 2023-2025 DSM Plan.

Request IR-19:

Please refer to Appendix A, page 94, regarding marketing strategies. How often does E1 communicate with EPP network members, and in what format (presentations, hands-on trainings, meetings, newsletters, etc.)? Please describe the content of materials and meetings. Also please provide samples of materials provided to the EPP network. To what extent does E1 use this as a platform for communicating about best practices and new technologies?

Response IR-19:

EfficiencyOne (E1) communicates with EPP network members in a variety of ways, including newsletters, emails, social media, orientation and training sessions, engagement sessions and events, and meetings with the EPP Manager, Business Development Managers, Program Managers and other E1 staff. Communications occur on a daily, weekly, monthly and quarterly basis, depending on the format (email versus newsletter, for example) and time of year. Please refer to Attachment 1 of this IR response for samples of materials provided to the EPP network. Please note the included materials relate to all E1's programs and are not DSM specific.

E1 hosts or participates in numerous events and training opportunities each year to communicate best practices and new technologies to EPP members. In 2021, for example, E1 partnered with the Canada Green Building Council, Efficiency Canada, American Society of Heating, Refrigeration, and Air Conditioning Engineers, PassiveHouse Canada, and others to offer professional development opportunities to EPP members.

[redacted]

From: [redacted]
Sent: Wednesday, October 20, 2021 7:21 AM
To: [redacted]
Subject: EPP Newsletter October 2021

[External Email] This email originated from outside of the organization. Do not click links, open attachments or forward to others unless you recognize the sender and know the content is safe.

Trouble viewing this email? Read it online

efficiency NOVA SCOTIA | PREFERRED PARTNER

Heads up.

Program Updates

Green Heat

Updates

Customer Consent Form
Thank you for providing us with your feedback. Because of your transparency we have added a new feature to our Green Heat Program Portal.

Efficiency Preferred Partners are now able to apply for rebates on behalf of their customers via our new online portal for Green Heat. Incentives are paid out directly to the customer however with a copy of the new **Heating System Rebates Customer Consent Form**, EPP Members can offer this added service to their customers.

Rebate Increase for Electric Thermal Storage (ETS) Units
As of October 1, Green Heat **increased rebates for ETS units** to $40/kWh of storage energy. This is up from $25/kWh.

This applies only to units installed on or after October 1, 2021. Anything before is subject to the old rebate amount.

[redacted]

Please reach out to [redacted] for more information.

Business Energy Rebates

Enhanced Agricultural Rebates initiative is currently available which includes increased incentives for select dairy equipment, high efficiency fans, and high-volume low speed (HVLS) fans. In addition, adjustments were made to tier sizes and minimum efficiency requirements for high efficiency and HVLS fans to make our rebates more accessible.

Horticultural Lighting has been added as a new measure. This was done to provide support for the installation of energy efficient horticultural lighting products in an emerging market. These products must be used in horticultural applications and be certified by the Design Lights Consortium (DLC). Eligible products can be found on the DLC Horticultural Lighting Qualified Product List (QPL).

Performance Requirement adjustments to the minimum performance requirements for large air source heat pumps and air-to-water heat pump categories have been made. Adjustments were made to better align Efficiency Nova Scotia's minimum performance requirements with the available equipment in the local heat pump market, to allow improved access to the rebates.

Please reach out to [redacted] for more information.

Small Business Energy Solutions

NEW! We now offer incentives on energy efficiency upgrades for non-electrically heated small businesses and not-for-profit organizations.

Incentives of up to 80% of equipment and project costs are available on energy efficient equipment, including: Heating Equipment, Kitchen Equipment, Water Heating, Laundry Equipment, Agriculture Technologies, and Solar Water Heating. We also offer free energy assessments. Contact us today to find out if your business or non-profit organization qualifies. **Learn more** .

Note: The Small Business Energy Solutions (SBES) program has worked through the majority of the backlog. Currently SBES is providing preapproval on your application submission within 3-4 weeks on the date the application is received. The SBES team would like to thank you for your patience and support during this time.

Please reach out to [redacted] for more information.

Home Energy Assessment

As you may have heard, Efficiency Nova Scotia has partnered with Natural Resources Canada to co-deliver the Canada Greener Homes program in Nova Scotia through the Home Energy Assessment (HEA) program.

Participants who enroll in the HEA program and meet the Greener Homes program eligibility requirements have access to Greener Homes incentives so long as they install at least one qualifying Greener Homes measure that has been recommended by a certified Energy Advisor.

Efficiency Nova Scotia is thrilled the federal Greener Homes program has delivered a ton of new excitement to customers and the industry; however, we understand that this has presented various challenges for our EPP members. We acknowledge that strong interest in the program has led to long wait times for energy assessments, having a spillover effect on your operations.

Please know that our Delivery Partners have been working diligently to bring additional Energy Advisors on board, in hopes of doubling capacity by October. Efficiency Nova Scotia also acknowledges that there are still aspects of the Greener Homes program that require further clarification, for instance heat pump eligibility. We understand that ambiguities around equipment sizing and eligibility have caused confusion, which has impacted the heating and cooling industry during peak season.

Both Efficiency Nova Scotia and our Delivery Partners have been raising your valid concerns with NRCan and they have acknowledged that further clarification is required. Please stay tuned, as we hope to have further guidance from NRCan very soon.

These are exciting times for the energy efficiency industry. The HEA Team wants to extend a sincere thank you to our EPP for your continued patience and understanding as we work through the roll out of the Greener Homes program together.

Custom Commercial & Institutional Solutions

Custom Retrofit projects that achieve utility peak demand savings may be eligible for higher incentives. The utility peak is defined as 5-7PM, December through February during non-holiday weekdays. This is when the total Nova Scotia Power system is likely to require the maximum electrical demand. Reducing this demand provides a benefit to ratepayers. Battery and thermal storage with controls are eligible measures, however, power factor correction is not eligible. Three different methods of calculating incentives will be used, with the maximum being offered to the customer, subject to limitations.

- Combo: $0.07/kWh + $150/kW (capped at $0.15/kWh)
- Energy: $0.10/kWh
- Demand: $250/kW

The limitations on this incentive are that the simple payback can only be reduced to 1 year with incentives, the payback cannot exceed 15 years before incentives, and the incentive cannot exceed 50% of project costs or $500,000. Additionally, study incentives, if applicable, are deducted from implementation incentives.

Please reach out to your Business Development Manager or contact [redacted] for more information or to discuss your project.

Commercial Solar PV Incentives

Commercial Solar PV projects are now being supported through Custom Retrofit at $0.10/kWh based on the expected first year annual electrical production. Incentives will be paid after project completion and confirmation of operation through both a site visit/photo and a sample of electrical production data. The simple payback cannot exceed 15 years before incentives (to be confirmed by Efficiency Nova Scotia staff) and copy of the solar model (e.g. PVWatts, Helioscope, Retscreen) must be provided, along with a project quote, before confirmation of our support. These will be reviewed on a project-by-project basis.

Please reach out to your Business Development Manager or contact [redacted] for more information.

Building Optimization Incentive Pilot

Projects entering the Building Optimization Program are currently eligible for a new incentive structure that is currently being piloted until at least the end of 2021. Study incentives have been revised from $5,000 per project to the following:

Category	Assessment	Investigation	Total Available Study Funding
Small Consumer	$1,000	$3,000	$4,000
Large Consumer	$2,000	$6,000	$8,000

Where:

- Small Consumer: 350,000 kWh/ yr – 749,999 kWh/ yr
- Large Consumer: 750,000 kWh/ yr +

The Assessment Study incentive will cover 100% of eligible project costs up to the amounts listed above. The Investigation Study incentive will cover 75% of eligible project costs up to the amount listed above.

Total incentives have also been increased from $0.08/kWh to $0.10/kWh. Please reach out to [redacted] for additional information.

New Construction

The Commercial New Construction Program now has higher incentives for both modeling and implementation. The energy modeling incentive covers 50% of modeling fees up to a maximum incentive value of $15,000 (previously $10,000).

The implementation incentive offers financial support for installation of efficiency measures and is proportional to a project's total electricity savings (kWh) as demonstrated through energy modeling. The incentive rates range from $0.13/kWh up to $0.18/kWh based on modeled performance (previously $0.10-$0.12), where the higher incentive rates are offered for projects achieving Net Zero (or near Net Zero) performance.

For more details, visit the **program page** or email [redacted]

Increased rebates

Are you thinking about upgrading existing lighting, heating or controls for your business? For a limited time rebates have increased on a selection of products, including:

- Up to $450 rebates on indoor and outdoor **LED lighting products**
- Up to $700 / ton on select **heat pumps**

Tips

Greener Homes Grant

Please review our **FAQ document** on Greener Homes Grant to help answer some outstanding questions. Efficiency is working closely with NRCan to answer further outstanding questions and appreciate your patience as we work through the roll-out of the Greener Homes program.

News

White Paper Release

On September 23 we launched our **White Paper, 2050: Net-Zero Carbon Nova Scotia**. The White Paper outlines the challenges and opportunities facing the province as it continues to focus on emissions reductions. It also outlines five strategic pathways to help overcome the challenges, and seize on the opportunities, in responding to the climate emergency.

Partnerships

Green Schools Nova Scotia welcomes students and teachers back to school across Nova Scotia

Green Schools Nova Scotia is a free, educational resource program from Efficiency Nova Scotia, offering workshops, activities, presentations and more on the importance of energy efficiency and sustainability. Each year the program engages over 25,000 students across the province, helping them be more energy efficient in their schools, homes and communities.

We're excited to welcome back our five Engagement Officers, supporting each school district in Nova Scotia to strengthen sustainable behaviour that helps the Earth. The program supports community efforts to reduce energy waste and to reduce our reliance on fossil fuels. Through curriculum linked education, resources, presentations, and initiatives, Green Schools community members can discover more about the impact of consumption habits, and how to waste less.

Learn more about the awesome work **Green Schools Nova Scotia** is doing in your community.

Training

Professional development opportunities

Training opportunities are posted in the **Partner Resource Hub**.

We are always looking for feedback and suggestions on training for our EPP Members. Please contact [redacted] to provide your feedback and suggestions for 2022 training.

Procurement

Industry Headlines

Energy Efficiency

Canada's Climate Retrofit Mission

Helping Nova Scotians

Retrofits will be key to Nova Scotia's net-zero goal, experts say

Innovation

Startup Claims Breakthrough in Long-Duration Batteries

Questions? Contact Us.

1-877-999-6035 / network@efficiencyns.ca

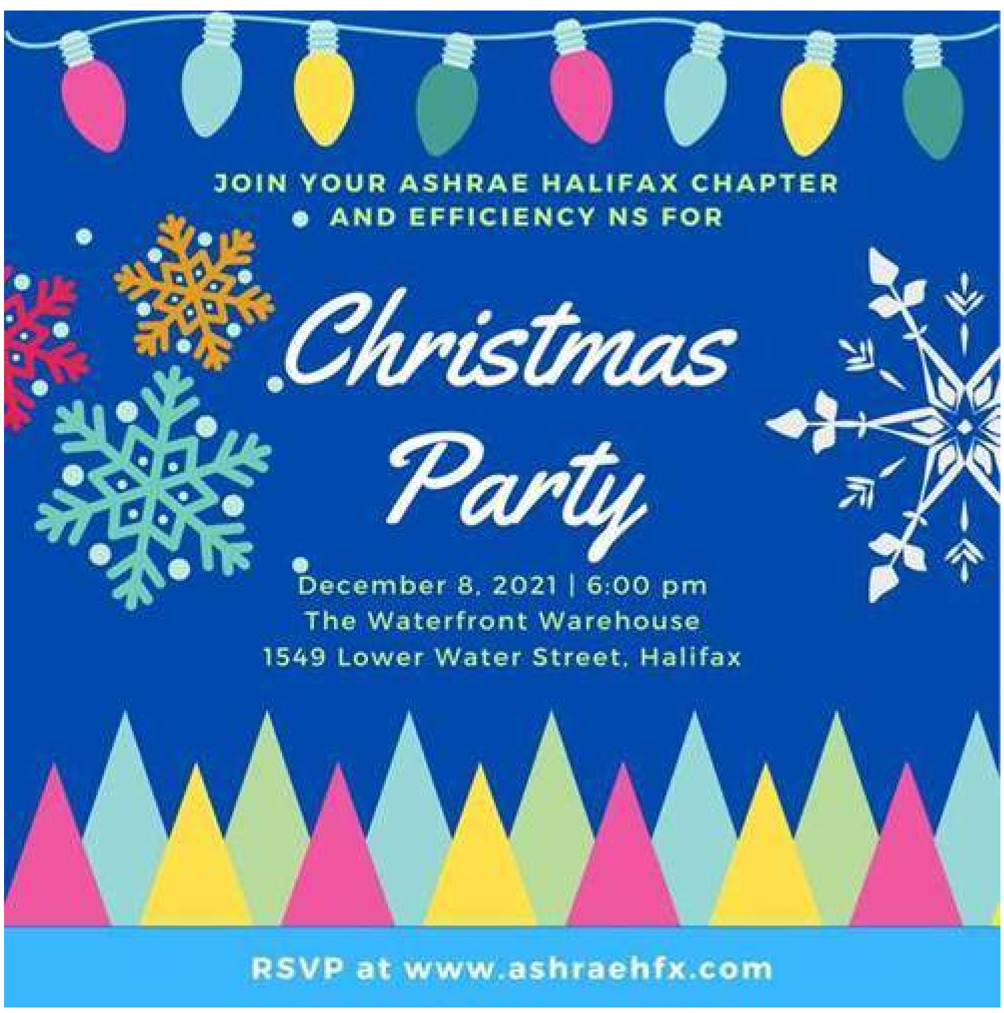
efficiencyns.ca |

Efficiency Nova Scotia
230 Brownlow Ave Suite 300
Dartmouth Nova Scotia B3B0G5
Canada

[redacted]

From: [redacted]
Sent: Tuesday, April 19, 2022 3:00 PM
To: [redacted]
Subject: TEST - Event Invite: ASHRAE Halifax Christmas Social Soiree with Efficiency Nova Scotia

[External Email] This email originated from outside of the organization. Do not click links, open attachments or forward to others unless you recognize the sender and know the content is safe.



Deck the Halls with ASHRAE Halifax and Efficiency Nova Scotia.

When: Wednesday, December 8th, 2021
Where: Tug's - Waterfront Warehouse, 1549 Lower Water Street, Halifax, NS
Time: 6:00 to 9:00 PM

Relaxed networking, good food, lucrative icebreakers, door prizes and guaranteed fun!

-

Efficiency Preferred Partner

Orientation and Refresher

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efficiency brings.

ENS BNI Programs

- **Small Business Energy Solutions (SBES)**
  - Provides rebates to cover up to 80% of the project cost for energy efficiency upgrades. Rebates are calculated based on energy savings. Energy consumption of eligible facilities must be less than 350,000kWh/yr
- **Business Energy Rebates (BER)**
  - Offers rebates on a wide selection of energy efficient products for businesses of all types and sizes. Rebates are pre-determined and can be found in the program's rebate guides.
- **Custom** (>350,000 kWh/yr)
  - **Retrofit**
    - Offers tailored technical and financial support to help reduce electrical energy consumption and system-peak demand.
    - Supports larger more complex measures, involving technology, equipment, and systems improvements.
  - **New Construction**
    - Provides support for whole building energy modeling and offers incentives to help offset the capital cost of efficient construction.
  - **Building Optimization**
    - Focuses on recommissioning (RCx) measures for existing buildings.
    - RCx ensures that building systems are operating as intended

Program Overview – BER

The Business Energy Rebates (BER) program offers prescriptive rebates on a wide selection of energy efficient products (most popular categories include lighting and heating).

These rebates are available to businesses of all types to support the reduction of their facility's electrical energy consumption.

Business Energy Rebates

Mail-in

Prescriptive Rebates

- Agriculture
- Heating
- Kitchen
- Lighting
- Pumping
- Solar
- Water Heating
- Compressed Air
- IT & Data Centers
- Laundry
- Pool Equipment
- Refrigeration
- VFDs

Instant Rebates

Prescriptive Rebates

- Lighting
- Pumping

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Incentives

- *NEW*

Instant and Mail-In incentives to cover up to 50% of the total product cost on select lighting and Commercial Heating measures

The higher rebate amounts are reflected in our commercial lighting and heating rebate guides.

Commercial Lighting Rebates

Product	Availability	Criteria	Previous Rebate	Current Rebate	% Increase
Indoor Lighting					
High-bay Luminaires (DLC Premium)	Mail-in	10,000 – 19,999 lm	$75	$100	33.3%
		20,000 – 29,999 lm	$125	$150	20%
		30,000 – 39,999 lm	$200	$250	25%
		40,000 – 54,999 lm	$300	$350	16.7%
		> 55,000 lm	$400	$450	12.5%
1x4 Troffers	In-store	All	$15	$30	100%
2x2 Troffers			$15	$30	100%
2x4 Troffers			$20	$35	75%
Linear Ambient Luminaires	In-store	< 2,499 lm	$10	$15	50%
		2,500 – 4,999 lm	$15	$25	66.7%
		5,000 – 9,999 lm	$30	$40	33.3%
		> 10,000 lm	$50	$55	10%
Linear Replacement Lamps	In-store	4 foot	$4	$5	25%
Outdoor Lighting					
Flood and Spot Luminaires	In-store	250 – 999 lm	$15	$20	33.3%
		1,000 – 4,999 lm	$25	$30	20%
		5,000 – 14,999 lm	$60	$75	25%
		15,000 – 29,999 lm	$125	$185	48%
		30,000 – 49,999 lm	$200	$250	25%
Pole/Arm-Mounted Area Luminaires	Mail-in	1,000 – 4,999 lm	$25	$30	20%
		5,000 – 9,999 lm	$60	$100	66.7%
		10,000 – 24,999 lm	$125	$150	20%
		25,000 – 39,999 lm	$200	$250	20%
		40,000 – 54,999 lm	$300	$350	16.7%
		> 55,000 lm	$400	$450	12.5%
Lighting Controls					
Fixture Integrated Controls	Mail-in	-	-	$20	-

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Commercial Heating Rebates

	Size (Nominal Capacity)	Type	Previous Rebate	Current Rebate	% Increase
Small Air Source Heat Pumps - Installed in Multi-Unit Facilities (3 or more units)	< 65,000 Btu/h (< 5.4 tons)	Ductless Mini-Split Heat Pump	$200/ton	$400/ton	100%
		Multi-Zone			
Small Air Source Heat Pumps - Installed in Commercial Facilities		Single Package Systems	$300/ton	$500/ton	66.6%
		Centrally Ducted Split System Heat Pump	$400/ton	$600/ton	50%
		Ductless Mini-Split Heat Pump - Tier 1	$300/ton	$500/ton	66.7%
		Ductless Mini-Split Heat Pump - Tier 2	$400/ton	$600/ton	50%
		Multi-Zone	$200/ton	$400/ton	100%
Large Air Source Heat Pumps	≥ 65,000 Btu/h and < 240,000 Btu/h	Tier 1	$500/ton	$600/ton	20%
		Tier 2	$600/ton	$700/ton	16.7%
Packaged Terminal Heat Pumps (PTHP)	< 11,000 Btu/h		$300/ton	$500/ton	66.7%
	≥ 11,000 Btu/h				

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Program Overview

Any organization whose monthly utility bill is less than $3,800 of under 350,000 kWh annually may be eligible for the following:

- A free energy assessment available to qualifying businesses
- Rebates up to 80% of the project costs
- 24-month interest free financing, OAC(*Only for projects savings electricity)

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Incentives

NEW

In June 2021, incentives became available for energy efficiency upgrades for non-electrical projects in the small business category. This includes any organization that has an annual consumption below 350,000 kWh. Including all Business, Non-Profit and Institutional customers.

Incentives are available on select products in the following categories:

Heating
Kitchen Equipment
Water Heating
Laundry Equipment
Agriculture Technologies
Solar Air and Solar Water Heating

**Uptake has been strongest in the heating category so far.
Supporting customers transition from oil/gas systems to high efficiency heat pump systems.

Process

1) **Submit rebate application for preapproval.** (Quote for upgrade project costs, any spec sheets for qualifying equipment and the Before You Buy Product Worksheet.)

2) **Project Report is sent out.** This include the preapproval, the predicted energy savings of the project, exact rebate amount, and status of the financing.

3) **Complete project and then send in final invoice and Payment Request form**. At this stage we can either pay the rebate to the customer or directly to the contractor/ partner. If the customer is financing, we can pay the contractor the full project costs. (Only for projects tied to NS Power accounts and providing electrical savings.)

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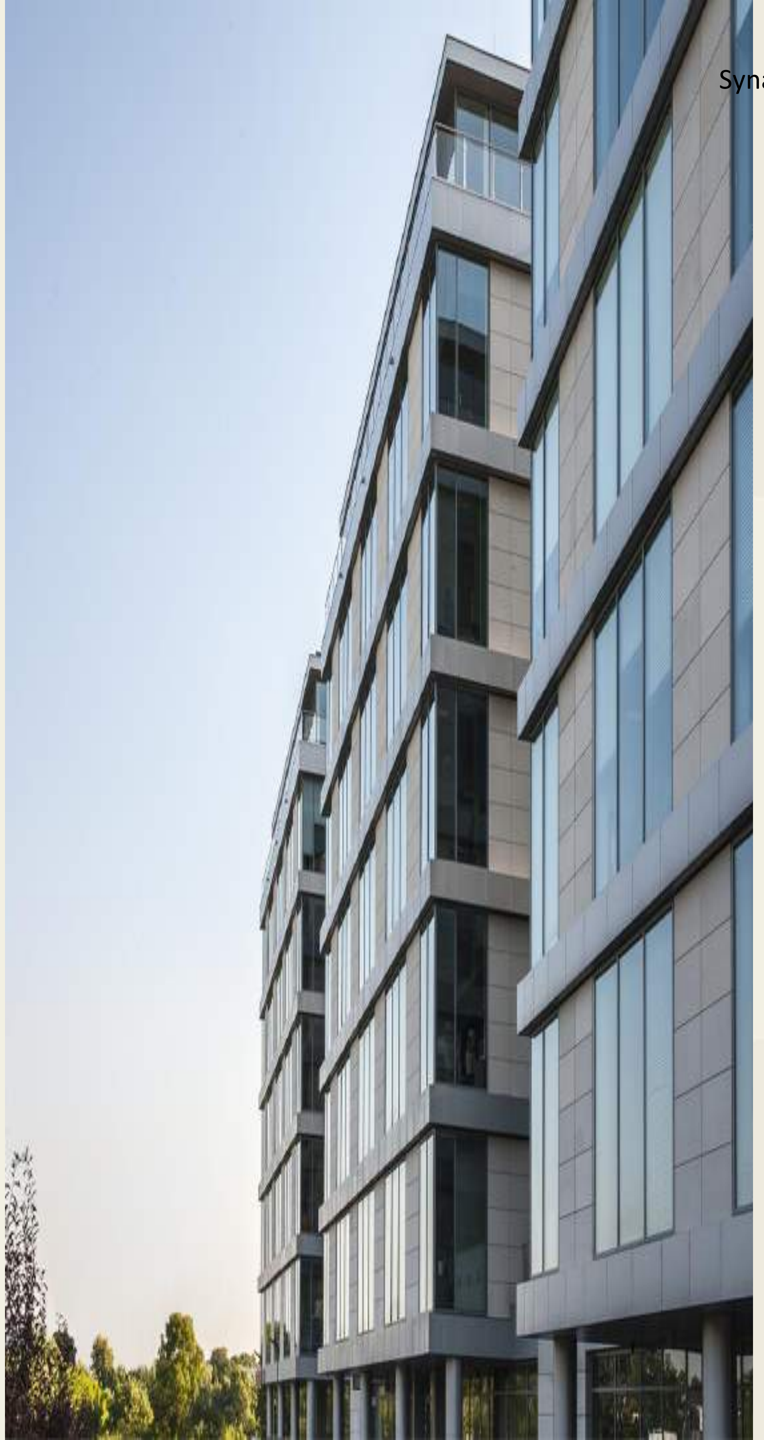
Building Optimization



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Program Overview – Building Optimization

A custom program which offers technical assistance, financial incentives and financing.

Focuses on low-cost recommissioning measures that save electrical energy.

Top 10 Measures – Building Optimization

1. Reduce equipment run times.
2. Optimize economizer operation.
3. Eliminate simultaneous heating and cooling
4. Optimize supply air temperatures
5. Optimize zone and set back temperature set points
6. Shut off lighting when not needed
7. Optimize ventilation rates
8. Implement volume control for pumps and fans
9. Add or optimize chilled water temperature reset
10. Repair leaking valves

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Eligibility - Building Optimization

- Existing institutional, charitable, commercial or industrial facilities served (directly or indirectly) by Nova Scotia Power Inc. (NSPI);
- Facility has a functioning Building Automation System (BAS)
- Building consumes a minimum of 350,000 kWh annually
- Measures have a combined minimum savings of 20,000 kWh/yr

Process - Building Optimization

Investigation Study Application

- **Submitted** prior to the start of the study
- **Includes** general facility information and justification for recommissioning

↓

Master List of Findings

- **Submitted** by service provider
- **Includes** details of proposed measures, energy and cost savings, and engineering calculations

↓

Custom Project Agreement

- **Contract for project Implementation Incentive**
- Outlines projects details and the Measurement & Verification plan

↓

Measurement and Verification Report

- **Updated energy** savings following measure implementation and M&V period

↓

Incentive Payment

- **Implementation incentive paid when** M&V is complete and reviewed/approved

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Incentives - Building Optimization

INVESTIGATION STUDY

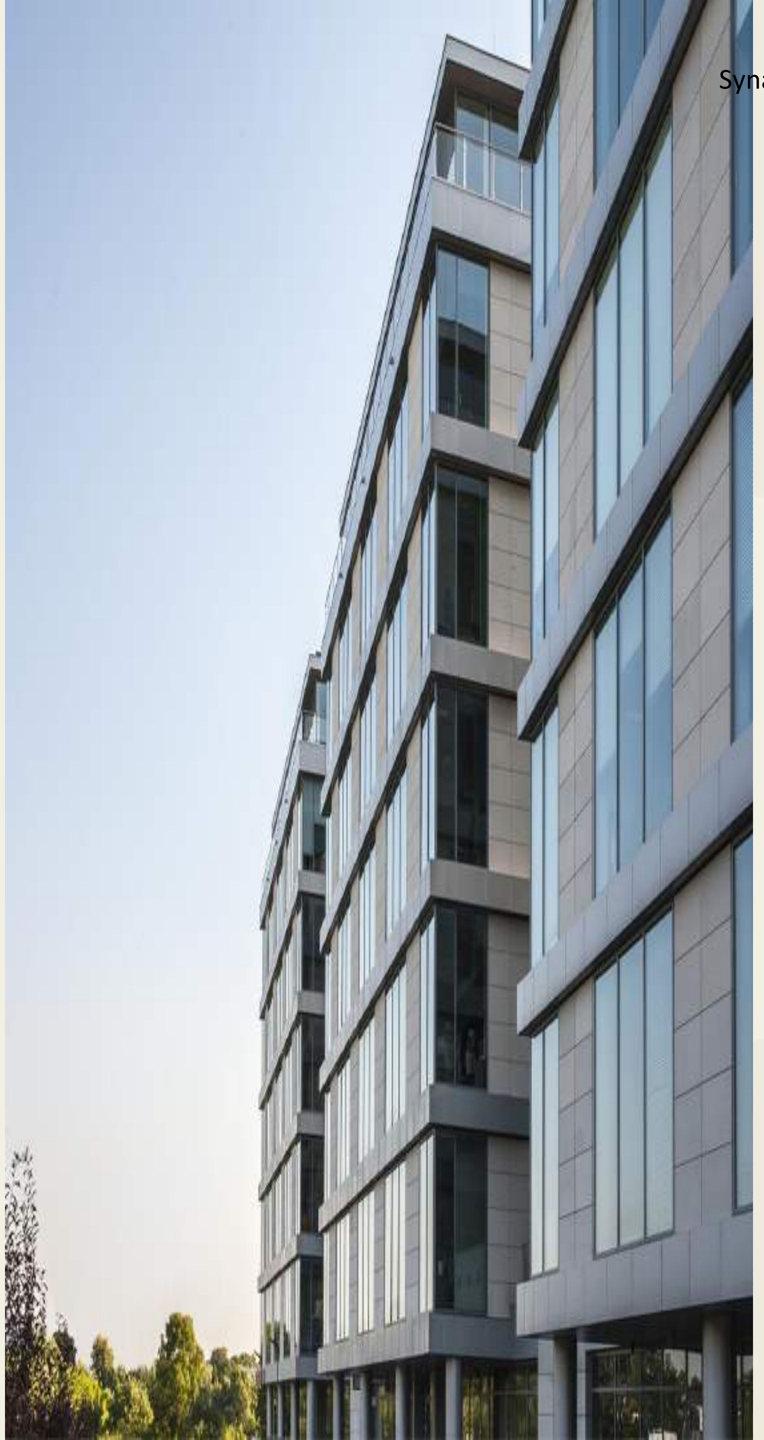
100% of the study cost, up to $5,000

IMPLEMENTATION

The lesser of:
- 75% of total costs
- $0.10/kWh saved

(less study incentives)

Retrofit



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Program Overview - Retrofit

A custom program which enhances the energy efficiency of existing buildings through retrofit projects.

- Measures have a combined minimum savings of 20,000 kWh
- Building consumes a minimum of 350,000 kWh annually

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Process – Retrofit

Feasibility Study Application

Submitted prior to the start of the study	Includes facility information, measures to be investigated and an estimate of potential energy savings

↓

Feasibility Study

Submitted by consulting engineer	Includes details of proposed measures, energy and cost savings, and engineering calculations

↓

Custom Project Agreement

Contract for project Implementation Incentive	Full study incentive paid when contract signed

↓

Measurement and Verification Report

Updated energy savings following measure implementation and M&V period

↓

Incentive Payment

Implementation incentive paid when M&V is complete and reviewed/approved

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Incentives - Retrofit

SCOPING STUDY

50% of the study cost, up to $1,000

FEASIBILITY STUDY

100% of the study cost, up to $15,000

IMPLEMENTATION

The lesser of:

- 50% of total costs
- $0.10/kWh saved

(less study incentives)

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Retrofit - How can we help?

- Incentives available to move forward with capital-intensive projects that save electrical energy
- Feasibility study support can allow customers to explore potential options and determine project and new technology benefits
- Incentives and partnership with ENS can help mitigate risk of implementing a project
- Commercial and Industrial streams and technical support
- Is this eligible?

New Construction

Introduction

- The Custom New Construction (NC) program provides support for:
  - New buildings
  - Additions to existing buildings
  - Major renovations
- Buildings must be at least 1,400 m^2 (15,000 ft^2)
- Projects must be pursuing energy efficiency
  - Specifically, electricity savings

Incentives

Energy Modeling Incentive

- Covers 50% of consultant fees (up to $15,000 incentive value)
- Paid at completion of modeling (and model approval)

Implementation Incentive

- Value based on modeled project electricity savings
- Savings calculated as difference between building design and minimum code-compliant design
- Maximum implementation incentive of $750,000

Process and Documentation

Energy Modeling Incentive application

- Submitted at early design stage
- Includes basic project information

↓

Initial Technical Submission

- Submitted by modeling consultant
- Includes energy model, building plans and specifications

↓

Custom Project Agreement

- Contract for project Implementation Incentive
- Modeling incentive paid when contract signed

↓

Final Technical Submission

- Updated energy model following completion of construction

↓

Incentive Payment

- Implementation incentive paid when building is complete

Energy Modeling

- Full-building energy model required for each of:
  - Proposed building
  - Baseline (reference) building
- The baseline is defined by the energy code (NECB 2017)
- Savings are determined from model results, i.e.:

Accepted Software:
- eQUEST
- IES
- HAP
- EnergyPlus

Savings (kWh) = Baseline modeled electricity – Proposed modeled electricity

Incentive Structure

Tier	Criteria	Incentive Rate
Tier 1	Total performance* >25% better than baseline	$0.13 per kWh
Tier 2	Total performance >50% better than baseline	$0.14 per kWh
Tier 3	Total performance >60% better than baseline	$0.15 per kWh
Tier 4	Total performance 100% better than baseline (Net Zero)	$0.18 per kWh

Not-for-profit (NFP) & charitable organizations: additional $0.02/kWh, subject to ENS approval

***Total performance* means energy savings from all fuel sources**

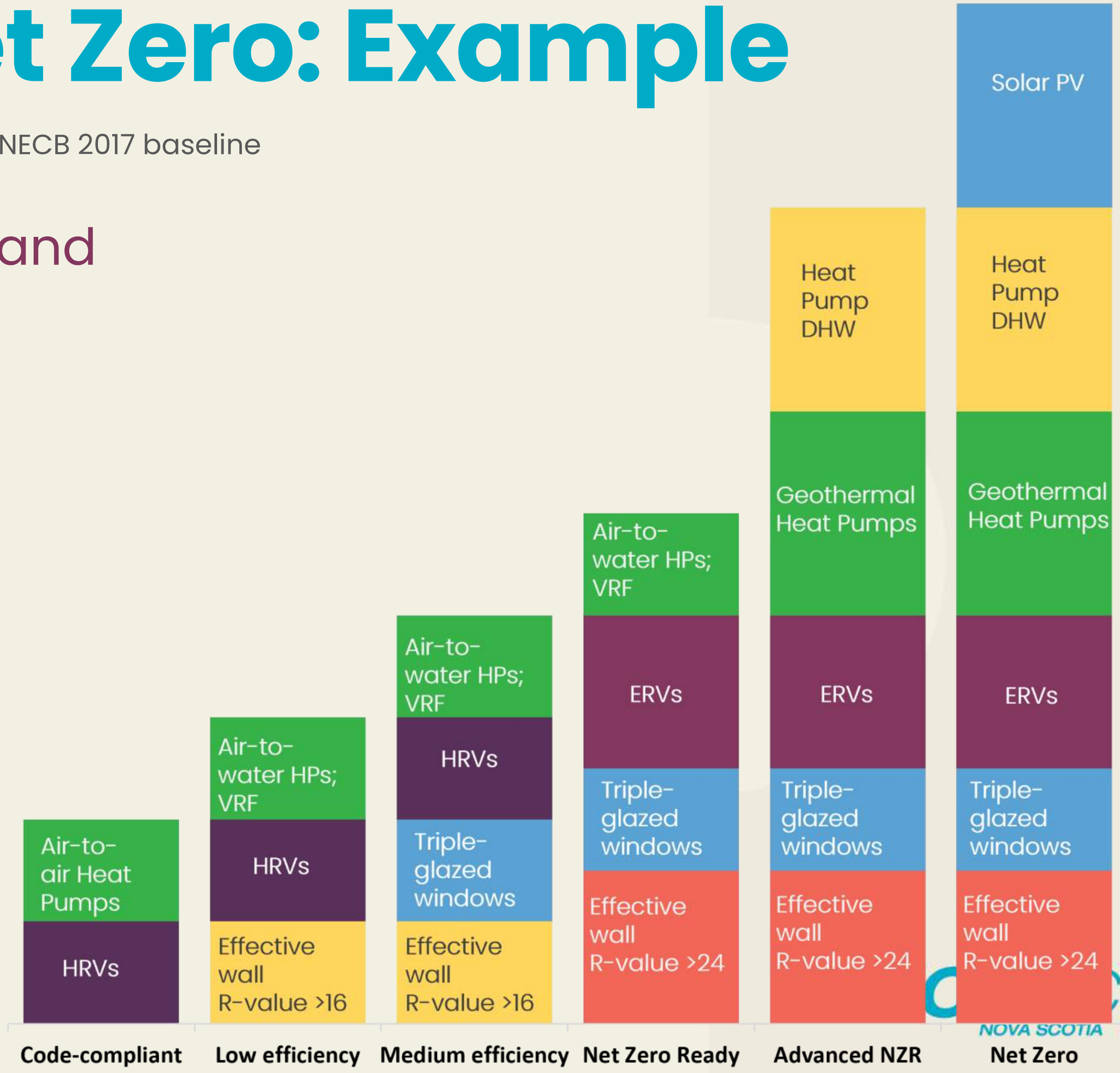
Project Technical Support

- NC program staff provide technical support with:
  - Energy efficient design practices
  - Supporting development of performance targets for a project (e.g. net zero ready)
  - Project optimization and life cycle costing
  - Energy modeling (working with modeling consultant)

Designing for Net Zero: Example

In this context, Net Zero Ready is defined as 50% better than NECB 2017 baseline

1. Reduce Thermal Energy Demand
   - Orientation
   - Improved Envelope
   - Energy Recovery
2. Improve **Energy Efficiency**
   - Efficient HVAC (heat pumps)
   - Accurate sizing
3. Add **Renewable Energy**
   - On-site PV



Case Study: Argyle Net Zero Admin Building

- Passive solar heating
- Wood-framed with effective R26
- Ventilation Energy Recovery
  - Heat wheel, SRE~70%
- VRF Heat Pumps
- Ground-mount solar PV array (60 kW)

Photo: CBC, https://www.cbc.ca/news/canada/nova-scotia/net-zero-municipal-building-opening-soon-in-nova-scotia-1.6091796#:~:text=In%20foggy%20southwest%20Nova%20Scotia,to%20reduce%20its%20carbon%20footprint.

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Questions

Request IR-20:

Please refer to Appendix A, p. 104, regarding marketing strategies for Custom Incentives. Has E1 asked past participants to assist with promoting the program using word-of-mouth or testimonials? If so, have these strategies been successful? If not, why not?

Response IR-20:

Yes, EfficiencyOne (E1) has produced written case studies, success videos, news articles, and social media posts featuring past participants to promote the program. E1 has also hosted virtual workshops and in-person events with past participants and prospective participants to facilitate peer-to-peer sharing and program promotion.

E1 believes these strategies have been successful. The three most recent success videos, for example, have received more than 28,000 views and generated more than 1,100 visits to the program website, and E1 has also received positive feedback from workshop and event participants. Word-of-mouth is a primary source of awareness for participants, as noted in customer satisfaction survey results in 2019 and 2020 and reported informally by Business Development Managers and program staff.

Request IR-21:

Refer to behavioral DR mentioned in Appendix A, page 117. Please describe E1 and NS Power's plan to ensure reliable peak reduction from this program and how E1 and NS Power verify peak load reductions.

Response IR-21:

Behavioural DR (BDR) programs established in other jurisdictions have been shown to produce reliable peak reductions because savings are aggregated over many individual participants. This is supported by a literature review performed by Guidehouse for National Grid as part of its 2019 National Grid Behavioural Demand Response Evaluation. Four programs were reviewed in detail as part of the evaluation: Consumers Energy in Michigan, DTE Energy in Michigan, Efficiency Vermont for Green Mountain Power, and Portland General Electric in Oregon. Across all four programs, savings for residential BDR participants during event hours ranged from 1.3 to 4.0% and averaged 2.3% of whole home electricity usage.[1] In EfficiencyOne's (E1) 2023-2025 DSM Plan, Behavioural DR was assumed to have average unit impacts of 2% of whole home electricity usage.

The report also identified four commonalities between the programs:

1. Each program included pre- and post-event communication including a personalized social-normative peer comparison.
2. The programs were for residential customers only.

[1] Guidehouse. 2019 National Grid Behavioural Demand Response Evaluation Findings. Prepared for National Grid. April 2020. Page 5-6. https://ma-eeac.org/wp-content/uploads/NG-BDR-2019-Findings-Report-FINAL-2019-04-28.pdf

3. Participants had Advanced Metering Infrastructure (AMI) meters and thus hourly data available for evaluation,
4. A random control group was used for evaluation.

E1 has not yet developed an implementation or measurement and verification (M&V) plan for Behavioural DR. These plans will be developed in collaboration with NS Power, the selected service provider (if applicable), and with consultation from E1's third party evaluator on the M&V methodology.

Request IR-22:

Refer to Appendix A, Section 6.4.2. Marketing & Outreach Strategy, page 119 to 120. When does E1 expect to develop and release its marketing and outreach strategy plan for its demand response program?

Response IR-22:

EfficiencyOne (E1) expects to develop its marketing and outreach strategy for the demand response program once a 2023-2025 Demand Side Management Resource Plan is approved. E1 expects to develop the strategy in consultation with NS Power, contracted partners, and expert consultants, where needed, to ensure it aligns with the overall program implementation strategy and timelines.

Request IR-23:

Refer to Appendix A, Section 6.4.3. Quality Assurance, page 120. When does E1 expect to release the quality assurance framework for its DR programs?

Response IR-23:

EfficiencyOne (E1) expects to integrate the demand response (DR) program into existing energy efficiency programs, where appropriate. As such, E1 expects to utilize existing quality assurance frameworks and introduce additional quality assurance activities for DR pathways as needed. E1 expects to release the quality assurance framework, including any enhancements related to DR pathways as part of program implementation. E1 anticipates that the quality assurance framework for the DR program will evolve over the duration of the 2023-2025 DSM Plan period.

Request IR-24:

Refer to Appendix A, Attachment 5: Demand Response Roadmap. Please provide the underlying workbook(s) that Guidehouse developed and used to analyze the costs and benefits of various demand response options and to create various analysis results and exhibits provided in Attachment 5. Such analysis results include, but are not limited to, Table 2 and 3 and Figure 3 to 6 in the Executive Summary section and Table 12 and 13 and Figure 14 to Figure 22 in Section 3.

Response IR-24:

Please refer to Attachment 1 of this IR response for Guidehouse's DR Modelling Inputs which detail the assumptions used, and Appendix A, Attachment 6 - Demand Response Technical Tables for DR model results.

To assist with navigation, E1 has provided the locations of the referenced tables/figures/data in Table 1 of this IR response. Not all figure/tables featured in the DR Roadmap are available in the exact format within the DR Technical Tables; however, all the underlying data used in tables/figures is available.

Table 1: Location of referenced DR Roadmap Tables and Figures within the Demand Response Technical Tables workbook

Referenced Table/Figure	Tab(s) and details
Table 2	Tab: "18. BC Ratios" for benefits, costs, and TRC results Tab: "23. Levelized Cost" for levelized costs
Table 3	Same as Table 2

Referenced Table/Figure	Tab(s) and details
	Change "Cases" filter from "Scenario 2" to "Scenario 1"
Figure 3	Tab: "23. Levelized Cost" for levelized costs Tab: "3. Achievable Pot_Opt_Gen" for demand potential
Figure 4	Tab: "3. Achievable Pot_Opt_Gen" for demand potential
Figure 5	Same as Figure 4 Change "Cases" filter from "Scenario 2" to "Scenario 1"
Figure 6	Tab: "19. Annual Cost_Option"
Table 12	Same as Table 2
Table 13	Same as Table 3
Figure 14	Same as Figure 3
Figure 15	Same as Figure 4
Figure 16	Same as Figure 5
Figure 17	Tab: "6. Achiev Pot_Class"
Figure 18	Tab: "6. Achiev Pot_Class" or "3. Achievable Pot_Opt_Gen" Use filters to examine data
Figure 19	Same as Figure 6
Figure 20	Same as Figure 6 Change "Cases" filter from "Scenario 2" to "Scenario 1"
Figure 21	Tab: "20. Annual Cost_Category"
Figure 22	Same as Figure 21 Change "Cases" filter from "Scenario 2" to "Scenario 1"

[Appendix A, Attachment 5]

Request IR-25:

Refer to page 4 and 5 in Attachment 5 where Guidehouse stated "These costs represent Total Resource Cost (TRC) test costs and therefore do not include customer incentives in the levelized cost calculations." Please explain how Guidehouse developed TRC test costs for the selected DR options and how those costs differ from the customer incentive amounts provided in Section 3.

Response IR-25:

The following IR response has been provided by Guidehouse.

Please refer to Table 11 of the Demand Response Roadmap (Appendix A, Attachment 5 of E1's 2023-2025 DSM Plan) and the cost results presented in the 2023-2025 Demand Response Technical Tables (Appendix A, Attachment 6 of E1's 2023-2025 DSM Plan).

All categories of costs, other than the customer incentives, are included in the TRC cost calculations. The TRC costs exclude the customer incentive amounts. Table 1 of this IR response provides a summary of the costs and benefits considered for both the TRC test and the Program Administrator Cost (PAC) test.

Table 1: Summary of costs and benefits used in cost-effectiveness testing.

	TRC	**PAC**
Program Development Cost	Cost	Cost
Program Administrative Cost	Cost	Cost
Program Delivery Cost	Cost	Cost
Marketing & Recruitment Cost	Cost	Cost

	TRC	PAC
Technology Enablement Cost	Cost	Cost
O&M Cost	Cost	Cost
Incentives	Transfer	Cost
Avoided Generation Capacity Costs	Benefit	Benefit
Avoided T&D Capacity Costs	Benefit	Benefit
Avoided Energy Purchases	Benefit	Benefit

Request IR-26:

Refer to Section 2.1.3 on page 11 in Appendix A, Attachment 5.

(a) Please explain why outdoor recreational lighting and general replacement load following are excluded from the analysis of customer count projections and DR options.

(b) Please explain why Guidehouse assumes the same distribution for municipal customers as NS Power customers.

Response IR-26:

The customer count projection steps detailed in Section 2.1.3 of the DR Roadmap were initially conducted as part of the 2019 Potential Study, and the same assumptions were used for the 2023-2025 DSM Plan DR modelling. Inclusion or exclusion of customer classes in the DR modelling should not be considered a final decision on a customer's eligibility for DR activities. Customer eligibility will be confirmed during implementation planning and may differ from modelling based on the best available information at the time.

(a) Outdoor recreational lighting accounts were excluded from the analysis because they were assessed as unlikely candidates for demand response activities based on the rate class being available to outdoor recreational lighting for the period May through October only.[1]

[1] NS Power Tariffs. March 1, 2022. Page 32 of 148. https://www.nspower.ca/docs/default-source/pdf-to-upload/20220301-tariff-book.pdf?sfvrsn=bec40b2c_3

Generation Replacement Load Following was not modelled because: (1) EfficiencyOne (E1) does not receive billing data for these customers from NS Power, which meant it was not possible to include; and (2) applicability of demand response activities may be limited given the tariff consists of "delivery of supplemental power to partial requirement customers who operate their own dispatchable generation equipment".[2]

(b) Guidehouse assumed the same distribution for Municipal customers as NS Power customers because E1 did not have access to Municipal customer/class segmentation data, so assuming the same customer class distribution as NS Power was the closest available proxy. E1 acknowledges the distribution of Municipal customers is likely to differ from NS Power's customer distribution, but given the overall small size of the Municipal class (2 percent of demand), has a negligible impact on overall results.

In the final rate class allocation of DR, it was assumed that Municipal customers would not participate in 2023-2025 DR activities. Please refer to E1's response to MEU IR-04 for more information. Given the relatively small share of the Municipal rate class compared to NS Power's overall load, this change would have a negligible impact on overall modelling results and overall DR targets developed as part of the 2023-2025 DSM Plan.

[2] NS Power Tariffs. March 1, 2022. Page 51 of 148. https://www.nspower.ca/docs/default-source/pdf-to-upload/20220301-tariff-book.pdf?sfvrsn=bec40b2c_3

[Appendix A, Attachment 5]

Request IR-27:

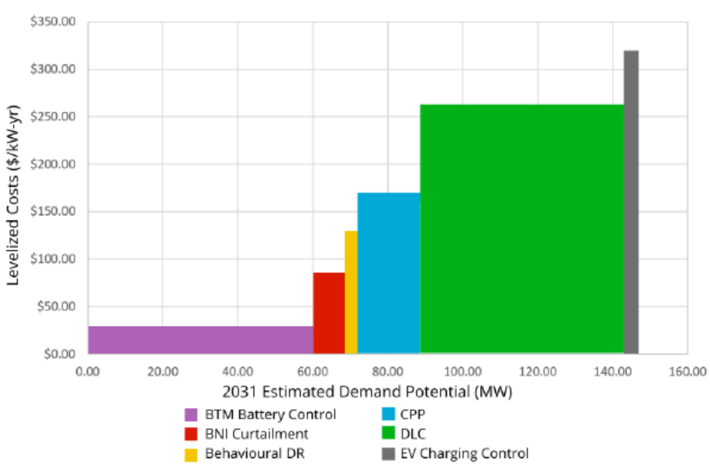
Please refer to Attachment 5, Figure 3 and Table 2 in the Executive Summary section and Figure 14 and Table 12 in Section 3. The cost data in these tables do not match with the cost data in these figures. It appears that labels in the two figures are mislabeled. If this is correct, please provide corrected figures and/or tables.

Response IR-27:

The following response has been provided by Guidehouse

Figures 3 and 14 have been revised to match the data in tables 2 and 12 respectively. They have been provided below and included in EfficiencyOne's Errata[1] to EfficiencyOne 2023-2025 DSM Resource Plan Application.

Figure 3. Supply Curve of DR Options for Preferred Plan



[1] M10473, Errata to EfficiencyOne 2023-2025 DSM Resource Plan Filed March 11, 2022. Filed 28 April 2022.

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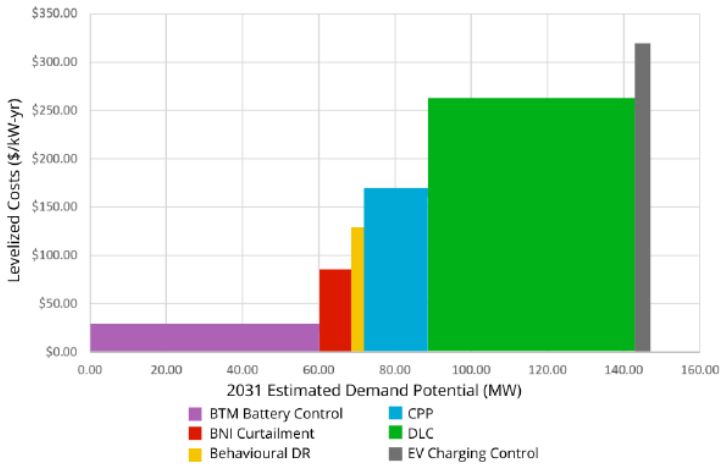
Figure 14. Supply Curve of DR Options for Preferred Plan



[Appendix A, Attachment 5]

Request IR-28:

Please refer to Attachment 5, Figure 4 and 5 in the Executive Summary Section and Figure 15 and 16 in Section 3. The colors of the bars between the two exhibits in these sections do not match each other. For example, the bar for DLC option is black in Figure 15 and is green in Figure 16. Are the figure labels correct? Please provide corrected figures that use matching colors between these figures based on the type of DR option.

Response IR-28:

Figure 4 in the Executive Summary of the DR Roadmap (Appendix A, Attachment 5) and Figure 16 in section 3 of the DR Roadmap use matching colors for the type of DR option in the Settlement Plan. Figure 5 in the Executive Summary of the DR Roadmap (Appendix A, Attachment 5) and Figure 15 in section 3 of the DR Roadmap use matching colors for the DR option in the Alternate Scenario. The DLC and BTM Battery Control options do not use the same colors between the two sets of figures. The figure labels in all four figures are correct.

[Appendix A, Attachment 5]

Request IR-29:

Please refer to Section 2.1.5, Battery Adoption Projection, on page 17 of Attachment 5.

(a) What is Guidehouse's assumption about the share of EV charger types (i.e., Level 1, Level 2, and DC fast charging) for estimating the level of load reductions for this DR option?

(b) Please explain how Guidehouse developed the 5 kW battery size.

(c) Does the 5 kW battery size represent the EV charger's instantaneous output? If not, why not?

(d) What is the basis for the capital cost reduction of 5 percent per year?

(e) Please provide the payback acceptance curve and the non-economic adoption adder used to estimate customer adoptions.

Response IR-29:

The following IR response has been provided by Guidehouse.

(a) Section 2.1.5 of Attachment 5 (Demand Response Roadmap) describes the approach for stationary Behind-the-Meter battery adoption projections and does not include EVs. Therefore, this question does not apply to this section.

(b) Guidehouse used this assumption from the "Nova Scotia Energy Efficiency and Demand Response Potential Study for 2021-2045", which assumed 5 kW battery size. The rationale is discussed in Section 10.2.3 of the above-mentioned Potential study.

(c) As mentioned previously in the response to IR-29a, section 2.1.5 refers to stationary batteries and not to EVs. So, the question is not applicable.

(d) Guidehouse used this assumption from the "Nova Scotia Energy Efficiency and Demand Response Potential Study for 2021-2045". This assumption is sourced from research reports published by Guidehouse Insights (formerly called Navigant Research).

(e) Guidehouse used this assumption from the "Nova Scotia Energy Efficiency and Demand Response Potential Study for 2021-2045". Section 10.2.3 of the potential study describes the non-economic adder for the battery adoption projections.

Please refer to the "Battery Saturation & Unit Load" tab in Attachment 1 of EfficiencyOne's response to Synapse IR-24 for the payback acceptance curve.

[Appendix A, Attachment 5]

Request IR-30:

Refer to Attachment 5, Section 3.2.1 Direct Load Control (DLC)-Thermostat (BYOT and DI) and Table 14.

(a) Please provide analyses or studies that support the proposed program enrollment assumptions.

(b) Please provide analyses or studies that support the proposed unit impacts for Central HP, Baseboard and MSHP.

(c) Please explain why the unit impact for Baseboard (0.5 kW/participant) is much lower than the unit impact (1.21 kW/participant).

(d) Please explain how Guidehouse and E1 determined the level of incentives per participant for this DR option.

(e) What is the administrative cost for this DR option/program?

(f) Does E1 estimate energy savings from smart-thermostats that are included as DR options?

Response IR-30:

The following response has been provided by Guidehouse.

(a) The DLC-smart thermostat program enrollment assumptions were guided by those used in the "Nova Scotia Energy Efficiency and Demand Response Potential Study for 2021-2045" and adjusted for the Plan based on a pragmatic ramp up associated with the new development of DR in the region. The customer eligibility for certain DR options such as Direct Load Control using smart thermostats were driven by smart thermostat saturation from the energy efficiency analysis.

Please refer to the "Participation Assumptions" tab in Attachment 1 of EfficiencyOne's response to Synapse IR-24 for documentation of the basis for the enrollment assumptions.

(b) Please refer to the "Unit Impact by Enduse" tab in Attachment 1 of EfficiencyOne's response to Synapse IR-24 for documentation of the basis for the unit impact assumptions.

(c) Please refer to the "Unit Impact by Enduse" tab in Attachment 1 of EfficiencyOne's response to Synapse IR-24 for documentation of the basis for the specific values. The 1.21 kW/participant impact is for central HPs which have higher unit impacts than baseboards. The unit impact assumptions per participant are based on the penetration (no. of units per home) and the impacts per unit.

(d) Please refer to the "Incentives" tab in Attachment 1 of EfficiencyOne's response to Synapse IR-24 for documentation of the basis for the specific values. Where applicable, the incentives were sourced from the "Nova Scotia Energy Efficiency and Demand Response Potential Study for 2021-2045" and scaled for other end-use technologies based on their unit impacts.

(e) E1's total administration costs over 2023-2025 Plan period is $150,033. Please refer to the 2023-2025 Demand Response Technical Tables (Appendix A, Attachment 6 of E1's 2023-

2025 DSM Plan). The administration costs include annual software licensing fees and FTE costs.

(f) Yes, E1 estimates energy savings from smart thermostats included in the DR options. Please refer to EE savings in Appendix A, Attachment 4 of this application.

[Appendix A, Attachment 5]

Request IR-31:

Refer to Attachment 5, Section 3.2.2 Direct Load Control (DLC)-Water Heater (BYOD and DI) and Table 15.

(a) Please provide analyses or studies that support the proposed program enrollment assumptions.

(b) Please provide analyses or studies that support the proposed unit impacts.

(c) Please explain how Guidehouse and E1 determined the level of incentives per participant for this DR option.

(d) What is the administrative cost for this DR option/program?

Response IR-31:

The following response has been provided by Guidehouse

(a) The DLC-Water Heating program enrollment assumptions were guided by those used in the "Nova Scotia Energy Efficiency and Demand Response Potential Study for 2021-2045" and adjusted for the Plan based on a pragmatic ramp up associated with the new development of DR in the region.

Please refer to the "Participation Assumptions" tab in Attachment 1 of EfficiencyOne's response to Synapse IR-24 for documentation of the basis for the enrollment assumptions.

(b) Please refer to the “Unit Impact by Enduse” tab in Attachment 1 of EfficiencyOne’s response to Synapse IR-24 for documentation of the basis for the unit impact assumptions.

(c) Please refer to the “Incentives” tab in Attachment 1 of EfficiencyOne’s response to Synapse IR-24 for documentation of the basis for the specific values. Where applicable, the incentives were sourced from the “Nova Scotia Energy Efficiency and Demand Response Potential Study for 2021-2045”.

(d) E1’s total administration costs over 2023-2025 Plan period is $653,936. Please refer to the 2023-2025 Demand Response Technical Tables (Appendix A, Attachment 6 of E1’s 2023-2025 DSM Plan). The administration costs include annual software licensing fees and FTE costs.

[Appendix A, Attachment 5]

Request IR-32:

Refer to Attachment 5, Section 3.2.3 BNI Curtailment Option and Table 16.

(a) Please provide analyses or studies that support the proposed program enrollment assumptions.

(b) Please provide analyses or studies that support the proposed unit impacts.

(c) Please explain how Guidehouse and E1 determined the level of incentives per participant for this DR option/program.

(d) What is the administrative cost for this DR option/program?

Response IR-32:

The following response has been provided by Guidehouse.

(a) The BNI Curtailment program enrollment assumptions were guided by those used in the "Nova Scotia Energy Efficiency and Demand Response Potential Study for 2021-2045" and adjusted for the Plan based on a pragmatic ramp up associated with the new development of DR in the region.

Please refer to the "Participation Assumptions" tab in Attachment 1 of EfficiencyOne's response to Synapse IR-24 for documentation of the basis for the enrollment assumptions.

(b) Please refer to the "Unit Impact by Enduse" tab in Attachment 1 of EfficiencyOne's response to Synapse IR-24 for documentation of the basis for the unit impact assumptions.

(c) Please refer to the "Incentives" tab in Attachment 1 of EfficiencyOne's response to Synapse IR-24 for documentation of the basis for the specific values. Where applicable, the incentives were sourced from the "Nova Scotia Energy Efficiency and Demand Response Potential Study for 2021-2045".

(d) E1's total administration costs over 2023-2025 Plan period is $535,980. Please refer to the 2023-2025 Demand Response Technical Tables (Appendix A, Attachment 6 of E1's 2023-2025 DSM Plan). The administration costs include annual software licensing fees and FTE costs.

[Appendix A, Attachment 5]

Request IR-33:

Refer to Attachment 5, Section 3.2.4 Critical Peak Pricing (CPP) Option and Table 17.

(a) Please provide analyses or studies that support the proposed program enrollment assumptions.

(b) Please provide analyses or studies that support the proposed unit impacts.

(c) Please explain how Guidehouse and E1 determined the level of incentives per participant for this DR option/program.

(d) What is the administrative cost for this DR option/program?

(e) How does E1 plan to ensure and verify demand reductions for this DR option?

Response IR-33:

The following response has been provided by Guidehouse.

(a) The CPP enrollment assumptions were sourced from NS Power's Time Varying Pricing Tariff Application, Matter M09777.

Please refer to the "Participation Assumptions" tab in Attachment 1 of EfficiencyOne's response to Synapse IR-24 for documentation of the basis for the enrollment assumptions.

(b) Please refer to the “Unit Impact by Enduse” tab in Attachment 1 of EfficiencyOne’s response to Synapse IR-24 for documentation of the basis for the unit impact assumptions.

(c) The assumed CPP tariff structure is sourced from NS Power’s Time Varying Pricing Tariff Application, Matter M09777.

(d) E1’s total administration costs over 2023-2025 Plan period is $170,964. Please refer to the 2023-2025 Demand Response Technical Tables (Appendix A, Attachment 6 of E1’s 2023-2025 DSM Plan). The administration costs include the FTE costs.

(e) E1 does not have a M&V plan yet, but will develop one using standard industry M&V protocols for this type of offer. E1 will collaborate with NS Power on CPP M&V and develop EM&V methods to parse out enabling technology impacts from overall CPP impacts.

[Appendix A, Attachment 1]

Request IR-34:

Refer to Attachment 5, Section 3.2.5 Electric Vehicle (EV) Charging Control and Table 18.

(a) Please provide analyses or studies that support the proposed program enrollment assumptions.

(b) Please provide analyses or studies that support the proposed unit impacts.

(c) Please explain how Guidehouse and E1 determined the level of incentives per participant for this DR option/program.

(d) Is the proposed incentive of $32/kW-year a one-time payment? Or does this represent an ongoing participation incentive where a customer receives this amount each year as long as the customer stays in the program?

(e) The proposed incentive is $32/kW-year. However, the TRC levelized cost for this measure is the highest among all DR options at $314.75 according to Table 2 of this document. Please explain this disparity in these cost estimates.

(f) What is the administrative cost for this DR option/program?

Response IR-34:

The following response has been provided by Guidehouse.

(a) The EV Charging Control enrollment assumptions were sourced from the "Nova Scotia Energy Efficiency and Demand Response Potential Study for 2021-2045".

(b) Please refer to the "Unit Impact by Enduse" tab in Attachment 1 of EfficiencyOne's response to Synapse IR-24 for documentation of the basis for the unit impact assumptions.

(c) The incentives were based on Guidehouse's review of EV charging control vendor bids in other jurisdictions.

(d) The $32/kW-yr. represents an ongoing incentive that the customer receives each year as long as the customer stays in the program.

(e) The fixed costs such as the program development cost, marketing and recruitment costs, and the program administrative costs for this option are relatively high when compared with the MW contribution from this option, which raises the levelized costs. In addition, a delivery cost of $50/kW-yr. is assumed which is a direct payment to the EV charging control aggregator for delivering the capacity.

Please refer to the different cost assumptions tabs in Attachment 1 of EfficiencyOne's response to Synapse IR-24 for documentation of the basis for assumptions on cost items.

(f) E1's total administration costs over 2023-2025 Plan period is $180,423. Please refer to the 2023-2025 Demand Response Technical Tables (Appendix A, Attachment 6 of E1's 2023-2025 DSM Plan). The administration costs include annual software licensing fees and FTE costs.

[Appendix A, Attachment 5]

Request IR-35:

Refer to Attachment 5, Section 3.2.6 Behind-the-Meter (BTM) Battery Control and Table 19.

(a) Please provide analyses or studies that support the proposed program enrollment assumptions.

(b) Please provide analyses or studies that support the proposed unit impacts.

(c) Please explain how Guidehouse and E1 determined the level of incentives per participant for this DR option/program.

(d) What is the administrative cost for this DR option/program?

Response IR-35:

The following response has been provided by Guidehouse

(a) The BTM Battery Control enrollment assumptions were sourced from the "Nova Scotia Energy Efficiency and Demand Response Potential Study for 2021-2045".

(b) Please refer to the "Unit Impact by Enduse" tab in Attachment 1 of EfficiencyOne's response to Synapse IR-24 for documentation of the basis for the unit impact assumptions.

(c) The incentives were based on Guidehouse's review of BTM battery dispatch vendor bids in other jurisdictions.

(d) E1's total administration costs over 2023-2025 Plan period is $182,209. Please refer to the 2023-2025 Demand Response Technical Tables (Appendix A, Attachment 6 of E1's 2023-2025 DSM Plan). The administration costs include annual software licensing fees and FTE costs.

[Appendix A, Attachment 5]

Request IR-36:

Refer to Attachment 5, Section 3.2.7 Behavioural DR and Table 20.

(a) Please provide analyses or studies that support the proposed program enrollment assumptions.

(b) Please provide analyses or studies that support the proposed unit impacts.

(c) How was the program cost for this DR option developed?

(d) How does E1 plan to ensure and verify demand reductions for this DR option?

Response IR-36:

The following IR response has been provided by Guidehouse.

(a) The Behavioral DR enrollment assumptions were sourced from the “Nova Scotia Energy Efficiency and Demand Response Potential Study for 2021-2045”.

(b) Please refer to the “Unit Impact by Enduse” tab in Attachment 1 of EfficiencyOne’s response to Synapse IR-24 for documentation of the basis for the unit impact assumptions.

(c) Please refer to the different cost assumptions tabs in Attachment 1 of EfficiencyOne’s response to Synapse IR-24 for documentation of the basis for assumptions on cost items for Behavioral DR.

(d) EfficiencyOne has not finalized a M&V plan yet. Typically, verification of demand reduction for Behavioral DR is based on Matched Control Group method which uses the load profiles of matched control customers (one that have the similar load profiles as the treatment customers) for establishing the baseline load for measuring DR impacts.

Please refer to EfficiencyOne's response to Synapse IR-21 for additional information.

Request IR-37:

Please refer to p. 16-17 of the Evidence of David Hill (Appendix D).

(a) Does E1 or Dr. Hill have data on current sales and stocks of conventional and electric vehicles in Nova Scotia? If so, please provide. If not, does E1 plan to study this, and when?

(b) Does E1 or Dr. Hill have data on current sales and stocks of space heating equipment by type, including electric resistance, heat pumps, boilers, furnaces, etc., in Nova Scotia? If so, please provide. If not, does E1 plan to study this, and when?

Response IR-37:

(a) Neither EfficiencyOne (E1) nor Dr. Hill have collected data on current sales and stocks of conventional and electric vehicles. As part of the demand response modelling Guidehouse used "per vehicle impacts and vehicle adoption impacts and vehicle adoption forecasts from NS Power's 2021 Load Forecast Report."[1] E1 does not have current plans to conduct its own study on electric vehicles at this time.

(b) E1 has information on sales of space heating equipment for program participants. Guidehouse conducted a baseline study of the most impactful energy efficiency measures including space heating equipment as part of E1's 2019 DSM Potential Study. Please refer to Nova Scotia Utility and Review Board (NSUARB) Matter M08929, exhibit N-1, Appendix B for this study. E1 has also utilized NS Power's 2020 end use customer (load) study summary report which includes space heating. Please refer to NSUARB Matter M09707 NS

[1] M10109. NS Power 2021 Load Forecast Report. April 30, 2021.

Power's 2020 Load Forecast, NS Power's response to Synapse IR-6, Attachment 6 for this study. E1 does not have any plans to conduct additional studies at this time.