

EfficiencyOne

IN THE MATTER OF *The Public Utilities Act*, R.S.N.S. 1989, c.380, as amended.

- and -

IN THE MATTER OF An Application pursuant to Subsection 79J(3) of the *Public Utilities Act* for Approval of the 2016-2018 Supply Agreement for Electricity Efficiency and Conservation Activities.

Incentive Setting Methodology: Reply to Stakeholder Comments

FILED
May 11, 2017



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1 **1. INTRODUCTION**

2 This filing offers EfficiencyOne’s reply to stakeholder comments received by Synapse
3 Energy Economics (on behalf of the Utility and Review Board or the “Board”), NS
4 Power and its consultant the Brattle Group, the Industrial Group, and the Small Business
5 Advocate. EfficiencyOne thanks the Board and DSM stakeholders for the opportunity to
6 provide reply comments.

7 Where feedback and questions from stakeholders covered the same or similar issues,
8 EfficiencyOne has grouped responses by issue in Sections 2 through 4. Responses to
9 remaining comments or questions are provided in Sections 5 through 8, grouped by
10 stakeholder. A response from CLEAResult on specific issues as requested by
11 EfficiencyOne is included as Appendix A.

12 A revised CLEAResult report and EfficiencyOne Implementation Plan (dated May 11,
13 2017) are included as part of this filing, as well as a redline copy that compares changes
14 relative to the March 31, 2017 filing. There were only minor changes made to the
15 Implementation Plan.

16 **2. APPLICATION OF INCENTIVE LIMITS**

17 Based on several stakeholder comments, it seems a concise description of
18 EfficiencyOne’s intended application of incentive limits would be helpful. CLEAResult
19 has advised that EfficiencyOne should consider three categories of incentive limits:

- 20 1. Cost-to-customer limits;
- 21 2. Program budget limits; and
- 22 3. Utility cost-effectiveness limits.

23 Depending on the program delivery approach, specific bases to calculate the cost-to-

1 customer limits (Project Cost, Retail Price, Incremental Equipment Cost, and Payback)
2 and program budget limits (\$/kWh and Total Incentive) are recommended in Tables 17
3 and 18, along with suggested values to serve as upper incentive limits for each basis¹.
4 For a particular measure, EfficiencyOne will consider each recommended cost-to-
5 customer basis, each recommended program budget basis, and the Program Administrator
6 Cost (PAC) test². Each basis will produce a theoretical maximum incentive for the
7 measure. The lowest theoretical maximum incentive amongst the limiting bases is
8 considered to be the suggested upper limit for the incentive amount. EfficiencyOne has
9 built a Consolidated Calculator, as recommended by CLEAResult, which calculates the
10 necessary limits based on input criteria for a specific measure. The same calculations
11 will be used for the preliminary Financial Simulation on existing incentives.

12 NS Power's consultant the Brattle Group suggested that the PAC and PC tests can be
13 applied "...by measure and solve for the incentive levels by setting the benefit/cost ratio
14 in each test to 1." Regarding the PAC, this is precisely what CLEAResult also proposed,
15 and what EfficiencyOne has built into its Consolidated Calculator. The PC test function
16 is also built into the Consolidated Calculator and its resulting theoretical maximum
17 incentive will be considered, but EfficiencyOne notes the PC test was not recommended
18 as a suggested basis for the cost-to-customer threshold. For large projects undertaken by
19 sophisticated customers, payback is a recommended cost-to-customer threshold, which
20 considers the same costs and benefits as the PC test in a format more commonly used by
21 customers.

¹ These are suggested upper limits or maximums, not recommended or illustrative values.

² Measures are still required to pass the Total Resource Cost (TRC) test, but the TRC is unaffected by the incentive level.

1 **3. EXCEL-BASED TOOLS**

2 There are two Excel-based tools discussed in the report: CLEAResult's Incentive Level-
3 Setting Excel-Based Tool for Review Protocol, and EfficiencyOne's Consolidated
4 Calculator.

5 **3.1 CLEAResult's Incentive Level-Setting Excel-Based Tool for Review Protocol**

6 The CLEAResult Excel-Based tool³ uses inputs of Sector, Program Delivery Channel,
7 Financial Motivation, and Financial Impact (to the ENS budget) to suggest high-level
8 incentive setting considerations, and recommend a frequency for incentive review. This
9 tool is not used to calculate upper limits for incentives.

10 **3.2 EfficiencyOne's Consolidated Calculator**

11 In March 2017, EfficiencyOne codified the CLEAResult recommendations of incentive
12 upper limits into an Excel tool that it will use to help set incentives going forward, as
13 recommended by CLEAResult. The Consolidated Calculator will be used to evaluate
14 proposed incentives for individual measures delivered through a specific program
15 delivery channel. The general procedure for use of EfficiencyOne's tool is as follows:

16 1. User enters information related to the measure, including:

- 17 • Base case energy consumption and system-coincident peak demand
- 18 contribution;
- 19 • Efficient case energy consumption and system-coincident peak demand
- 20 contribution;
- 21 • Base case material and labour costs;
- 22 • Efficient case material and labour costs;

³ CLEAResult's Incentive Level-Setting Excel-Based Tool for Review Protocol, filed with the Board on 31 March 2017.

- Effective Useful Life of the efficient case;
- Remaining Useful Life of the base case;
- Expected net-to-gross ratio;
- Non-energy benefits (NEBs) associated with the measure⁴;
- Expected program delivery model, and
- Target customer rate codes.

2. The Consolidated Calculator calculates values that are used internally in the tool, including:

- Annual energy savings;
- Annual system-coincident peak demand savings;
- Annual customer billed demand savings;
- Expected program administration costs;
- Retail Price;
- Project Cost;
- Incremental Equipment Cost;
- Remaining Useful Life Discounted Incremental Cost Method (RULDICM);
- Program Administrator Cost (PAC) as NPV and ratio;
- Total Resource Cost (TRC) as NPV and ratio;
- Participant Cost (PC) as NPV and ratio;
- Simple payback;
- Maximum allowable incentive as limited by the required cost-to-customer Upper Limit(s);
- Maximum allowable incentive as limited by the required program budget Upper Limit(s);

⁴ Not currently used; NEBs are to be developed in collaboration with the DSMAG.

- Maximum allowable incentive as limited by the PAC test;
- Maximum allowable incentive as limited by the PC test (for information only), and
- Overall maximum allowable incentive (taken as the minimum incentive amount from the cost-to-customer, program budget, and PAC thresholds).

3. The main output is the calculated overall maximum allowable incentive, which serves as the limiting factor in most cases (i.e., unless EfficiencyOne provides justification for exceeding this limit). This is supported by a graphical comparison of how close the proposed incentive is to each of the individual cost-to-customer and program budget limitations, and an indication of where the unit cost of the proposed incentive lies compared to average historical unit costs for each existing program component.

Use of the Consolidated Calculator is built into EfficiencyOne's incentive review process for new and existing measures. The same functions that are present in the Consolidated Calculator will be used for the preliminary Financial Simulation on current incentive levels. EfficiencyOne will arrange to demonstrate the functionality of the Consolidated Calculator to the DSM Advisory Group (DSMAG).

4. RESEARCH PLANS

EfficiencyOne received several comments on its planned research activities. In April 2017 EfficiencyOne shared its two-year Market Research Plan (2017-2018) for incentive setting purposes with the DSMAG. It is important to note that no particular milestone will be reached at the end of the two years – incentive setting research will continue indefinitely as products, prices, and customer perceptions of value continue to change. EfficiencyOne will continually adjust incentives with the most recent and relevant research that it conducts or obtains. This two-year Market Research Plan simply outlines the planned research in the near term. Incentives will not change en masse at the end of 2018, but will be reviewed and potentially adjusted as each individual task within the research plan is completed. This will ensure timely updating of incentives as research becomes available, and will reduce the risk of a major change to unit-cost if all affected

1 incentives were updated at once.

2 Research that is planned to commence in 2017 includes:

- 3 1. Residential LEDs;
- 4 2. Commercial LEDs;
- 5 3. Residential mini-split heat pumps;
- 6 4. Commercial mini-split heat pumps; and
- 7 5. Residential insulation.

8 In addition to market research for the purpose of incentive setting, the suite of targeted
9 measures is informed by baseline and DSM potential studies. EfficiencyOne's last DSM
10 Potential Study (January 7, 2014) was used to inform NSP's 2014 Integrated Resource
11 Plan and development of EfficiencyOne's 2016-2018 DSM Resource Plan. In advance of
12 NSP's next Integrated Resource Plan, EfficiencyOne would assess the need to update its
13 2014 DSM Potential Study. A residential socket study was completed in December
14 2016, and has been shared with the DSMAG.

15 **5. REPLY TO SYNAPSE ON OTHER ISSUES**

16 *Synapse Comment*

17 "...the revised report still does not clearly indicate that developing financing incentives
18 are excluded from its scope. This should be stated upfront, e.g. in the discussion of
19 project methodology."

20 *EfficiencyOne Response*

21 CLEAResult has amended the report to clarify that an analysis of the impact of financing
22 incentives on direct rebates was not included in its scope, on page 11.

24 *Synapse Comment*

25 "At a minimum, the report should include language such as: 'EfficiencyOne should

1 consider adjusting direct financing incentives (rebates) if it is offering financing for the
2 same measures.’ In addition, Table 6 (p. 30) should include financing as another
3 component that could influence the level of direct financial incentives.”

4 *EfficiencyOne Response*

5 CLEAResult has amended Table 6 to include financing as a consideration, which makes
6 clear that the addition of financing should result in incentives being reduced.
7 EfficiencyOne notes that it has historically weighed the value of financing against
8 rebates, and currently operates programs for which customers have a choice between
9 financing or rebates. The Custom program offers both, but project incentives are
10 typically reduced if financing is also offered.

11 CLEAResult has also clarified that the net present value of financing costs borne by ENS
12 can be added to rebate amounts for comparison against program budget and PAC
13 thresholds when developing or revising incentives, on page 29. This approach provides
14 insight into the utility cost-effectiveness of financing (in place of or in addition to
15 incentives) but does not compare the customer’s perception of the relative value of
16 financing compared to incentives.

17
18 *Synapse Comment*

19 “We recommend that education and awareness incentives be included in Table 6.”

20 *EfficiencyOne Response*

21 CLEAResult has amended the report to include education and awareness in Table 6.
22
23

24 *Synapse Comment*

25 “...the PC test should be included in Table 5 as another key factor to consider with
26 regards to customer cost.”

1 *EfficiencyOne Response*

2 ENS agrees but has elected to place a description of the PC test in Table 4, along with the
3 TRC and PAC cost-effectiveness tests. Simple payback, which is similar to the PC test,
4 but more commonly considered by customers, is included in Table 5 and is a
5 recommended cost-to-customer threshold for large purchases by commercial and
6 industrial customers.

7
8 *Synapse Comment*

9 “The text still doesn’t describe how the suggested boundaries provided in Tables 17 and
10 18 were developed.”

11 *EfficiencyOne Response*

12 CLEAResult has added language to address this recommendation, on page 57.
13 CLEAResult notes that “The concept of setting Upper Limits for incentive levels is a
14 relatively new practice, and there is limited documentation.” As such, the suggested
15 upper limits are based on common practices in other jurisdictions.

16
17 *Synapse Comment*

18 “CLEAResult still uses four terms for incentive threshold/boundary/ceiling/limits (p.
19 55).”

20 *EfficiencyOne Response*

21 CLEAResult has replaced “Boundary/Ceiling” with “Upper Limit” in its
22 recommendation of specific thresholds in Tables 17 and 18 to clarify that these are
23 recommended maximums, not recommended values or minimums. This is not intended
24 to change the meaning from the previous version, but simply to add clarity and to replace
25 “boundary/ceiling” with a less cumbersome term. The term “threshold” is still used
26 throughout the report to generally describe the practice of comparing incentives against
27 set limits, where exceedance of the limit requires justification by the administrator. In

1 effect, the “Upper Limits” of Tables 17 and 18 are the thresholds that CLEAResult has
2 recommended to EfficiencyOne.

3
4 *Synapse Comment*

5 “Tables 17 and 18 frequently list more than one suggested boundary/ceiling without
6 clearly identifying what the boundary is, or explaining when each value holds (p. 56-7).”

7 *EfficiencyOne Response*

8 CLEAResult has added footnotes to Tables 17 and 18 to clarify that the Upper Limits in
9 the third column are listed in the same order as the Bases in the second column. For a
10 particular measure, all listed Upper Limits apply, and the lowest theoretical maximum
11 incentive amongst the limiting bases is considered to be the overall theoretical maximum
12 incentive.

13
14 *Synapse Comment*

15 “While the report indicates that in some cases it may be required to exceed the suggested
16 boundary/ceiling, it does not mention anywhere that the right incentive levels are often at
17 or below the suggest boundaries/ceiling values.”

18 *EfficiencyOne Response*

19 CLEAResult has added language on page 55 to make this point more clear. Incentive
20 levels should be below the Upper Limits unless there are justifiable reasons to exceed
21 them.

22
23 *Synapse Comment*

24 “The suggested boundary/ceiling costs for the following three program types have been
25 changed from 50 percent of the incremental costs in the initial report to 100 percent in the
26 revised report. It would be helpful to know why this was changed.

- Residential Customer, Large Capital Equipment Purchase
- Commercial and Industrial Customer, Large Capital Equipment Purchase
- Commercial and Industrial Customer, Large Purchase”

EfficiencyOne Response

The original report proposed thresholds of 50% of Incremental Cost for ‘Residential Customer, Large Capital Equipment Purchase’ and ‘Commercial and Industrial Customer, Large Capital Equipment Purchase’. The limit for ‘Commercial and Industrial Customer, Large Purchase’ was 50% of Project Cost. The change of upper limits from 50 to 100% is not quite an apples-to-apples comparison, as the definition of Incremental Equipment Costs evolved through discussions with Synapse and CLEAResult, and agreement was reached that RULDICM should be used for Early Replacement projects. In its letter on 3 August 2016, Synapse indicated that 100% of incremental cost is generally the incentive limit/ceiling, and this was confirmed in EfficiencyOne’s letter to the Board on 15 November 2016, regarding consensus positions of Synapse and EfficiencyOne.

Synapse Comment

“The NEBs that are included in the TRC should be consistent with the guidance of the DSMAG.”

EfficiencyOne Response

CLEAResult has modified Table 4 to indicate that NEBs included in the TRC should be consistent with the guidance of the DSMAG.

Synapse Comment

“As with the TRC, the definition of the PC test (p. 19) should include participant benefits consistent with the guidance of the DSMAG.”

1 *EfficiencyOne Response*

2 EfficiencyOne agrees. The participant benefits currently used are customer bill savings,
3 using a proportional blend of energy and demand rates paid by customers targeted for the
4 measure, and an energy/demand cost escalation rate of 2.7% per year.

6 *Synapse Comment*

7 “In the appendices (as elsewhere in the revised report), ‘incremental costs’ was
8 universally changed to ‘Incremental Equipment Costs.’ If the program administrators in
9 these case studies use a different definition of incremental costs, then these changes may
10 not be accurate. CLEAResult should verify that these changes are in fact appropriate.

11 *EfficiencyOne Response*

12 CLEAResult has reviewed the changes to terms in the jurisdictional scan and reverted to
13 the original terms where appropriate.

15 *Synapse Comment*

16 [Regarding the proposed TRM committee] “We are concerned that limiting external
17 review (outside of EfficiencyOne) to one person is unduly restrictive.”

18 “We recommend that EfficiencyOne provide a short opportunity for comment (e.g., two
19 weeks) by interested parties. Such a review would not unreasonably bog down the
20 process and is in place in other jurisdictions.”

21 *EfficiencyOne Response*

22 CLEAResult has changed the language in Table 19 from “one external member” to “at
23 least one external member”. EfficiencyOne does not oppose the recommendation for
24 review by interested parties at this point in time, and will consider this in more detail
25 when developing a formal Technical Reference Manual (TRM) update process.

1 **6. REPLY TO NS POWER ON OTHER ISSUES**

2 *NS Power Comment*

3 “The CLEAResult Report focused on financial incentives and did not evaluate the merits
4 of non-financial incentives, such as educational programs and outreach. Co-optimizing
5 all three program components would be the most effective way to achieve lower level of
6 financial incentives.”

7 *EfficiencyOne Response*

8 The original Board direction on this issue directed “...E1 to undertake research and make
9 recommendations on a more rigorous program for determining incentives...”, and did not
10 mention education programs or outreach. In its subsequent letters on the original and
11 revised report, the Board never indicated that educational programs and/or outreach were
12 meant to be considered.

13 Focused on financial incentives, the CLEAResult report provides Upper Limits in three
14 categories that EfficiencyOne will use to determine theoretical maximum incentives
15 (which can include the NPV costs of financing borne by ENS). Below these limits,
16 opportunities for customer education and outreach will be evaluated in concert with
17 incentives to achieve the desired participation and market effects at an acceptable unit
18 cost.

19
20 *NS Power Comment*

21 “The CLEAResult Report compares E1’s cost of delivering DSM with other jurisdictions
22 that have a long history of demand side management. This implies that they are at a much
23 later stage in their overall adoption of energy efficiency technologies by customers,
24 resulting in both lower levels of achievable potential remaining and higher
25 implementation costs for obtaining the remaining achievable potential.

26 *EfficiencyOne Response*

27 In its letter of comment on 3 August 2016, NS Power suggested that EfficiencyOne add

1 jurisdictions to the jurisdictional scan that have a lower cost of DSM delivery.
2 EfficiencyOne addressed this request in its response letter dated 17 August 2016.
3 EfficiencyOne reiterates that the incentive study is primarily about best-in-class incentive
4 design practices, which are likely to be more advanced in those jurisdictions that have
5 more experience designing incentives (i.e., more experience delivering DSM). The
6 complete EfficiencyOne response from its letter on 17 August 2016 is copied here:

7 “NS Power also recommended that the Study should scan other jurisdictions with a lower
8 cost of DSM delivery. EfficiencyOne and CLEAResult maintain that the jurisdictions
9 selected within the jurisdictional scan are appropriate and sufficient, and that NS Power’s
10 requested changes would not result in any more relevant data points that would alter the
11 recommendations or approach to the Nova Scotia market. CLEAResult selected the
12 jurisdictions to be analyzed based on the following criteria:

- 13 • Considered best-in-class;
- 14 • similar size to Nova Scotia;
- 15 • similar market structure, energy efficiency policy environment and energy
16 efficiency program delivery structure to Nova Scotia; and
- 17 • similar climate to Nova Scotia.

18 One of the primary purposes of conducting the jurisdictional scan was to gain insight into
19 incentive design practices, as opposed to offering a comparison of unit costs. Selecting
20 mature, well-established organizations maximizes the likelihood of obtaining valuable
21 insights into best-in-class incentive design than would be available from less mature and
22 established markets. EfficiencyOne and CLEAResult submit that including other
23 jurisdictions based solely on their low cost of DSM delivery, and not on their relevance to
24 the Nova Scotian market or experience in a DSM market, would not add any additional
25 value of [sic] the Report.”

26
27 *NS Power Comment*

28 “The report does not discuss incentive setting for low-income programs. NS Power

1 suggests expansion of the scope.”

2 *EfficiencyOne Response*

3 In 2016, approximately 1% of ENS expenditures were directed towards measures that are
4 exclusively offered to low-income customers. The vast majority of low-income DSM
5 programming in Nova Scotia is delivered through HomeWarming, of which Clean
6 Foundation performs retrofits in electrically-heated homes, funded by NS Power’s
7 shareholder donation.

8
9 *NS Power Comment*

10 “There may be an opportunity for E1 to channel some of their customer education and
11 supply chain efforts to putting customer in touch with other rebate opportunities. This
12 could help reduce the overall amount of ratepayer-funded incentives.”

13 *EfficiencyOne Response*

14 ENS monitors other sources of incentives in the marketplace and informs customers of
15 these incentives where possible, and the proposed methodology accommodates other
16 incentives as an incentive design consideration. ENS would be happy to discuss other
17 specific incentives in the marketplace with NS Power, and opportunities for cross-
18 promotion.

19
20
21 *NS Power Comment*

22 “A NS Power representative recently attended an industry event at which E1 presented a
23 customer case study that showed how E1’s engagement in the project reduced the
24 customers’ payback from 1.5 years 0.6 years, resulting in \$17,000 in savings per year for
25 the commercial customer. Using this case study as an example, NS Power questions
26 whether incentives are necessary for projects that already yield pay back within such a
27 short periods of time.”

EfficiencyOne Response

After discussing NS Power's comment with program staff, it seems the project in question was likely an illustrative example of a recommissioning project that could proceed through the Building Optimization (BO) service of the Custom program component. BO offers an 'investigation incentive', designed to cover the costs of a site assessment that identifies energy savings opportunities within building control systems. ENS covers 100% of the study costs to a maximum of \$2,500. Upon completion of the study, ENS may negotiate additional incentives to assist with implementation costs, if required. The total incentives paid by ENS would not exceed 75% of project costs or \$0.08/kWh of first-year energy savings.

Building Optimization is a relatively new offering with limited uptake to-date. ENS has found that most customers are not familiar with the concept or potential benefits of recommissioning. Since energy savings are not known until the site assessment is completed, ENS has found it necessary to cover 100% of the study costs, up to \$2,500. Due to the relatively quick paybacks, low upfront customer investment, and turnkey delivery approach, ENS uses the BO service to engage new commercial customers and identify potential future projects. Ideally, BO studies also identify large capital upgrades that may later proceed through Custom Retrofit. In 2016 the free-ridership level for BO was evaluated at 0%, as ENS's third-party evaluator determined that customers would not have completed the necessary studies without ENS support, based on interviews with participants and an understanding that recommissioning is not a widespread practice in Canada.

In the case study referenced by NS Power, the presentation of a payback figure 'without ENS incentives' may not be particularly informative, as the information required to calculate the payback would not have been available until the BO report was complete and the study incentive was committed.

1 *NS Power Comment*

2 “NS Power recommends that findings from this study inform the overall composite of the
3 DSM Plan in order to optimize energy savings and demand reduction to be achieved in
4 the most cost effective manner.”

5 *EfficiencyOne Response*

6 ENS agrees, and the enhanced incentive setting process will undoubtedly influence the
7 content of future DSM Plans. ENS will continue to produce DSM Plans that comply with
8 the Balanced Plan Approach described in the June 30th 2016 Consensus Agreement.

9
10 *NS Power Comment (from the Brattle Group)*

11 Brattle Group suggests “...allocating your budget to programs which yield the highest
12 bang for your buck. If there are equity requirements to share out the budget to each of
13 the customer sectors before such a calculation is done, then the rule applies to programs
14 and budgets within a sector.”

15 *EfficiencyOne Response*

16 This is an idealistic oversimplification of the considerations that go into allocating
17 budgets between programs, and is beyond the scope of incentive setting. ENS does not
18 have specific equity requirements, and NS Power is a signatory to the June 30 2016
19 Consensus Agreement which lists multiple aspects of DSM costs and benefits that should
20 be considered when preparing DSM Resource Plans. Both “Program delivery costs” and
21 “Short-term and long-term energy and capacity avoidance” are included in the
22 considerations.

23
24 *NS Power Comment (from the Brattle Group)*

25 “The report is not clear on how to minimize/address the free rider problem in an
26 incentive-setting mechanism. One option is to rely on customer research to identify the
27 potential range of free-ridership in previously flagged measures and adjust incentives

1 accordingly.”

2 *EfficiencyOne Response*

3 ENS agrees that potential free-ridership can influence incentives. ENS’s third-party
4 evaluation consultant produces estimates of free-ridership for each program component
5 as part of their annual engagement, which are used to determine final energy savings.
6 This historical examination of free-ridership rates associated with a particular incentive
7 level would be considered under the “Program Evaluation Review and Historical
8 Experience” category of Table 6 (Summary of Influences on Incentive Rates). Market
9 research, including evaluation of how different potential incentives may influence
10 customer behaviour, would be considered under the “Customer Research” category of
11 Table 6.

12
13 *NS Power Comment (from the Brattle Group)*

14 “What is the mechanism/process for adjusting incentives if the uptake of new initiatives
15 is much better/faster than expected?”

16 *EfficiencyOne Response*

17 The immediate management response would be an evaluation of whether the annual
18 program budget was threatened or if other adverse impacts were expected. The incentive
19 could be reduced or removed to ensure that the budget is not depleted prior to the end of
20 the year.

21 Following any necessary emergency response, the normal incentive review process
22 would be triggered. This would likely include performing or obtaining updated research,
23 if possible. Unexpected uptake of a certain measure would likely mean a greater portion
24 of overall budget is dedicated towards that measure, triggering more frequent reviews in
25 the future.

1 *NS Power Comment (from the Brattle Group)*

2 “In cases where incentives are simply not effective, what is the mechanism to re-channel
3 incentives into education programs etc.?”

4 *EfficiencyOne Response*

5 The decision to remove an incentive and replace it with education programs assumes that
6 a barrier analysis has already been performed, and that ENS has identified that a pivot to
7 education programs would be a more cost-effective delivery approach to drive measure
8 adoption than financial incentives. Other options include, but are not limited to,
9 replacing or combining the incentive with financing, dropping the incentive entirely, or
10 leaving the incentive as-is and waiting for the market to evolve. Unused incentives
11 require fairly limited investment to be maintained on the ENS website and advertising
12 materials.

13
14 **7. REPLY TO THE INDUSTRIAL GROUP ON OTHER ISSUES**

15 *Industrial Group Comment*

16 “The sample financial simulations indicates a number of measures which, using
17 CLEAResult’s metrics, suggest a lower incentive is warranted.”

18 *EfficiencyOne Response*

19 ENS views CLEAResult’s sample financial simulations for the Custom and Instant
20 Savings program components as examples of how the suggested limits should be applied.
21 ENS plans to include the affected program components in its preliminary Financial
22 Simulation, to be completed in June 2017. This will ensure the same assumptions are
23 employed for these program components as for the rest of the portfolio.

24
25 *Industrial Group Comment*

26 “...the Industrial Group notes that CLEAResult suggests a ceiling for the customer cost-

1 incentive generally of 100%. It seems illogical that there would not be a lower cap on
2 incentives, other than perhaps for certain exceptional low income measures. If the
3 measure has any value to the customer through energy savings, there should be no reason
4 to pay 100%.”

5 *EfficiencyOne Response*

6 The limits of 100% apply to Incremental Equipment Cost, defined on page 26 as the
7 difference in costs between the efficient option and the standard option, as opposed to
8 Project Cost, which is the full cost of the efficient option. Synapse recommended that
9 100% of incremental costs is generally the limit for incentives, and ENS agreed to this
10 recommendation in its letter to the Board on 15 Nov 2016.

11 If ENS were to pay 100% of Incremental Equipment Cost (the Upper Limit) for a certain
12 measure, the customer would still be making a significant financial contribution to the
13 project, covering the full value of the base-case project cost.

14 The Industrial Group comment appears to suggest that ENS should not operate direct
15 installation-type programs, which cover 100% of Project Costs (which are more than
16 100% of Incremental Equipment Costs). ENS currently offers the Efficient Product
17 Installation Service to residential customers, and in the past offered direct installation-
18 type programs to small businesses. These types of programs are common in other
19 jurisdictions and ENS plans to continue operation of these programs throughout the
20 remainder of the 2016-2018 Supply Agreement.

21
22 **8. REPLY TO THE SMALL BUSINESS ADVOCATE ON OTHER ISSUES**

23 *SBA Comment*

24 “The Report and Plan mentions CLEAResult’s recommendation of conducting customer
25 segmentation analysis to develop a commercial market characterization but does not go
26 on to explain how EfficiencyOne would implement these recommendations.

27 EfficiencyOne should be more specific about its plans to conduct customer segmentation

1 analysis in future. EfficiencyOne’s discussion of its plans should include not only the
2 methodologies it will evaluate but also how those methodologies benefit customers by
3 rate class, including Small Business customers.”

4 *EfficiencyOne Response*

5 EfficiencyOne agrees that customer segmentation is important when conducting market
6 research. Factors such as measure penetration, price sensitivity and customer value
7 perceptions can vary between commercial customer segments. ENS employs some
8 customer segmentation practices and segment-specific understanding of the value
9 proposition of efficiency measures in its definition of eligibility limits for commercial
10 programs. Notably, the Small Business Energy Solutions (SBES) program offers higher
11 rebates than the Business Energy Rebates program, and free energy audits for qualifying
12 customers, based on an understanding of some barriers to participation in this segment.

13 EfficiencyOne regularly relies on various studies from other jurisdictions which segment
14 the customer base in different ways. EfficiencyOne has no control over segmentations
15 used in studies from other jurisdictions, but would be pleased to include the Small
16 Business Advocate in future discussions regarding how to segment small businesses for
17 future research commissioned by EfficiencyOne.



Responses to Comments on Revised Report – Incentive Setting Methodology for EfficiencyOne

May 11, 2017

Mark Robertson

EfficiencyOne

230 Brownlow Avenue, Suite 300

Dartmouth, NS

B3B 0G5

Dear Mr. Robertson:

Re: M07544 – EfficiencyOne – Incentive Setting Methodology (E-ENS-R-16)

CLEAResult has reviewed the letters of comment filed by Nova Scotia Power Inc., the Industrial Group, the Small Business Advocate, and Synapse Energy Economics Inc. in regard to CLEAResult's Incentive Setting Methodology Revised Report ("the Revised Report"). We appreciate the opportunity to provide the response of CLEAResult on this matter and offer the following comments with regards to the Revised Report. Additionally, CLEAResult has updated the Revised Report further to address specific comments included in the filed letters of comment.

In developing the report, CLEAResult's objective was to provide a framework and methodology for how incentives can be determined and how they can be reviewed and updated. The objective was not to examine each of the measures offered in Efficiency Nova Scotia's program portfolio and provide means to determine precise incentive levels through the provision of a prescriptive mathematical treatment or jurisdictional comparison.

The provided framework and methodology aimed to capture the five main principles (and corresponding activities) that CLEAResult identified in any best-in-class incentive setting (and program design) process:

1) Customer Research

The customer research is intended to capture the understanding of the customer's motivations and barriers to participate. The identification of the barriers will inform the incentive design, and broader program design process. It is especially important to understand how customer's value a product/service, and what cost perspective they use in their evaluation of value (whether it be upfront retail price, incremental equipment cost, project cost, lifecycle costs etc.). This allows incentives to be set that are aligned with a customer's valuation of a product or service. The customer research, through the identification of barriers to participation, will also provide insight with regards to the need for additional education and awareness, and whether the provision of convenience is important. These barriers can be addressed with non-financial incentives (*which are discussed further below*).

2) Technology Research

The key to the technology research is understanding a product or service's energy savings, price and market penetration. These three elements provide key insight into understanding options for the program design, and the incentive level. These elements can often be documented and updated through the development and maintenance of a Technical Reference Manual (TRM).

3) Supply Chain Research

The supply chain research assists with understanding if members of the supply chain and stakeholders face barriers to participation in the programs and whether a specific incentive level (or broader program design element) assists with the alleviation of those barriers. For example, supply chain research can identify if a midstream or upstream incentive may be more suitable than a downstream incentive. Additionally, the supply chain research can support the customer research and technology research efforts.

4) Financial Impact Analysis

The financial impact analysis requires the answering of six questions:

- i. What is the current incentive, forecasted participation and forecast incentive expenditure?
- ii. What is the market penetration (*obtained from the technology research*)?

- iii. What is the acceptable incentive threshold for the perspective of the cost to customer threshold (*discussed below*)?
- iv. What is the acceptable incentive threshold for the perspective of program budget threshold (*discussed below*)?
- v. What is the acceptable incentive threshold for the perspective of cost effectiveness threshold (*discussed below*)?
- vi. What is the proposed incentive, forecast participation and forecast incentive expenditure?

5) Jurisdictional Benchmarking (*as applicable*)

Benchmarking is not essential for existing incentives since the other principles and corresponding activities should allow for confidence that the incentives are set appropriately, as per the required measure, program and portfolio performance parameters. It is recommended as best practice to check in periodically with other jurisdictions regarding their programs and incentive levels.

For new incentives, jurisdictional benchmarking is recommended, since it can assist with completing knowledge gaps that may exist when following the other principles and activities, especially with regards to current program performance and historical experience.

Application of Incentive Limits

When conducting the financial impact analysis, there are three thresholds that can be used to help quantify an incentive's financial performance:

- 1) Cost to Customer
- 2) Program Budget
- 3) Cost Effectiveness

The three thresholds are reference points to give the program administrator an idea of how the current or proposed incentive compares from three different financial perspectives. Each measure incentive level will have its own unique considerations, so the three thresholds are there to serve as a reference and a guideline; sometimes they can serve the purpose of setting a ceiling, above which some further justification is required. As such, upper limits for the cost to customer and program budget thresholds have been suggested in the Revised Report for different combinations of customers and purchase decisions.

These upper limits have been suggested based on CLEAResult's program design and program management experience. The intent is for EfficiencyOne to apply financial calculations to understand how incentives perform against these thresholds and to be transparent in providing

this information to stakeholders and the public. The framework's intent is not to recommend a prescriptive approach that would limit EfficiencyOne's ability to set incentives that account for specific measure and situational considerations.

CLEAResult recommends that actual incentive levels should be below these suggested upper limits in most situations. In some cases, energy efficiency programs limit incentive spending using broader program and incentive level rules. These broader program design and incentive level rules can be considered by EfficiencyOne in their program design efforts, as they are an application of the upper limit for the Cost to Customer threshold. CLEAResult has included examples of these broader program and incentive level rules below.

Usage of CLEAResult Excel Tool

It seems from reviewing the comments that the Excel tool that was provided does not align with the expectations of some stakeholders, who may have expected the tool to be able to set an incentive level or to evaluate proposed incentives. The Excel Tool is intended to assist EfficiencyOne with understanding the recommended review protocol for a specific incentive level. The Excel Tool can be integrated into the Consolidated Calculator (outlined in Appendix B). The Consolidated Calculator will contain all of the inputs and outputs that are required and determined through following the five principles, and calculating the three thresholds.

Our understanding is that EfficiencyOne has already taken steps to build the more developed Consolidated Calculator.

Using RULDICM for Determining Incremental Equipment Costs for Early Replacement Projects

When determining the Incremental Equipment Cost for Early Replacement Projects, the Remaining Useful Life Discounted Incremental Cost Method (RULDICM) should be used. Theoretically, the RULDICM could be used for Replacement on Failure Projects as well, with the RUL in the calculation being set to 0 years.

Non-Financial Incentives

Non-financial incentives such as education and supply chain outreach can alleviate knowledge and convenience barriers to customer participation. As mentioned in the report, it should be noted that the provision of non-financial incentives also results in financial expenditure by EfficiencyOne. CLEAResult did not investigate the balance between financial and non-financial incentives for individual measures within the scope of the report.

Within the latest revision of the report, Table 6 has been updated to include education and awareness as a parameter that has an influence on incentive levels.

Financing

The need for financing as a program design element will surface during the customer research and the identification of barriers. If upfront costs are an issue, while lifetime costs and cash flow are not a concern to customers, financing will present itself as a viable program design element.

The project methodology has been updated to indicate that a numerical analysis of financing where the quantification of the impact of financing on upfront monetary incentives was not included within the scope of the report.

Within the latest revision of the report, Table 6 has been updated to include financing as a parameter that has an influence on incentive levels.

Additionally, the report has been updated to include that the Net Present Value of financing costs should be included in the analysis of the thresholds for the program budget and cost effectiveness, thus directly lowering the potential incentive levels.

Evidence for Upper Limits of Cost to Customer and Program Budget Thresholds

The concept of setting upper limits for incentive levels is a relatively new practice, and there is limited documentation. Many jurisdictions will have their own internal guidelines for setting ceilings on incentive levels. These jurisdictional examples support the concept of thresholds and upper limits.

During the interview with the Energy Trust of Oregon (ETO), it was noted that the ETO has an internal guideline whereby a portfolio's maximum Levelized Unit Energy Cost (LUEC) must be approximately 3-3.5 cents/kWh for electricity programs and approximately 50 cents/therm for natural gas programs. If incentives are forecasted to contribute to 65% of ETO's 2016 program portfolio budget, a natural ceiling is set for incentive levels based on the program budget threshold (or cost effectiveness threshold depending on how LUEC is applied).

During the interview with Union Gas, incentives traditionally have fallen between 25-35% of the incremental costs. However, there is not specific documentation outlining an incentive ceiling.

During the interview with Pacific Gas & Electric (PG&E), it was indicated that incentives are set at 75-100% of incremental costs for new measures, and then updated accordingly as the

technology matures and market penetration increases. Measures with paybacks greater than 10 years without incentives typically do not receive incentives.

As discussed above, certain programs use broader program and incentive level rules to apply upper limits to incentive spending.

For example, in the Retrofit program in Ontario, which is open to all commercial electricity customers, incentive spending is capped at 50% of project costs if the project involves exterior lighting or custom projects, regardless of the individual incentive amounts for other prescriptive measures or the customer incentive calculation. All other prescriptive measures are capped at 100% of the project cost. In the Ontario program targeted towards industrial and larger commercial customers (Process and Systems Upgrade), incentive spending for non-generation projects can be capped at 70% of project costs, regardless of the incentive calculation. Both the Retrofit and Process and Systems Upgrade program rules for the incentive calculation leverage an upper limit for the Cost to Customer threshold.

All of the jurisdictions scanned conduct an assessment of per measure cost effectiveness as part of their measure screening process. If the PAC is included in this screening analysis, another natural ceiling is set for the incentive based on the cost effectiveness threshold.

CLEAResult has revised the report to assist with the substantiation of the upper limits suggested in Table 17 and Table 18.

Finally, CLEAResult's experience in designing and/or delivering over 1,000 energy efficiency, energy conservation, environmental protection and renewable energy programs across North America was leveraged in the suggestion of the upper limits in Table 17 and Table 18.

Appropriateness of Jurisdictional Scans

CLEAResult maintains that the jurisdictions selected within the jurisdictional scan are appropriate.