

April 27, 2017

Doreen Friis
Regulatory Affairs Officer/Clerk
Nova Scotia Utility and Review Board
1601 Lower Water Street, 3rd Floor
P.O. Box 1692, Unit "M"
Halifax, NS B3J 3S3

Re: M07544 - EfficiencyOne (E1) - Incentive Setting Methodology (E-ENS-R-16)

Dear Ms. Friis:

On March 31, 2017, EfficiencyOne filed its Revised Incentive Setting Methodology with the UARB. This included CLEAResult's Report & EfficiencyOne's Implementation Plan. NS Power has reviewed the filing documents and offers the following comments, prepared by The Brattle Group, for consideration (see attached Appendix A for detailed comments).

- (1) **Non-Financial Incentives** - The CLEAResult Report focused on financial incentives and did not evaluate the merits of non-financial incentives, such as educational programs and outreach. Co-optimizing all three program components would be the most effective way to achieve lower level of financial incentives.
- (2) **Jurisdictional Scan** - The CLEAResult Report compares E1's cost of delivering DSM with other jurisdictions that have a long history of demand side management. This implies that they are at a much later stage in their overall adoption of energy efficiency technologies by customers, resulting in both lower levels of achievable potential remaining and higher implementation costs for obtaining the remaining achievable potential.

Also, CLEAResult compared ENS' 2016-2018 savings targets and budgets, concluding that "ENS is running its portfolio efficiently and optimizing its savings for expenditure". This conclusion can only be reached by comparing the actual performance over the contract period, not the targets.

- (3) **Low Income** – The report does not discuss incentive setting for low-income programs. NS Power suggests expansion of the scope.
- (4) **Other Incentives** – There may be an opportunity for E1 to channel some of their customer education and supply chain efforts to putting customers in touch with other rebate opportunities. This could help reduce the overall amount of ratepayer-funded incentives.
- (5) **Incentives for Projects with Shorter Paybacks** – A NS Power representative recently attended an industry event at which E1 presented a customer case study that showed how E1's engagement in the project reduced the customers' payback from 1.5 years 0.6 years, resulting in \$17,000 in savings per year for the commercial customer. Using this case study as an example, NS Power questions whether incentives are necessary for projects that already yield pay back within such a short periods of time.
- (6) **Program Portfolio** – NS Power recommends that findings from this study inform the overall composite of the DSM Plan in order to optimize energy savings and demand reduction to be achieved in the most cost effective manner.

NS Power looks forward to further engagement with the Board, E1, and stakeholders in these discussions.

Yours truly,



Tim Wood
Director, Regulatory Affairs

MEMORANDUM

TO: Nova Scotia Power

FROM: Sanem Sergici and Phil Hanser

SUBJ: Brattle Comments on the Incentive Setting Methodology: CLEAResult Report & EfficiencyOne Implementation Plan

DATE: April 21, 2017

EfficiencyOne retained CLEAResult to: 1) review ratepayer-funded energy efficiency (“EE”) program incentive setting methodologies of other jurisdictions; 2) identify best practices; and 3) assess the implications of applying them to Efficiency Nova Scotia (“ENS”)’s portfolio of programs. CLEAResult compiled their findings in a report titled, “EfficiencyOne: Incentive Setting Methodology” prepared for EfficiencyOne. This memo summarizes our comments and questions on this report.

General Comments

- 1- The report is a very detailed compilation of incentive setting methodologies at a blueprint level. However, the report treats the question of incentive setting as an issue isolated from all other customer outreach efforts intended to address market barriers. For example, the report treats customer education and supply chain outreach as two components of an energy efficiency program that are distinct from and would be planned independently of the incentive setting. In reality, since it is virtually impossible to separate their impacts, it is necessary to co-optimize all three of these program components rather than separately deciding on their levels. Co-optimization of components by measure could lead to lower levels of financial incentives. For example, if market research identifies the number one barrier against the adoption of a given measure is the lack of information; customer education efforts should be given a greater weight compared to financial incentives.
- 2- CLEAResult identifies several jurisdictions for their benchmarking exercise. In Canada, Ontario and British Columbia are selected as they have the largest EE budgets and the longest history of designing and delivering EE programs. The selected American utilities are all in the top fifteen of the 2015 ACEEE scorecard, which indicates top performance in best practices

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and leadership. Identifying and comparing Nova Scotia to top performers is a valid practice to determine the best practices of these jurisdictions in terms of incentive setting methodologies. However, In Table 12, CLEAResult also compares the historical performance in terms of unit of conservation (\$/kWh) between Nova Scotia and these other jurisdictions and concludes that *“the historical performance has been good compared to other jurisdictions, and that there isn’t a significant variation in ENS spending, especially with regards to incentive spending, compared to the other jurisdictions”* (p. 43).

Similarly, CLEAResult indicates that *“from reviewing the portfolio performance across the multiple jurisdictions studied, as well as comparing ENS’s performance against Nova Scotia’s Achievable Potential study, it is apparent that the ENS portfolio is performing at a level comparable to, or better than the other jurisdictions studied. The unit costs of conservation, along with the portfolio targets align favorably with the other jurisdictions.”* (pg. 7)

In our opinion, this is not a valid comparison for several reasons:

- All of the benchmarked utilities have a long history of demand-side management (DSM) implementation (in the case of California, going back to the 1970s) which implies that they are at a much later stage in their overall adoption of energy efficiency technologies by customers, resulting in both lower levels of achievable potential remaining and higher implementation costs for obtaining the remaining achievable potential. For example, it is inapt to compare California’s 1% annual energy savings in 2014 at a cost of \$0.43/kWh to Nova Scotia’s 1.3% annual energy savings in 2014 at a cost of \$0.25/kWh. At this point in its DSM history, it is much more difficult and costly for California to achieve EE savings as all the “low hanging fruit is already picked”, whereas in Nova Scotia, where EE activities can still be considered in their infancy, there still are many relatively easy and less expensive opportunities available.
- CLEAResult is comparing ENS’s 2016-2018 savings targets and budgets to those from the Achievable Potential study and concluding that *“ENS is running its portfolio efficiently and optimizing its savings for expenditure”*. This conclusion can only be reached by comparing the actual performance over the contract period, not the targets.

- 3- The CLEAResult report does not discuss how to set incentives for low-income programs. The report acknowledges that the retail price of electricity has increased 70 percent in the past ten years, and that it is important to understand customers' affordability concerns and enhance their understanding of available options for reducing their electricity bill. This is even more important for the low income customer group.
- 4- The CLEAResult report acknowledges that customers are able to take advantage of other financial incentives including manufacturer rebates and government tax credits, if available, in addition to ratepayer-funded incentives. If ENS channels some of their customer education and supply chain efforts on putting customers in touch with other rebate opportunities, this could help reduce the overall amount of ratepayer-funded incentives.
- 5- Another approach to identify ranges for financial incentives is to apply both participant cost test ("PCT") and program administrator cost ("PAC") test by measure and solve for the incentive levels by setting the benefit/cost ratio in each test to 1. The incentive levels implied by these two cost effectiveness tests may be useful to inform the range of financial incentives required to incentivize customers which are also acceptable to program administrators.
- 6- The general question about how to allocate budgets across programs is left unaddressed by CLEAResult. Economics suggests allocating the budgets across different programs at levels such that the marginal program benefits per dollar of budget are equalized across programs. If kWh reductions are the goal, then the program budgets should be set so that the kWh reduction per dollar of program expenditure is the same across all programs. Although this sounds complicated, this is really nothing more than allocating your budget to programs which yield the highest bang for your buck. If there are equity requirements to share out the budget to each of the customer sectors before such a calculation is done, then the rule applies to programs and budgets within a sector.

Additional Comments and Questions:

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

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- 2- What is the mechanism/process for adjusting incentives if the uptake of new initiatives is much better/faster than expected?
- 3- In cases where incentives are simply not effective, what is the mechanism to re-channel incentives into education programs etc.?