



Efficiency Nova Scotia Corporation

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

- and –

IN THE MATTER OF Efficiency Nova Scotia Corporation's
2013 Annual Progress Report.

ENSC 2013 DSM Annual Progress Report

Date Filed:
March 28, 2013

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1. 2012 DSM RESULTS

In its June 28, 2011 Decision, the Nova Scotia Utility and Review Board (UARB) approved Efficiency Nova Scotia Corporation (ENSC)'s 2012 DSM Plan. The 2012 DSM Plan identified an overall savings target of 233.6 GWh. This target was comprised of 19.5 GWh from 2008/2009 overachievements, 10 GWh from Codes and Standards, 80 GWh from Extra-Large Industrial projects, and 124.2 GWh from ENSC's 2012 DSM programs. The UARB decision approved a budget of \$43.7 million for ENSC to achieve the 124.2 GWh target for its 2012 DSM programs. Expenditures and evaluated energy savings results by program are provided in Figure 1. To provide direct comparison with the overall 233.6 GWh DSM target identified above, Figure 1 also reports on previous DSM program over/under achievements, as well as energy efficiency savings from outside DSM programs such as Codes and Standards and Extra-Large Industrial projects.

Figure 1 – 2012 DSM Plan Expenditures and Evaluated Energy Savings

	2012 Plan as Filed		Mid-Course Adjustment		Actual	
	Budget (\$ million)	Incremental Annual Net Energy Savings at Generator (GWh)	Budget (\$ million)	Incremental Annual Net Energy Savings at Generator (GWh)	Expenditure (\$ million)	Incremental Annual Net Energy Savings at Generator (GWh)
PREVIOUS DSM PROGRAMS OVER/UNDERACHIEVEMENTS						
2008 -2009 DSM Programs	-	19.5	-	19.5	-	19.5
2010 DSM Programs	-	-	-	-	-	1.3
2011 DSM Programs	-	-	-	-	-	-16.7
Subtotal	-	19.5	-	19.5	-	4.0
2012 ENABLING STRATEGIES						
Education and Outreach	2.0	-	2.0	-	1.5	-
Development and Research	1.5	-	1.5	-	2.5	-
Other Enabling Strategies	1.5	-	1.5	-	0.4	-
Subtotal	5.0	-	5.0	-	4.4	-
2012 RESIDENTIAL PROGRAMS						
Efficient Products	4.0	17.4	4.9	16.2	4.6	17.9
Existing Houses	9.7	14.1	12.0	29.5	13.1	50.4
New Houses	4.3	5.6	1.4	2.2	1.7	4.9
Home Energy Report	0.9	13.0	0.5	0.0	0.0	0.0
Subtotal	19.0	50.0	18.8	48.0	19.4	73.3
2012 BUSINESS, NON-PROFIT AND INSTITUTIONAL (BNI) DSM PROGRAMS¹						
Business Energy Rebates ²	4.5	21.5	3.7	14.9	4.1	21.9
Custom	9.2	37.9	6.7	32.5	6.7	33.6
Small Business Direct Install	6.0	14.7	9.5	28.8	9.0	30.2
Subtotal	19.8	74.1	19.8	76.2	19.8	85.6
2012 DSM Programs Total	43.7	124.2	43.7	124.2	43.6	158.9
SAVINGS FROM OUTSIDE ENSC-FUNDED DSM PROGRAMS						
Projects from Extra-Large Industrials ³	-	80.0	-	80.0	-	80.0
Codes & Standards	-	10.0	-	10.0	-	16.4
Subtotal	-	90.0	-	90.0	-	96.4
TOTAL	43.7	233.6	43.7	233.6	43.6	259.3

*Numbers may not sum due to rounding

¹Filed as Commercial and Industrial Sector

²Filed as Prescriptive Rebate

³ Actual amount includes 80 of the 154.2 GWh total as presented in the 2013-2015 DSM Plan, page 7. The remaining 74.2 GWh were recorded in the 2011 Savings.

1.1 2012 DSM Programs

ENSC programs and services exceeded savings target in 2012. Savings from all demand-side management programs were 158.9 GWh in 2012, compared to the 2012 target of 124.2 GWh. These savings included contributions from both the Residential and Business, Non-profit and Institutional (BNI) sectors. Individual program results, presented below, are compared to mid-course-adjusted program-level targets within the overall approved DSM Plan target of 124.2 GWh.

In 2012, ENSC continued providing more energy-saving opportunities for low- and modest-income homeowners and renters, other households and a wide variety of businesses. Awareness of and customer participation in programs continued to rise in 2012. Nova Scotians became increasingly aware and informed of energy efficiency initiatives through ENSC's campaigns, advertising, media opportunities and community outreach initiatives. Marketing and communication efforts continued to build on ENSC's strong presence in social media, including Facebook, YouTube, Twitter and ENSC's website. These channels continued to be very effective in providing current information quickly and conveniently to a province-wide audience.

With ENSC's focus on providing quality customer service, a high level of participant satisfaction was maintained, achieving an overall satisfaction rating of 89 percent. In addition, 96 percent of customers surveyed in 2012 agreed they would recommend ENSC programs and services to others.

In 2012, ENSC's success was due, in large part, to its focus on new program components and services such as Residential Direct Install as part of its continued capacity-building efforts to meet energy savings targets and fulfill customers' needs.

1.2 Residential Sector Results

The Existing Houses program achieved energy savings of 50.4 GWh in 2012 compared to its target of 29.5 GWh, largely due to contributions from the Residential Direct Install service, which achieved savings of 37.0 GWh. For 2012, all residential direct install pilots were amalgamated into one service, resulting in the standardization of measures and operational efficiencies. Energy efficiency upgrades were completed in 28,397 homes in 2012. On average, Residential Direct Install saved 1,306 kWh per household, which equates to an annual savings of approximately \$182.00.

Services for low- and moderate-income Nova Scotians were increased throughout 2012, with an investment of \$5.4 million to achieve 19.6 GWh of energy savings, compared to an investment of \$5.0 million and energy savings of 12.4 GWh in 2011. The low-income building envelope program component increased capacity in 2012, resulting in ENSC offering services to more low-income homeowners. 811 low-income homeowners completed the program, achieving 2.2 GWh of the 19.6 GWh of energy savings. In addition, an estimated 12,000 of the 28,397 households receiving Residential Direct Install services were low- and moderate-income households.

The Home Energy Assessment (formerly EnerGuide for Existing Houses) component of the Existing Houses program achieved energy savings of 7.2 GWh. Incentives for existing building enclosure measures were increased to partially offset the loss of federal rebates when federal incentives ended in June, 2012.

Efficient Products savings were 17.9 GWh in 2012 compared to a target of 16.2 GWh. The Appliance Retirement component of Efficient Products retired a total of 7,976 appliances in 2012, resulting in savings of 6.8 GWh. In 2012, the Appliance Retirement delivery agent's appliance recycling facility in Dartmouth became operational, staffed with 6 full-time positions.

Savings for the Instant Savings component of Efficient Products (including Air Miles campaigns) were 10.8 GWh. Sales of LED lamps were high during the year, increasing a factor of eight times over 2011 campaign sales. The rebate on LED lamps was increased following an LED study to determine a price point for LED lamps that would be acceptable to customers. An LED Giveaway occurred throughout the province in the fall of 2012 in order to give customers an opportunity to experience LED lamps. This campaign resulted in approximately 8,700 LED lamps being provided across the province. The LED Holiday Light Exchange, held at tree-lighting ceremonies across the province in November and December, achieved 0.349 GWh in energy savings.

Awareness of the New Houses program increased in 2012, resulting in 1,024 homes completed compared to 701 houses in 2011. Energy savings for New Houses were 4.9 GWh in 2012 compared to its target of 2.2 GWh.

Development and planning continued to progress with the Home Energy Report service, which will launch in the second quarter of 2013.

1.3 Business, Non-Profit and Institutional Sector Results

The Small Business Direct Install program includes the former Small Business Energy Solutions program, the former Commercial Direct Install program component, and an LED Retail initiative. This program completed retrofits for 4,208 customers over the year. Non-lighting measures, including heat pumps, were introduced in 2012. Small Business Direct Install achieved energy savings of 30.2 GWh compared to its target of 28.8 GWh.

The Prescriptive Rebates program, marketed as Business Energy Rebates, expanded its rebate offering in 2012. The program added 39 measures in 2012, bringing the total number of measures to 96. The program also shifted some rebates from the mail-in model to the instant rebate model, which resulted in increased savings and enhanced distributor awareness. Incentive categories were also further developed during the year to focus on individual market segments, which led to the diversification of measures to include commercial kitchens, agricultural equipment and commercial laundry equipment. The program provided rebates on 356,226 products over the year, achieving energy savings of 21.9 GWh compared to its target of 14.9 GWh.

The Custom program achieved energy savings of 33.6 GWh in 2012, compared to its target of 32.5 GWh. The Custom Retrofit component achieved 28.9 GWh of the Custom program savings. In 2012, the Custom program piloted an Energy Management Information System (EMIS) component, which allows industrial users to monitor and optimize their energy usage. Two Custom Retrofit participants participated in this pilot, which provides expertise and incentives for the design, installation and training associated with EMIS projects.

An Embedded Energy Manager (EEM) partnership initiative within the Custom program was implemented in 2012. This initiative involves an ENSC staff member working on-site within a large organization to identify new energy efficiency projects and support the organization in advancing these projects. EEM services are paid for by the organization in exchange for reduced project incentives from the Custom program or other services. In 2012, EEMs were placed in the Halifax Regional Municipality and at the Capital District Health Authority. As of February 2013, EEMs are working for Dalhousie University and the Nova Scotia Community College in addition to the EEM still at Capital Health. Two additional sites have been confirmed and ENSC is in discussions with three additional organizations. To date, the on-site embedded energy manager initiative has identified over 10 GWh in potential savings.

The New Construction component of the Custom program was streamlined in 2012, making it more accessible to businesses and increasing uptake with consultants, developers and architects. Custom New Construction achieved 4.6 GWh of the 33.6 GWh Custom program energy savings.

1.4 Codes and Standards

ENSC's evaluator reported on the energy savings associated with new Codes and Standards in the Nova Scotia market. Eight new standards were considered:

- Electric motors
- General service incandescent reflector lamps
- Dry-type transformers
- Self-contained commercial refrigerators and freezers
- Large air conditioners and heat pumps
- Single package vertical air conditioners and heat pumps
- Standby power
- External power supplies

Evaluation of these codes and standards resulted in savings of 16.4 GWh being reported for electric motors, general service incandescent reflector lamps, large air conditioners and heat pumps, standby power and external power supplies. It was not possible for ENSC's evaluator to determine the energy savings impact of the remaining standards due to an inability to obtain data on compliance rates or shipment data. In 2013, the evaluator will investigate alternative methods for evaluating these remaining standards.

ENSC is vice-chair of Canada's Strategic Resource Task Group (SRTG) which funds standards development by the national Steering Committee on Performance Energy Efficiency and Renewables (SCOPEER). All of the new Minimum Energy Performance Standards (MEPS) or new standards are a direct result of the oversight of SCOPEER and the funding provided by partners on the SRTG.

In 2012 ENSC was involved in the Building Energy Estimation Methodology project (BEEM) which was accelerated to ensure it was ready for reference in the National Energy Code for Buildings. It is on target for public review this spring and will be a vital tool in the design of energy efficient buildings for decades to come.

ENSC chairs the Canadian Advisory Council on Energy Efficiency (CACEE), which is spearheading the National Market Study on Energy Efficient Fenestration Products. This study has begun and has the potential to set forward a recommendation for a minimum efficiency standard for all fenestration products, residential as well as commercial to be adopted by all jurisdictions in Canada.

1.5 2012 Enabling Strategies

ENSC launched a financing program for Solar and Fuel Substitution participants in September 2012. Participants of this program received zero-percent financing instead of rebates. In December, the lending partner announced a withdrawal from this type of financing program across Canada; ENSC has subsequently partnered with a new institution and the program re-launched in the first quarter of 2013.

As an Education and Outreach initiative, ENSC conducted an LED Holiday Light Exchange, allowing participants to exchange two sets of older, incandescent holiday lights for one set of LED holiday lights. The exchange events were held at local tree-lighting ceremonies across the province. In 2012, 101 exchange events were held throughout November and December. More than 19,000 incandescent lights were exchanged in 2012 for almost 9,700 LED lights. While the key objective of this initiative is raising awareness of energy efficiency and Efficiency Nova Scotia services, the exchanges also resulted in 0.3 GWh of energy savings.

ENSC also hosted its Bright Business Conference in 2012. The conference was well attended with over 400 participants. Seven businesses from across the province won energy efficiency awards in different categories, and breakout sessions and an industry trade show encouraged businesses to take advantage of ENSC's services.

Development of the Trade Ally program continued throughout 2012 to further build the capacity of Efficiency Nova Scotia's delivery agents. Efficiency Nova Scotia also developed an educational presentation called Efficiency 101, designed to enhance trade partners' knowledge of ENSC and its services in order to raise awareness in the communities where partners operate. The presentation has been delivered approximately 185 times, reaching over 1200 individuals.

Efficiency Nova Scotia also began development of its Technical Reference Manual (TRM) in 2012. The TRM documents methods, formulas and assumptions for calculating energy savings from efficiency

measures. Navigant Consulting has been retained to provide direction in its development, which is expected to be complete in mid-2013.

2. EFFICIENCY NOVA SCOTIA 2011 PROGRAM EXPENDITURE RESTATEMENT

In late 2012, it was determined that a number of incentive accruals in the Custom Program were not recorded during the 2011 fiscal year, resulting in program expenditures being understated by \$1.2 million. This understatement was not previously detected by ENSC staff or by the organization's external auditors. As a result, the 2011 Balance Adjustment (BA) and therefore the 2013 DSM Cost Recovery Rider (DCRR) are also understated by \$1.2 million. ENSC will seek to offset this understatement in the 2014 DCRR. The energy savings of approximately 8.0 GWh associated with these expenditures was correctly captured in the evaluated and verified results for 2011. Once ENSC detected the error, a review of internal processes was conducted and corrective action was implemented accordingly. The 2011 error is being appropriately addressed and noted in ENSC's 2012 financial statements, which will be filed with the UARB once finalized.

3. HST UPDATE

As ENSC reported in its 2013 Demand-Side Management Cost-Recovery Rider (DCRR) filings of October 1, 2012 and November 28, 2012, ENSC made a request in October 2010 to the Canada Revenue Agency (CRA) to provide a ruling that would confirm ENSC is entitled to claim Input Tax Credits (ITCs) for HST paid on expenses incurred in delivering DSM programs.

To assist in this matter, ENSC has retained expertise from both Deloitte & Touche LLP and the tax group at Blake, Cassels and Graydon (Blakes) in Toronto.

In April 2012, ENSC received CRA's ruling. The ruling concluded that ENSC is not providing DSM programs to NSPI in exchange for the payment of the fee by NSPI. CRA reasons that because ENSC is required to supply DSM programs under the *Efficiency Nova Scotia Corporation Act*, and NSPI is required to pay an amount to ENSC for the design and administration of DSM programs, both ENSC and NSPI are fulfilling their statutory obligations. CRA concludes that no direct link exists between the payment by NSPI and a supply made by ENSC to NSPI. Therefore, CRA's position is that NSPI is not paying consideration to ENSC for a supply of services, but is in effect paying cost recovery levies as mandated in the *Act* and as

1 a result ENSC is not entitled to claim ITCs for HST paid on expenses incurred in delivering DSM
2 programs.

3
4 ENSC and its professional advisors are of the view that CRA's reasoning is novel, results in double-
5 taxation on Nova Scotia ratepayers and is not supported by the CRA's own relevant HST Technical
6 Information Bulletins. In addition, it is inconsistent with related Tax Court of Canada and Federal Court of
7 Appeal cases as well as a recent Supreme Court of Canada decision (discussed below). Furthermore, the
8 limited analysis provided by CRA presents a challenge in identifying specific areas in which to focus
9 arguments of an appeal.

10
11 In late May 2012, ENSC filed a request for a second-level review of the CRA ruling. The request focused
12 on an April 2012 Supreme Court of Canada (SCC) decision in *City of Calgary v. Her Majesty the Queen*,
13 which suggests that a statutory obligation would support the finding of a direct link and a taxable supply to
14 be provided by ENSC to NSPI, permitting ENSC to claim ITCs on its eligible DSM expenditures. CRA did
15 not have the benefit of this SCC decision at the time of its original ruling. As of March 28, 2013, CRA had
16 not completed its second-level review. The timing and outcome of a response from CRA is unknown.

17
18 The annual DSM approved expenditure assumes that ENSC will be able to claim ITCs on HST paid.
19 Because ENSC is not able to claim ITCs at this time, pending final resolution of the issue, its actual DSM
20 costs are now approximately 10 percent higher than expected. Not all DSM expenditures incur HST, and
21 therefore the effective HST rate is approximately 10 percent versus 15 percent. This results in a shortfall of
22 cash to fund DSM activities.

23
24 In 2011, ENSC had an accounting surplus of approximately \$5.6 million in the DSM fund. Approximately
25 \$4.6 million of this has been used to fund ITCs from 2010 (\$0.9 million) and 2011 (\$3.7 million). In its
26 November 20, 2012 Decision, the UARB noted that it was satisfied that ENSC was taking reasonable steps
27 to resolve the ITC issue and approved the offset of the 2010 and 2011 ITCs in the 2011 Balance
28 Adjustment (BA) amounts "on the express condition that, once this matter is finally resolved with Canada
29 Revenue Agency, ENSC is directed to make an application to the Board for adjudication on how any return
30 of monies used to fund ITCs is to be allocated."

31
32 In 2012, ENSC incurred \$4.2 million in ITCs. ENSC intends to recover these ITCs in the 2012 BA. For
33 2013, ENSC expects to incur \$4.3 million in ITCs. Reductions to ENSC's spending will be made such that

total 2013 expenditures, including HST, will be aligned with the amount approved by the UARB. As a result, it is not expected that recovery for \$4.3 million in ITCs will be required in the 2013 BA.

4. 2013 PLANNED ACTIVITIES

In 2013, ENSC will continue to build on its success from 2012, maintaining its focus on building a culture of energy efficiency in Nova Scotia through the enabling of energy savings while providing quality customer service. Specific initiatives are listed within; Residential; Business, Non-Profit and Institutional; and Enabling Strategies sections. Figure 2, below, provides ENSC's 2013 mid-course adjustments.

Figure 2 – 2013 Mid-Course Adjustments

	2013 Plan Targets as Filed		Mid-Course Adjustment	
	Expenditures (\$M)	Energy Savings (GWh)	Expenditures ¹ (\$M)	Energy Savings (GWh)
RESIDENTIAL DSM PROGRAMS				
Efficient Product Rebates	4.0	18.1	5.2	15.4
Existing Residential	8.7	14.3	12.9	33.3
New Residential	5.5	5.8	1.6	6.3
Energy Savings Actions	1.0	15.0	1.2	6.9
Residential Subtotal	19.2	53.2	20.9	61.8
BUSINESS , NON-PROFIT AND INSTITUTIONAL DSM PROGRAMS				
Efficient Products Rebates	8.1	30.3	4.8	22.6
Custom Incentives	9.5	40.3	7.3	29.6
Direct Installation	4.6	11.4	8.7	21.2
BNI Subtotal	22.2	82.0	20.8	73.4
ENABLING STRATEGIES				
Education and Outreach	2.5	-	2.0	-
Development and Research	1.4	-	1.7	-
Other Enabling Strategies	1.0	-	0.8	-
Enabling Strategies Subtotal	4.9	0.0	4.5	0.0
2013 DSM Programs TOTAL	46.2	135.2	46.2	135.2

*Numbers may not sum due to rounding

¹Includes HST

4.1 Residential Programs and Services

In 2013, ENSC plans to build on its 2012 successes in the Residential sector. In efforts to reduce participation barriers for residential services, 2013 will see the initiation and piloting of a Personal Energy Planner (PEP) service. This initiative will be offered to homeowners who are unable to upgrade their homes due to non-financial barriers such as lack of time, technical knowledge or expertise with contractors. ENSC staff will help participants through the process of soliciting contractor quotes, managing upgrades and obtaining rebates.

Specific initiatives for the Residential sector are described according to the categories filed in ENSC's 2013-2015 DSM Plan. However, ENSC's customer-focused approach emphasizes that customers' individual needs may result in them accessing services from more than one category.

4.1.1 Efficient Product Rebates

Efficient Product Rebates consists of both instant-rebate services and rebates provided for the retirement of old, inefficient appliances. In 2013, a number of strategies will be tested in the instant-rebate component to assess the potential for in-store rebates on a greater number of consumer products and for longer rebate campaign periods. In recognition of waste-disposal concerns with compact fluorescent lamps (CFLs), ENSC is also investigating the potential to establish a process through which participating Efficient Products retailers can collect old CFLs for recycling.

The program will also continue to evolve in order to address a transforming market and emerging opportunities. For example, in 2013 ENSC will place an increased focus on LED lamps. This is in response to a market that has widely adopted CFLs and also in response to the fact that the offering of higher rebates in 2012 for LEDs contributed to large increases in sales. Changing the focus of the types of lamps offered through the program will help encourage and further advance LED market transformation.

4.1.2 Existing Residential

ENSC's Existing Residential program consists of services focused on building envelope retrofits, direct installation of low-cost energy-efficient technologies, and rebates for installation of larger energy-efficient technologies. With the 2012 rebranding of EnerGuide for Existing Houses to Home Energy Assessment,

1 strategic actions will be taken in 2013 to enhance and promote the service. Examples include offering zero-
2 interest financing to increase the potential market size and greater investment in marketing efforts to ensure
3 that Nova Scotians are aware that home energy audits and rebates for retrofits are still available in the
4 province.

5
6 ENSC plans to build on its direct-install successes of 2012 by continuing support for the program in 2013.
7 ENSC will also determine whether and in what form the service will be offered in 2014, as changes in
8 federal lighting standards expected to be implemented in 2014 will affect the measures to be offered.

9
10 The Green Heat program component, an evolution of ENSC's Fuel Substitution pilot, will refine its focus
11 toward renewable energy sources such as wood and pellets. The program will also expand eligibility to
12 high efficiency heat pumps. Natural gas and propane will no longer be eligible for incentives through Green
13 Heat because of the new focus on renewable energy.

14
15 ENSC will maintain its focus on providing energy saving services to low-income Nova Scotians and will
16 continue to engage provincial Heating Assistance Rebate Program participants as a way to reach eligible
17 homeowners for no-cost building-envelope upgrades. Direct-install energy saving services for both low-
18 and medium-income homeowners as well as renters will continue throughout 2013, with targeted efforts in
19 areas that will serve the greatest need in addition to enrolling participants who contact ENSC proactively.

20 21 **4.1.3 New Residential**

22
23 The 2013 focus for ENSC's New Residential program will be to build on its 2012 success, in which
24 program participation increased beyond anticipated levels. Ongoing efforts will include continued
25 collaboration with municipal permit offices. Current plans are to increase engagement with these offices,
26 training their staff and having brochures displayed to promote the program.

27 28 **4.1.4 Energy Savings Actions**

29
30 ENSC will launch its Energy Savings Actions service in 2013 with the Home Energy Report. This service
31 will provide selected homeowners with individualized reports on their household energy use and
32 comparisons with similar households in Nova Scotia. The report will also include tailored tips based on
33 recipients' household profiles that will enable participants to reduce their energy use through behaviour

change and the installation of energy-efficient technologies. Home Energy Reports will be ENSC's widest-reaching program, with reports being mailed to 90,000 Nova Scotia households. In addition, for those households not included in the initial launch, ENSC may make the service available to every resident through an online web portal.

4.2 Business, Non-Profit and Institutional Programs and Services

In 2013 and 2014, ENSC will continue its work in building energy efficiency considerations into Business, Non-profit and Institutional (BNI) customers' decision-making processes. In 2013, ENSC will focus on solutions that involve greater customer ownership over decisions and behaviours in order to build a culture of energy efficiency in Nova Scotia. ENSC already has strong participation from BNI customer segments. However, there remains an opportunity to provide additional support by working closely with participants to help develop their long-term energy management plans, promote the use of energy monitoring systems, train staff and develop business cases for large energy efficiency upgrades.

Increased flexibility in program and service categories will also increase ENSC's ability to be responsive to customers' needs and adapt to market transformations. ENSC will invest in emerging technologies or innovative ideas to achieve new energy savings and change the energy-efficiency culture in Nova Scotia. Changes will also be made in each program or service to prepare for an update to federal lighting standards scheduled to take effect in 2014.

As with the Residential section, specific initiatives for the BNI sector are described according to the categories filed in ENSC's approved 2013-2014 Plan. However, ENSC's customer-focused approach emphasizes that customers' individual needs may result in them accessing services from more than one category.

4.2.1 Efficient Product Rebates

ENSC's 2013 plans for Efficient Product Rebates, which includes both mail-in rebates and point-of-sale discounts on over 100 product types ranging from LED strip lighting to dairy farm heat recovery units, will continue improving the ease with which customers can access products. Examples include simplifying the customer experience and improving accessibility with online application forms, tools and literature;

streamlining processes; and providing support to partners through a trade ally web portal that will facilitate access to information and support for ENSC's trade partners.

ENSC will work to expand its reach into BNI markets by continuing research into industry best practices. This work will enable ENSC to prioritize opportunities for specific target markets. Once market needs are identified, ENSC can offer rebates on technologies required in those markets. This work builds on initial steps taken in the commercial kitchens, agriculture, and commercial laundry equipment markets.

4.2.2 Custom Incentives

The Custom program, consisting of customized energy solutions for both new building construction and building retrofits, will focus on providing a wider range of options in 2013. A "Custom Lite" service is in development, which will provide customers making standard upgrades with an expedited process. A known entry barrier for the Custom program is the requirement for feasibility studies that provide detailed estimates of energy savings and implementation costs. The Custom program therefore plans to launch an Energy Auditing Service for small- and medium-sized customers to provide preliminary energy audits. The service will allow customers to set their energy management priorities and move directly into the Custom Lite option or the detailed feasibility study phase as required without committing to the full study prior to an initial assessment. These streamlined processes are expected to remove some participation barriers for BNI customers.

Additional plans include the launch of a re-commissioning service to obtain energy savings for customers not ready to initiate extensive retrofits. This service offers the opportunity for substantial energy savings without the need for a major up-front capital investment, making it attractive to customers as well as an inexpensive complement to ENSC's other services. The launch of strategic energy management planning support for BNI Key Accounts is also planned. This service will help large customers develop long-term energy efficiency strategies.

The focus of ENSC's New Construction component of Custom is market transformation by creating a market that focuses on operational costs in addition to capital costs. Plans include ongoing engagement with designers to promote the value of energy efficient design, coordination with rental property developers to build energy efficiency into multi-unit residential building designs, increased relationships with established key accounts to gain insights into large customers' long-term development plans, and

adaptation to market transformation by preparing for an updated Model National Energy Code for Buildings (MNECB), which could take effect in 2014. Service changes will be planned for 2014 based on the details of the update.

4.2.3 Direct Installation

In its continuing evolution to meet the needs of customers, the Small Business Direct Install program has become more comprehensive and is now referred to as “Direct Installations” or “Business Energy Solutions” in marketing material in order to capture new customers who may not fit into the more specific “Small Business” category. In 2013, ENSC will continue to expand support for non-lighting measures, emerging technologies and vertical market specialties. To encourage greater participation, ENSC is exploring the option to make zero-interest financing available to customers of municipal electric utilities. As with other programs and services, further changes will be made throughout 2013 to prepare for new federal lighting standards that will take effect in 2014.

4.3 Enabling Strategies

Enabling Strategies include the following categories:

- Education and Outreach
- Development and Research
- Other Enabling Strategies: Innovative Financing, Capacity Building, and Working with Governments

ENSC’s efforts in these areas are designed to support the achievement of energy savings by encouraging participation in ENSC’s programs and services and by driving market transformation through education and the changing of standard industry practices. Efforts in 2013 will include initiatives in all three categories of Enabling Strategies.

4.3.1 Education and Outreach

The focus of ENSC's education and outreach efforts in 2013 will be on connecting with Nova Scotians on their own terms, in communities that may not easily be reached otherwise. Doing so puts a human face on Efficiency Nova Scotia, making the value of energy efficiency tangible and accessible.

Planned initiatives include the following:

- Community events such as a summer tour and attendance at homeshows and trade shows
- A continuation of ENSC's Green Schools initiative
- A continuation of the LED Holiday Light Exchange
- Collaboration with Habitat for Humanity to incorporate more energy efficiency practices in both new home construction and home renovations
- Continued development of a trade ally program that will engage with contractors, building suppliers and financial institutions to raise awareness of opportunities to improve home efficiency during major renovations
- Development of initiatives that will enable and encourage the adoption of energy efficiency as a social norm through a focus on community-based commitments to energy efficiency
- Evolution of ENSC's digital media approach in order to meet customers' needs for convenient, quick access to information
- The hosting of an international conference on energy efficiency to enhance local interest and knowledge in cutting-edge energy efficiency concepts

4.3.2 Development and Research

As identified in its approved 2013-2014 Plan, ENSC will focus on emerging energy efficiency strategies and technologies. Initiatives in 2013 include the following:

- Piloting of a new Energy Rating System (ERS) in partnership with Natural Resources Canada to gauge the system's effectiveness and evaluate its readiness for the market
- Research into the definition and targeting of specific market segments in order to develop and refine programs and services to meet the needs of individuals and different business or organizational segments

- Enhancement of ENSC's database to include customer relationship management capabilities in order to increase ENSC's ability to tailor its offerings and services to individual customer needs as well as improve the system's ability to track individual customers for rate and bill impact analysis purposes

4.3.3 Other Enabling Strategies

ENSC's 2013 activities in Other Enabling Strategies such as Financing, Capacity Building, and Working with Governments are expected to focus on the following areas:

- The addition of the Home Energy Assessment service to ENSC's zero-interest financing service, which currently applies to solar and green heat projects
- Development of a partnership to offer financing through repayments on property-tax bills
- Codes, standards and labeling work through provincial and national committees aimed at advancing the adoption of energy efficiency codes and standards
- Working with municipal governments to maximize participation in developing and implementing policies and practices of energy efficiency and assistance in launching their own voluntary incentive programs for energy efficiency initiatives

5. ADVANCEMENT OF DSM CONCEPTS AND DSM POTENTIAL STUDY

In 2013, research and development work designed to advance DSM analysis will continue. ENSC has retained Dunskey Energy Consulting to review the organization's existing framework and methodologies to ensure they are accurate, internally consistent and reflect evolving North American best practices.

In preparation for a new Integrated Resource Plan (IRP), ENSC has retained Navigant Consulting to prepare a long-term DSM potential study, based on current Nova Scotia baseline data. This study will identify an updated projection of achievable DSM potential over a 25-year horizon and is expected to be complete in the second quarter of 2013.

6. ITEMS ARISING FROM THE 2013-2014 DSM PLAN STAKEHOLDER AGREEMENT

6.1 Evaluation Activities

As identified in the 2013-2014 DSM Plan Stakeholder Agreement approved in the June 4, 2012 UARB Order, ENSC will move toward a layered evaluation process approach in 2013. This approach involves ongoing savings tracking, free-ridership surveys and a rolling schedule of full-scale evaluation, meaning that not all programs will have a complete evaluation every year.

ENSC has developed a 2013 and 2014 evaluation schedule, as presented in Figure 3. This schedule was created based on consultation with Econoler and Dunskey Energy Consulting. Selection criteria for determining the timing and scope of the evaluation include the following:

- The quantity of the program's energy savings
- The degree of program maturity
- The scope of recent program changes
- The level of satisfaction of program participants and partners
- The scope of issues raised in the past process and/or impact evaluations
- The level of anticipated free ridership

In accordance with the DSM Stakeholder Agreement, approved by the UARB on June 4, 2012, ENSC will move toward a layered approach with ongoing tracking, ongoing free ridership surveys and a rolling schedule of full-scale evaluation. The rapid-fire surveys for select programs will provide continuous market feedback to program managers, enabling mid-course decisions that may be aimed at improving savings and spillover, reducing free ridership, or identifying opportunities to exit markets altogether. Survey results are also expected to inform how and where to prioritize external evaluation budgets.

Figure 3 presents the preliminary 2013-2014 evaluation schedule; the scope of the evaluation may change subject to program modifications.

Figure 3 – Summary of the 2013 and 2014 Evaluation Schedule

Program	Components	2013		2014	
		Impact Evaluation	Process Evaluation	Impact Evaluation	Process Evaluation
Residential					
Efficient Product Rebates	Appliance Retirement	Yes	Yes	No	No
	Instant Savings	Yes	No	Yes	Yes
Existing Residential	Home Energy Assessment	Yes	Yes	No	No
	Green Heat	Yes	No	Yes	Yes
	Low Income Homeowner	Yes	Yes	No	No
	Residential Direct Install	No	No	Yes	Yes
	Solar	Yes	Yes	No	No
	Residential Financing	No	Yes	No	Yes
	Multi-Unit Residential Buildings	Yes	Yes	No	No
New Residential	N/A	Yes	Yes	No	No
Energy Savings Actions	Home Energy Reports	Yes	Yes	Yes	Yes
Business, Non-Profit And Institutional					
Efficient Products Rebates	N/A	Yes	No	Yes	Yes
Custom Incentives	Custom Retrofit	Yes	No	Yes	Yes
	New Construction	Yes	Yes	Yes	No
Direct Installation	N/A	Yes	Yes	Yes	No
Other Initiatives					
Enabling Strategies		No	Yes	No	No
Codes and Standards		Yes	No	Yes	No

6.2 Evaluation of Enabling Strategies

The 2013-2014 DSM Plan Stakeholder Agreement identified the need to evaluate the appropriateness and value of Enabling Strategy expenditures. The Enabling Strategies evaluation will be carried out in the fall and will focus on the activities on which Enabling Strategies expenditures are incurred, the appropriateness of the expenditures, and how the expenditures would compare with other jurisdictions. The evaluation will be conducted as a separate component within ENSC's 2013 evaluation activities and filed with the UARB.

6.3 Traditional Process Evaluation

The 2013 and 2014 Evaluation will contain a traditional process evaluation. This includes some elements of a management audit, as outlined in the UARB Savings Verification Study, March 2011, pages 46 – 48. The UARB's consultant, Dr. Gil Peach, clarified that this form of evaluation does not include a full review of

management, but rather a “helpful analytical review to come up with suggestions for improving processes and documenting how things work in the organization”. Dr. Peach suggested that this type of review should be considered and incorporated within the program evaluation reports conducted by the evaluation consultant.

As discussed by Dr. Peach in his March 2011 Savings Verification Study, a traditional process evaluation would essentially constitute an organizational study with some elements of a management audit, and would report on the following:

- Program design and planning
- Program administration and management
- Program marketing activity and delivery
- Effectiveness of program information materials
- Training of staff, contractors, and trade allies
- Program data tracking and reporting
- Adequacy of staffing, budgets, and expenditures, including timeliness
- Interdepartmental communication and cooperation
- Program scheduling, follow-up, processes and application system
- The addressing of customer complaints and satisfaction
- Contractor selection and bidding processes
- Technical capability related to equipment
- Review of QA procedures
- Accounting and IT support for programs

6.4 Amended Cost Allocation Methodology

ENSC has developed its methodology for allocating Enabling Strategies costs and tracking the participant benefit costs to be allocated to participating classes. It may not be possible to allocate expenditures from some activities to specific classes. For example, ENSC’s Green Schools program is designed to provide awareness and build an energy efficiency culture among students that they will use in the future in both Residential and BNI contexts. For these types of exceptions, expenditures will be allocated the basis of total other program costs.

2012 was ENSC's first year with responsibility for filing the annual DCRR. As a result of this process, potential improvements were identified. ENSC determined that the different elements of the DCRR require several sources for inputs, including NSPI sources included in multiple filings. The requirement of these multiple sources demonstrated that ENSC must ensure it is working with the most up-to-date, publicly available information it can obtain while also ensuring there is internal consistency in how it applies these sources. In future years, ENSC will verify the specific sources it incorporates with NSPI to ensure they are the most appropriate and accurate ones to use in order to avoid the need to re-file any evidence based on the availability of more current information.

6.5 2014 Preliminary Cost Allocation

An updated 2014 preliminary cost allocation, which incorporates 2012 expenditures, is provided as Appendix A.

6.6 2013-2014 Rate and Bill Impact Analysis

A rate and bill impact analysis is being provided as Appendix B and incorporates revisions requested by Synapse Energy Economics and referenced in the Stakeholder Agreement. The methodology template for calculating the rate and bill impacts has been reviewed by the DSM Advisory Group.

6.7 Avoided Costs

The Stakeholder Agreement requested that the UARB direct NSPI to engage with ENSC and ratepayer representatives in the development and documentation of avoided costs and file revised cost estimates by June 1, 2013. It also acknowledged that if an IRP process was directed by January 1, 2013, this separate process could be avoided.

With the UARB's January 29, 2013 direction to NSPI to begin IRP scenario development, ENSC anticipates that such avoided cost engagement will be integral to the upcoming IRP process and awaits further direction from the UARB regarding terms of reference, timelines and stakeholder participation.

6.8 Dual Baseline

As agreed, ENSC conducted further consultation and analysis in 2012 regarding a dual-baseline approach to savings evaluation. ENSC's conclusion is that a practical-based application of dual baseline is appropriate for the organization to implement for the purposes of testing programs for cost effectiveness. An overview of ENSC's dual baseline practice and implementation schedule is provided in Appendix C.

6.9 DSM Advisory Group

Formation of the DSM Advisory Group was accomplished in 2012, with the Terms of Reference being developed by the group and filed with the UARB on January 29, 2013. The membership of the Group currently consists of a representative from each of the following:

- Affordable Energy Coalition (Dalhousie Legal Aid)
- Consumer Advocate
- Canadian Oil Heat Association
- Ecology Action Centre
- Efficiency Nova Scotia Corporation
- Halifax Regional Municipality
- Large Industrial Sector
- Municipal Electric Utilities of Nova Scotia Cooperative
- Nova Scotia Department of Energy
- Nova Scotia Power Incorporated
- Small Business Advocate
- Union of Nova Scotia Municipalities
- Utility and Review Board of Nova Scotia

The Group met twice in 2012 and currently has quarterly meetings planned for 2013. ENSC maintains a DSM Advisory Group SharePoint site to facilitate information sharing with the group.

Line #

TABLE 1 (2014) Allocation of 25% of program costs associated with system benefit

COLUMN	A	B	C	D	E	F	G	H																																																																																																																																															
	<table><tr><th colspan="3">Program Cost Recovery by Benefits</th></tr><tr><td>System Benefits</td><td>25%</td><td>\$ 12,174,514</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Combined Class and Participant Benefits</td><td>75%</td><td><u>\$ 36,523,541</u></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Total¹</td><td>100%</td><td>\$ 48,698,055</td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>								Program Cost Recovery by Benefits			System Benefits	25%	\$ 12,174,514							Combined Class and Participant Benefits	75%	<u>\$ 36,523,541</u>							Total ¹	100%	\$ 48,698,055																																																																																																																							
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¹ ENSC's approved 2013-2014 DSM Plan used 2013 dollars for each year for comparability purposes. The 2014 cost recovery has been updated to 2014 dollars in these updated cost allocation tables.

² Source: "Classification of Average Rate Base", Nova Scotia Power Inc. 2013 GRA Compliance Filing, Appendix 4, Page 67, filed January 16, 2013

³ Source: "Sales, Generation and Demand Analysis", Nova Scotia Power Inc. 2013 General Rate Application - Cost of Service Study, SR-01 Attachment 1, Page 114, filed May 8, 2012

⁴ All residential rate classes use the same unit fixed cost estimate

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ENSC 2013 APR

Date filed: March 28, 2013

Line #

TABLE 2 (2014) Preliminary Allocation of 75% of DSM Program Costs associated with benefits realized by participating classes.

COLUMN FORMULA	A	B	C	D	E	F	G	H	I	J	K	L
	Σ col A to J											K * 75%
	Program costs incurred on participating rate classes											Directly Assigned to Participating Rate Classes (75% of the total)
Program	Existing Homes	New Construction	Efficient Products	Home Energy Report	Prescriptive	Custom	Small Business	Education & Outreach	Development and Research	Other Enabling Strategies	All Program Costs Combined	
Rate Class												
Residential	\$ 10,197,446	\$ 6,561,859	\$ 4,175,881	\$ 1,037,667	\$ 1,134,974	\$ 137,416	\$ 553,133	\$ 1,694,508	\$ 690,887	\$ 600,149	\$ 26,783,920	\$ 20,087,940
Small General	\$ 53,231	\$ -	\$ 8,703	\$ -	\$ 1,516,023	\$ 175,564	\$ 1,039,385	\$ 189,395	\$ 124,017	\$ 73,414	\$ 3,179,732	\$ 2,384,799
General Demand	\$ 113,476	\$ -	\$ 7,977	\$ -	\$ 3,929,592	\$ 3,280,232	\$ 1,723,159	\$ 503,857	\$ 329,927	\$ 195,308	\$ 10,083,529	\$ 7,562,647
Large General	\$ 2,131	\$ -	\$ -	\$ -	\$ 595,872	\$ 3,179,068	\$ 9,090	\$ 160,066	\$ 104,812	\$ 62,046	\$ 4,113,083	\$ 3,084,813
Small Industrial	\$ -	\$ -	\$ 3,143	\$ -	\$ 338,429	\$ 380,012	\$ 171,875	\$ 49,916	\$ 32,685	\$ 19,349	\$ 995,410	\$ 746,558
Medium Industrial	\$ -	\$ -	\$ 242	\$ -	\$ 328,774	\$ 731,443	\$ 1,644	\$ 45,799	\$ 29,989	\$ 17,753	\$ 1,155,644	\$ 866,733
Large Industrial	\$ -	\$ -	\$ -	\$ -	\$ 82,060	\$ 1,165,842	\$ 561	\$ 51,984	\$ 34,039	\$ 20,150	\$ 1,354,637	\$ 1,015,978
Municipal	\$ 190,427	\$ 119,256	\$ 76,430	\$ -	\$ 210,862	\$ 225,378	\$ 95,711	\$ 58,026	\$ 30,392	\$ 21,463	\$ 1,027,944	\$ 770,958
Unmetered	\$ -	\$ -	\$ -	\$ -	\$ 3,791	\$ -	\$ -	\$ 178	\$ 117	\$ 69	\$ 4,156	\$ 3,117
Gen. Repl. / Load Foll.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Wholesale Market Backup / Top-up	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1P-RTP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ 10,556,711	\$ 6,681,115	\$ 4,272,375	\$ 1,037,667	\$ 8,140,379	\$ 9,274,955	\$ 3,594,558	\$ 2,753,730	\$ 1,376,865	\$ 1,009,701	\$ 48,698,055	\$ 36,523,541

Appendix A-2

ENSC 2013 APR

Date filed: March 28, 2013

Line #

TABLE 2 a) (2014) Estimate of DSM Program participation by rate classes before accounting for the Municipal Class

COLUMN	A	B	C	D	E	F	G	H	I	J	
Program Rate Class	Relative shares of program costs incurred on participating rate classes before Municipal Class										
	Existing Homes	New Construction	Efficient Products	Home Energy Report	Prescriptive	Custom	Small Business	Education & Outreach	Development and Research	Other Enabling Strategies	
	Residential	98.4%	100.0%	99.5%	0.0%	14.3%	1.5%	15.8%	62.9%	51.3%	60.7%
	Small General	0.5%	0.0%	0.2%	0.0%	19.1%	1.9%	29.7%	7.0%	9.2%	7.4%
	General Demand	1.1%	0.0%	0.2%	0.0%	49.6%	36.2%	49.2%	18.7%	24.5%	19.8%
	Large General	0.0%	0.0%	0.0%	0.0%	7.5%	35.1%	0.3%	5.9%	7.8%	6.3%
	Small Industrial	0.0%	0.0%	0.1%	0.0%	4.3%	4.2%	4.9%	1.9%	2.4%	2.0%
	Medium Industrial	0.0%	0.0%	0.0%	0.0%	4.1%	8.1%	0.0%	1.7%	2.2%	1.8%
	Large Industrial	0.0%	0.0%	0.0%	0.0%	1.0%	12.9%	0.0%	1.9%	2.5%	2.0%
	Municipal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Unmetered	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Gen. Repl. / Load Foll.	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Wholesale Market Backup / Top-up	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1P-RTP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Total	100.0%	100.0%	100.0%	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

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TABLE 2 b) (2014) Preliminary Estimate of DSM Program participation by rate class after accounting for the Municipal Class**COLUMN****A****B****C****D****K****L****M****R****S****T**

Program	Program costs incurred on participating rate classes									
	Existing Homes	New Construction	Efficient Products	Home Energy Report	Prescriptive	Custom	Small Business	Education & Outreach	Development and Research	Other Enabling Strategies
Rate Class										
Residential	96.6%	98.2%	97.7%	0.0%	13.9%	1.5%	15.4%	61.5%	50.2%	59.4%
Small General	0.5%	0.0%	0.2%	0.0%	18.6%	1.9%	28.9%	6.9%	9.0%	7.3%
General Demand	1.1%	0.0%	0.2%	0.0%	48.3%	35.4%	47.9%	18.3%	24.0%	19.3%
Large General	0.0%	0.0%	0.0%	0.0%	7.3%	34.3%	0.3%	5.8%	7.6%	6.1%
Small Industrial	0.0%	0.0%	0.1%	0.0%	4.2%	4.1%	4.8%	1.8%	2.4%	1.9%
Medium Industrial	0.0%	0.0%	0.0%	0.0%	4.0%	7.9%	0.0%	1.7%	2.2%	1.8%
Large Industrial	0.0%	0.0%	0.0%	0.0%	1.0%	12.6%	0.0%	1.9%	2.5%	2.0%
Municipal	1.8%	1.8%	1.8%	0.0%	2.6%	2.4%	2.7%	2.1%	2.2%	2.1%
Unmetered	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gen. Repl. / Load Foll.	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wholesale Market Backup / Top-up	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1P-RTP	<u>0.0%</u>	<u>0.0%</u>	<u>0.0%</u>	<u>0.0%</u>	<u>0.0%</u>	<u>0.0%</u>	<u>0.0%</u>	<u>0.0%</u>	<u>0.0%</u>	<u>0.0%</u>
Total	100.0%	100.0%	100.0%	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Relative shares of Municipal sales in total NSPI sales by sector

DSM-eligible sales by sector	NSPI	Breakdown of Municipal Class Sales by Sector ¹		
		% of Mun	% of NSPI	
Residential	4,654,738,000	84,595,808	42.2%	1.78%
General	3,244,829,000	98,427,824	49.1%	2.94%
Industrial	<u>1,778,629,000</u>	<u>17,440,368</u>	<u>8.7%</u>	<u>0.97%</u>
	9,678,196,000	200,464,000	100.0%	2.07%

¹ Source: Municipal Electric Utilities - updated percentages - Sept, 7, 2012**Appendix A-4**

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TABLE 3 (2014) Preliminary Allocation of Program Costs among rate classes

COLUMN	A	B	C	D	E	F	G	H
FORMULA	Table 2 Column K		Table 1 Column H		Table 2 Column L		C + E	
	Total Expenditure by Rate Class		System Benefit Costs (25% of the total expenditure allocated to classes using COS methodology)		Participating Class Benefit Costs (75% of the total expenditure directly assigned to participating classes)		Total Allocated Costs	
	\$ Amount	Relative Share	\$ Amount	Relative Share	\$ Amount	Relative Share	\$ Amount	Relative Share
Rate Class								
Residential	\$ 26,783,920	55.0%	\$ 6,112,895	50.2%	\$ 20,087,940	55.0%	\$ 26,200,834	53.8%
Small General	\$ 3,179,732	6.5%	\$ 283,492	2.3%	\$ 2,384,799	6.5%	\$ 2,668,291	5.5%
General Demand	\$ 10,083,529	20.7%	\$ 3,023,676	24.8%	\$ 7,562,647	20.7%	\$ 10,586,322	21.7%
Large General	\$ 4,113,083	8.4%	\$ 441,111	3.6%	\$ 3,084,813	8.4%	\$ 3,525,923	7.2%
Small Industrial	\$ 995,410	2.0%	\$ 302,425	2.5%	\$ 746,558	2.0%	\$ 1,048,982	2.2%
Medium Industrial	\$ 1,155,644	2.4%	\$ 594,396	4.9%	\$ 866,733	2.4%	\$ 1,461,129	3.0%
Large Industrial	\$ 1,354,637	2.8%	\$ 1,020,617	8.4%	\$ 1,015,978	2.8%	\$ 2,036,595	4.2%
Municipal	\$ 1,027,944	2.1%	\$ 245,890	2.0%	\$ 770,958	2.1%	\$ 1,016,849	2.1%
Unmetered	\$ 4,156	0.0%	\$ 134,785	1.1%	\$ 3,117	0.0%	\$ 137,902	0.3%
Gen. Repl. / Load Foll.	\$ -	0.0%	\$ 15,227	0.1%	\$ -	0.0%	\$ 15,227	0.0%
Wholesale Market Backup / Top-up	\$ -	0.0%	\$ -	0.0%	\$ -	0.0%	\$ -	0.0%
1P-RTP	\$ -	0.0%	\$ -	0.0%	\$ -	0.0%	\$ -	0.0%
Total	\$ 48,698,055	100.0%	\$ 12,174,514	100.0%	\$ 36,523,541	100.0%	\$ 48,698,055	100.0%

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RATE AND BILL IMPACT ANALYSIS

Under development

EFFICIENCY NOVA SCOTIA'S DUAL BASELINE PRACTICE

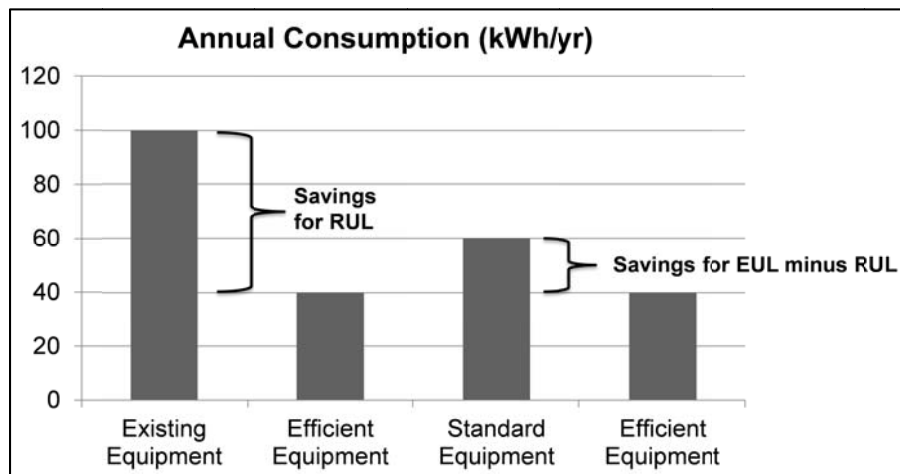
INTRODUCTION

Efficiency Nova Scotia is committed to using the most accurate system of accounting for costs and benefits of achieving its energy savings. To this end, ENSC will use a dual baseline practice for calculating its energy savings for program and portfolio planning purposes.

A dual baseline approach to calculating energy savings involves the following:

In the year an energy-efficient measure is installed, if the replaced measure is still in working order, its RUL must be calculated based on its EUL and the length of time it has been in use prior to replacement. Once calculated, energy savings are impacted in the following ways:

- “Enhanced” or full savings (the delta between existing energy consumption and the energy-efficient measure consumption) are calculated for the RUL period.
- Regular savings (the delta between the standard new baseline consumption and the energy-efficient measure consumption) are calculated for the rest of the measure life period.



A dual baseline approach for calculating costs involves the following:

- The full cost for the energy efficient equipment is calculated.
- The full cost for the baseline equipment at the end of the RUL period is calculated.
- Final costs are the difference between the present value of the baseline costs and the energy-efficient costs.

DEFINITIONS

- ***Effective Useful Life (EUL)***: the assumed or average general life of a measure
- ***Remaining Useful Life (RUL)***: the length of time a measure is expected to remain in operation (the length of time until its EUL is at an end)

APPROACH

A dual baseline approach requires time and resources that must be used in addition to existing resources to deliver programs. Because of this, Efficiency Nova Scotia's dual baseline practice is based on a feasible, as opposed to theoretical approach. This means that dual baseline applies to measures for which both investment and savings are significant enough to warrant the additional investment. Based on an assessment of other North American jurisdictions that implement dual baseline, Efficiency Nova Scotia will use a dual baseline approach for measures in which the following criteria are met:

1. The associated program aggressively targets early replacement as opposed to end-of-life replacement.
 - Examples include direct install and custom retrofit programs
2. Incentive levels, including both dollars and other supports, are significant enough to warrant the increased investment in resources to support the dual baseline approach.
3. The Remaining Useful Life of existing equipment is greater than two years.
4. Current baseline data and practices is straightforward and available.
 - Examples include HVAC equipment, refrigeration equipment, and lighting measures.
 - Exclusions include industrial processes.

5. The energy consumption of existing equipment is significantly higher than current baselines or practices.

APPLICATION

Because of the work required to implement a dual baseline practice, Efficiency Nova Scotia will implement it in a staged approach over the next two years:

- **2013:**

- o Processes and tracking mechanisms, including the development of assumptions for RULs of existing equipment and future costs of baseline equipment, will be developed for the Custom Retrofit and Business Energy Solutions programs.
- o Tracking will be initiated so that Nova Scotia-specific data will begin being gathered by 2014.
- o Research will be conducted to determine whether or not air source heat pumps and other potential measures should be subject to dual baseline.
- o Efficiency Nova Scotia's planning model will be modified to accommodate a dual baseline approach for both savings and costs.

- **2014:**

- o Dual baseline will be implemented for the Custom Retrofit and Business Energy Solutions programs.
- o If additional measures are determined to meet the criteria for dual baseline, processes and tracking mechanisms will be developed.