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Request IR-15:

For each program, please identify and explain ENSC's assumptions and analysis used to estimate the expected program participation for 2013 through 2015.

Response IR-15:

Estimates of ENSC program participation for 2013 through 2015 are generated using Navigant's Energy Efficiency Resource Assessment Model (RAM Tool). These estimates are based on energy savings calibration targets developed for each program, which are informed by recent ENSC program experience. The program-level calibration target is then distributed among all the measures within a program based on an estimated "base year maximum market potential" (economic potential multiplied by consumer awareness and consumer willingness factors). The estimated maximum market potential is estimated based on best practices and past experience from other jurisdictions.

Within each program, each measure's base year maximum market potential is summed to calculate a program total base year maximum market potential.

The ratio of each measure's base year maximum market potential against the program total base year maximum market potential is multiplied by the program-level calibration target. This determines base year measure-level calibration targets. The calibration target is fixed, but if any factors that affect the program-level TRC change, then the mix of measures that pass TRC may change and the RAM Tool recalculates the base year maximum market potential for the new mix of measures. Thus, individual measure participation values may change.

Using these first year calibrated measure participation values, a consumer decision adoption algorithm simulates consumer choice (program participation) for succeeding years. This is based on simple measure payback and other decision components. For each measure by year, the algorithm estimates the number of units implemented. The algorithm has the following form:

> **Number of measures implemented** = total available measure units * binary logit function * market factor * decision maker awareness of measure and willingness to install the measure.

The "total available measure units" is a variable that changes with each forecast year and differs depending on whether the measure is replaced on burnout or is a retrofit. For retrofit measures, the calculation has the following form:

> **Total available measure units** = Available building stock * (maximum density for the competing technologies – base year efficient technology density) – cumulative sum of previous years of efficient technology units installed.

For measures replaced on burnout, the calculation has the following form:

> **Total available measure units** = Available building stock / measure life * (maximum density for the competing technologies – base year efficient technology density) – cumulative sum of previous years of efficient technology units installed.

The "binary logit function" identifies the share of the efficiency measures implemented each year. The logit function has the following form:

> **Share of Efficiency Measures Implemented** = Exponential (0.0 – Beta Constant * Measure Payback)
>
> **Where:**

- The Beta constant represents the average influence of all excluded (non-payback) factors.

- Measure payback is simple measure payback and is calculated for each measure, each forecast year.

The market factor influences year-by-year measure implementation. This factor is calculated based on the initial estimates of base year participation estimated in the calibration step.

An exception to this methodology is for a small set of residential measures where participation estimates are fixed values provided to Navigant by ENSC. These measures include the ones included in the Green Heat Strategy, which were developed by Dunsky Energy Consulting. The participation level for each heating system type included in the strategy was estimated based on the existing baseline penetration of each technology and expected impact on customer behaviours. The existing penetration and performance of each technology was evaluated through discussions with market actors (system installers, distributors, trade association, etc.) supplemented by an analysis of heating systems installed in ENSC's comprehensive home energy programs (EnerGuide for Existing Houses and Performance Plus). Through discussions with program administrators in other jurisdictions and Dunsky Energy Consulting's professional experience with similar programs, the participation level for each technology was then estimated, taking into account current market trends seen in the Province.

The other program for which participation levels were provided to Navigant by ENSC was Home Energy Report. For this program, participation levels were provided to ENSC by the program delivery agent and reflect the number of participants to be enrolled in the program so the target savings can be achieved.

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Request IR-16:

Referring to Avon IR-3 (Revised April 18, 2012), please explain why ENSC expects a decrease in program participation from 2012 to 2013 for each of the following programs: Existing Residential (21,000 participating participants in 2012, 10,000 participating participants in 2013}. Direct Installation (5,144 participating facilities in 2012, 500 participating facilities in 2013), Efficient Products Rebate (Residential) (300,000 participating units in 2012, 100,070 participating units in 2013), and Efficient Product Rebate (BNI) (550,000 participating units in 2012, 242,682 participating units in 2013).

Response IR-16:

In general, differences between 2012 and 2013 program participation rates are related to the way in which estimates are developed. 2012 projections of program participants are largely based on 2011 program performance. The 2013 projection of participants is from the 2013 DSM analysis tool, which is informed by prior year program performance as well as other factors used in the analysis. Specific program explanations are found below.

The decrease in program participation from 2012 to 2013 for the Existing Residential program is because the 2012 program includes a sizable direct install pilot component (of approximately 20,000 houses) that is not factored into the 2013 DSM Plan. ENSC is waiting to see the 2012 results before determining whether or not the component will be included in future years' programming.

The decrease in program participation from 2012 to 2013 for the BNI Direct Install program is because the 2012 program includes a sizable upstream lighting component compared to the 2013 DSM Plan. ENSC is working to influence legislation requiring distributors to carry only high-performance T8 lamps, which, if in effect in 2013, will result in approximately 200,000 fewer lamps being sold through the program.

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The decrease in program participation from 2012 to 2013 for the Residential Efficient Products Rebate program is because the 2012 program projects significantly more CFL sales compared to the 2013 DSM Plan due to the increasing market saturation of these lamps.

The decrease in program participation from 2012 to 2013 for the BNI Efficient Products Rebate program is due to a projected different mix and volume of measures relating to market transformation. The 2012 program projects significantly more CFLs and LED exit signs installed compared to the 2013 DSM Plan.

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Request IR-17:

Referring to Avon IR-3(b) (Revised April 18, 2012), please explain why ENSC increased the expected number of program participants for 2013 through 2015 from the originally filed response for the following programs: Existing Residential, Efficient Products Rebate (Residential), and Efficient Product Rebate (BNl).

Response IR-17:

For the Efficient Products Rebate (Residential) and the Efficient Products Rebate (BNI) programs, the increased expected number of program participants for 2013 through 2015 from the originally filed response is due to the correction of the error in the Energy Efficiency Resource Assessment Model (RAM Tool). As a result, the mix and volume of measures in each program changed slightly due to changes in costs, and thus TRC ratios changed, which affects the share of savings apportioned to each measure, and thus the number of program participants changed.

For the Existing Residential program, the increased expected number of program participants for 2013 through 2015 from the originally filed response is due to the correction of the error in the RAM Tool. Also, in preparation of Avon IR-3b, the number of participants were inadvertently omitted for Low Income, MURB, Direct Install, and Green Heat.

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Request IR-18:

For each program and for each rate class, please provide planned and actual efficiency budgets for 2008 through 2012.

Response IR-18:

Please refer to Attachment 1. DSM programs did not allocate costs by rate class until 2010, so planned and actual budgets are provided by program only for 2008-2009.

2008-2009	Budget/ Actual	Existing Homes	New Homes	Efficient Products	Low Income	Prescriptive Rebates	Custom (incl. New Construction)	Small Business Direct Install	Education & Outreach	Development and Research	All Program Costs Combined
	F	$ 1,417,000	$ 605,000	$ 2,505,000	$ 1,520,000	$ 1,597,000	$ 3,432,000	$ 1,226,000	$ 281,000	$ 336,000	$ 12,921,000
	A	$ 1,070,000	$ 180,000	$ 4,000,000	$ 1,080,000	$ 400,000	$ 2,625,000	$ 2,140,000	$ -	$ 355,000	$ 11,850,000

Columns may not add correctly due to rounding.

Source (Forecast): Final Collaborative Report: DSM Programming Plan 2008-2010 and Framework to 2013, Filed January 31, 2008

Source (Actuals): 2011 DSM Plan Filed February 26, 2010

2010	Budget/ Actual	Existing Homes	New Homes	Efficient Products	Low Income	Prescriptive Rebates	Custom (incl. New Construction)	Small Business Direct Install	Education & Outreach	Development and Research	All Program Costs Combined
Residential/Charitable	F	$ 2,082,154	$ 2,033,046	$ 914,871	$ 2,141,082	$ -	$ -	$ -	$ 360,785	$ 225,491	$ 7,757,428
	A	$ 1,402,128	$ 516,391	$ 2,698,355	$ 1,962,142	$ 123,489	$ 145,885	$ 762,910	$ 416,191	$ 1,398,854	$ 9,426,345
Small General	F	$ -	$ -	$ 702,364	$ -	$ -	$ -	$ 817,244	$ 19,608	$ 12,255	$ 1,551,471
	A	$ -	$ -	$ 1,821,390	$ -	$ 94,248	$ 63,512	$ 563,122	$ 22,619	$ 76,025	$ 2,640,916
General Demand	F	$ -	$ -	$ 401,351	$ -	$ 46,533	$ 2,496,170	$ 4,358,633	$ 9,548	$ 5,967	$ 7,318,202
	A	$ -	$ -	$ 1,956,308	$ -	$ 864,481	$ 1,837,228	$ 3,070,689	$ 11,014	$ 37,019	$ 7,776,738
Large General	F	$ -	$ -	$ -	$ -	$ 45,079	$ 2,418,165	$ -	$ 15	$ 9	$ 2,463,268
	A	$ -	$ -	$ -	$ -	$ 53,624	$ 306,782	$ -	$ 17	$ 58	$ 360,481
Small Industrial	F	$ -	$ -	$ -	$ -	$ -	$ -	$ 277,813	$ 1,892	$ 1,183	$ 280,888
	A	$ -	$ -	$ -	$ -	$ 76,312	$ 213,246	$ 247,179	$ 2,183	$ 7,338	$ 546,258
Medium Industrial	F	$ -	$ -	$ -	$ -	$ 25,211	$ 1,333,843	$ -	$ 173	$ 108	$ 1,359,334
	A	$ -	$ -	$ -	$ -	$ 283,683	$ 761,758	$ -	$ 200	$ 671	$ 1,046,312
Large Industrial	F	$ -	$ -	$ -	$ -	$ 20,762	$ 779,184	$ -	$ 33	$ 21	$ 800,000
	A	$ -	$ -	$ -	$ -	$ 86,266	$ 483,075	$ -	$ 38	$ 128	$ 569,508
ELI 2P-RTP	F	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2	$ 1	$ 3
	A	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2	$ 6	$ 8
Municipal	F	$ 38,773	$ 37,859	$ 52,319	$ 39,870	$ 3,582	$ 187,955	$ 168,766	$ 5	$ 3	$ 529,133
	A	$ 4,642	$ 15,971	$ 269,836	$ 27,860	$ 39,883	$ 278,682	$ 2,323	$ 6	$ 19	$ 639,222
Unmetered	F	$ -	$ -	$ -	$ -	$ 8,898	$ 477,307	$ -	$ 8,111	$ 5,069	$ 499,385
	A	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,356	$ 31,447	$ 40,803
Bowater Mersey (AE Only)	F	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1	$ 1	$ 1
	A	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1	$ 3	$ 4
GRLF	F	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2	$ 2	$ 4
	A	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3	$ 10	$ 12
Wholesale Market	F	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Backup/Top-up	A	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
1P-RTP	F	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	A	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Forecast	**F**	**$ 2,120,927**	**$ 2,070,905**	**$ 2,070,905**	**$ 2,180,953**	**$ 150,066**	**$ 7,692,624**	**$ 5,622,456**	**$ 400,175**	**$ 250,109**	**$ 22,559,118**
Total Actual	**A**	**$ 1,406,770**	**$ 532,362**	**$ 6,745,889**	**$ 1,990,002**	**$ 1,621,986**	**$ 4,090,168**	**$ 4,646,223**	**$ 461,630**	**$ 1,551,578**	**$ 23,046,608**

Columns may not add correctly due to rounding.

Source (Forecast): 2010 DSM Plan Preliminary Cost Allocation Tables Filed May 11, 2009

Source (Actuals): 2012 DSM Cost Recovery Rider filed Oct. 21, 2011

2011	Budget/ Actual	Existing Homes	New Homes	Efficient Products	Low Income	Prescriptive Rebates	Custom (incl. New Construction)	Small Business Direct Install	Education & Outreach	Development and Research	All Program Costs Combined
Residential/Charitable	F	$ 6,814,755	$ 4,222,399	$ 2,879,578	$ 5,194,532	$ -	$ -	$ -	$ 973,926	$ 901,784	$ 20,986,973
	A	$ 2,085,270	$ 1,323,000	$ 8,600,404	$ 4,940,100	$ 261,413	$ 28,991	$ 987,734	$ 820,427	$ 1,280,227	$ 20,327,567
Small General	F	$ -	$ -	$ 334,393	$ -	$ -	$ -	$ 1,296,572	$ 52,931	$ 49,010	$ 1,732,906
	A	$ -	$ -	$ 1,175,727	$ -	$ 260,403	$ 21,732	$ 1,023,910	$ 44,589	$ 69,578	$ 2,595,939
General Demand	F	$ -	$ -	$ 167,196	$ -	$ 3,041,521	$ 4,786,180	$ 4,735,575	$ 25,774	$ 23,864	$ 12,780,110
	A	$ -	$ -	$ 1,024,024	$ -	$ 1,704,643	$ 2,635,041	$ 3,836,594	$ 21,712	$ 33,879	$ 9,255,893
Large General	F	$ -	$ -	$ -	$ -	$ 861,764	$ 1,356,084	$ -	$ 40	$ 37	$ 2,217,926
	A	$ -	$ -	$ 80,705	$ -	$ 8,716	$ 241,625	$ -	$ 34	$ 53	$ 331,132
Small Industrial	F	$ -	$ -	$ -	$ -	$ 103,393	$ 162,701	$ 144,820	$ 5,109	$ 4,730	$ 420,753
	A	$ -	$ -	$ 53,226	$ -	$ 149,027	$ 9,472	$ 533,596	$ 4,304	$ 6,715	$ 756,339
Medium Industrial	F	$ -	$ -	$ -	$ -	$ 516,966	$ 813,505	$ -	$ 467	$ 433	$ 1,331,371
	A	$ -	$ -	$ 3,640	$ -	$ 26,101	$ 280,711	$ -	$ 393	$ 615	$ 311,460
Large Industrial	F	$ -	$ -	$ -	$ -	$ 568,663	$ 894,855	$ -	$ 89	$ 83	$ 1,463,690
	A	$ -	$ -	$ -	$ -	$ 49,367	$ 158,185	$ -	$ 75	$ 118	$ 207,744
ELI 2P-RTP	F	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4	$ 4	$ 9
	A	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3	$ 6	$ 9
Municipal	F	$ 126,902	$ 78,628	$ 69,657	$ 96,731	$ 138,941	$ 218,639	$ 194,554	$ 13	$ 12	$ 924,077
	A	$ 44,730	$ 77,000	$ 201,785	$ 49,900	$ 31,944	$ 97,448	$ 77,520	$ 11	$ 17	$ 580,355
Unmetered	F	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 21,895	$ 20,273	$ 42,167
	A	$ -	$ -	$ -	$ -	$ 488,422	$ 216,796	$ -	$ 18,444	$ 28,781	$ 752,443
	F	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2	$ 2	$ 4
Bowater Mersey (AE Only)	A	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2	$ 3	$ 5
GRLF	F	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 7	$ 6	$ 13
	A	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 6	$ 9	$ 14
Wholesale Market	F	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Backup/Top-up	A	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
1P-RTP	F	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	A	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Forecast	**F**	**$ 6,941,657**	**$ 4,301,026**	**$ 3,450,824**	**$ 5,291,263**	**$ 5,231,249**	**$ 8,231,965**	**$ 6,371,521**	**$ 1,080,258**	**$ 1,000,239**	**$ 41,900,000**
Total Actual	**A**	**$ 2,130,000**	**$ 1,400,000**	**$ 11,140,000**	**$ 4,990,000**	**$ 2,980,000**	**$ 3,690,000**	**$ 6,460,000**	**$ 910,000**	**$ 1,420,000**	**$ 35,118,899**

Columns may not add correctly due to rounding.

Source (Forecast): 2011 DSM Plan Preliminary Cost Allocation Tables Filed February 26, 2010

Source (Actuals): Rate Code Allocation Preliminary Actuals Updated March 26, 2012 and 2011 Audited Program Expenditures

2012 (Forecast)	Existing Homes[1]	New Homes	Efficient Products	Home Energy Report	Prescriptive Rebates	Custom (incl. New Construction)	Small Business Direct Install	Enabling Strategies	All Program Costs Combined
Residential/Charitable	$ 9,578,162	$ 4,223,917	$ 3,344,076	$ 886,160	$ 342,903	$ 372,065	$ 840,200	$ 4,512,188	$ 24,099,670
Small General	$ -	$ -	$ 291,202	$ -	$ 261,706	$ 164,271	$ 707,498	$ 245,229	$ 1,669,905
General Demand	$ -	$ -	$ 291,202	$ -	$ 2,400,476	$ 4,010,135	$ 3,978,874	$ 119,409	$ 10,800,095
Large General	$ -	$ -	$ -	$ -	$ 148,902	$ 773,038	$ -	$ 186	$ 922,126
Small Industrial	$ -	$ -	$ -	$ -	$ 211,903	$ 542,584	$ 313,889	$ 23,668	$ 1,092,044
Medium Industrial	$ -	$ -	$ -	$ -	$ 787,726	$ 1,953,301	$ -	$ 2,165	$ 2,743,191
Large Industrial	$ -	$ -	$ -	$ -	$ 239,542	$ 1,233,145	$ -	$ 414	$ 1,473,101
ELI 2P-RTP	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 21	$ 21
Municipal	$ 179,256	$ 79,051	$ 81,356	$ 16,585	$ 110,745	$ 207,724	$ 170,246	$ 62	$ 845,025
Unmetered	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 101,437	$ 101,437
Bowater Mersey (AE Only)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 10	$ 10
GRLF	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 31	$ 31
Wholesale Market	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
1P-RTP	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$ 9,757,418**	**$ 4,302,968**	**$ 4,007,836**	**$ 902,744**	**$ 4,503,903**	**$ 9,256,261**	**$ 6,010,706**	**$ 5,004,820**	**$ 43,746,657**

Columns may not add correctly due to rounding.

Source: 2012 DSM Revised Preliminary Program Cost Allocation Filed April 4, 2011

[1]Includes Low Income

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Request IR-19:

Referring to Confidential Attachment 2 provided to Synapse IR-14-b and Attachment 2 as part of the Company's response to Multeese IR-6c, please explain why ENSC assumes zero annual avoided capacity costs before 2022 (in Confidential Attachment 2), while it assumes two 100 MW wind farms would be avoided or delayed as a result of the DSM plan (in Attachment 2 in response to Multeese IR-6c).

Response IR-19:

The wind blocks in 2015 and 2017 are modeled as purchased power agreements with a price given on an energy basis in $ per MWh. Rather than estimating what portion of the price is capacity related, both the capacity and energy values are combined in the avoided energy cost. Please refer to Synapse IR-14a Confidential Attachment 1. The cost difference between the With DSM and No DSM Plans includes the total avoided cost of DSM, both energy and capacity.