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September 3, 2015 (2nd Letter)

VIA RESS, EMAIL and COURIER

Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street
Suite 2700
Toronto, ON M4P 1E4

Dear Ms. Walli,

**Re: Enbridge Gas Distribution Inc. (the “Company” or “Enbridge”)
Ontario Energy Board (the “Board”) File: EB-2015-0049
Multi-Year Demand Side Management Plan (2015 to 2020)
Undertaking Responses**

Enclosed please find the following undertaking responses:

- Exhibits J5.4 and 5.8;
- Exhibit J6.12; and
- Exhibits J8.9 and 8.13.

The submission has been filed through the Board’s Regulatory Electronic Submission System (“RESS”) and will be available on the Company’s website under the “Other Regulatory Proceedings” tab at www.enbridgegas.com/ratecase.

If you require further information, please contact the undersigned.

Yours truly,

(Original Signed)

Bonnie Jean Adams
Regulatory Coordinator

Encl.

cc: Mr. Dennis O’Leary, Aird &Berlis
EB-2015-0049 Intervenors

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Enbridge provide a one paragraph summary as to what is being undertaken and what the benefits would be and what would be contemplated moving forward on an annualized basis, to present a succinct sample report of what would be reported on and what would be available, and what the benefits would be.

RESPONSE

Enbridge is currently at various stages of development on over 30 potential collaboration opportunities with LDCs, ranging from Low Income joint delivery to Commercial Direct Install offers. One example of an opportunity which the Company will use its Collaboration and Innovation Fund for is a pilot that will aim to generate gas and electricity savings for hotels and motels in Southern Ontario.

Upon completion of this pilot and other opportunities, Enbridge will report relevant budget details in addition to associated gas, electricity, water and greenhouse gas emissions savings (forecasted and actual). The Company would further seek to report on indirect benefits such as improved customer experiences, learnings relevant to increased DSM / CDM collaboration, or the advancement of new and innovative approaches or technologies.

The Company will also update the Board and stakeholders on details surrounding initiatives that are underway, as well as those that are being planned or considered. If appropriate, the Company may also describe any initiatives that have not gone forward, along with an explanation of what challenges or hurdles were encountered.

While Enbridge has not yet set out explicitly what reporting might look like, a sample list of headlines is presented below. Furthermore, the Company is in regular contact with Board Staff and stakeholders, and will ensure that, where reasonable and appropriate, it captures any additional elements that may be useful for the Board's information.

Witnesses: M. Lister
F. Oliver-Glasford
J. Paris
E. Reimer

Sample Headline Topics for Collaboration Reporting:

- Collaboration activities in the market:
 - Overview of offerings / initiatives / activities
 - Success and challenges
 - Review of results
 - Overview of benefits
 - Overview of costs
 - Any other issues related to the offering / initiative / activity
- Collaboration opportunities going forward:
 - Overview of offerings / initiatives / activities
 - Expected Success and challenges
 - Review of expected results (if available)
 - Overview of expected benefits (if available)
 - Overview of expected costs (if available)
- Collaboration and Innovation budget overview – past, present, and future
- Other items that may be impacting collaboration in general

Witnesses: M. Lister
F. Oliver-Glasford
J. Paris
E. Reimer

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Enbridge to advise what policy or decision the Board could provide that would facilitate collaboration with LDC'S.

RESPONSE

Further to the Board's ongoing encouragement to collaborate, Enbridge believes there are areas where the Board could further facilitate collaboration between Enbridge and the electric utilities. Examples of these areas include:

Consider Revising the Gas Distribution Access Rule

Section 5 of the Board's Gas Distribution Access Rule ("GDAR") specifies the manner in which utilities may use, disclose, retain, release, and access customer information.

In particular, some uncertainty exists about whether s.5.2.1 and s.5.3.1 create barriers to collaboration by limiting the types of customer information Enbridge is permitted to share with electric utilities.

The sharing between the electric and gas utilities of information would be very helpful in supporting jointly developed research and sales/marketing energy efficiency initiatives.

Enable a Combined, Province-Wide Low Income Program

A second lever available to the Board to accelerate larger scale collaborative efforts would be by encouraging the IESO to contract for a province-wide, combined electric / gas energy efficiency program targeting markets such as low income populations. This would afford the gas utilities an opportunity to contract directly with the IESO to establish a greater degree of program uniformity, leverage the gas utilities' experience in this area. Such collaboration would generate benefit due to economies of scale, and help to minimize administrative burdens. This would ultimately benefit the low income community.

Witnesses: M. Lister
F. Oliver-Glasford

Enable a Combined, Residential and/or Commercial New Construction Program

A third lever available to the Board to accelerate larger scale collaborative efforts would be by encouraging the IESO to contract for province-wide, combined electric / gas energy efficiency programs targeting the new build market. This would result in many of the same benefits identified above in respect of Low Income offers. This would ultimately benefit builders and customers and avoid lost opportunities.

Create a “Coordination Bonus” Shareholder Incentive

A bonus shareholder incentive could be put in place to create an additional driver for the gas utilities to coordinate amongst themselves and with the electric utilities. The bonus could be determined by the audit committee, and awarded where the utility has not already earned the 150% maximum shareholder incentive (i.e., the maximum shareholder incentive would continue to be \$10.45 million).

Collaborative Pilot CCM

Where a collaborative pilot program successfully delivers CCM savings, the Board should assure Enbridge that such savings be counted towards the applicable scorecard. This ensures there is no disincentive to pursuing such pilots and directing adequate resource to their success.

Witnesses: M. Lister
F. Oliver-Glasford

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Enbridge to provide a complete list of calendarization.

RESPONSE

Please see below a summary of the three mechanisms through which Enbridge proposes to carry funds from year to year within the Multi-Year DSM Plan. One of these accounts existed in prior Frameworks (DSMVA), one has been provided by the Board in its DSM Framework (DSMCEIDA), and two have been proposed by the Company to account for the needs of the multi-year plan (DSMPIDA, DSMITCVA).

In addition, the Company has proposed an 'Incremental Budget' for 2015, as provided for by the Board in Section 15.1 of the DSM Framework. Due to conditions beyond the Company's control, the Company is seeking approval to carry over amounts related to select elements of this budget, if required. It should be noted that these are discrete items that do not require the establishment of any on-going account. Further, the accounting of these items can be adequately dealt with through the DSMVA.

<u>Account / Mechanism</u>	<u>Purpose</u>	<u>Timing</u>	<u>Conditions / Limitations</u>
1. Demand Side Management Variance Account (DSMVA)	To track and allocate DSM under- or DSM over-spending up to 15%.	Amounts in this account are collected from or refunded to ratepayers in the annual Clearance of Accounts application, likely occurring in Q3-Q4 of the year after the DSM sales year.	Overspending up to 15% is permitted provided that the utility has achieved a 100% weighted scorecard score on a pre-audit basis and that the additional funds are used for program funding of successful programs. The DSMVA will also be used to track the 2015 Incremental budget. If DSM budgets are underspent, the underspent amount is returned through the Clearance of Accounts proceeding.
2. Demand Side Management Participant Incentive Deferral Account (DSMPIDA)	To track and allocate variances in participant incentives budgeted for Enbridge's multi-year offers.	Amounts in this account are collected from or refunded to ratepayers in the annual Clearance of Accounts application, likely occurring in Q3-Q4 of the year after a given DSM year.	This fund has been established to recognize commitments the Company has made to customers through multi-year DSM offers. To the degree that those commitments do not materialize, unused funds will be returned to ratepayers.

Witnesses: M. Lister
 F. Oliver-Glasford
 B. Ott

<u>Account / Mechanism</u>	<u>Purpose</u>	<u>Timing</u>	<u>Conditions / Limitations</u>
3. Demand Side Management Cost Efficiency Incentive Deferral Account (DSMCEIDA)	An incentive mechanism to encourage cost efficiency by allowing Enbridge to carry unused budget forward.		In addition to spending less than the approved budget, Enbridge must also reach its 100% target level in order to access the DSMCEIDA.
4. Demand Side Management Information Technology Capital Spending Variance Account (DSMITCSVA)	To track and allocate variances in respect of the Company's proposed DSM IT system spending.	To be considered during the Clearance of Accounts proceeding likely occurring in Q3-Q4 of each year.	The variance in spending from the DSM IT system budget in applicable years will be recorded in this account.

Below the Company provides an overview of the items within the 2015 Incremental Budget which may require funds to be carried forward into 2016. Enbridge proposes these remaining funds be made available through 2016 strictly for the items identified. If at the end of 2016 any of these funds remain they will be returned to ratepayers through the DSMVA.

<u>2015 Incremental Budget Items</u>	<u>Cost (\$millions)</u>	<u>Possible Carry-Over to 2016</u>
Opower	\$2.65	\$0.00
Collaboration & Innovation Fund	\$1.00	\$0.00
Comprehensive Energy Management	\$0.37	\$0.00
Low Income New Construction	\$0.25	\$0.00
Green Button	\$0.30	\$0.30
IRP Study	\$0.30	\$0.30
Potential Study Update	\$0.05	\$0.05
TOTAL	\$4.92	\$0.65

Witnesses: M. Lister
 F. Oliver-Glasford
 B. Ott

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Enbridge to provide an estimate of whether the program would perform any better on a TRC plus test

RESPONSE

Enbridge has conducted a TRC Plus test analysis for My Home Health Record and the result for the 2016-2020 period is approximately 1.14.

Although not explicitly part of this undertaking, Enbridge would like to confirm that in addition to the cost effectiveness of this program and the savings that it produces on its own, there are associated benefits with respect to cross-promoting other DSM offerings. As Enbridge stated in an exchange with Board member Frank, Enbridge explicitly took this into account in setting out its targets and budgets going forward. Opower has documented and provided Enbridge with that information, which is attached to this undertaking for the Board's convenience. Lastly, Enbridge believes its My Home Health Record specifically advances efforts to create a culture of conservation.

Witnesses: S. Bertuzzi
S. Hicks
M. Lister
F. Oliver-Glasford

Impact of Home Energy Report Programs on Program Participation Lift

August 26, 2015

Behavioral programs not only impact energy efficiency directly, but also spur participation in other energy efficiency programs. Opower's own analysis as well as the results of several independent evaluations indicates that recipients of home energy reports are more likely to participate in other energy efficiency. The program participation lift impact of Opower HER programs are briefly summarized below.

- HER recipients are 11.0% more likely to participate in additional energy efficiency programs than non-recipients
- HER program participation lift for gas programs (14.7%) is moderately higher than program lift for electric programs (10.3%)
- Program participation lift varies by program category. Home performance (26% lift) and home energy audit (16% lift) programs exhibit the highest levels of lift.
- Energy savings from lifted programs constitute a modest 1.4% of first-year HER savings
- The energy savings from lifted programs are much higher when evaluated over the lifetime of the lifted program
- Participation lift increases to 30% when the program is promoted through the HER report

Independent evaluations have consistently demonstrated the ability of Opower HER programs to drive participation lift. The participation lift effect can be further increased through the targeted promotion of portfolio programs through the HER.

Opower HER programs create clear portfolio benefits that should be considered during energy efficiency portfolio planning.

Measuring HER program participation lift

Opower's randomized control trial program design allows for robust measurement of the program participation lift and the corresponding lift in energy savings that are driven by HER programs.¹ Because households are

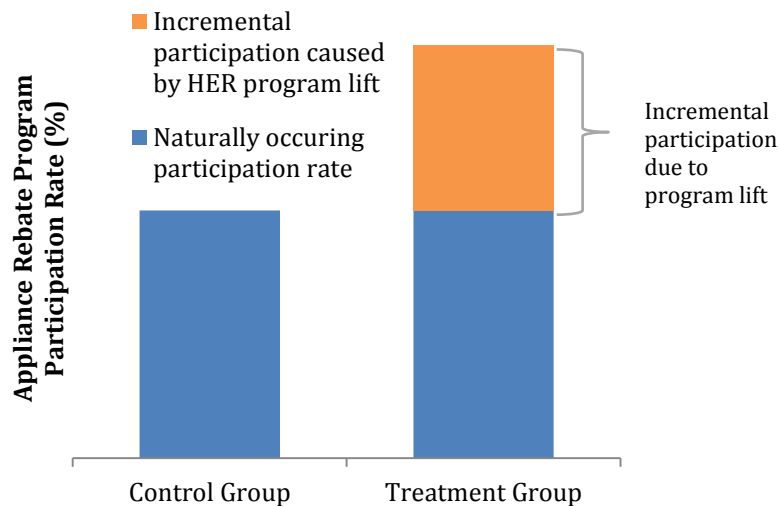
¹ The methodology used to isolate the impact of HERs on program participation rates can be found in: Stewart, James and Annika Todd. "Chapter 17: Residential Behavior Protocol." *The Uniform Methods Project; Methods for Determining Energy Efficiency Savings for Specific*



randomly assigned to either the treatment group (receive reports) or control group (don't receive reports), the groups are equivalent except whether they receive HERs. The equivalence between the treatment and control groups extends to the expected participation in other EE programs and the resulting program savings. Any observed difference in EE program participation between the control and treatment groups can be attributed to the HER program.

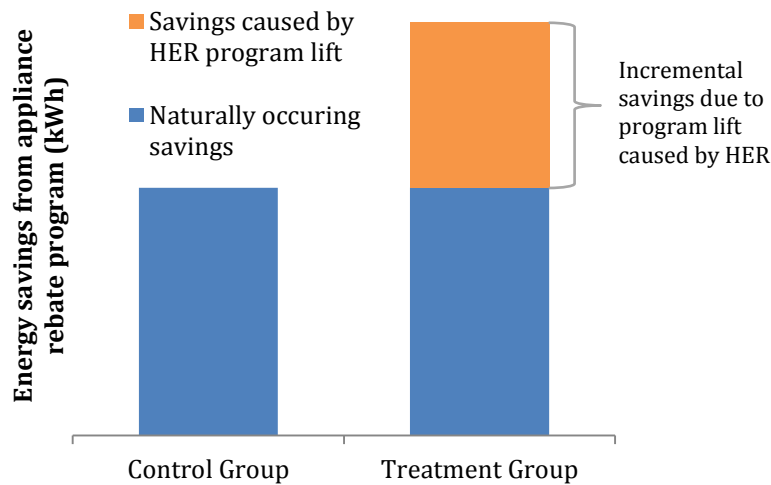
To illustrate, consider a utility with two efficiency programs: an HER program and an Appliance Rebate program.

HER program impact on Appliance Rebate program participation



HER program impact on Appliance Rebate program savings

Measures. National Renewable Energy Laboratory, U.S. Department of Energy. See: <http://www.nrel.gov/docs/fy15osti/62497.pdf>



In this example, the treatment group participates in the Appliance Rebate program at a higher rate than the control group. Similarly, the treatment group achieves greater energy savings from the Appliance Rebate program than the control group. The randomized control trial program design enables us to attribute all incremental program participation and program savings to the HER program treatment.

Independent evaluations of Opower HER program lift

A number of independent evaluators have examined the impact of Opower HER programs on other energy efficiency programs. A summary of the program lift documented in 13 independent evaluations, covering 44 participant waves at 12 utilities, is provided below.²

Median Program Lift by Wave

Each evaluation estimated HER program lift for multiple other efficiency programs. For example, the evaluation of the program at AEP Ohio³ found the following participation lift across three efficiency programs:

Other Energy Efficiency Programs	Participation Lift
In-Home Energy	17%
Appliance Recycling	12%

² Citations for each of the independent evaluations can be found in the Appendix.

³ Source: Home Energy Reports Program, Program Year 2012 Evaluation Report, Navigant Consulting, May 2013). Available: http://www2.opower.com/1/17572/2013-08-22/bvhvr/17572/49286/24_Navigant_AEPO_2012.pdf

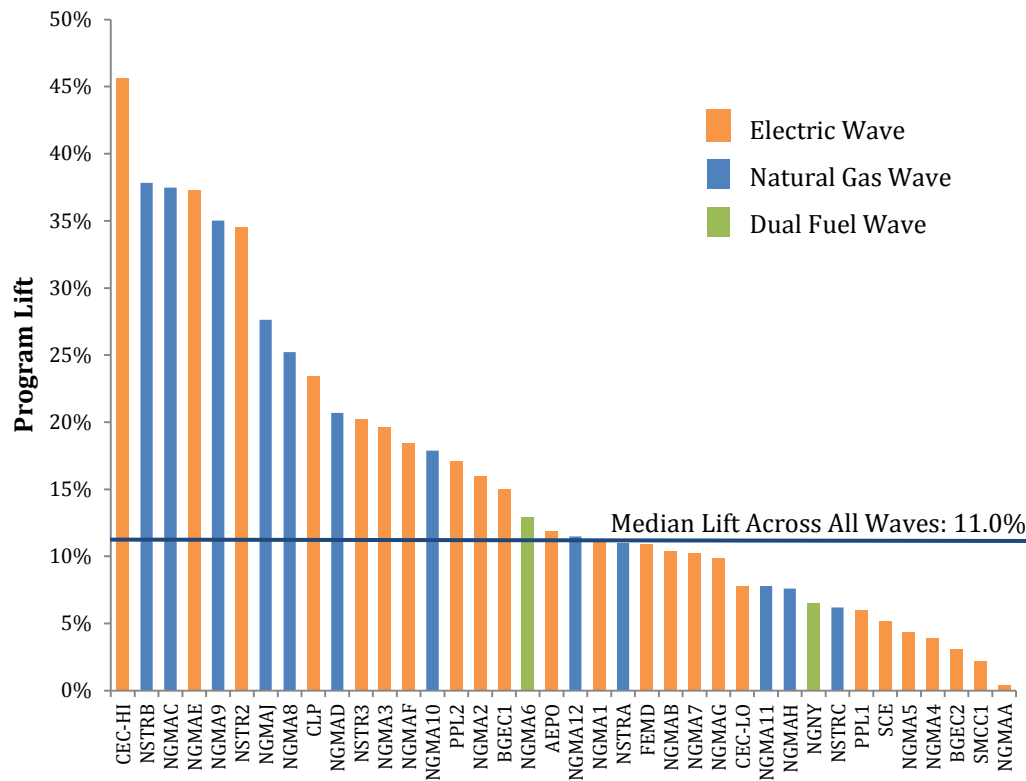


Efficient Products	5%
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Opower used the median participation lift across all programs in a given wave to represent the overall participation lift for that wave. In the case of AEP Ohio, the median program lift is 12%, which is the lift for the appliance recycling program. Median program lift was used to represent overall program lift for a specific wave and as a metric to compare program lift across waves.

Using the median program lift from each wave, we can illustrate the strata of program lift estimates for each wave at each utility evaluated.

Median Program Lift by Wave



No program lift measured at six waves: PEC1, NSTR2, PEC2, NGMAI, CEC, and NSTR1

The median program lift from HERs across all waves and all fuel types is 11.0%. This means that households that receive HERs are about 11% more likely to participate in additional energy efficiency programs than households that don't receive HERs. Isolating waves by fuel type does not



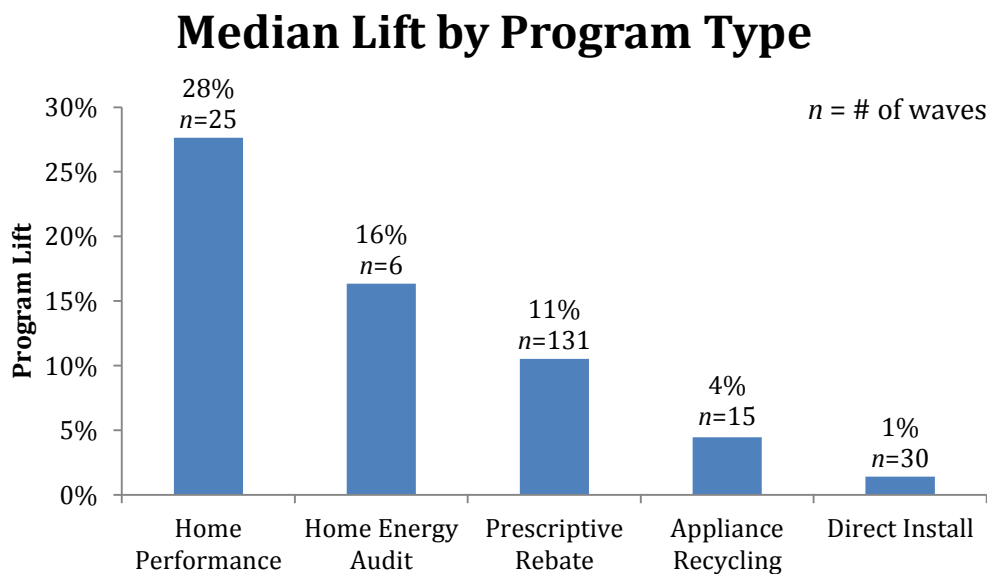
significantly change the median program lift. Median program lift by fuel type is summarized below.

Fuel Type	Median Program Lift	Waves
All	11.0%	44
Electric	10.3%	28
Gas	14.7%	14
Dual fuel	9.7%	2

The median program lift does not change significantly for different fuel types. Because only two dual fuel waves were evaluated, further study of program lift on dual fuel waves would improve the confidence of these results.

Participation Lift by Program Category

Slicing the data a different way, it is possible to see the program lift impact of HERs for different program categories. Opower assigned each evaluated program into one of six categories: (1) Home Performance; (2) Home Energy Audit; (3) Prescriptive Rebate; (4) Appliance Recycling; and (5) Direct Install.⁴ Program lift by program category is illustrated below.



Program categories with fewer than 3 waves were omitted from this analysis.

⁴ This paper defines energy efficiency program categories according to LBNL's *Energy Efficiency Program Typology and Data Metrics: Enabling Multi-State Analyses through the use of common technologies*. August 2013. See Appendix B for a description of each energy efficiency program category.

The largest increases in program participation are observed in the Home Performance (18%) and Home Energy Audit (16%) program categories. The most highly represented program category was Prescriptive Rebate ($n=131$), which carried an 11% program lift. The Appliance Rebate and Direct Install programs followed up with 4% and 1% program lift, respectively.

Jointly Attributable Savings

When an HER program lifts participation in an EE program, the resulting energy savings are called jointly attributable savings (JAS) because the savings are jointly attributable to both the HER program and the lifted EE program. To avoid double counting the savings from lifted programs, evaluators must subtract the JAS from the efficiency portfolio savings. The correct allocation of the JAS between the HER program and the lifted program is the subject of debate in the evaluation community.⁵ The most common industry practice has been to subtract JAS from HER program savings and assign these savings entirely to the lifted program. Some disagree with this approach as it undervalues the energy savings and benefits created by HER programs.

Six evaluations of Opower HER programs describe JAS in sufficient detail to calculate the energy savings from JAS.⁶ In these evaluations, JAS constitute a relatively small portion of gross first year savings.⁷ To better compare JAS across utilities and participant waves, we levelize JAS as a percentage of gross program savings. The results of these evaluations are illustrated below.

Opower internal analysis of program lift

Through its internal analysis, Opower has found that across 60 waves with 11 utilities, households are approximately 10% more likely to participate in other utility-run EE programs after receiving Opower's reports. Moreover, when the other EE programs are actively promoted in Opower's products,

⁵ See: Goldman, Michael and Anne Dougherty. *Integrating Behavior Programs into Portfolio Plans to Encourage Cross-program Effects*. Conference proceedings of the 2014 ACEEE Summer Study on Energy Efficiency in Buildings. Available: <http://aceee.org/files/proceedings/2014/data/papers/7-683.pdf>

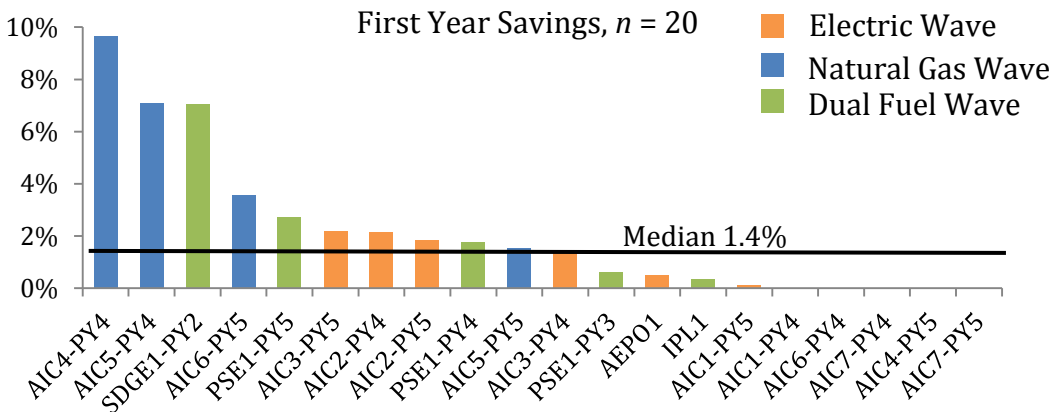
⁶ The appendix contains a list of each evaluation that discuss jointly attributable savings for Opower HER programs.

⁷ In this context, gross savings refers to the HER program savings prior to any netting out of jointly attributable savings due to program lift.



the effect can be much larger, with participation rates increasing by up to 30%.

Jointly Attributable Savings as a Percentage of Gross Savings



Jointly attributable savings constitute a small percentage of total first-year savings. The median level JAS is only 1.4% of gross savings in the first year. Therefore, if an HER program were to save 100 kWh per household, the jointly attributable savings would be 1.4 kWh. Thus, the amount of savings attributed solely to the HER program would be 98.6 kWh per household.

Lifetime Jointly Attributable Savings

First-year savings, however, do not capture the full value of savings from lifted programs. Each of the lifted programs has a multi-year measure life⁸, and so first-year savings from lifted programs should be expected to recur for the entire duration of the lifted programs' measure lives. For a specific lifted measure, the lifetime JAS can be expressed using the equation below:

$$\text{Lifetime JAS} = (\text{First Year JAS}) \times (\text{Average Measure Life})$$

For example, consider a household that participates in a home weatherization program due to having received an HER. The home

⁸ The term "measure life" refers to the median number of years that a measure is in place and operational after installation. See: NREL Uniform Methods Project, Chapter 13: Assessing Persistence and Other Evaluations Issues Cross-Cutting Protocols. We take the term "measure life" to be synonymous with the term "effective useful life", but measure life is the term used exclusively in this white paper.

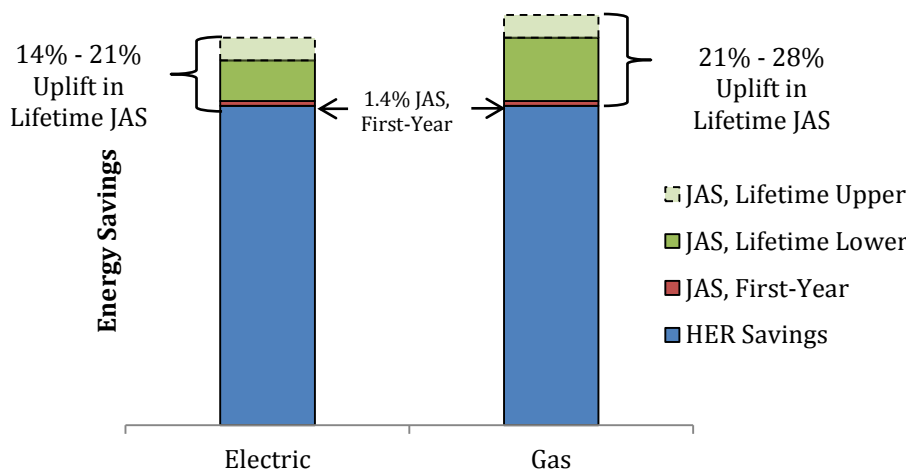


weatherization program delivers 1,600 kWh of energy savings in the first year and has a 20-year measure life. Over the 20-year measure life, the weatherization program will deliver 20 times the first-year savings—or 32,000 kWh. Each time an HER program “lifts” an incremental participant into a weatherization program, this commences a 20-year stream of energy saving. First year JAS are 1,600 kWh, and lifetime JAS are 32,000 kWh.

To illustrate the impact of lifetime jointly attributable savings, consider that portfolio-average measure life is typically 10-15 years for electric portfolios and 15-20 years for gas portfolios.⁹ Multiplying the first-year jointly attributable savings (1.4% of gross HER program savings) by the average portfolio measure life (10-15 years for electric; 15-20 years for gas) provides a range of expected lifetime jointly attributable savings.

The range of jointly attributable savings is 14% to 21% for electric programs, and 21% to 28% for gas programs. The lifetime benefits from jointly attributable savings are represented graphically below.

Lifetime Analysis of Jointly Attributable Saving (JAS)



⁹ Friedrich, Katherine, et al. *Saving Energy Cost-Effectively: A National Review of the Cost of Energy Saved through Utility-Sector Energy Efficiency Programs*. American Council for an Energy-Efficiency Economy. September 2009.

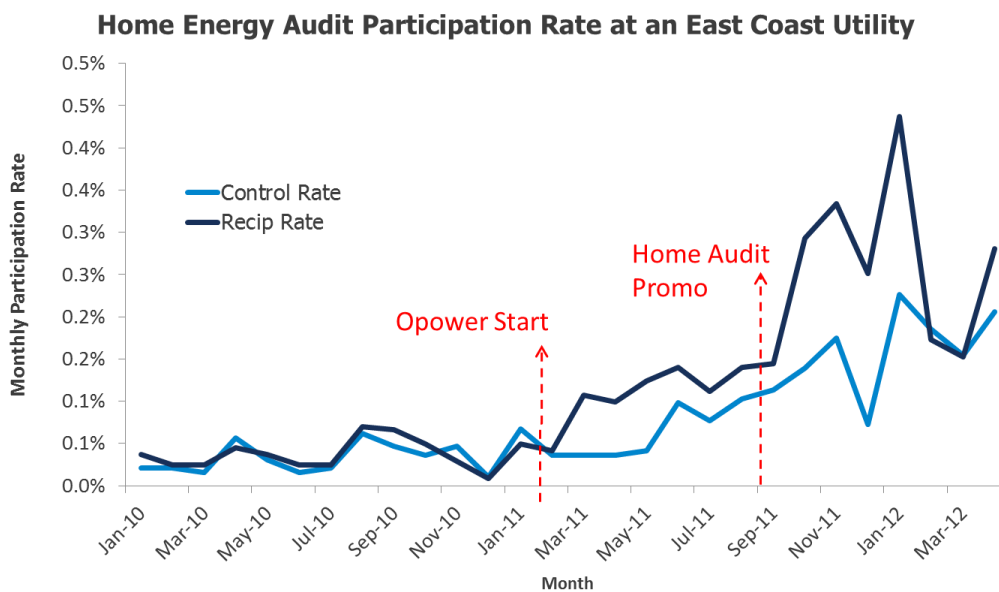


Although significant, the lifetime jointly attributable savings are rarely discussed in HER program evaluations. This is because the scope of the evaluation is usually limited to estimation of first-year jointly attributable savings for the purposes of avoiding a double-counting of portfolio savings. Nevertheless, it's important to acknowledge the multi-year benefits of energy savings from installed measure programs that are lifted by Opower HER programs. Program administrators should consider the lifetime benefits of program participation lift when planning their energy efficiency portfolio.

Program Lift from Program Cross-Promotion

The discussion of program lift up to this point has focused on the lift created through the single act of receiving an Opower HER. This non-promoted program lift is sometimes known as the “halo effect”. When specific efficiency programs are cross-promoted on HERs, the amount of program lift increases significantly. For example, a module on an HER that directs the customer to schedule a home energy audit or a refrigerator recycling pickup can lead to a substantial uptick in participation for these programs.

Although no independent evaluations have looked specifically at promoted program lift, Opower’s internal analysis indicates that program promotion increases participation. In one experiment, our utility client used HERs to promote a home energy audit program. In the months following the promotion, there was a marked uptick in participation in the home audit program.



Internal analysis of Opower programs shows that promoted programs realize an average 30% increase in program participation. The participation increase for promoted programs is significantly higher than for non-promoted programs, which indicates that program cross-promotion is an effective way to drive additional program participation.

Program Lift Implications for Portfolio Planning

Opower HER programs create clear portfolio benefits. In addition to the direct savings effect, these programs increase customer participation and energy savings across the entire portfolio of efficiency programs. A growing body of independent evaluations demonstrates that HERs increase program participation in other efficiency programs. These results are consistent across geographic deployments, fuel types, and program categories. Program lift can be further improved through targeted program cross-promotion.

Program lift is an important component of HER program benefits. Program administrators should recognize and account for the savings from program lift during energy efficiency program planning.



Appendix 1: Independent Evaluations of Opower HER Programs

The following is a list of evaluations that look at program lift from Opower HER programs.

* Indicates that evaluation includes data used in this meta-analysis to calculate program lift percentage.

† Indicates that evaluation includes data used in this meta-analysis to calculate jointly attributable savings.

- Gunn, Randy, December 2010. "Energy Efficiency / Demand Response Plan: Plan Year 2 (6/1/2009-5/31/2010), Evaluation Report: OPOWER Pilot." Navigant Consulting.
- Dougherty, Anne, June 2011. "Massachusetts Cross-Cutting Behavioral Program Evaluation." Navigant Consulting and Opinion Dynamics
- Todd, Annika, Steven Schiller, and Charles Goldman, October 2011. "Analysis of PSE's Pilot Energy Conservation Project: "Home Energy Reports." Lawrence Berkeley National Laboratory.
- April 2012. "Puget Sound Energy's Home Energy Reports Program: Three Year Impact, Behavioral, and Process Evaluation." KEMA Energy & Sustainability. †
- Gunn, Randy, May 2012. "AEP Ohio EE/DR Plan Year 3. Program Year 2011 Evaluation Report - HER Program". Navigant Consulting. *†
- Dougherty, Anne, July 2012. "Massachusetts Three Year Cross-Cutting Behavioral Program Evaluation Integrated Report." Opinion Dynamics Corporation with Navigant Consulting.
- Sutter, Mary, October 2012. "Impact and Process Evaluation of 2011 (PY4) Ameren Illinois Company Behavioral Modification Program." Opinion Dynamics Corporation with The Cadmus Group, Navigant, and Michaels Engineering. †
- Wu, May, November 2012. "Impact & Persistence Evaluation Report: Sacramento Municipal Utility District Home Energy Report Program." Integral Analytics, Inc. with BuildingMetrics Incorporated and Sageview
- Gunn, Randy, November 2012. "Energy Efficiency / Demand Response Plan: Plan Year 4 (6/1/2011-5/31/2012), Evaluation Report: Home Energy Reports." Navigant Consulting. *
- December 2012. "Program Year 1 (2011-2012) EM&V Report for the Residential Energy Efficiency Benchmarking Program." Navigant
- March 2013. "Puget Sound Energy's Home Energy Reports: 2012 Impact Evaluation." KEMA. †



- March 2013. "Evaluation of the Year 1 CL&P Pilot Customer Behavior Program." NMR *
- April 2013. "Evaluation of Pacific Gas and Electric Company's Home Energy Report Initiative for the 2010-2012 Program." Freeman, Sullivan & Company
- May 2013. "Home Energy Reports Program: Program Year 2012 Evaluation Report." Navigant Consulting
- June 2013. "Massachusetts Cross-Cutting Behavioral Program Evaluation Integrated Report." Opinion Dynamics Corporation. *
- August 2013. "Review of PG&E Home Energy Reports Initiative Evaluation." DNV KEMA
- August 2013. "2012 IPL Residential Peer Comparison EM&V Report." TecMarket Works. †
- August 2013. "SDG&E Home Energy Reports Program." DNV KEMA. †
- Allcott, Hunt and Todd Rogers, 2014. "The Short-Run and Long-Run Effects of Behavioral Interventions: Experimental Evidence from Energy Conservation." American Economic Review, 104(10): 3003-37.
- Opinion Dynamics, January 2014. "Impact and Process Evaluation of Ameren Illinois Company's Behavioral Modification Program (PY5)". †
- January 2014. "National Grid Residential Building Practices and Demonstration Program Evaluation: Final Results." DNV KEMA *
- January 2014. "Final Annual Report to the Pennsylvania Public Utility Commission for the Period June 2012 through May 2013, Program Year 4" The Cadmus Group, Inc. *
- January 2014. "Program Year 2 (2012-2013) EM&V Report for the Residential Energy Efficiency Benchmarking Program" Navigant Consulting, Inc.
- March 2014. "Evaluation of 2013 DSM Portfolio: Submitted to CenterPoint Energy Arkansas." ADM Associates, Inc.
- March 2014. "Evaluation of 2013 DSM Portfolio: Submitted to SourceGas Arkansas." ADM Associates, Inc.
- March 2014. "Home Energy Reporting Program PY1 Evaluation Report (1/22/2013 – 1/31/2014). Navigant Consulting. Prepared for Southern Maryland Electric Cooperative. *
- March 2014. "Smart Energy Manager Program 2013 Evaluation Report (01/01/2013 – 12/31/2013). Navigant Consulting. Prepared for Baltimore Gas and Electric. *
- April 2014. "Home Energy Reporting Program PY1 Evaluation Report (1/1/2013 – 12/31/2013). Navigant Consulting. Presented to Potomac Edison. *

- April 2014. "Home Energy Report Program. 2013 Impact Evaluation. Puget Sound Energy". DNV-GL. †
- July 2014. "Home Electricity Report Program, January 2012 through December 2013 Study Period: 2013 Impact Evaluation" DNV-GL.
- December 2014. "2013 SCE Home Energy Reports Program: Review and Validation of Impact Evaluation." DNV GL – Energy. *

All attempts were made to calculate program lift and jointly attributable savings where the evaluations provided sufficient data to do so.

Appendix 2: Energy Efficiency Program Categories

EE Program Category	Description
Home Performance	A comprehensive whole-house approach to identifying and fixing energy efficiency problems. Home performance programs usually combine home energy audits and weatherization services focusing on insulation of the building envelope and air duct sealing. Many programs employ the Home Performance with ENERGY STAR brand and recommended practices.
Home Energy Audit	Residential audit programs provide a comprehensive, standalone assessment of a home’s energy consumption and identification of opportunities to save energy. The scope of the audit includes the whole home although the thoroughness and completeness of the audit may vary widely from a modest examination and simple engineering-based modeling of the physical structure to a highly detailed inspection of all spaces, testing for air leakage/exchange rates, testing for HVAC duct leakage, and highly resolved modeling of the physical structure with benchmarking to customer utility bills.
Prescriptive Rebate	Programs that provide or incentivize a set of pre-approved measures, often including appliances, electronics, and lighting measures. These programs may include the promotion of quality installation and maintenance.
Appliance Recycling	Programs designed to remove less efficiency appliances (typically refrigerators and freezers) from households.
Direct Install	Direct install programs provide a set of pre-approved measures that may be installed at the time of a visit to the customer premises or provided as a kit to the consumer, usually at modest or no cost to the consumer. Typical measures include CFLs, low-flow showerheads, faucet aerators, water-heater wrap, and weather stripping.

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Enbridge to provide the size of its target market when it had these criteria, and the size of the target market now

RESPONSE

The original intent of the income targeting was to facilitate a focused marketing effort when the program was first established in 2012. At the time, comprehensive programs specifically focused on deep savings did not exist in Ontario's DSM residential space. It was thought that only higher income customers would be able and likely to participate in the program. The offering has always been available to any customer within the targeted communities irrespective of income. As such, Enbridge did not ever estimate the market potential based on higher income homes.

Enbridge considers the 2016-2020 target market to be all residential customers who meet the eligibility criteria described in Exhibit B, Tab 2, Schedule 1, page 23. The eligibility criteria have been broadened to include all homes in the Enbridge franchise area that can save 15%+ in annual gas use.

As indicated in Exhibit I.T5.EGDI.GEC.23, Enbridge believes there is a total "technical" potential of approximately 1.36 million residential customers. Enbridge believes the "achievable" potential is significantly less as research conducted by Enbridge indicated only 22% of customers say they are "very likely" to undertake energy efficiency improvements in the next two years. Please refer to T5.EGDI.CCC.3 Attachment 1, page 5. As well, in the same document on page 8 only 13% are "very aware" of Enbridge's Energy Efficiency services and incentives for customer. Given these realities, the deep savings eligibility criteria, the competition for customer capital, the cost of measures for residential customers, and the proposed incentive levels, Enbridge believes that it has set challenging targets for the HEC program.

As reflected in the targets proposed going forward, Enbridge believes the new offer design will reach more participants than the previous offer. Enbridge is confident customers in the franchise area should be able to achieve the minimum 15% gas savings.

Witnesses: S. Bertuzzi
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