Whole Home Pilot Program: Options for Extension

Presentation to the Ministry of Energy

November 10, 2017

Draft for review by Ministry of Energy

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Purpose

- To provide options and a recommendation for extending the Whole Home pilot program

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Context: program role in residential conservation

- The Whole Home program is an important development in the design and delivery of residential conservation programs for a number of reasons:
  - It offers a one-window, multi-fuel residential conservation program for all Ontarians
  - It builds on existing utility programs and delivery infrastructure to deliver enhanced low-carbon technology measures funded by a combination of both cap and trade proceeds and ratepayer funds, delivering greater results than any of the funders could achieve independently
    - MOECC and the IESO are currently in discussions regarding the possible delivery/alignment of GreenON measures through the Whole Home program
  - Its integrated "whole home" approach significantly enhances the current offerings in the CFF residential program portfolio

Summary: Recommendation and Challenges

- IESO recommendation to extend the Whole Home pilot with the gas utilities as a pilot for up to one year, subject to budget considerations.
- This will allow the IESO to complete an evaluation of the pilot in the 2018 evaluation cycle and to consider future changes to align with the GreenON low-carbon technology rebates
- Should positive evaluation results be obtained, the IESO would seek to transition to a province-wide program funded through LDC budgets by mid-year
- Significant budget required from Central Services to offer as a pilot (estimated $30M for second year); Central Services already strained due to other commitments
- IESO is considering funding options to resolve Central Services potential shortfall through other mechanisms

Background: June 10, 2016 Direction

- Per the Direction, the IESO shall, in consultation with Distributors, centrally design, fund and deliver…

  "a province-wide whole home Conservation and Demand Management (CDM) pilot program for residential consumers"

- Energy savings achieved through the program count towards local distribution company (LDC) CDM targets
- The IESO shall, where appropriate, deliver the program in coordination with natural gas distributors
- Implementation of the program shall commence by end of fall 2016

Rationale for Whole Home Pilot Program

<table>
<tr><th>Feedback from marketplace</th><th>Anticipated impact of new program</th></tr>
<tr><td>Challenges of coordination between multiple electric and gas distributors (19 LDCs had whole home program in CDM Plan)</td><td rowspan="3">Mitigate delivery challenges of coordination between multiple organizations targeting homeowners
Provide consumers with integrated, multi-fuel approach to home energy efficiency
Support cost-efficiencies through coordinated electric/gas program delivery
Create attractive new offer to residential consumers
Incremental funding of programs outside of LDC CDM Plan budgets provides additional resources to support LDC target achievement</td></tr>
<tr><td>Consumer support for simple, choice-based one-stop shop approach to whole home program</td></tr>
<tr><td>Limited residential energy-efficiency offerings from LDCs</td></tr>
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Current status

- Pilot program in market with both gas utilities as of May 29, 2017 (contracting delayed to ensure alignment with GIF TPA)
- Gas utilities supplement their current home energy rebate programs with incremental electricity measure incentives and educational materials for all customers, and broaden eligibility to include electrically heated homes
- Customers receive initial and post-upgrade audits by NRCan certified auditors to confirm the savings achieved
- Approximately 12,000 initial audits completed to date and about 600 post-installation audits; positive feedback from customers and auditors
- Union Gas contract ends at the end of the 2017 calendar year
- Enbridge contract originally ended when 8125 initial audits completed; this milestone was reached at the end of September. Contract was extended to permit initial audits to the end of December 2017.

Green Investment Fund update*

- Union Gas and Enbridge have completed approximately 6,800 home audit and retrofits attributed to GIF since the launch of the GIF Program (as of the end of August 2017).
- The estimated cumulative net GHG savings are approximately 224,000 tonnes (lifetime GHGs) since the launch of the GIF Program (as of the end of August 2017).
- Under the current funding agreement and pace of program results, the funding may be fully spent early.
  - Enbridge is forecasting that it will have funds available to the end of 2018.
  - Union Gas is forecasting that it will have funds available until mid-2018.

*Source: Ministry of Energy

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Options for continuance of program

1. Initiate negotiations with both gas utilities to continue the pilot for up to an additional year
   – Under same terms, or
   – Under modified terms
2. Convert pilot to CFF province-wide program
   – centrally funded, or
   – funded through a VAS rate
3. Terminate the pilot

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Option 1: Extend the pilot for up to an additional year

Benefits	Risks
Provides additional time to evaluate the program before committing to long term delivery; EM&V will be done in 2018 cycle	Current model may not be cost-effective for electricity ratepayers if participation and savings are different than those originally modelled
Positive customer and service organization reaction to pilot to date; continue momentum already established	May be limited appetite from gas utilities to make changes (although they are motivated to participate in GreenON programs)
Additional time for service organizations to become familiar with the expanded offering	Significant budget required from Central Services to offer as a pilot (estimated $30M for second year)
Time to harmonize program with GreenON Rebates targeting home insulation and heat pump measures	GIF funding may end in mid 2018; risk that oil and propane-heated homes would not be covered

Option 2: Convert the pilot to a CFF program

Benefits	Risks
Positive customer and service organization reaction to pilot to date; continue momentum already established	Committing to a program before completing pilot EM&V (will be done in 2018 cycle) and without certainty that the program is cost-effective
Time for service organizations to become familiar with the expanded offering	Will need a new or amended contract with gas utilities; will need ministerial direction
Longer-term commitment to the end of the CFF framework	Significant budget required from Central Services to offer as a program (estimated $30M for second year); use of a VAS rate would shift this to LDCs, but they would have option to opt out (LDCs may not support this since they are currently receiving "free" savings)

Option 3: Terminate the pilot

Benefits	Risks
Ability to evaluate the pilot before making future decisions	Loss of momentum; customer positive reaction and word of mouth will be lost; gas program will continue
No budget risk	No whole home offering for electricity measures; unable to capture electricity savings generated by the program for provincial targets

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Considerations for future amendments to pilot contract

- Evaluation of payments to gas utilities relative to value for money
- Changes to environmental attributes clauses to align with ECA changes
- Addition of measures or augmentation of incentives to align with GreenON low-carbon rebate program
- Consider amending air conditioner incentive to align with Heating and Cooling program changes
- Enbridge considering move to prescriptive incentives to align with Union Gas

APPENDICES

Appendix: Inputs into Transition Decision

Market Research	• Ontario-wide consumer awareness survey (under way) • Participant surveys (to being in September for Union Gas Territory and TBD for Enbridge Gas Territory) • Meetings with Service Organizations to collect feedback on electricity assessment design and customer experience (underway) • Discussions with gas utilities and other Save on Energy Program leads for operational feedback (under way)
Participation	• Program enrollment - number of pre-retrofit audits • Program conversion rate - number of post-retrofit audits • Electrically heated home participation • Duplicate participation in Whole Home Pilot and Save on Energy Heating and Cooling Program
Measures	• Measure uptake • NRCan HOT2000 results • Participant responses to electricity assessment
Quality Assurance	• Gas utilities activities review of energy advisors data collection (to begin in September)

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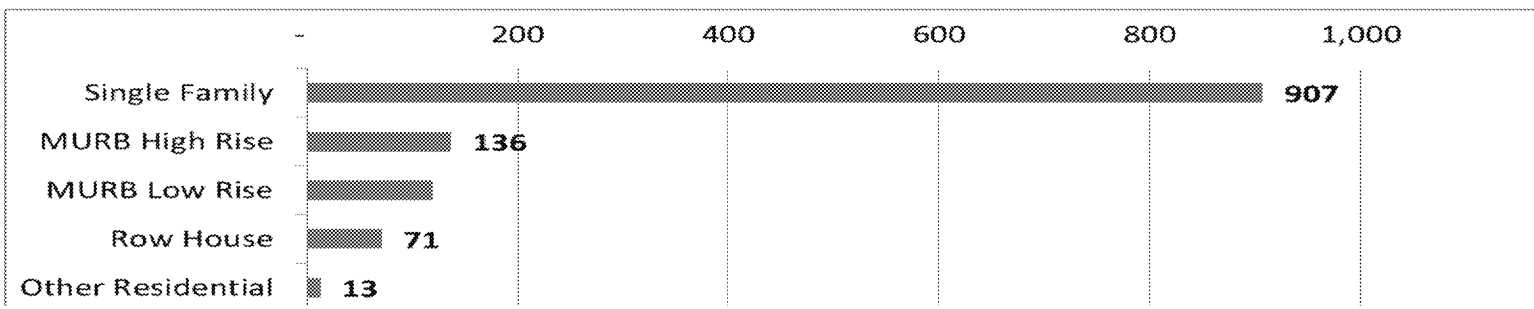
Appendix: Market Potential for Whole Home Pilot program

- There are approximately 3.2 million* single-family homes in Ontario;
  3 million are served by gas and electric utilities
  - 197,000* homes are served by electricity only
- Per the achievable potential study completed on June 30, 2016, there is significant potential for electricity use reductions in single family homes in Ontario through 2020
  - Single family homes account for 12% of the overall budget-constrained (based on the existing Conservation First Framework budget) achievable potential of approximately 7.4 TWh of electricity savings available in Ontario through 2020
  - See Appendix F for more information regarding achievable potential

2020 budget-constrained achievable potential (GWh) for residential sector



Source: MPAC

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IESO-N-0044679

Appendix: Customer input to draft design: lessons learned from February 2016 Whole Home Focus Groups

- IESO held focus groups in February 2016 to find out from residential customers what they wanted in a whole home program and test an LDC-proposed pilot concept
- Key feedback from the focus groups and complementary elements of draft design are highlighted in the table below (see next slide for details on focus groups)

Consumer Feedback	Program Design
Simple application; one-stop shop	• One market-facing program fully coordinated with gas utilities existing programs • Existing home energy assessors deliver an electric complement to existing gas assessment
Want home energy improvement plan	• Home energy assessment recommends savings opportunities
Choice and flexibility of vendor/ retailer and measure mix	• Customer can choose contractor and measures
Willing to contribute to cost (varying opinion on right amount)	• Incentives available for several measures; participant will be able to select what to install based on their personal budget

Appendix: Results of February 2-3, 2016 focus groups on whole home concept

Results of Customer Focus Groups undertaken by IESO (in Mississauga, ON), indicated the following:

- Homeowners rated themselves at ~50% when it comes to knowledge of their home's energy use and do not always have a solid plan in completing home upgrades. Having a "home energy improvement plan" customized for their home presented along with available incentives help foster the decision for energy upgrades.
- In testing the concept, homeowners liked the idea of being provided with an actionable plan customized for their home, which they can then use to make an informed decision on their approach to the home energy improvement
- Homeowners want a one-stop shop for accessing program information and applicable incentives
- Customized information specific to their home is extremely important and likely to make them take action
- Application process needs to be simple
- Homeowners feel they need to be empowered with the following information to make informed decisions.
- Customers wanted choice and flexibility regarding contractor, vendor/retailers, and measure mix.
- Homeowners were generally receptive to having to contribute to the cost of the audit but had varying opinions on what the "right" amount should be.

Appendix: Summary of Feedback Received from public IESO Engagement Webinar

- 82 participants in July 26 webinar; 26 organizations plus LDC Residential Working Group provided written/ verbal feedback
- General support for the whole home program concept as an opportunity to have a significant role in the future of residential conservation.
- Engagement participants keen to ensure pilot will be available to homeowners province-wide and that there is a consistent customer experience between electric and gas utility customers
- Some concern was raised over potential for customer confusion around different program delivery models offered by the gas utilities and how LDC territories will map to gas utility territories.
- Some comments would like to see alternative models considered such as digital audits, direct-install of measures, and pay-for performance incentives.
- More information on measure assumptions and cost-effectiveness was requested.
- Integration with existing province-wide programs and transition from pilot to full program are important issues for stakeholders/interested parties (what happens when 10,000 homes have participated?)
- Support for LDC brand recognition and visibility into customer participation information is important, as well as savings attribution to the LDC where the participation took place.
- Feedback received requested that LDCs continue to be consulted and provide input into the final design and implementation.

Appendix: Whole Home Pilot Design Activities Timeline

Aug./Sept. 2016	• Biweekly working group meetings (IESO, gas utilities, ENERGY) • IESO refined draft design based on stakeholder/interested party input • Enbridge/Union gas developed proposed budget and contract term sheet • IESO provided responses to written comments received through engagement process (Aug. 31)
Sept./Oct. 2016	• IESO/gas utilities develop contract • IESO/gas utilities develop marketing plans • IESO engaged with LDC Marketing and Sales Working Group on LDC opportunities for branding/engagement
Fall 2016	• IESO/gas utilities finalize operational processes including settlement and reporting • Service organization training • IESO engaged LDCs on complementary local marketing and offerings
Fall 2016 – Winter 2017	• Contract negotiation and execution • Program implementation in spring 2017

Appendix: Whole Home incentives offer consumers new incremental incentives for measures with electricity savings

Measure	Estimated Savings per year per home (kWh)	Proposed Incentives	Rationale for Inclusion in Pilot
Air source heat pump (for electric heat only)	3,500-8,200	$1000-$4000	To help overcome first-cost challenges
Fridge – early retirement/ replacement	750	$75	To complement existing Save on Energy province-wide program offerings
Freezer – early retirement/ replacement	890	$75	
Dehumidifier – early retirement/ replacement	630	$30	
Window air conditioner - early retirement/replacement	140	$25	
Clothes washer - early retirement/replacement	91	$75	
Gas furnace with ECM	733	$250	Alternative delivery of HVAC incentives consistent with the Save on Energy Heating and Cooling Program (i.e., no "double-dipping" of incentives)
Central air conditioning- ENERGY STAR® SEER 15 and EER 12.5	17	$400	
Lighting	N/A	Education only – customer to be offered residential program	Save on Energy COUPON Program

Appendix: Gas Utilities' Whole Home Program Links

- Program information is available here:
  - Enbridge Gas Distribution Home Energy Conservation Program
    http://knowyourenergyscore.ca/home-energy-conservation/
  - Union Gas Home Reno Rebate Program
    https://www.uniongas.com/homereno

Appendix: Whole Home Pilot Communications Strategy

- Employ existing gas utilities' program offers and infrastructure with added complementary electricity savings component
- Leverage existing marketing and communication channels with customers from both the gas and electricity utilities
- Highlight the ways in which these additions make the program even more compelling for consumers
- Demonstrate the cumulative effect of how many of these efforts reduce both electricity and gas savings
- Integrate home assessment and holistic energy management approach in residential marketing efforts such as influencer campaign "Leave it to Bryan" on HGTV

Appendix: Whole Home Pilot Key Messages

- Ontario's home energy assessment/upgrade program just got even better – with new incentives that will help homeowners save on both their electricity and natural gas costs
- Home assessments provide a 360º view of your home energy use – valuable information you can use to control your energy costs
- By making your home energy efficient – your home will be more comfortable and convenient to run.
- Our home energy assessment/upgrade program makes the job of energy upgrades much easier and more affordable. Contact the gas utility in your area to find out how to get started.

Appendix: LDC Role in Whole Home Pilot

- Whole Home Pilot program savings count towards LDC CDM Plan targets
  - Program is funded through IESO incremental to LDCs existing CDM Plan budgets and savings count towards LDC targets (based on the LDC where the home assessment and upgrade takes place) with no updates to CDM Plans required
- Local marketing
  - To solicit whole home program participation by LDC customers, with opportunities such as templates that can be customized for use by LDCs
  - IESO to solicit input from LDC Marketing & Sales Working Group on marketing
- Development of local programs to complement energy assessment model
  - Potential for development of relationships with participating local energy assessors and contractor network to promote/offer new local programs
    - E.g., complementary demand reduction focused programs to address local system needs