

Program	Key Findings	2016 EM&V Recommendation	Impact	IESO Response
<p><b>Home Assistance Program</b></p>	<p><b>HAP participation declined by 70% from PY2015 to PY2016.</b></p> <p>The decrease in program participation largely resulted from fewer LDCs offering the HAP in 2016 and from higher costs for recruiting participants outside of the social housing segment, which the HAP has already served. The number of LDCs offering the program halved from PY2015 (n=59) to PY2016 (n=30). Of the 30 LDCs offering HAP, four contributed over 86% of PY2016 net verified energy savings. The number of HAP projects also greatly decreased from 16,526 in PY2015 to 5,066 in PY2016. The social housing segment of potential participants has been largely tapped by the HAP. Delivery agents reported significant barriers to identifying and marketing the program to eligible non-social housing residents.</p>	<p><b>To identify qualifying participants, HAP should further leverage existing social service delivery networks as the program transitions away from its social housing focus.</b></p> <p>LDCs and Delivery Agents must continue changing their marketing and delivery strategies to recruit customers beyond the social housing market. LDCs and delivery agents should continue to pursue and use relationships with community organizations to help reach customers in need of assistance.</p> <p><b>Consider assisting with province-wide broadcasting and possibly with creating a unified marketing message.</b> Establishing trust is important, as low income customers are often skeptical of offerings or tend to avoid direct contact with utilities when they are having difficulty paying bills on time. Province-wide messaging, not just from LDCs, may help establish program legitimacy with potential participants. Additionally, building strong partnerships with community organizations adds immediate credibility to the HAP in the eyes of potential participants and builds trust within communities that the HAP serves. To address the reductions in social housing participants, the evaluation team recommends that program resources be focused on identifying and leveraging such opportunities. Data-based tools, such as geo-clustering in conjunction with census data, may be useful to determine where advertising should target. Cadmus conducted a participation gap analysis in August 2017.</p> <p><b>Delivery agents mentioned that outreach to non-social housing most often requires additional effort and marketing.</b></p> <p>Work with the LDCs to find ways to mitigate the impact of reduced economies of scale on both budgets and participation levels. This may involve more assistance from the IESO, or the development of more collaborative and streamlined delivery strategies.</p>	<p>High</p>	<p>As a result of the lowered activity levels observed for HAP within CFF, the IESO received a Directive from the Minister of Energy in August 2017 to design, fund, and deliver province-wide low income programming beginning in January 2018. The IESO is moving forward with securing a delivery agent to be in market in all LDC territories beginning in early 2018.</p> <p>Through the IESO's centrally managed program delivery, social services networks and other channels of participant referrals are expected to be more effectively leveraged. The participation gap analysis conducted by the evaluator in 2017 will inform priority regions in the province to target.</p> <p>The IESO will endeavor to enable LDCs to continue to engage their low income customers, and support them through the IESO's centrally managed program. A province-wide marketing plan and more effective and up-to-date marketing collateral will be developed to further bolster program awareness and uptake.</p>

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<p><b>Home Assistance Program</b></p>	<p><b>Newly introduced LEDs account for 64% of total verified savings and contribute significantly to increase in per project savings. Weatherization projects contributed significantly less savings than previous years.</b></p> <p>Measures contributing savings in PY2016 differed greatly from PY2015. The measure mix contributing to program savings also changed, with newly introduced LEDs accounting for 64% of total verified savings. Per-project verified energy savings and demand reduction continued to increase from PY2015 due to the introduction of LEDs. Over 70% of PY2016 projects included LEDs, which contributed an average of 933 kWh and 0.64 kW to projects with LEDs.</p> <p>Appliance and programmable thermostat reimbursement levels may not be sufficient for some measures, and may not reflect current market and or installation costs.</p> <p>Measures, including health and safety measures were not equally installed by all LDCs. The health and safety cap covers the limited measures that can be installed according to the program rules, but the requirement that these measures must directly relate to the installation of energy efficiency measures limits the type of measures eligible for reimbursement. In addition, some delivery agents interpret the mitigation of safety issues to be related to the safety of the installer, not the residents. These are some of the reasons why the types of health and safety measures are not installed consistently across LDCs.</p>	<p><b>HAP should continue to install LEDs, but should diversify measure mix to include other high project level savings contributors, especially weatherization measures.</b></p> <p>Weatherization savings and participation were significantly lower in PY2016 than in PY2015. In PY2016, 194 projects were completed with 73 kW and 183,319 kWh savings, compared to 960 projects with 1,407 kW and 3,833,178 kWh savings in PY2015. In PY2015 weatherization projects contributed 21% of verified annual savings in PY2016 they contributed only 2%. The decrease in the verified savings contribution of weatherization projects is due to LED introduction and to low realization rates for weatherization measures. Similar to the recommendation in 2015, focusing on LDC awareness of the potential for weatherization savings in electrically heated homes and lowering administrative barriers will help facilitate an increase in weatherization projects. Collaborate with natural gas LDCs to deliver the program to allow for more participants to receive weatherization measures.</p> <p><b>Weatherization cost caps generally do not allow for sufficient aesthetic finishing (e.g., dry wall patch and painting), which creates a cost to the participant and limits installation potential.</b></p> <p>Cadmus suggests having delivery agents track in FAST and modify data collection requirements to collect information where inability to complete aesthetic finishes dissuades participants from installing weatherization measures. These data should include delivery agents’ estimates of associated costs.</p> <p><b>Appliance reimbursement levels may not be sufficient for some measures, and may not reflect current market pricing. The programmable thermostat reimbursement does not reflect the regular need for delivery agents to hire electricians for installation.</b></p> <p>Assess the market and installation costs of eligible appliances more frequently, to ensure they are sufficient and do not hinder potential installations. Consult with delivery agents on the current cost to install</p>	<p>Low</p>	<p>Beginning in 2018, HAP is expected to be co-delivered with GreenON, enabling the availability of weatherization measures for eligible homes, regardless of type of heating fuel. As the IESO and GreenON engage in program design in 2018, it is expected that the measure offering will continue to expand.</p> <p>Resulting from the IESO’s program design activities, adjustments have been made to measure funding caps to better reflect the true costs of installing these measures. Further, additional funding has been provided to better enable completion of weatherization audits, which would be expected to result in a greater uptake in weatherization projects.</p> <p>Finally, the IESO’s central delivery agent will be better positioned to provide a consistent application of available health, safety, and comfort funding across all participants’ projects.</p>

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		<p>programmable thermostats.</p> <p><b>Measures, including health and safety offerings, were not equally offered by all LDCs.</b>                      Work with LDCs and their delivery agents to ensure that program requirements for specific measures are made clear by LDCs to all participants. Additionally, some survey respondents were confused (and presumably disappointed) when they did not receive the measures they were expecting.</p> <p>Make the rules for reimbursement of health and safety measures more explicit and consider providing examples of reimbursable measures and appropriate scenarios. For example, the IESO could host a webinar covering common conditions in which specific health and safety measures are appropriate and reimbursable.</p>		
<p><b>Home Assistance Program</b></p>	<p><b>Participant data included repeat accounts, was missing reported savings and/or reported quantity and was delivered in inconsistent formats.</b></p> <p>It is not clear whether data are not being entered properly, not being transmitted properly or not being relayed properly to the final program tracking database. Consistent data would reduce the risk of introducing data error during the cleaning process.</p>	<p><b>LDC reported project and measure lists contained inconsistent measure names, measure identification numbers and end-uses.</b></p> <p>Provide a program data template to each LDC with pull down menus to provide a consistent format for measure identification numbers, measure names and end-uses.</p> <p><b>LDC reported project and measure lists were missing quantity and/or savings estimates for all projects.</b>                      Include the reported quantity and savings estimates in the program data for all projects. This is particularly important for weatherization projects where quantity is square footage of insulation installed. A program data template could be designed to show an error message if fields are left blank.</p> <p>For data entry in the field, leverage the work of London Hydro, who created their own FAST integrated tablet-based data collection tool and software that allows them to audit, assess, report and generate bills and data records without using paper. Share London Hydro's tool across all participating LDC's and delivery agents.</p>	<p>Medium</p>	<p>With a centrally managed program delivery model in 2018, issues related to inconsistent collection of data or application of program rules or requirements will be minimized.</p>

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<p><b>Home Assistance Program</b></p>	<p><b>The HOT2000 tool does not allow for verification of savings and adds administrative costs.</b></p> <p>Because HOT2000 pre-files do not need to be kept, Cadmus could not accurately verify savings for some weatherization projects. To properly evaluate savings, both a baseline and upgraded model need to be developed. The HAP currently uses reasonable deemed values per square foot to record savings in the prescriptive path. Using the prescriptive path for all weatherization measures would ensure consistency. Further, HOT2000 project data entry is done by, and often exceeds, a minimum of three people, The possibility of introduced error compounds with each person who handles the data. Finally, not using HOT2000 will reduce program costs, as delivery agents will be able to determine and record savings without modeling homes.</p>	<p><b>As used currently, HOT2000 does not allow for savings verification.</b></p> <p>Record weatherization measures only through the prescriptive path and retire the HOT2000 tool as it is currently used. Additionally, the billing analysis planned for the PY2017 evaluation should provide updated deemed values for the prescriptive path, contingent on data availability. The 2015 Key Findings observed that weatherization savings have yet to be verified at the billing level.</p>	<p>Medium</p>	<p>Beginning in 2018, the IESO will be advising its delivery agent to record weatherization through the prescriptive path.</p>
<p><b>Home Assistance Program</b></p>	<p><b>The prescriptive input assumptions (PIA), field audit support tool (FAST), and project data deemed savings and effective useful life values did not match in all cases.</b></p> <p>Non matching prescriptive input assumptions affected realization rates and achieved savings. In several cases, the project data reported connected demand reduction instead of peak demand reduction.</p>	<p><b>Deemed values in FAST are not consistent with the latest evaluated values.</b></p> <p>Update the deemed values in FAST to be consistent with the latest evaluated values. Use peak demand values consistently instead of connected demand reduction. Like the recommendation in 2015, adopting these recommendations and incorporating them into the FAST for future program years will improve the accuracy of reported savings and make them more consistent with evaluated savings.</p>	<p>High</p>	<p>Due to the de-centralized nature of HAP delivery under CFF, the IESO acknowledges the challenges associated with managing FAST versioning among different LDCs and delivery agents. Under the central delivery model, the IESO will manage one province-wide FAST, enabling prompt implementation of measure PIA updates as they are identified through the evaluation activities.</p>
<p><b>Home Assistance Program</b></p>	<p><b>HAP participants typically expressed satisfaction with program services and equipment, though participants wanted more information about ways to save energy and lower their bills.</b></p> <p>HAP participants appreciated the services and equipment provided by the program: when asked about their satisfaction with the program overall, most respondents said they were very satisfied. Most survey respondents were happy with the convenience, service and equipment received, but less satisfied with the information provided on ways to save energy and with the actual electricity bill savings.</p>	<p><b>Delivery agents suggested that auditors’ engagement with participants offered the most effective way to provide energy efficiency education but many did not receive printed education materials and would like to have received more information on ways to save energy.</b></p> <p>While the IESO developed and provided LDCs with a flyer that included guidance on providing education to customers and a standard list of tips for saving energy, not all participants recalled receiving printed materials, and some expressed a desire for more information on how to save energy. The 2015 Key Findings also noted that only about half of the participation survey</p>	<p>Low</p>	<p>Through the central delivery model the IESO will ensure that program participants are effectively engaged on energy efficiency education during their in-home audit. Further, the IESO intends to develop a more comprehensive and customer-focused education module, to be delivered by the central service provider’s home energy auditor.</p>

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		<p>respondents said the delivery agent left printed educational materials. Ensure that the delivery agents provide each participant with conservation key messaging, information on the measures installed and time of use rates, and that they engage participants in promoting energy conservation behaviour. The IESO could require that delivery agents always leave behind the materials designed and provided by the IESO, or affirm that they provided verbal or equivalent written materials covering such information. Include fields in FAST where staff must check off they provided printed materials and educational components to participants.</p>		