

# 2020 Interim Framework (IF) Retrofit Program EM&V Key Findings and Recommendations

## Impact Evaluation

No.	PROGRAM	KEY FINDINGS	2020 EM&V RECOMMENDATIONS	IMPACTS	IESO RESPONSES
1.	Retrofit Program (Prescriptive Track)	Assumed hours of use (HOU) and base case wattages may be inconsistent with actual HOU and base case wattages for the following prescriptive measures: <ul style="list-style-type: none"> <li>• LED recessed downlights</li> <li>• Omni-directional A shape lamps</li> <li>• LED troffers</li> <li>• LED reflector lights</li> <li>• LED tube re-lamping</li> </ul>	Review and adjust the HOU and base case wattage assumptions applied to the prescriptive measures.	High	HOU and baseline mixes will be reviewed in order to adjust for any major changes that the IESO deems necessary. Energy and demand savings are based on the average tested kW of all measures meeting the eligibility criteria from Design Lighting Consortium (DLC) or Energy Star.
2.	Retrofit Program (Prescriptive Track)	Prescriptive non-lighting accounts for only 4% of overall retrofit population.	Increase promotion or incentive level to help improve Prescriptive non-lighting uptake.	High	The IESO is considering strategies to increase the volume of non-lighting projects influenced through the Retrofit program, including changes to incentive levels and the addition of new measures in the latest version of the program. The IESO's delivery vendors have also begun targeted outreach to drive uptake of these measures through the new version of the program.
3.	Retrofit Program (Prescriptive Track)	Assumed HOU, base case and retrofit case wattage for Unitary AC may be inconsistent with the actual HOU, base case and retrofit case wattage. Review of 7 evaluated prescriptive non-lighting projects containing Unitary AC provided weighted average of 1239 hours per year of effective full load hours (EFLH), 1.223 kW base case and 0.988 kW retrofit case which is higher than the program assumed HOU of 600, 1.129 kW base case and lower than the 1.024 kW retrofit case respectively.	Review and adjust the HOU, base case and retrofit case wattage assumptions applied to VFDs. Updated savings assumptions may help to support a business case for increased incentive rates, which may result in greater uptake.	High	HOU and baseline mixes will be reviewed in order to adjust for any major changes that the IESO deems necessary. Energy and demand savings are based on the average tested kW of all measures meeting the eligibility criteria from DLC or Energy Star.

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4.	Retrofit Program (Prescriptive Track)	Base case wattage for LED exit lighting may be inconsistent with the actual base case wattage. Review of 6 evaluated prescriptive lighting projects containing LED exit lighting provided weighted average of 0.027 kW base case, which is lower than the program assumed base case of 0.031 kW.	Review and adjust the base case wattage assumptions applied to LED exit lighting.	Low	The evaluated result and the current assumptions are within 10% and do not warrant an adjustment at this time. This will be monitored for future versions of the program.
5.	Retrofit Program (Prescriptive Track)	Assumed HOU, base case, and retrofit case wattage for LED High Bays may be inconsistent with the actual HOU, base case and retrofit case wattage. Review of 32 evaluated prescriptive lighting projects containing LED High Bay provided weighted average of 3864 hours per year of lighting operation, 0.445 kW base case and 0.147 kW retrofit case which is lower than the program assumed HOU of 3660, 0.452 kW base case and lower than the 0.174 kW retrofit case respectively.	Review and adjust the HOU, base case and retrofit case wattage assumptions applied to LED High Bays.	Low	The evaluated result and the current assumptions are within 10% and do not warrant an adjustment at this time. This will be monitored for future versions of the program.
6.	Retrofit Program (Custom Track)	Based on review of 107 Custom lighting project Realization Rate is slightly high (107%). The main reason for this higher rate is inconsistency between HOU submitted in the worksheet and verified actual operation.	IESO/Delivery vendors' technical reviewers to ensure accurate hours of operation for the facility are being used in the submitted worksheet. In the cases that HOU are different in different parts of facility multiple worksheets may be submitted to reflect accurate HOU per each area.  IESO/Delivery vendors' technical reviewers to ensure IESO ballast factor for the fixture is being used in the submitted worksheet unless otherwise specified by the lighting manufacturer.	Low	The IESO will provide this feedback for consideration to its Delivery vendors.

Note: Priority is based on frequency of observation and magnitude of realization rate (RR) differences. High RR refers to only projects with Energy RR less than 90% or greater than >105% as identified from the rolling sample PY2020.

# Net-to-Gross and Process Evaluation

No.	PROGRAM	KEY FINDINGS	2020 EM&V RECOMMENDATIONS	IMPACT	IESO RESPONSE
1.	Retrofit Program	<p><b>Program free-ridership (FR) was moderately high, compared to historical results, in 2020 at 23.6%.</b></p> <p>The program's NTG was moderately low in 2020 at 77.2%. FR was moderately high at 23.6% and SO was low at 0.8%. Two-thirds (67%) of participants stated they would not have completed an upgrade, would have postponed it, or would have completed a scaled-back version of it in the program's absence. However, the remaining one-third (33%) would have done the same upgrade anyway or were unsure of what they would have done, suggesting that there is still room for FR improvements in future program years.</p>	<p><b>Recommendation 1a:</b> Maintain focus on minimizing FR. Key areas include:</p> <ul style="list-style-type: none"> <li>identifying and targeting customer segments that would be unlikely to make upgrades without program support,</li> <li>screening applications for customers who have not already begun implementing measures, and</li> <li>encouraging all participants to complete the evaluation surveys to ensure that the FR results are as representative of the true population of program participants as possible.</li> </ul> <p><b>Recommendation 1b:</b> Encourage participants to install additional energy-efficient equipment or services beyond what is covered through the program if it is feasible for them to do so (for example, identifying additional opportunities during initial site visits). Doing so may lead to increases in the program's SO, which may in turn help offset FR and lead to improved NTG.</p>	High	<p>Currently, part of the technical review process is determining if the project was started prior to the application submission. Also, applicants are required to disclose details of any other funding they receive for their projects. The IESO will continue to review and adapt its processes to minimize free-ridership. The IESO will investigate a potential to share cross promotional material of other programs and initiatives either before or after a project has been completed.</p>

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2.	Retrofit Program	Opportunities exist to improve the overall application process when working with multiple program delivery vendors. One in five P2 participants <sup>1</sup> (20%) reported working with more than one program delivery vendors to review their applications and provide application support. Two in five respondents (41%) stated the process was the same, which is over twice the number of respondents who stated it was different (12%). When asked what could be improved about the application process when working with multiple program delivery vendors, over one-fourth of respondents (27%) provided answers. They most often mentioned improving consistency across providers, better training for staff, and improving the information available.	Identify ways to improve the application process for customers working with multiple program delivery vendors (for example, creating consistency in approaches through additional training for support staff and improving the quality of the information provided to participants).	High	The IESO provides consistent communications to the program delivery and program support vendors. The IESO will work with delivery vendors to ensure the communications provided by the IESO are interpreted and applied correctly in the marketplace.
3.	Retrofit Program	<b>The Application Portal presented challenges to some users.</b> Close to one in four participants (22%) stated they experienced challenges with the Retrofit Application Portal. Of the participants who experienced these challenges, difficulty navigating the website (64% of respondents) and issues uploading documents (36% of respondents) were the issues most often mentioned. Program delivery vendor staff also highlighted the importance of making the portal as user-friendly as possible.	Continue to enhance the Application Portal and its customer support to meet its various users' needs as the program evolves. Suggested enhancements include making the portal easier to navigate, minimizing issues when uploading documents, and making sure the content is as clear as possible.	High	The IESO has implemented various enhancements to the portal, based on feedback received from the monthly customer satisfaction surveys, and a ticket management system has been implemented to improve the process of resolving issues with the portal.  The IESO will continue to evaluate opportunities to improve customer experience with enhancements to the portal.

<sup>1</sup> Please note that the participant survey was completed twice with the first survey offered to participants who completed projects in Evaluation Period 1, or P1 (January through June) and the second survey offered to participants who completed projects in Evaluation Period 2, or P2 (July through December). Process-related survey questions differed somewhat across the two survey periods to cover multiple topics.

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4.	Retrofit Program	<b>A desire for additional training exists among applicant representatives and contractors.</b> The most-requested training and education topics mentioned by applicant representatives and contractors were program and application rules (35%), program offerings (34%), marketing and outreach techniques (22%), and how to receive support when they or a customer are applying (18%).	Offer additional training opportunities on topics that will provide the applicant representatives and contractors with the knowledge they need to effectively support the program. Training topics to consider include the program application process, changes in measure offerings or incentives, and marketing and outreach techniques.	Medium	<p>The IESO continues to offer training based on feedback from the market. Recently training was completed on the IF post-project submission requirements. Technology specific training is also being provided.</p> <p>The IESO will continue to listen to the feedback received on the program and will adapt its training offerings and program materials, as needed.</p>
5.	Retrofit Program	Satisfaction with program communications <b>is moderate, suggesting some room for improvement exists.</b> Over three-fourths of P1 participants <sup>2</sup> (78%) were completely or somewhat satisfied with the Retrofit program communications they received from the IESO. Those who provided negative responses and offered suggestions for improving the IESO's communication mentioned a more efficient application review process, additional training for application review staff, and assigning a specific contact person for communication.	Improve the IESO communication with program participants and program partners (such as the accuracy, consistency, and timeliness of responses to questions) to improve the quality and consistency of technical advice and customer support timeliness.	Medium	<p>Monthly Customer Satisfaction results show that three quarters of participants are either extremely or very satisfied with overall program communications. An even higher percentage of program participants (81%) were either extremely or very satisfied with communications from Retrofit Service providers.</p> <p>The IESO utilizes a centralized support function and regional program delivery vendors to answer questions about the program or about specific applications. The IESO also utilizes newsletters, social media and the Save on Energy website to provide broad program updates. Additional information has also been added to the Application Portal.</p> <p>The IESO will continue to listen to feedback received from the market and adapt its communication approach as needed.</p>

<sup>2</sup> Please note that the participant survey was completed twice with the first survey offered to participants who completed projects in Evaluation Period 1, or P1 (January through June) and the second survey offered to participants who completed projects in Evaluation Period 2, or P2 (July through December). Process-related survey questions differed somewhat across the two survey periods to cover multiple topics.

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6	Retrofit Program	Expanding measure offerings was the most common improvement suggestion mentioned by applicant representatives and contractors. One-half of applicant representatives and contractors mentioned expanding measure offerings (50%), specifically bringing back custom projects (21%) and exterior lighting incentives (17%).	Consider gathering additional feedback on contractor measure offering suggestions through focus groups or outreach to key program partners to better understand market needs.	Medium	<p>The IESO has developed a formal process to receive new program measure recommendations. This process allows participants, applicant representatives, contractors, or other program stakeholders to submit new measure suggestions for IESO consideration, using a form available online.</p> <p>The evaluation of these submissions involves an in-depth, multi-stage review and approval process to ensure a proposed measure addresses market needs and meets program requirements, including cost-effectiveness, and energy-efficiency policy objectives. The process aligns with the semi-annual program update cycle, where new proposed measures that are approved by the IESO can be included in the program in late winter or late summer throughout the framework.</p>
7.	Retrofit Program	<b>Additional cross-program promotion opportunities exist.</b> Given that over one-half (55%) of participants had not applied to any other energy-efficiency programs in 2020 besides the Retrofit program, opportunities exist to further promote other Save on Energy programs to Retrofit customers.	Continue to identify cross-program promotion opportunities, which can be achieved through two means. Firstly, promoting other program opportunities to all participating Retrofit customers at both the start and end of the participation process. Secondly, ensuring that participating customers in particular segments, such as small businesses, are aware of the other program opportunities designed with their business segment in mind.	Medium	<p>The IESO recently posted a Retrofit/Energy Performance Program (EPP) comparison chart to communicate the benefits of those two programs so participants could determine which one suits best.</p> <p>The centralized support hotline and the regional delivery vendors also transfer any leads from other programs. Leads are also sent to the Retrofit program from other programs.</p> <p>The IESO will continue to work with its vendors to identify opportunities for cross promotion of programs based on customer and project types identified.</p>

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8.	Retrofit Program	<p><b>The Retrofit Support Line and Save on Energy website are valuable resources for customers.</b> A majority (57%) of P2 participants<sup>3</sup> reported visiting the Save on Energy program website to search for information about energy-efficiency program offerings. Three in five participants (59% with a rating of 4 or 5) who did visit the website stated they found the information useful. Fewer participants reported using the Retrofit Support Line (67% reported never using it), but of those who used it, three-fourths (76% with a rating of 4 or 5) stated it was very useful.</p>	Continue to offer information about the program through the Retrofit Support Line and Save on Energy website in future program years.	Medium	The IESO will continue to make these supports available to the market.

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