

2019 Interim Framework (IF) Refrigeration Efficiency Program (REP) EM&V Key Findings and Recommendations

No.	PROGRAM	KEY FINDINGS	2019 EM&V RECOMMENDATIONS	IMPACT	IESO RESPONSE
1.	Refrigeration Efficiency Program (REP)	<p>Improve REP Measure Definitions and Reported Savings. Measure descriptions, such as electronically commutated motor (ECM) fan motor horsepower were captured in the program's tracking database. However, the measures' end use were not identified and the savings were not reflective of differences within the broader measure type.</p> <p>In particular, the ECM fan motor measure has a strong influence on the program (52% of verified energy savings) yet only used a narrow range of deemed values for reported savings (692kWh – 700kWh). Verified savings varied substantially per ECM fan motor measure depending on the motor's end use (i.e. evaporator or condenser, cooler or freezer) and size.</p>	<p>The currently used broad measure types for ECM fan motor should be broken out into measure sub-types (e.g. 1/20 hp ECM evaporator freezer fan motor) to appropriately capture unique savings estimates. Using more granular measure description will allow for improved precision in savings estimates.</p> <p>It is recommended to prioritize disaggregating the single ECM fan motor measure to distinguish sub-measure type key characteristics, as these variations have a significant influence on the measure's savings. The most influential characteristics on the savings are the application of the motor (evaporator vs. condenser) and the size of the motor (Watts or HP).</p>	High	<p>Burman Energy Consultants Group (BECG), the program delivery vendor has already implemented changes to the measures and assumptions listing that will see an expanded roster of energy efficient measures.</p> <p>The Evaluator stated that as a result of the changes proposed by BECG an improvement to the precision of the estimation of savings may be expected.</p>
2.	Refrigeration Efficiency Program (REP)	<p>Capture and Document Measure Baseline Data. Measures' baseline conditions impact measure savings significantly, specifically for ECM fan motor and lighting measure types. However, baseline information was not captured in the REP's tracking database and project files. Measures were listed in the program tracking database with no reference to a baseline type or description.</p>	<p>Start collecting and reporting baseline information, specifically for ECM fan motors (i.e. HP, SP vs PSC), and adjust reported savings accordingly. Standardizing a menu of measures for program implementers to select from when entering project data (such as Microsoft Excel's data validation feature) will help ensure baseline information is included in the program tracking data, as well as standardize measure names used.</p>	High	<p>BECG has now implemented business processes to record baseline measure data and end use data. For each project, photos of the baseline measure are taken as well as the replacement measure.</p>

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3.	<p>Refrigeration Efficiency Program (REP)</p> <p>Improved Baseline and Retrofit Photos. REP implementers submitted photos of the pre-existing baseline and retrofitted equipment. These photos are important and helpful when verifying the baseline and retrofit measure types and wattages. In many cases, the photos were close up images of the equipment and contained make, model and wattage information. There were other instances where the photos did not capture enough detail of the equipment to definitively determine the baseline or retrofit information.</p>	<p>Specify what information should be captured in the pre-retrofit and post-retrofit pictures that are taken by the REP assessors/installers. Specify that pictures of the replaced equipment should capture all available information such as model and size. This is specifically critical for direct install programs, where the participants of such programs often do not possess sufficient information regarding the baseline and retrofit equipment, and the photos collected by the delivery agent help to provide the data required for evaluation.</p>	High	<p>According to installers, the nameplates of some equipment is not legible in all cases due to the age of the equipment. Where possible nameplate data of the base case measures and installed measures are photographed. BECG developed a slide deck for data and image capture requirements that is shared with installers.</p>
4.	<p>Refrigeration Efficiency Program (REP)</p> <p>Report Peak Summer Demand Savings. With the exception of the ECM fan motor measure, all measures reported in the 2019 REP program did not report any demand savings. This resulted in a high peak demand savings realization rate for the overall program.</p> <p>The demand savings reported for the ECM fan motor measure savings reflect a change in connected load and are not adjusted for peak coincidence. IESO requires reporting net verified savings based on the summer peak demand definition.</p>	<p>Start reporting peak demand savings for all measures offered in the REP. IESO has 8760 load shapes readily available that can be used to establish appropriate coincidence factors which can be utilized to report peak demand savings.</p>	High	<p>BECC is now using an updated measures and assumptions list approved by the IESO that indicates the peak demand savings. The IESO load shapes are specific to the type of measure in the measures and assumptions list.</p>
5.	<p>Refrigeration Efficiency Program (REP)</p> <p>Program free-ridership (FR) was moderately high in PY2019. The program's NTG was high in PY2019 (95.8%). However, FR was also moderately high (17.7%). The program's spillover savings at 13.5% helped offset this which led to a strong NTG. Survey feedback indicates that the program helped more than one-half of participants (59%) with upgrades they otherwise would not have been able to implement (21%) or would have had to postpone (38%). However, 8% indicated that they would have done the exact same project in the absence of the program and one-third (33%) were unsure about what they would have done, which suggests that there is still some room for FR to continue improving in future program years.</p>	<p>Maintain focus on minimizing FR. Key areas of focus may include:</p> <ol style="list-style-type: none"> 1. identifying and targeting customers who would not make upgrades without program support; and 2. identifying applicants who have not already begun implementing measures. 	High	<p>Given that the small business community is a hard to reach market and the way the program is received by customers, free ridership should be low. BECG will pursue further how FR could be reduced.</p> <p>It is understood that Free Ridership for this program should be low given that refrigeration is not often thought of as an energy efficiency opportunity compared to lighting. The free ridership for this program should be lower as compared to the Small Business Lighting program.</p>

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6.	Refrigeration Efficiency Program (REP)	<p>Satisfaction with the program and its processes is high overall but there is room for improvement. Most participants had no suggestions for improving the initial site assessment (75%), the contractor visit(s) (79%), or the installation process overall (88%). The most common participant suggestions were to improve the professionalism of the assessor or contractor during the visits, contact the customer before the visit, increase flexibility in scheduling, shorten the length of the contractor's visit, and providing more information to help business owners make decisions. Satisfaction with the program and its elements was high across the interviewed auditors and contractors. One contractor expressed concerns that some auditors incorrectly specify the number or types of equipment to be installed by the contractor during the follow-up visit and indicated there is no system in place to perform a follow-up visit to install missing equipment.</p>	<p>The following are recommended:</p> <ol style="list-style-type: none"> 3. Provide additional training to auditors and contractors to ensure professionalism during assessments and contractor visits; 4. Provide more flexibility in scheduling the visits (e.g. coordinating with participants to identify suitable times for the visit); 5. Shorten the time it takes to complete the assessment and contractor visits. Identify areas where additional program support or resources could make this easier for the auditors/contractors to accomplish; 6. Ensure that auditors carefully identify and record the types and counts of all eligible measures for the contractor; 7. Develop a process to allow for follow-up contractor visits in instances where contractors could not install all program measures because the audit incorrectly specified the number or types of equipment to be installed; and 8. Provide more information about the program to help business owners make decisions by ensuring all relevant materials reach customers and by ensuring the content is thorough and clear. 	High	<p>BECG has rectified some issues with professionalism from sub-contracted resources.</p> <p>Customers are contacted to book appointments so there is flexibility in scheduling.</p> <p>Variances in the technical assessments to the installed measures occur infrequently. Sometimes follow up visits are required if it is a stocking issue of a specific measure that is temporarily unavailable at the time of install. Truck stock availability rarely occurs and is more of an exception as local inventories are provided to installers.</p>
7.	Refrigeration Efficiency Program (REP)	<p>Customer interest in the program is high, but more could be done to engage hard-to-reach customers. Overall, customer interest in the program is high according to program staff and auditors and contractors. However, one contractor indicated that some customers may have language or other barriers that hinder them from learning the details of the program. To build trust and facilitate knowledge transfer, the contractor suggested developing information sheets in several languages and working with trusted community representatives to share information about the program.</p>	<p>Develop a variety of educational materials in multiple languages to facilitate knowledge transfer among hard-to-reach customers.</p> <p>Establish roles for community groups in program education so that they can help to address any questions or concerns that eligible hard-to-reach customers may have about the program.</p>	Medium	<p>Multi-lingual promotional materials is something being considered.</p> <p>Community groups such as local business industry associations (BIAs), and Chambers of Commerce information channels have been used.</p> <p>BECG is further pursuing relations with the Hospitality Association and others to promote REP.</p>

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8.	<p>Refrigeration Efficiency Program (REP)</p> <p>Additional cross-program promotion opportunities exist. Given that nearly two-thirds of participants (63%) had not applied to any other energy-efficiency programs in PY2019 besides REP, opportunities exist to further promote the Save on Energy programs to REP customers. For example, the Small Business Lighting (SBL) Program also targets the small business market and could be promoted to REP participants during the application process and/or at the completion of the project.</p>	<p>Continue to identify cross-program promotion opportunities, especially with programs like SBL, which target similar small business customers.</p>	Medium	<p>BECG intends to cross promote with SBL through the shared lead initiative with Sonepar on a pilot program basis.</p>
9.	<p>Refrigeration Efficiency Program (REP)</p> <p>REP Reporting and Tracking – Facility Type Data. The 2019 REP database reports the facility type where each project was completed. However, the data provided have listed majority (195 out of 201) of the projects as retail and did not break them into their respective facility type (for example, restaurant, convenience store).</p>	<p>Start collecting and reporting facility type information. Having access to facility type data will provide more insights for the evaluator to better understand and report on program’s performance within different facilities.</p>	Low	<p>BECG could look at adding a data field entry for facility type since the number of types of facilities participating in REP is small.</p> <p>Post program data processing could also be a consideration based on participant name to determine facility type data.</p>