

PY2023 EM&V Key Findings and Recommendations

2021-2024 CDMF Energy Performance Program (EPP)

No.	KEY FINDINGS	2023 EM&V RECOMMENDATIONS	IMPACT	IESO RESPONSE
1.	Among PY2023 reported participants, 30% (13/44) reported no or zero peak demand savings. Peak demand savings estimates were calculated for all evaluated projects where demand savings were not reported or were reported as zero. Comprehensive demand savings reporting across all participants is required to meet the framework's peak demand savings targets. Demand savings are also a primary input for accurate cost-effectiveness calculations.	Require demand reduction estimates for all participants. Only report zero kW reductions if reductions were actually zero.	High	The new EPP portal calculates the energy and demand savings for the customer. It provides customers with demand reduction for hourly and daily models (when an hourly model is not possible).
2.	Peak demand savings estimation methodologies did not consistently comply with current EPP M&V protocols. For 17 facilities, the baseline peak demand was averaged from baseline raw hourly meter data. The resulting simple average was treated as a static value and not adjusted for performance period weather when calculating demand savings.	The delivery vendor should ensure that the peak demand savings calculations are consistent with current EPP M&V guidelines. If hourly meter data is not available or incomplete for calculating demand savings, the alternative proposed demand savings calculation method should be used and documented to assist third-party evaluations.	High	The new EPP portal calculates the energy and demand savings for the customer. It provides customers with demand reduction for hourly and daily models (when an hourly model is not possible).
3.	EcoMetric recommends a Net-to-Gross (NTG) value of 76%, based on free ridership of 24% and no detected spillover. Spillover cannot occur while a facility is participating in the pay-for-performance program but can be detected 12-24 months following participation and may be detected during participation at an unenrolled facility controlled by a participating organization. Survey respondents demonstrating the highest levels of free ridership were those for whom no program factors influenced their decision to implement projects of the same efficiency, scale, and on the same schedule as they would have without the program.	Conduct spillover research post-participation to allow time for spillover to develop at the project facilities and other unenrolled facilities. The planned program delivery changes and expansion of program services, in addition to the financial incentive, may help to reduce free ridership in the future. Spillover in this pay-for-performance program is unlikely unless other corporate facilities, not enrolled in the program, benefit from similar measures.	High	The IESO will consider conducting spillover research for post-participants

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4.	<p>Survey respondents report moderate satisfaction with the program overall, offering a mean rating of 7.2. Twenty-two percent were highly satisfied.</p> <p>The primary influence to participate in EPP is the financial incentive. Respondents rated influence of the financial incentive most highly, with a mean of 8.3. However, respondents rated their satisfaction with the current incentive amount significantly lower, with a mean of 5.8.</p>	<p>To address satisfaction with incentive levels and reduce barriers to participation, consider conducting research on the financial metrics required by corporations to approve projects and the role incentives play in the metrics, focusing on participants who have not yet reported savings. Similar research may be conducted of near- and non-participants on motivating incentive levels and that tip the scale. "Near-participants" are those who started an application but did not complete the application, deliver a baseline model, report savings, deliver an annual report or otherwise did not fulfill their participation obligation through the program. Non-participants would be those qualified for the program who have not started an application. There may be non-financial program factors (e.g., delivery vendor-prepared baselines, annual reports, and training ESPs) driving participation. As program costs are shared across more participants, it may be possible to increase the incentive to drive greater participation and project completion with reduced impact on the cost effectiveness.</p>	<p>High</p>	<p>There are non-financial program factors (e.g., delivery vendor-prepared baselines, annual reports, and training ESPs) driving participation in EPP.</p> <p>In addition, the IESO will consider researching incentive levels and whether current incentive rates are suitable for the market. The IESO will also look into barriers to participation.</p>
5.	<p>Most respondents consider facility-level sustainability goals as a factor when deciding to enroll a facility in EPP. Half of this population have implemented and/or are planning sustainability projects. A smaller group is planning electrification projects to address greenhouse gas emissions. However, most respondents are not aware that they can request non-routine baseline or performance period adjustments while participating in EPP.</p>	<p>EPP should consider running an awareness campaign for current participants about non-routine baseline adjustments during participation. EPP may also consider incorporating more information on these baseline adjustments in program marketing material directed to new participants.</p>	<p>High</p>	<p>The IESO will consider running an awareness campaign about non-routine baseline adjustments</p>

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6.	Most evaluated projects lack clarity on whether program application hourly data is in standard or daylight savings time. Adjusting for daylight savings time before merging with weather data ensures peak energy savings and demand reductions align with actual business schedules. Leaving data in standard time shifts peak demand hours to 12:00-5:00 PM. Unadjusted standard time-based meter data will not correctly allocate peak and non-peak energy incentives.	Use eastern daylight savings (EDT) time-adjusted hourly data for all approved baseline models, energy, and peak demand savings calculations. Include documentation differentiating standard and daylight time meter reads in all project files.	Medium	The IESO will discuss the recommendation with the program delivery partner.
7.	Among the evaluated facilities, 77% reported less than 5% of baseline savings in the first performance year. Current program rules permit year-one savings below 5% but require participants to realize a minimum of 5% energy savings per facility within two years. Even though several facilities were short of the 5% target, the aggregated PY2023 program savings as a percent of baseline energy usage was 4.6% just below the 5% savings target.	Ensure adequate participant outreach to help customers meet the 5% savings goals by year two. Outreach examples might include program rule reminders or invitations to reach out to program vendors if project plans are delayed. The program delivery partner should be encouraged to review at-risk participants' planned measure reports and identify barriers or behaviours limiting year one program savings.	Medium	The IESO has taken action to address the recommendation. The program delivery partner has been reaching out to Participants whose year one savings were low to discuss measures identified in their savings plan as well as let them know of measures other Participants in similar facilities had implemented.
8.	Of the evaluated projects with non-zero reported peak demand, over 90% experienced an increase in verified peak demand savings compared to the reported values. This increase stemmed from improved EcoMetric baseline models during peak summer months. The models were improved by including temporal variables, such as time of week and peak summer month indicators, in addition to typical weather variables. Adding these variables reduced model residuals (the difference between actual and predicted values) during summer months by not under projecting baseline peak demand hours.	Enhance peak demand savings calculations by improving baseline model's peak demand calculations. This can be achieved by including variables that better capture increases in cooling load, such as seasonal, month, or peak period indicator variables.	Medium	The IESO is currently implementing this recommendation.

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9.	Respondents rate their interest in potential changes to the program highest for the possibility of incremental incentives in the second and third years of participation and access to a dashboard displaying data such as energy use and savings, estimated incentives, greenhouse gas savings, and baseline and performance period information.	EcoMetric agrees that incremental incentives in the second and third years of participation may reduce barriers to participation, because larger projects are generally conceived later in the performance periods. EcoMetric believes that the first-year incentive is currently adequate and on par with pay for performance incentives offered in other jurisdictions. EcoMetric recommends the IESO program team, and the new delivery vendor consider expanding the scope of energy dashboards offered to program participants.	Medium	The EPP portal that was released this year contains a dashboard which is offered to program participants. An interim savings summary within the EPP portal allows the participant to see the impact of their energy saving activities.