IMPACT AND PROCESS EVALUATION REPORT

INTERIM FRAMEWORK ENERGY MANAGER PROGRAM PY2019

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Prepared for: Independent Electricity System Operator (IESO)
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1.1 EVALUATION GOALS AND OBJECTIVES

This report documents the findings from the process evaluation conducted for the Energy Manager (EM) program in Program Year (PY) 2019. The Energy Manager program subsidizes the salary of a trained energy manager to work directly with participating facilities to find energy savings, identify smart energy investments, secure financial incentives, and unleash competitive advantage. Energy managers can also identify and help to implement non-incented improvements for the organizations they support. The evaluation team conducted a targeted process evaluation of this program to examine:

- The effectiveness of EM Support Services (EMSS)
- The types of incented and non-incented energy savings actions participants are implementing.
- The barriers that stop participants from implementing energy manager recommendations.
- The effectiveness of the 2-day Behaviour, Energy, and Sustainability Training (BEST)
- How EMSS and BEST motivate participants to invest in non-incented projects.
- Whether program services are delivered per the requirements.
- The participant experience and how IESO can evolve the program to ensure the program continues to effectively support energy managers and their C&I customers

In April 2019, the IESO began to centrally delivery all energy efficiency programs in Ontario by implementing a new Interim Framework (IF) following a directive from the Minister of Energy, Northern Development and Mines.[1] The IF replaced the Conservation First Framework (CFF) with an updated portfolio of Save on Energy Programs and is in effect from 1 April 2019 through 31 December 2020. Due to transitioning from the CFF to the IF in 2019, the population of non-incented measures in the Energy Manager program is low. The vast majority of non-incented measures currently in development are not ready for evaluation. Projects implemented in PY2019 will be evaluated and summarized in the PY2020 evaluation report. However, a targeted process evaluation was conducted in PY2019 to gauge the experience of the various market actors involved in the Energy Manager program.

[1] http://www.ieso.ca/-/media/Files/IESO/Document-Library/ministerial-directives/2019/Directive-Interim-Framework.pdf?la=en

1.2 EVALUATION RESULTS

1.2.1 IMPACT EVALUATION RESULTS

Impacts from the PY2019 non-incented measures in the Energy Manager program will be included in the PY2020 evaluation report. As the population of non-incented measures is relatively low in PY2019, a full impact evaluation of the EM program will be conducted in PY2020 when the population is more robust.

1.2.2 PROCESS EVALUATION RESULTS

Several completed data collection activities informed the PY2019 process evaluation. In-depth interviews were conducted with IESO program leads, IESO technical review staff, EM Support Services and BEST staff, Energy Managers, and third-party technical review staff. The PY2020 Evaluation Report will document findings from the program participant survey, which will be conducted during PY2020.

The PY2019 process evaluation revealed the following key findings and recommendations.

1.3 KEY FINDINGS AND RECOMMENDATIONS

This section summarizes the key findings and recommendations from the PY2019 EM program process evaluation. All findings and recommendations are summarized in Section 7.

Finding 1: The EMSS interactive support (webinars, training events, and one-on-one hand-holding) are highly valued by energy managers, regardless of participants' level of experience. Other interactive sessions like the BEST are also valued. However, there is a high cost associated with EMSS interactive services per EMSS support staff.

Finding 2: The demand for less costly EMSS support, such as the Energy HUB website, is low. Interviewed energy managers either infrequently use the site – mainly to find webinars or training slides – or do not use the site at all.

Recommendation 1: In collaboration with the Technical Reviewer, investigate and test approaches to encourage energy managers to seek program information and tools first on the Energy HUB rather than through EMSS one-on-one support, as this could help lower the cost of implementing EMSS. Please note that the Energy HUB cannot help with certain types of requests that EMSS one-on-one services address, such as supporting energy managers in satisfying information requests. Those types of calls, however, only partially account for the Technical Reviewer's hours that were spent on direct support in 2019. Thus, there could be an opportunity to send energy managers to Energy HUB for baseline calculation tools, M&V, and other topics that direct support services often address.

Finding 3: The BEST 2-day workshop was especially helpful to energy managers who work for smaller firms, rather than large organizations, with fewer decision-makers.

Finding 4: The BEST online coaching, which takes place after the in-person training, is underutilized. While the in-person workshop introduces concepts, the follow-up online coaching ensures that specific non-incented projects move forward.

Recommendation 2: If the BEST is offered again, work with BEST trainers to continue to encourage online coaching, especially to those who work for large organizations, to help them apply BEST concepts in their organizational setting.

Finding 5: Among energy managers, there is a perceived lack of buy-in by management for non-incented projects. The evaluation team believes the difficulty in estimating non-incented savings partially explains this lack of buy-in.

Recommendation 3: Show energy managers how to use the non-incented program worksheet, currently being developed, to encourage them to use a standardized method for calculating savings and Rate of Return metrics. Also, track the success of this tool in alleviating the challenge of estimating non-incented savings.

Finding 6: Energy managers perceive the application process for the program in general as onerous.

Recommendation 4: Continue to monitor participant feedback on application and contracted processes in future participant surveys. Use this feedback to assess opportunities to improve application process and contracting if they still remain a challenge.

Finding 7: As expected, the EM program drives participation and savings in commercial and other industrial programs, such as Retrofit, Process & Systems Upgrades (PSUP) and Energy Performance Program (EPP). However, the full value of the energy manager role has not been quantified and attributed to the program historically.

Recommendation 5: Develop and track metrics that reflect the full value of the EM program. An evaluation of the holistic impacts of the EM program across the IESO portfolio will be conducted in future evaluation years when the programs' participation is more robust. The metrics will be developed through discussions with the IESO but could include:

1. percentage of projects in PSUP, EPP, and Retrofit that are driven by EMs;
2. average savings from EM-led versus non-EM-led incented projects; and
3. average realization rates for EM-led versus non-EM-led projects

2. INTRODUCTION

2.1 EVALUATION GOALS AND OBJECTIVES

The Independent Electricity System Operator (IESO) retained EcoMetric Consulting, LLC, to evaluate the 2019-2020 Interim Framework (IF) Industrial Programs administered in Ontario. The Industrial Programs incentivize equipment measures, engineering studies, and energy management services for commercial and industrial facilities in Ontario.

This report contains the findings from the process evaluation conducted for the Energy Manager (EM) program in Program Year (PY) 2019. The Energy Manager program subsidizes the salary of a trained energy manager to work directly with participating facilities to find energy savings, identify smart energy investments, secure financial incentives, and unleash competitive advantage. Energy managers can also identify and help to implement non-incented improvements for the organizations they support. These non-incented projects are the focus of the Energy Manager program evaluation discussed throughout this report.

A targeted process evaluation of the Interim Framework Energy Manager program was conducted in PY2019 to address seven specific objectives:

- Assess the effectiveness of EM Support Services or EMSS (i.e., which are the most valuable and which EMSS and non-EMSS services help energy managers and customers achieve their goals?).
- Document the types of incented and non-incented energy savings actions participants are implementing.
- Examine what is stopping participants from implementing energy manager recommendations.
- Assess the effectiveness of the 2-day Behaviour, Energy, and Sustainability Training (BEST) provided by IESO, including which topics covered by BEST were the most valuable to attendees and in what way is the BEST training helping energy managers think through customers' reasons for inaction and what to recommend to influence the behaviour.
- Examine how EMSS and BEST training motivate participants to invest in non-incented projects or actions where savings persist.
- Document whether program services are delivered per the requirements, including whether participants follow section 3(d) of the participant contract.
- Examine participant experience and how IESO can evolve the program to ensure the program continues to effectively support energy managers and their C&I customers or employers on achieving energy savings.

Note that the findings discussed in the subsequent sections of this report address the subset of the objectives referenced above. The evaluation team has to wait until enough participants have submitted reports outlining the progress of both incented and non-incented projects to reach out to them and gather relevant feedback. It is anticipated that participant research findings will be reported in the PY2020 evaluation report.

In April 2019, the IESO began to centrally delivery all energy efficiency programs in Ontario by implementing a new Interim Framework following a directive from the Minister of Energy, Northern Development and Mines. The IF replaced the Conservation First Framework (CFF) with an updated portfolio of Save on Energy Programs and is in effect from 1 April 2019 through 31 December 2020. Due to the transition from the CFF to the IF in 2019, the population of non-incented measures implemented through the Energy Manager program is low as can be expected during the beginning of a new framework. Energy managers started the process of completing the non-incented measures in the second half of 2019, and only a few reported on those measures to date. The vast majority of non-incented measures currently in development are not ready for evaluation. Projects implemented in PY2019 will be evaluated and summarized in the PY2020 evaluation report. However, a thorough process evaluation was conducted in PY2019 to gauge the experience of the various market actors involved in the Energy Manager program.

3. Methodology

This section of the report outlines methodolgies used in the PY2019 evaluation of the EM program.

3.1 IMPACT EVALUATION METHODOLOGY

The impact evaluation of the EM program will be conducted throughout 2020 and 2021, and the results will be summarized in the PY2020 evaluation report.

3.2 PROCESS EVALUATION METHODOLOGY

Several data collection activities informed the current process evaluation and are summarized in Table 3.1. Please note that not all of the data collection activities were completed at the time this report was written, and thus this report documents findings from only the data collected to date. The PY2020 report will document findings from the program participant survey, which will be conducted during PY2020

Table 3.1 | EM Process Interview and Survey Counts

Interview/Survey Group	Method	Population	Target Sample	Description of Contacts
EM Program Staff	In-depth Interview (IDI)	10-15	10	IESO manager, EMSS staff, and other staff, as well as technical review key staff
BEST Trainers	Group IDI	2	2	They provided training to energy managers and others
EM Energy Managers	IDI	40 Funded 60 Unfunded	4 Funded 3 Unfunded	Energy manager hired or contracted by the participating organization
EM Participant Survey (joint with NTG)	Mixed mode survey (online and over-the-phone)	~43*	TBD	Participants (Waiting until an adequate number of IF participants report on non-incented savings to collect NTG and process info)

* There are about 43 contracted Ems as of July 2020.

3.2.1 PROGRAM DOCUMENT AND DATA REVIEW

Program documents associated with the redesign and the transition were reviewed, including the business case, the revised rules document, any other revised documents (such as the application and customer agreement), presentation and training materials, and any other relevant documents. This activity confirmed our knowledge of, and identified any changes to, program processes and rules, and guided interview guide and survey development.

Please note that once participant surveys are fielded , the following analysis will be finalized:

- **EM program sector and overlap analysis** – Comparing industrial, commercial, and public participant organization achievements (actions taken, savings achieved) and assessing barriers for under-performance. The percent of EM participants enrolled in other programs and whether their projects under other programs achieve larger, smaller, or similar savings, on average, compared to those who never participated in the EM program was investigated to the extent possible.

3.2.2 IN-DEPTH INTERVIEWS

Program actors (IESO, technical reviewer, and training staff), BEST trainers, and energy managers were interviewed to gain insight about the program delivery efficiency, training opportunities for energy managers, and challenges.

In-depth interviews are semi-structured interviews that use open-ended questions and probes to elicit detailed responses for qualitative analysis. These interviews were conducted to ask program staff, trainers, and energy managers about the following (where applicable): project identification and prioritization practices, participation challenges, training experience, general program satisfaction, project implementation challenges, the transition under the IF, and suggestions for program improvement.

Table 3.2 lists the type of contacts that were interviewed and the number of interviews that were conducted with those contacts.

Table 3.2 | Type of Program Staff and Energy Managers Interviewed

Type of Program Contacts Interviewed	Quantity
IESO EM program lead	1
IESO business manager and support staff	2
IESO marketing/outreach staff	1
IESO technical reviewer, engineering staff	1
IESO EMSS training staff	1
IESO program design/planning staff	1
Third-party technical review staff	2
Third-party EMSS staff	1
BEST training moderator and content provider	2
Funded energy managers who attended BEST training	2
Funded energy managers who did not attend BEST training	3
Unfunded energy managers who attended BEST training	2
Total	**19**

3.2.3 PARTICIPANT SURVEY

This activity is ongoing as noted previously. This survey combines process and net to gross (NTG) questions. The survey will be fielded when enough participants have submitted reports outlining the progress of both incented and non-incented projects, which is expected in PY2020. To address process evaluation objectives, participants will be asked about:

- Services delivered (EMSS, BEST, and other trainings or resources)
- Satisfaction with the services, program requirements, and observed energy savings
- Reasons for dissatisfaction, if any
- If under-performing (not achieving energy savings or performance goal), what might be the reason for not meeting the performance goal
- Suggestions for improvement

- Types of actions participants implemented because of program participation and what is stopping them from doing more
- Have they participated in other IESO incentive programs, and if so which ones
- What is needed for them to decide to proceed with the upgrade they are considering

3.3 JOB IMPACTS METHODOLOGY

An estimate of direct job impacts for the EM program has been included in this report and the cumulative results will be reported in the PY2021 Impact Evaluation Report. Direct jobs can be attributed to the program for those in the market that receive funds from the program and participants that co-pay for them (e.g., installation contractor labor and inspection labor). Direct jobs also include those involved on the administrative side—the implementation contractors, evaluators, and the IESO itself. Job impacts were estimated using primary data gathered through interviews with IESO program staff, technical reviewer staff, and EMs beginning in PY2019. An annual update of the job impacts will be provided in each impact evaluation report for every program year, which will include primary data from participant surveys.

Cumulative impact on jobs in Ontario will be reported at the program level in PY2021. However, the data collection instruments were designed during the PY2019 evaluation, and the data will be collected annually. Indirect jobs account for the economic impact of the program to account for the "ripple effects" that occur as directly impacted market actors turn around and spend money they receive from programs to create new jobs themselves. Market actors were interviewed and asked to describe the types of indirect jobs that were created by the program. Indirect job impacts of the EM program will be quantified and reported in the PY2021 evaluation.

EcoMetric will use the Statistics Canada (StatCan) Input-Output model to estimate direct and indirect job impacts of the Energy Manager program in PY2020-21 to align with job impacts analyses currently being conducted for the IESO's business and low income programs. The methodology of the job impacts analysis will be adjusted to leverage the StatCan model and will be outlined in future evaluation reports.4. Impact Evaluation

Due to the transition from the CFF to the IF in 2019, the population of non-incented measures implemented through the Energy Manager program is low. Energy managers started the process of completing the non-incented measures in the second half of 2019 and only a few reported on those measures to date. The vast majority of non-incented projects and measures currently in development are not ready for evaluation so projects implemented in PY2019 will be evaluated and their impacts will be summarized in the PY2020 evaluation report.

5. PROCESS EVALUATION

This section documents the feedback received from energy managers, program staff, and the trainers of the BEST training. Energy managers who IESO funded through the EM program, as well as those who do not currently receive funding, were interviewed. All of the interviewed energy managers attended IESO's BEST training in 2019, represented high-performers as well as non-high performers, and represented those who worked within crucial customer segments served by the EM program (multifamily, commercial, industrial, institutional, and municipal). Note that we defined "high-performers" as those who met their savings targets in the past.

5.1 ENERGY MANAGER PROGRAM SPECIFIC FINDINGS

5.1.1 PROCESS CHANGES AND PROGRAM ENHANCEMENTS IN THE INTERIM FRAMEWORK

Based on information gleaned from program documentation, and the interviews mentioned above, there were many processes and program design changes that resulted from the shift to the IF. The most notable changes and associated implications are discussed below.

- **The revisions to the reporting structure infuse greater accountability and efficiency into the reporting process.** Previously, energy managers had to submit quarterly reports. Under the IF, the energy managers submit plans in Q1, provide a progress report in Q3, and an annual report in Q4. IESO tracks the reporting timeline closely for each manager so that there is greater accountability for energy managers to satisfy requirements. The more structured upfront planning process, as well as the Q3 reporting, allows IESO to identify any shortfalls early so that EMs can take corrective actions. There is a risk assessment conducted by IESO staff to identify savings shortfalls, and this helps determine whether or not to extend the contract into the second year. Note that the program incents energy managers (if independent contractors) or organizations that employ energy managers to reach their savings goals given the pay for performance model in place, which makes the program more cost-effective.
- **The transition of contract administration from LDCs was challenging.** An IESO staff person responsible for program design and planning noted that initially, there were challenges in taking over the LDC contracts regarding energy managers, understanding what was in the agreements, and how to administer them effectively. IESO had moved to a more standardized contracting approach and have now developed a better system for tracking energy manager deliverables, thus increasing the accountability of energy managers.
- **IESO strengthened internal communication channels.** The IESO program team members and technical review and support staff frequently meet to ensure all those involved with the implementation of the EM program communicate effectively. IESO staff meet internally once per week with a focus on approving applications and information requests, as well as oversight of the implementation team. IESO staff also meet biweekly with the EMSS and technical review teams. Since those meetings are separate, and there was historically not much communication between the EMSS and technical review teams, there is now also a bi-monthly meeting with IESO staff, EMSS, and the technical review team. This forum has helped to open communication pathways and has addressed the internal communication challenges across the many groups that help implement this program.

- **The transition to a performance-based structure has shifted risk from IESO to the participant.** In the prior framework, participants had the choice to opt for a salary-based incentive and a performance-based incentive. The salary-based incentive is no longer available. Thus, all participants and their energy managers have to achieve savings targets for incented and non-incented projects under the pay-for-performance model. There is still some flexibility built into the program so that if the energy manager does not reach their targets in the first year, they can be carried over the second year of the contract (if IESO grants an extension). The program staff noted that the energy managers are warier as they have greater concerns about job security if they do not meet their performance targets.

5.1.2 PROGRAM SUPPORT AND RESOURCES

The evaluation explored program support services and resources provided to energy managers, both funded and unfunded, across IESO's territory, with a specific focus on the EMSS and BEST training.

The EMSS for funded energy managers includes technical assistance provided by a third-party (the support services vendor), baseline coaching, and an online portal called Energy HUB that offers tools and news about the industry, and online webinars.

The BEST is a two-day-long in-person training that was held in November 2019 and was led by another IESO third-party vendor. The training revolves around a theme of behaviour change within an organization. The training is available to all energy managers, regardless of their participation in the program.

EMSS TRAINING

All of the funded energy managers regularly attended EMSS webinars and training events, indicating those services were highly valued. Energy managers regularly utilize webinars and training. Even when energy managers cannot attend those sessions live, they reported going back through the slides afterward. The EMSS support services staff noted the high demand for these services but also the high production costs, as well as the time required for one-to-one hand-holding as energy managers regularly face challenges in this type of program. Additionally, all but one energy manager reported being impressed with the interactions with the EMSS support services staff.

All of the program participants interviewed expressed high satisfaction with the EMSS resources. The EMSS resources were used regularly and were perceived as engaging, regardless of whether the energy manager was a high performer or not.

In contrast to the webinars and training, energy managers did not explicitly mention the Energy HUB Platform as a widely used resource. This may be due to the branding of the site as a resource. Based on the description provided by the business advisors, there is a plethora of information housed on the Energy Hub, including the initial EM template report, chatline, tools, and training resources. The platform generates and distributes a monthly newsletter to all funded and unfunded energy managers, which notes program changes and also highlights energy managers' achievements.

Energy managers value more in-depth and specialized training topics. One energy manager explained that the training used to be more basic and that they appreciated the more in-depth training specific to a topic, such as the HVAC control training. This person felt that the training appealed to more seasoned energy managers. While others, as noted above, found the training engaging. Given

the range of sectors that energy managers operate in, with technical and stakeholder challenges specific to a given industry, training addressing specialized technologies or strategies for engagement appears to be valuable and can draw in new attendees.

BEST

Both funded and unfunded energy managers found the in-person BEST topics engaging and walked away with ideas for projects. The energy managers appreciated hearing from an expert outside of the engineering field on how to address behaviour change and were generally impressed with the insights. Attendees left with ideas for new non-incented projects and noted that the training helped generate ideas that go beyond large capital projects.[2] These ideas were particularly useful to those energy managers who described their firm as having already finished lighting and chiller upgrades. Additionally, the behaviour-change ideas presented had the most effect on energy managers overseeing fewer, larger properties, than it did on those managing portfolios of buildings with lots of different stakeholders with which the energy manager does not have direct communications. Energy managers also appreciated that the training came at no cost.

Although the BEST helped generate project ideas, none of the interviewed energy managers noted any specific projects that came out of the BEST session.

BEST online coaching is underutilized. As a follow-up to the in-person BEST workshop, participants are encouraged to attend online coaching sessions offered by the BEST facilitators. The facilitators noted that online coaching training attendance is roughly 50% of the in-person workshop. While the in-person workshop introduces concepts, the follow-up online coaching is what makes it practical. IESO may want to consider requiring BEST attendees to participate in a certain number of online coaching sessions to maximize the benefit of this training element.

BEST attendees noted barriers in putting what they learned into practice. The interviewed BEST facilitators reported that attendees noted three challenges in applying the learnings from the training.

1. **Survey fatigue.** Attendees understood the need to gather relevant data to assess how to best pitch and implement behaviour-change projects within an organization. One way to gather data is to conduct surveys, but surveys have become increasingly challenging to field due to survey fatigue. To combat survey fatigue, BEST facilitators noted that future sessions would consider giving attendees tips on how to gather feedback in an overly surveyed climate best and provide creative ideas for gathering data beyond surveys.
2. **Obtaining management buy-in.** BEST attendees stated to the trainers that once a price tag is associated with an action, then management cares less about sustainability.
3. **Difficulty in translating the information to meet the needs of different types of organizations.** Some of the attendees work for small businesses while others work for much larger organizations, such as schools, cities, or larger corporations. To attendees, especially those from larger organizations with multiple decision-makers, it was not easy to apply lessons learned.

[2] One energy manager who is a high performer also noted that all attendees walked away with ideas for at least four projects.

5.1.3 PROGRAM CHALLENGES

This section highlights the EM program attributes that have proven challenging. These barriers were identified through in-depth interviews with the IESO program team, technical reviewer, and support services vendor staff as well as with funded and unfunded energy managers.

MARKET AND ORGANIZATIONAL DECISION-MAKING CHALLENGES

Building trust between stakeholders is critical for project development, particularly in the multifamily and municipal government sectors. For example, in the multifamily sector, a major barrier to implementing energy-efficiency measures is the dynamic between the energy manager, the property manager, and the condo board within each building. Achieving the first 20% of savings can be done with technology, according to one energy manager. To reach greater savings, the energy manager needed to establish trust between the three parties referenced above so that there can be long-term support for the goal of achieving savings. The energy manager also explained, "The first 20% of savings is used to find the next 20% of savings." The foundation of this approach, this participant noted, is not the technology but trust.

A lack of capital, business disruption, and stringent payback requirements can also limit project implementation. Energy managers noted that the internal payback expectations could be three years or fewer, which limits project implementation and thus makes it more difficult to achieve savings targets. One energy manager who manages the energy usage at over 800 retail locations and has excellent access to data also reported a lack of capital for larger projects and concerns about disruptions to customers and store staff as barriers to project implementation. Another unfunded energy manager noted that lack of capital was the primary barrier to implementation. This energy manager reported that his firm's management did not feel confident that they would have the capital to spend to do the projects required to meet the savings targets.

Another energy manager noted that incented projects were easier to sell internally regardless of payback, simply because there was an incentive attached to the measure. The incentive was seen internally to be an indicator of a more valuable or important project. In contrast, customers viewed non-incented projects like those with harder to define outcomes, making them less of a priority internally.

The process for identifying savings opportunities is ad hoc and not systematic. This finding was reported even by energy managers who expect to meet their annual targets for savings. The process for finding energy-saving projects was not consistent across any two interviews. Energy managers listed the following processes for identifying energy-saving projects: conducting interviews with stakeholders, trusting their instincts for what decision-makers inside their firm would likely approve, using a baseline to identify savings opportunities, and looking for available incentives. A high performer described the process of looking for savings as a "chaotic, non-disciplined atmosphere." The energy manager continued, "It's about getting comfortable with what you don't know. You start with an opinion and make an assessment quickly to identify opportunities."

PROGRAM PROCESS CHALLENGES

The project development timeline is often longer than the EM program contract term. An energy manager, who works with municipalities, described the process for implementing large savings projects as taking up to six years. The barriers this person described included: 1) needing council approval before being able to allocate resources to the project, 2) lacking useful data and technical resources,

and 3) difficulties with making the technical reviewer feel comfortable with the data assumptions for the project. Municipalities view projects with shorter paybacks as being more likely to win support from the community. An IESO program staff also noted that the short-term nature of the contract is a hindrance to the efficacy of the EM program and energy manager's ability to embed themselves within the organization.

Decision-makers perceive the application process for the EM program as time-consuming because of the transition to the IF. One of the IESO business advisor staff we spoke with noted that the application review is a group decision-making process, which contributes to the energy manager's perception of the process as a demanding one. Of the five funded energy managers the evaluation team interviewed, three noted that the application review process was slow, with too much back and forth between IESO and the applicants. One energy manager also noted that the pre-approval process under LDC was "tedious" and "under the transition during IF there was a backlog of approvals, which caused delays for my firm to get projects done and potentially lose savings in that year." This same interviewee mentioned that the transition from LDC to IF could have been smoother.

Multiple IESO and implementation staff are communicating with energy managers, which may not be the most streamlined communication approach. There are people across four different teams communicating with the energy managers: IESO program staff, IESO business advisors, EMSS staff, and third-party technical reviewer staff. For example, while IESO manages the contract that outlines the reporting requirements and provides the reporting template, both EMSS staff and IESO staff (multiple contacts) may follow up with the energy manager to ensure a timely report submission. Multiple contacts do not need to follow up with the energy manager about report submission. Nevertheless, the evaluation team does recognize a need for multiple staff interacting with energy managers in other instances, considering multiple program staff are building relationships with a given energy manager and require different information. The evaluation team will continue to investigate this topic in the survey with program participants to assess whether there is an opportunity for improvement.

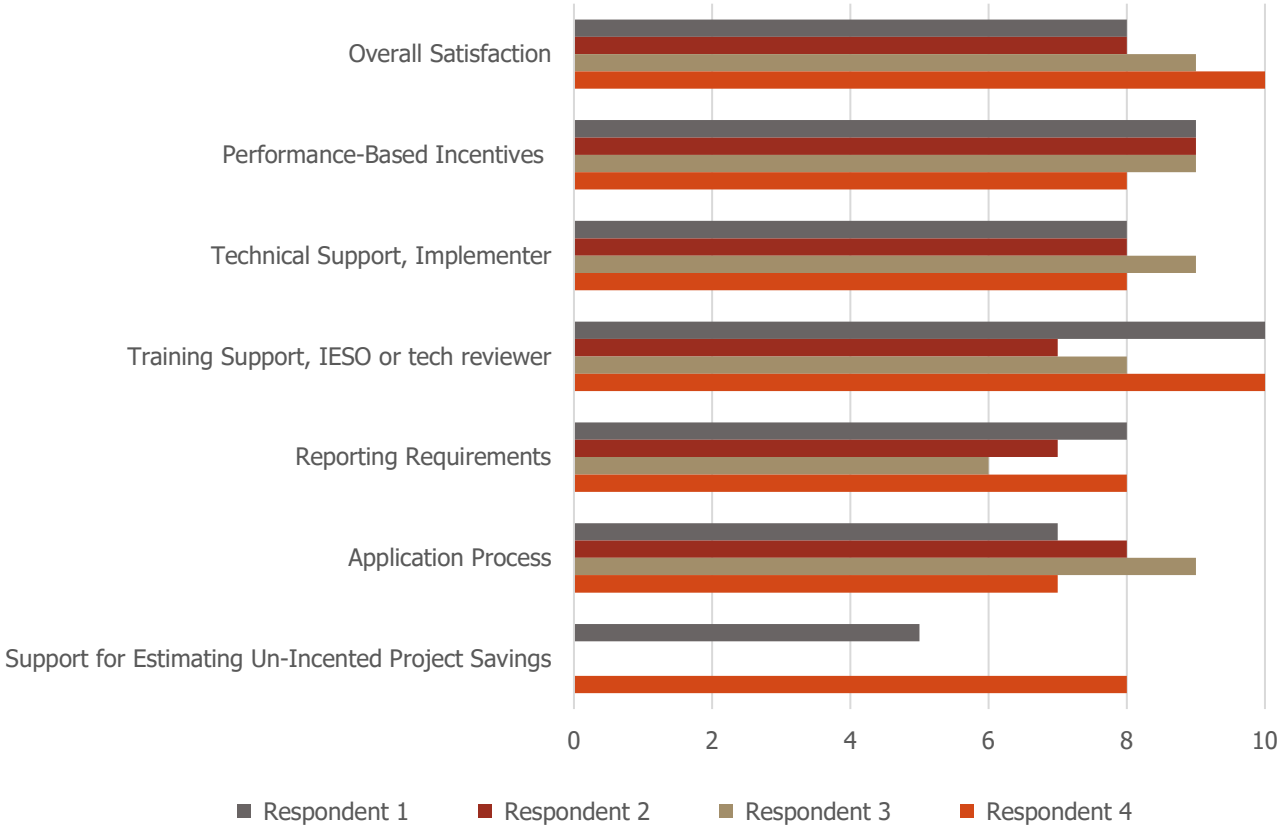
Energy managers struggle with the non-incented project calculations, baseline assessment, and measurement & verification (M&V) processes. The technical review vendor noted that there is a disconnect for energy managers regarding the development of the non-incented project calculations as well as M&V practices. Regarding the non-incented project development, energy managers struggle more with these types of projects because they are not straightforward, and they involve behaviour change, which requires a lot of effort. IESO staff, together with EMSS staff, have worked to develop guidelines and engineering worksheets for non-incented projects in the hope of assisting energy managers. The implementation staff has also done webinars and training on the development of baseline models and M&V but still sees energy managers struggle in these areas. Note that EMSS include training or one-on-one hand-holding related to non-incented project calculations, baseline modeling, and M&V.

The program is not encouraging energy managers to identify demand-reduction focused projects. The program and required savings targets focus on kWh savings and are not looking at kW and demand. This requires different data collection practices, and program staff are not seeing energy managers prioritizing this type of information. Because of forecasted gaps in system capacity needs IESO wants to see more attention paid to how energy managers can help reduce energy peak demand in the future.

PROGRAM SATISFACTION

Five funded energy managers were asked to describe their overall satisfaction with the program, as well as the difficulty level in meeting the program's savings goals, on a 0 to 10 scale. For the program satisfaction questions, zero represented not at all satisfied, and ten was very satisfied. Across all program elements, energy managers reported the highest satisfaction ratings with the performance-based incentives and technical support or resources from the technical reviewer and IESO. Figure 5.1 and Table 5.1 summarize the results.

Figure 5.1 | EM Program Satisfaction Ratings, n=4*



* Among five funded managers, one provided no ratings for any of the program elements, and three could not rate the support for non-incented project savings.

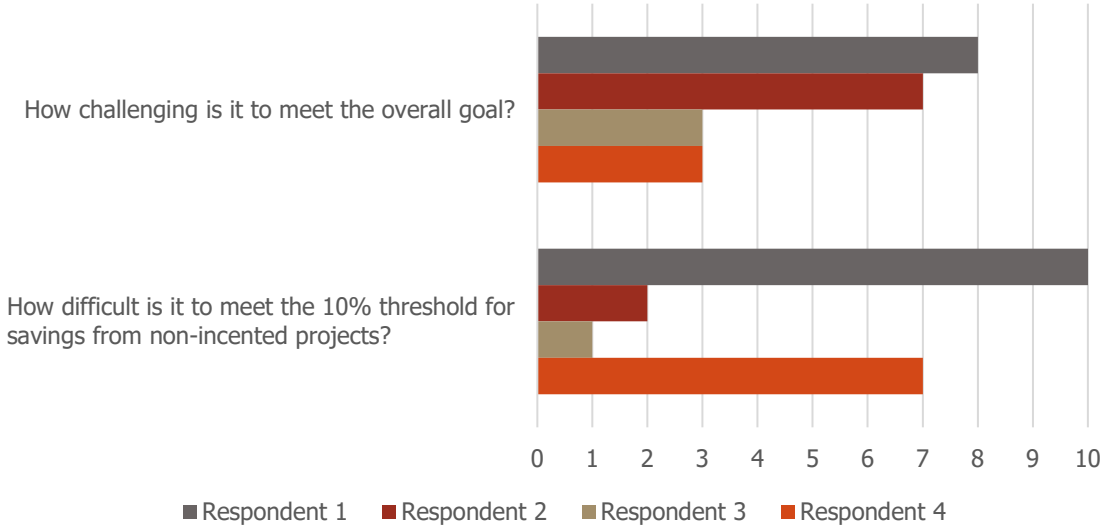
Table 5.1 | EM Program Satisfaction Ratings

Satisfaction Topic	Respondent 1 Rating	Respondent 2 Rating	Respondent 3 Rating	Respondent 4 Rating
Overall Satisfaction	8	8	9	10
Performance-Based Incentives	9	9	9	8
Technical Support, Implementer	8	8	9	8
Training Support, IESO or tech reviewer	10	7	8	10
Reporting Requirements	8	7	6	8
Application Process	7	8	9	7
Support for Estimating Non-incented Project Savings	5	NA*	NA	8

* NA = No Answer

Energy Managers were asked how challenging it was for them to meet their annual savings and the non-incented savings goal, using the 0 to 10 scale with zero being not at all difficult and ten being very difficult. Two of the four managers noted it would be more challenging to meet their non-incented goals compared to overall goals. The results are summarized in Figure 5.2 and Table 5.2. Although energy managers reported broad reactions on the topic of non-incented projects, their main challenge was in identifying projects to meet the non-incented goal.

Figure 5.2| Challenge in Meeting Goals, n=4*



* Among five funded energy managers, one provided no ratings.

Table 5.2| Challenge in Meeting Goals, n=4

Challenge Topic	Respondent 1 Rating	Respondent 2 Rating	Respondent 3 Rating	Respondent 4 Rating
Meeting Overall Goal	8	7	3	3
Meeting 10% threshold for savings from non-incented projects	10	2	1	7

Note that funded energy managers were still confident that they could identify non-incented projects as they looked for incented measures to implement. While all funded energy managers were conscientious of meeting the non-incented savings target, only one expressed a concern about finding the measures to get there.

5.2 VALUE OF ENERGY MANAGERS

As expected, the EM program does appear to drive participation in other industrial programs. Energy managers feed projects into the PSUP program. About 16% of all active projects in the existing PSUP pipeline are coming from organizations with the contracted energy manager. Program staff also has noticed that having an energy manager on site helps the customer prioritize more energy-efficiency projects with more significant savings.

The EM program appears to bring projects to the PSUP with smaller savings potential. PSUP 2019 projects from energy managers are expected to yield about 935 MWh, on average, compared to 4,316 MWh for other projects. Please note that there are two non-EM projects with 27,000 MWh and 55,800 MWh expected savings. However, without those two outliers, the average is 2,196 MWh in expected savings — still much higher than that for the PSUP projects that come from energy managers.

The energy manager-led PSUP projects target facility optimization as well as typical retrofits. Three of the seven energy manager-led PSUP projects are optimization projects, and one is a decommissioning project, which ties into the EM program goal of finding savings after a retrofit. These energy manager projects may not be the most impactful capital projects traditionally seen in the PSUP program. Still, they do suggest that energy managers are creative in finding savings outside of the typical straightforward retrofits.

The full value of the energy manager role is presently difficult to quantify. Still, the EcoMetric team is working with the IESO to conduct a holistic analysis of the EMs' contributions to the different programs across the IESO portfolio in the Interim Framework. IESO staff noted that funded energy managers are responsible for larger, more complex projects and that average savings are more significant for energy manager-generated projects. Preliminary analysis on this topic contradicts this belief; however, the analysis is limited since only projected savings can be assessed (rather than actual savings) between the energy manager-led projects and other projects in the PSUP program.

This analysis will be revisited when savings are verified for incented and non-incented projects in PY2020 and PY2021. Additionally, it is clear that energy managers have an impact on the participation in and acquired savings of other programs (PSUP and likely EPP or Retrofit), but there is currently not a clear quantification method to show the EM program impact on participation long-term, quality of projects, and implementation role – all significant benefits of embedded energy managers that are hard to quantify. The holistic EM impact analysis will address these quantification issues.

As part of the holistic EM impact analysis, all EM-related savings achieved through incented and non-incented measures will be aggregated across the IESO portfolio. Further, the EcoMetric team provided the IESO with a memo in January 2020 with guidance on how to account for EMs' efforts to deliver incented measures through IESO programs in net savings and cost-effectiveness analyses. In summary, the evaluation team recommended assessing EM influence when considering net savings attribution for all programs to which they push measures. This is already conducted in the net savings analysis for PSUP and EPP. It is recommended that the evaluators of the commercial portfolio leverage project and program information to identify energy manager program participants and explicitly ask about their influence during project surveys.

On the cost-effectiveness side, it is recommended that cost-effectiveness analyses of the IESO portfolio distribute the administrative costs of the EM program, including the salaries of the EMs, across all programs by the ratio of savings they achieved in each program. For example, consider that the EMs in PY2020 were accountable for 5,000 MWh across the EM non-incented, PSUP, and Business Retrofit programs. A review of the EM reports and individual program data in PY2020 finds that Business Retrofit incented 60% of these savings, 30% by PSUP, and 10% were from non-incented projects. The total spend on EM salaries in PY2020 should be accounted for as administrative costs using this same distribution in the program-level CE analyses. As for administrative costs associated with training and program delivery, the same distribution should be applied to the EM training and outreach across the programs. Historically, the administrative spending on EMs, including their salaries, is applied as a cost in the CE analysis of the EM program only. The salaries paid to the EMs and the administrative costs associated with EM training and outreach should be distributed throughout the programs that they drive projects through, including both incented and non-incented measures.

6. JOB IMPACTS ANALYSIS

The efforts to administer, implement, and participate in the EM program result in direct and indirect job impacts in Ontario. Direct jobs can be attributed to the program for those in the market that receive funds from the program and participants that co-pay for them (e.g., installation contractor labor and inspection labor). Direct jobs also include those involved on the administrative side—the implementation contractors, evaluators, intervenors, and the IESO itself. Indirect jobs account for the economic impact of the program to account for the "ripple effects" that occur as directly impacted market actors turn around and spend money they receive from programs to create new jobs themselves.

Through the in-depth interviews with IESO program staff, technical reviewers, and EMs, market actors were asked how many full-time employees (FTEs) had worked on and are attributable to EM program activities. These job impacts are classified as direct jobs. Table 6.1 summarizes their responses.

Table 6.1 | PY2019 EM Job Impacts

Market Actor	FTEs attributable to EM program in PY2019	FTEs attributable to EM program in PY2020 and PY2021
IESO Program Staff	4.25	4.25
Technical Review Staff	5.25	5.25
Energy Managers*	27	43
Participating Organizations**	Average/organization = 4.6 Total = 124.2	Average/organization = 5.2 Total = 223.6
Total	**160.7**	**276.1**

*Energy Managers with executed contracts as of 15 April 2020.
**Average response from Ems interviewed was multiplied by the number of EMs with executed contracts.

The EM program generated a total of 160.7 FTEs in PY2019. IESO and technical review staff had an average of 4.25 and 5.25 FTEs working on the EM program in PY2019, respectively. Multiple people were interviewed at the IESO and technical review firm, so their responses were averaged for organization-wide FTEs. There were 27 EMs with IF contracts executed in 2019. The EMs interviewed had an average of 4.6 FTEs at their organizations attributable to the EM program in PY2019, totaling 124.2 for the program in PY2019 at the 27 organizations.

There was not a significant increase in the expected average FTEs attributable to the EM program in PY2020 and PY2021. However, an additional 16 EMs executed contracts with the IESO in 2020 through 15 April.

As the population of market actors is small in the first program year for the EM program in the IF, these job impact numbers are preliminary and are expected to increase throughout future program

years—especially from the participating organizations. The EM program also creates indirect job impacts by providing work and funding for energy managers, energy modelers, contractors, engineers, and inspectors. Market actors were asked what types of indirect job impacts were created by the EM program. Estimating indirect job impacts from the EM program will require more surveys, and larger population of market actors needs to be available for research. A more accurate job impact estimate will be included in the PY2021 annual report when the total participation, savings impacts, and cumulative direct job impacts of the EM program are known.

EcoMetric will use the Statistics Canada (StatCan) Input-Output model to estimate direct and indirect job impacts of the Energy Manager program in PY2020-21 to align with job impacts analyses currently being conducted for the IESO's business and low income programs.

7. FINDINGS AND RECOMMENDATIONS

Table 7.1 | Energy Manager Evaluation Findings and Recommendations

Finding Number	Finding	Recommendation Number	Recommendation	Actionable Audience
1	The EMSS interactive support (webinars, training events, and one-on-one hand-holding) are highly valued by energy managers, regardless of participants' level of experience. Other interactive sessions like the BEST are also valued. However, there is a high cost associated with EMSS interactive services per EMSS support staff.	1	In collaboration with the Technical Reviewer, investigate and test approaches to encourage energy managers to seek program information and tools first on the Energy HUB rather than through EMSS one-on-one support, as this could help lower the cost of implementing EMSS. Please note that the Energy HUB cannot help with certain types of requests that EMSS one-on-one services address, such as supporting energy managers in satisfying information requests. Those types of calls, however, only partially account for the Technical Reviewer's hours that were spent on direct support in 2019. Thus, there could be an opportunity to send energy managers to Energy HUB for baseline calculation tools, M&V, and other topics that direct support services often address.	IESO, Technical Reviewers
2	The demand for less costly EMSS support, such as the Energy HUB website, is low. Interviewed energy managers either infrequently use the site – mainly to find webinars or training slides – or do not use the site at all.	1	See Recommendation #1	IESO, Technical Reviewers
3	The BEST 2-day workshop was especially helpful to energy managers who work for smaller firms, rather than large organizations, with fewer decision-makers.	2	If the BEST is offered again, work with BEST trainers to continue to encourage online coaching, especially to those who work for large organizations, to help them apply BEST concepts in their organizational setting.	IESO, BEST trainers

Finding Number	Finding	Recommendation Number	Recommendation	Actionable Audience
4	The BEST online coaching, which takes place after the in-person training, is underutilized. While the in-person workshop introduces concepts, the follow-up online coaching ensures that specific non-incented projects move forward.	2	See Recommendation #2	IESO, BEST trainers
5	Among energy managers, there is a perceived lack of buy-in by management for non-incented projects. The evaluation team believes the difficulty in estimating non-incented savings partially explains this lack of buy-in.	3	Show energy managers how to use the non-incented program worksheet, currently being developed, to encourage them to use a standardized method for calculating savings and Rate of Return metrics. Also, track the success of this tool in alleviating the challenge of estimating non-incented savings.	IESO, Technical Reviewers
6	The application process for the program, in general, is perceived as onerous.	4	Continue to monitor participant feedback on application and contracted processes in future participant surveys. Use this feedback to assess opportunities to improve application process and contracting if they still remain a challenge.	IESO, Technical Reviewers
7	As expected, the EM program drives participation and savings in commercial and other industrial programs, such as Retrofit, PSUP, and EPP. However, the full value of the energy manager role has not been quantified and attributed to the program historically.	5	Develop and track metrics that reflect the full value of the EM program. An evaluation of the holistic impacts of the EM program across the IESO portfolio will be conducted in future evaluation years when the programs' participation is more robust. The metrics will be developed through discussions with the IESO but could include: (1) percentage of projects in PSUP, EPP, and Retrofit that are driven by EMs; (2) average savings from EM-led versus non-EM-led incented projects; and (3) average realization rates for EM-led versus non-EM-led projects.	IESO, Evaluation Teams, Technical Reviewers