IMPACT AND PROCESS EVALUATION REPORT

INTERIM FRAMEWORK ENERGY PERFORMANCE PROGRAM PY2019

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Prepared for:	Independent Electricity System Operator (IESO)
Prepared by:	EcoMetric Consulting LLC

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Table of Contents

1. EXECUTIVE SUMMARY

1.1 EVALUATION GOALS AND OBJECTIVES

This report contains the findings from the process evaluation conducted for the Energy Performance Program (EPP) in Program Year (PY) 2019. 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]

Goals of this process evaluation are to monitor the overall effectiveness of key program elements, assess participant experience with the program, understand key program elements of other pay for performance programs, and make recommendations to improve EPP.

1.2 EVALUATION RESULTS

1.2.1 IMPACT EVALUATION RESULTS

In PY2019, there were 10 facilities from four participating companies enrolled in EPP. However, none of these facilities' first performance year will be completed before November 2020. As such, these facilities will have their first year of performance verified and reported in the PY2020 evaluation.

1.2.2 PROCESS EVALUATION RESULTS

The PY2019 EPP process evaluation conducted a deeper program assessment across various market actor groups. In-depth interviews were conducted with IESO staff, technical review staff, participants and their Energy Service Providers, and program delivery staff from P4P programs in other jurisdictions in North America. While the process evaluation was focused on PY2019, in-depth interviews were also designed to provide early insight into the respondents' perspectives on PY2020 such as the impact of COVID-19 on their program participation and experience. A thorough jurisdictional scan of nine other commercial P4P programs was also completed to understand common program design elements, best practices, challenges, and solutions. Key findings and recommendations are summarized in Section 1.3.

1.3 KEY FINDINGS AND RECOMMENDATIONS

This section summarizes the key findings and recommendations from the PY2019 EPP evaluation and P4P jurisdictional scan. All findings and recommendations are summarized in Section 7.

Finding 7: Both participants interviewed indicated that an Energy Manager would boost their performance in EPP, allowing them to identify more measures and facilities to participate in the program.

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

Recommendation 3: Develop cross-program marketing and trainings to leverage the potential of EMs in driving EPP participation and performance. The Energy Manager is an enabling resource that provides opportunities to develop energy efficiency projects incentivized through other IESO programs such as Retrofit and Process & Systems Upgrades (PSUP) programs. The non-incented target of the EM also ensures the facilities also generate natural spillover without program assistance.

Finding 5: Participants see communication as an issue. A common theme that affected satisfaction scores was a lack of communication surrounding progress in the program and how the COVID-19 shutdowns in Ontario would affect savings calculations. Participants also expressed confusion surrounding their progress and performance status in the program.

Recommendation 2: Hold regular update meetings with both the participant and their ESP to encourage communication, provide progress updates, gather feedback on experience, and plan for future projects. The participants and ESPs may not fully recognize the COVID-19 messaging efforts of the IESO communications team. Streamline and centralize communications through the EPP business advisor, specifically about difficulties participants are facing during the COVID-19 crisis. As the uncertainty surrounding the impacts of COVID-19 wanes and program participation increases in the long term, update meetings can be scaled back in frequency.

Finding 4: Respondents expressed frustration with the process of making baseline adjustments and the Rolling 28 day Variance Analysis Report.

Recommendation 1: Drop the Rolling 28 day Variance Analysis Report. (See Recommendation #8)

Finding 21: Most programs reviewed limit baseline model metrics to accuracy CV(RMSE), bias (NMBE), and model fit (R^2).

Recommendation 8: Remove the CUSUM and 28-day rolling variance baseline requirements for EPP. CV(RMSE), NMBE, and R^2 metrics set sufficient standards on model performance for a P4P program and meet IPMVP and other industry protocols. EcoMetric's experience with statistical energy modeling also suggests that the three metrics are sufficient to validate baseline models.

Finding 23: All reviewed programs require climate normalized weather data for savings estimates.[2]

Recommendation 10: Require climate normalized data for performance period savings estimates. Savings normalized for climate will ensure customer incentive payments are not rewarded or penalized for changes in savings due to weather. Climate normalized savings estimates will also facilitate incorporating EPP savings more accurately in integrated resource plans (IRP's).

Finding 12: Many programs reviewed require an intensive application and screening processes that include detailed project implementation plans, project cost estimations, baseline models and modeling explanations, and even site visits to verify existing building conditions.

[2] Climate normalized data, often called Typical Meteorological Year (TMY) data, describes the average climate for a location over a longer period of time—often 10 or 30 years. This data is available for locations in Ontario from Environment Canada through Energy Plus.

Finding 13: Many programs provide partial payout incentives based on expected savings before the performance periods begin. This payment structure allows participants to offset project costs that are borne in the early stages of program participation. This approach also requires greater effort and scrutiny in the project planning phases, which should result in more predictable incentive payments and savings achieved.

Recommendation 5: Create an incentive mechanism that provides funding in the planning and/or implementation phase beyond the modeling incentive. Providing an opportunity for participants to offset costs early on in the project timeline is especially important during the current pandemic when capital budgets are impacted.

Finding 14: All other P4P programs reviewed collect project cost data from participants, and many require reporting of measure-level incremental costs. This data is used to set incentive thresholds and calculate the cost effectiveness of the program.

Recommendation 6: Require EPP participants to provide invoices for capital projects and cost estimates for O&M measures.

2. INTRODUCTION

2.1 EVALUATION GOALS AND OBJECTIVES

The Independent Electricity System Operator (IESO) retained EcoMetric Consulting, LLC to conduct an evaluation of the Energy Performance Program (EPP) for multi-site and single-site customers administered in Ontario. The IESO created EPP to offer its commercial customers a performance-based whole-building approach to energy efficiency improvements. EPP originally targeted multi-site customers and required commercial customers to have a network of facilities throughout the province. In 2019, IESO added single-site commercial customers as eligible to participate in the program as well.

The primary goals of this evaluation are to deliver, on an annual basis, net verified savings results for EPP, and to identify potential improvements to program delivery. In abbreviated form, the evaluation objectives include:

- Anually verify energy savings.
- Assess program attribution (net-to-gross or NTG), including free ridership.
- Annually estiamte the net greenhouse gas impacts in tonnes of CO_2 equivalent using the IESO Cost Effectiveness Tool.
- Monitor the overall effectivness and comprehensiveness of key program elements.
- Conduct annual cost-effectiveness analyses and report on key indicators of cost-effectiveness including Total Resource Cost (TRC) test, the Program Administrator Cost (PAC) test, and Levelized Unit Energy Cost (LUEC) metric.
- Analyze collected data and make recommendations to improve the program.
- Determine customer satisfaction.

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.

These goals were met using a variety of data collection activities, including interviews, surveys, document review, and targeted data analyses where applicable. Each of these are described in Section 3.

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. The IF replaced the Conservation First Framework (CFF) with an updated portfolio of Save on Energy Programs and is in effect from April 1, 2019 through December 31, 2020. Due to the transition from the CFF to the IF in 2019 none of the current facilities enrolled will have completed their first year of performance until late 2020. As such, their impacts will be evaluated and reported in the PY2020 EPP evaluation. However, a thorough process evaluation was

conducted in PY2019 to gauge the experience of the various market actors involved in EPP and gather information from other commercial pay for performance programs throughout North America.

2.2 PROGRAM DESCRIPTION

The Energy Performance Program (EPP) provides a performance-based whole-building approach to incenting energy efficiency improvements which gives customers with greater flexibility in measure selection. In this pay-for-performance (P4P) model, building-specific energy models are used to determine a baseline, which is then compared to metered consumption to determine a performance payment. The consumption data is robust in the program, as two years of M&V data is a program requirement, and the participants are required to use a billing analysis Savings Report developed by the IESO.

EPP was originally designed to provide solutions for multi-site customers with a large geographical footprint to historical challenges of participating in Save on Energy programs. The IESO added single-site commercial customers as eligible to participate in the program in PY2019 of the Interim Framework. Measures in EPP include both capital and non-capital efficiency measures, with performance being rewarded at the same rate. With measure savings being calculated at the whole-building level for customers, the cost of implementing the program and administrative burden are greatly reduced. Following the transition to the Interim Framework, the length of the performance period was reduced from four years to two.

3. METHODOLOGY

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

3.1 IMPACT EVALUATION METHODOLOGY

The impact evaluation of EPP will be conducted from 2020 to 2023 and the results will be summarized in the PY2020-22 evaluation reports. None of the currently enrolled facilities have finished their first performance year. Net to gross analysis was conducted in concert with the participant process interviews in PY2019 and net savings will be reported in the PY2020 evaluation report after the participants complete their first performance year and the evaluation team verifies savings achieved.

3.2 PROCESS EVALUATION METHODOLOGY

The PY2019 EPP process evaluation conducted a deeper program assessment across various market actor groups. Due to the major impact of the COVID-19 pandemic, the evaluation also focused on collecting early insights in the pandemic's impacts on EPP market actors in PY2020. In PY2019, four participants had facilities enrolled in the program. The goal of the process evaluation was to "fill out" its understanding of how the program works with a broader base of participant types.

The objectives of the PY2019 process evaluation were to:

- Assess participant experience with the program, including:
- Motivations for participating in EPP vs. Retrofit
- Awareness and level of interaction with other IESO programs such as Energy Manager and Retrofit
- Satisfaction with program parameters (i.e. minimum requirements to enroll and program term)
- Satisfaction with program processes, particularly:
    - Access to program information/forms
    - Approval of baseline models
    - Timing and rates of incentive payments
    - IESO staff support
    - Technical review from CLEAResult
- Potential barriers, e.g. funding the baseline model, amount of time between beginning of pay-for-performance period and incentive settlement
- **Determine participant awareness** of other IESO and LDC energy efficiency options available.
- **Assess whether and to what extent EPP builds internal capacity** for single and multi-site commercial participants to pursue energy efficient equipment and practices.

- Explore the decision-making criteria of participation in EPP vs. Retrofit.
- **Assess effectiveness of program processes**, including eligibility requirements, enrollment steps, program communication, incentive settlement, and data tracking procedures.
- Assess participant experience with IESO-sponsored training.
- Conduct a jurisdictional scan of other pay-for-performance programs across North America, focusing on:
- Payment structure
- Modeling software
- Baseline methodology
- Types of participants
- Use of Implementer/aggregator
- Statistical requirements for baseline model fits
- Any unexpected challenges and their solutions
- Estimate Job Impacts.

3.2.1 SAMPLING, INTERVIEWS, AND SURVEYS

Various data collection activities were leveraged to explore key research topics and gather stakeholder perspectives to complete a comprehensive process evaluation. These include the following:

- **Staff and Technical Reviewer interviews:** In-depth interviews over the phone with five members of the EPP program team and one contracted technical reviewer.
- **Participant interviews:** In-depth interviews over the phone with two current participating organizations.[3]
- **Energy Service Provider (ESP) interviews:** In-depth interviews via phone with two ESPs hired by EPP participants to help with program participation
- **P4P Program Staff interviews:** In-depth interviews via phone with four P4P program managers around North America
- Jurisdictional scan of pay-for-performance program literature for nine North American P4P programs and in-depth interviews with four program managers.

STAFF AND TECHNICAL REVIEW INTERVIEWS

Stakeholder interviews were focused on updating and revising, where appropriate, our understanding of EPP's goals and processes and documenting any changes since the PY2017 evaluation. These

[3] The evaluation team was able to conduct interviews with two of the four participating organizations enrolled in EPP following up to six attempts to schedule.

interviews were designed to gain a better understanding of the program's theory, goals, processes, and marketing/outreach practices. In addition, respondents provided their perspective on the job impacts (within the IESO) of EPP, as well as how they envision the future of EPP.

The evaluation team worked individually with program and technical review staff to schedule time to discuss their experiences working on EPP in-depth. Six one-hour phone interviews were conducted. The conversations were transcribed and then analyzed to find common threads and themes that aid in the understanding of the program, both in its current state and an envisioned future form.

PARTICIPANT INTERVIEWS

Attempts were made to interview representatives from all four companies that had signed EPP participation contracts in PY2019. Interviews with two participating organizations were completed. Participants were contacted individually to schedule time to talk discuss their experiences working on EPP.[4] Two hour-long interviews were conducted. The conversations were transcribed and then analyzed to coalesce the participants' experience with the program.

Participant interviews focused on assessing program experiences including:

- Level of effort in the enrollment process and throughout the program.
- Satisfaction with the overall experience and specific program aspects like the application process and data tracking requirements.
- How they learned of the program.
- Information sources they rely on for energy efficiency knowledge, and preferred channels of communication.
- Suggestions for program improvement.
- Awareness of the other energy efficiency options available to them.
- Awareness and level of interaction with other IESO programs such as Energy Manager and Retrofit.
- Whether they have/had a funded Energy Manager
- Extent to which EPP has helped to build internal capacity to improve energy performance, with or without the program.
- The actual cost of baseline modeling.
- Whether participants implemented gas measures, and if so, if they were incented.
- Whether participating organizations link management performance assessments to EPP performance.
- If so, how? Do they offer financial incentives? Non-monetary incentives?

[4] While the evaluation team was able to conduct interviews with half of the participants enrolled in EPP in PY2019, the response rate to our outreach was negatively affected by the current COVID-19 situation.

- Whether and to what extent participants found EPP training valuable.
- What is most/least valuable? Do they have suggested improvements?
- Levels of free ridership and spillover[5] to estimate overall program savings net-to-gross ratio.

ESP INTERVIEWS

Attempts were made to interview ESPs hired by all four companies that had signed EPP participation contracts in PY2019 to guide them through the program. ESPs play an integral role throughout all phases of the program including developing applications and baseline models, identifying, and implementing energy efficiency measures, and reporting savings performance. As the ESPs work closely with the participants and work through all phases of the program, the interviews closely mirrored those of the participants, and they are able to provide a similar customer perspective. Hour-long interviews were completed with two ESPs working with two of the current EPP participants. The conversations were transcribed and then analyzed to coalesce the ESPs' experience with the program.

P4P JURISDICTIONAL SCAN AND INTERVIEWS

In response to the IESO's desire to learn more about how other, similar programs have chosen to design their programs, the jurisdictional scan seeks to expand on the Natural Resources Defense Council's (NRDC) 2017 report[6] by looking more deeply into the characteristics of nine commercial P4P programs across the US and Canada. The jurisdictional scan focused on programs similar to IESO's Energy Performance Program (EPP) and supplements the facts with personal perspectives gained through in-depth interviews with the managers running those programs. The goal of the scan and interviews is that the findings facilitate idea-sharing between multiple utilities, all seeking to find a P4P program model that works best for their customers.

The publicly available program information and documents for the following P4P programs were reviewed:

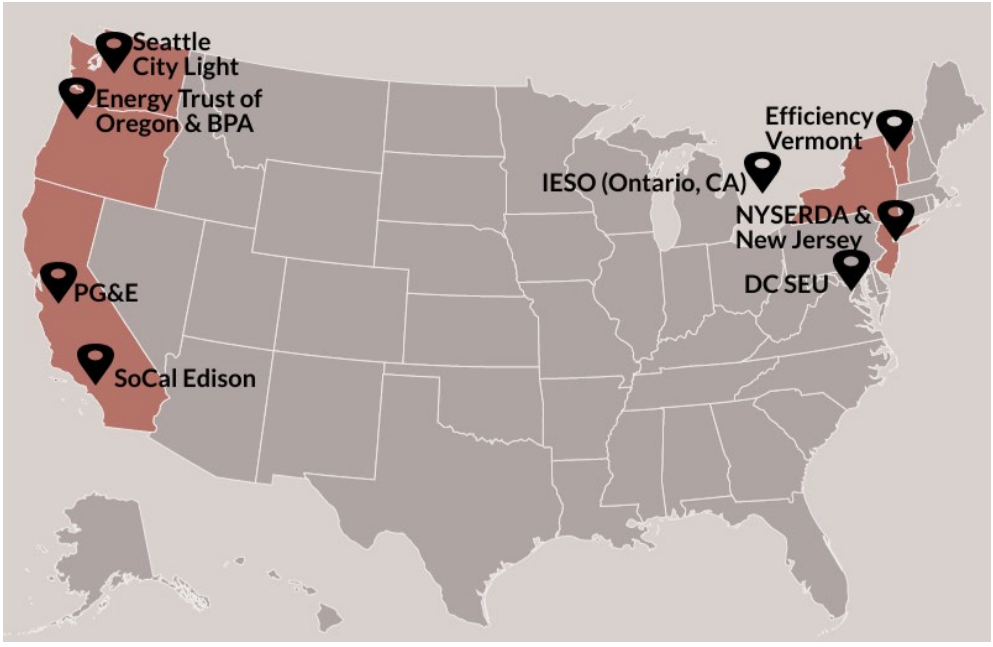
- Bonneville Power Administration Strategic Energy Management Program
- DC Sustainable Energy Utility Pay for Performance Program
- Efficiency Vermont Deep Retrofit Program
- Energy Trust of Oregon Commercial Pay for Performance Program
- New Jersey's Clean Energy Program Pay for Performance Program for C&I Existing Buildings
- NYSERDA and Con Edison Business Energy Pro Pay for Performance Initiative Commercial Pilot
- PG&E Commercial and Public Sector Whole Building Performance-Based Retrofit Program

[5]EPP spillover will be assessed for each participant following one year of performance in the program.

[6] "Putting Your Money Where Your Meter Is," NRDC and VEIC, January 2017. https://www.nrdc.org/sites/default/files/pay-for-performance-efficiency-report.pdf

- Seattle City Light Deep Retrofit Pay for Performance Program
- Southern California Edison Normalized Metered Energy Consumption Offering

Figure 3.1| P4P Programs Reviewed



In-depth interviews with utility staff were conducted for the following programs:

- Seattle City Light Deep Retrofit Pay for Performance Program
- Energy Trust of Oregon Commercial Pay for Performance Program
- DC Sustainable Energy Utility Pay for Performance Program
- NYSERDA and Con Edison Business Energy Pro Pay for Performance Initiative Commercial Pilot

3.3 JOB IMPACTS METHODOLOGY

An estimate of direct job impacts for EPP was provided in PY2019. Cumulative results will be included in future evaluation reports. 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, participants, and ESPs beginning in PY2019. An annual update of the job impacts will be provided in each impact evaluation report for every program year. Since the overall program participation is low in PY2019, and four participants and ESPs were interviewed, the PY2019 job impacts estimate is preliminary and focused on direct job impacts.

The cumulative impact on direct and indirect jobs in Ontario will be reported at the program level and will be calculated and reported in future evaluation reports, but the data collection instruments were

designed before 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. Expansion or contraction of contractor work trickles upstream and creates jobs for distribution centers, industrial transport, and manufacturers, for example. Market actors that were interviewed were asked to describe the types of indirect jobs that were created by the program. Indirect job impacts off EPP will be quantified and reported in future evaluation reports.

EcoMetric will use the Statistics Canada (StatCan) Input-Output model to estimate direct and indirect job impacts of EPP 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 to the IF in April 2019, there are 15 facilities from nine participating organizations that are currently enrolled in EPP. At the time the evaluation population for PY2019 was finalized, there were 10 facilities from four participating organizations enrolled in EPP. These facilities will begin to complete their first year of performance in late 2020 and their impacts will be verified and reported in the PY2020 evaluation report. Without the completion of at least the first year of performance, there is not sufficient data to verify savings for facilities enrolled in EPP.

5. PROCESS EVALUATION

This section details the findings from the PY2019 process evaluation of EPP. Process evaluation efforts will continue in PY2020 as IESO expects the participation in the program to grow, and a more robust population of market actors are available to study.

5.1 IESO STAFF AND TECHNICAL REVIEWER PERSPECTIVES

Interviews were conducted with five (5) members of the EPP program team, and one (1) contracted technical reviewer. These interviews were designed to gain a better understanding of the program's theory, goals, processes, and marketing/outreach practices. Also, respondents provided perspectives on EPP's job impacts (within the IESO), as well as how they envision the future of EPP.

The IESO program staff who participated in interviews represented the following aspects of EPP:

- Program Design
- Program Delivery
- Technical Services
- Marketing/Outreach
- Business Advisor
- Technical Reviewer – Application, baseline modeling, planned measure review

5.1.1 PROGRAM DESIGN AND GOALS

EPP program staff members interviewed expressed a shared understanding of the program's overall intention, goals, and design. Respondents each described the program's primary intent as providing flexibility to the market to take a non-prescriptive approach to save energy in customers' respective facilities. Program staff described "empowering" commercial customers to make choices that suit their individual needs, and "moving away from transactions" and toward a holistic energy management approach.

Program staff described specific program goals as achieving 24 GWH and 2.8 MW of savings with a $6M budget. Participation goals were more elusive to quantify, as program staff forecast savings from enrolled participants and estimate the number of participants the program can accommodate based on the models of current enrollees.

CHANGES SINCE PY2017

The most significant change to EPP since the PY2017 process evaluation[7] was the allowance of single-site commercial customers into the program. Other changes include using a different tool for data intake[8] and adding information webinars as an outreach strategy. Both of these updates supported the EPP program goal to reach more potential participants in a more targeted fashion.

[7] EPP was a part of the Conservation First Framework in PY2017, which was eventually replaced by the current Interim Framework in 2019.

[8] Respondent noted the new data intake and reporting system is not as relevant for EPP as for some other energy efficiency programs.

5.1.2 MARKETING AND OUTREACH

The IESO program staff members responsible for marketing and outreach depicted their work as more of a sales effort than traditional marketing (referred to here as “outreach/sales”). The two interviewed staff members explained that their outreach/sales efforts must be very targeted, thereby necessitating personal, tailored communication as opposed to traditional marketing collateral such as brochures.

The outreach/sales team described three main methods of reaching potential program participants:

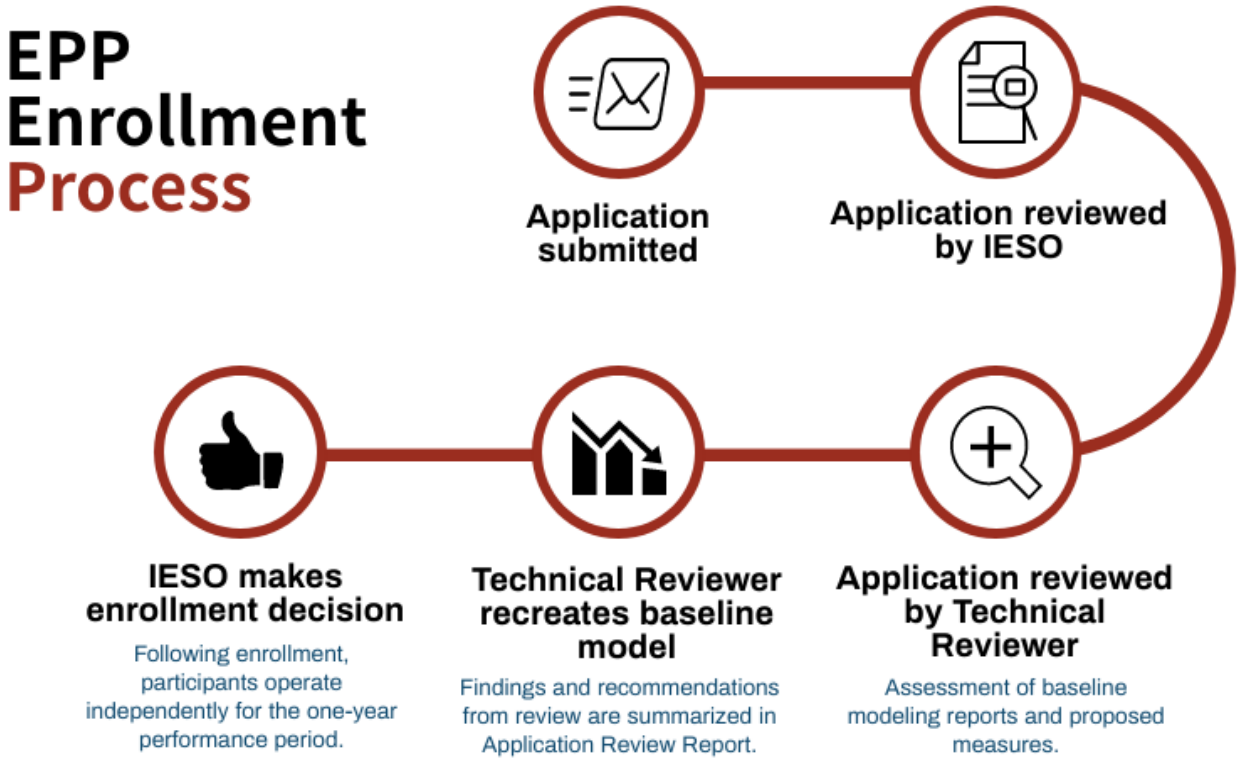
- Informational webinars
- Newsletter to the targeted audience
- Cold calls

> “Our main marketing effort is promoting the value of energy efficiency…and getting [potential participants] excited.” – IESO Program Staff Member

5.1.3 PROGRAM PROCESSES

The process for enrolling new EPP participants is summarized in Figure 5.1. The enrollment process begins with an application submitted to the IESO for review. The contracted technical reviewer then completes a second review. The technical reviewer assesses the participant’s baseline modeling reports, including the participant’s proposed measures, to ensure the independent variables are correct. Finally, the technical reviewer recreates the model and writes an application review for IESO with any relevant recommendations.

Figure 5.1 | EPP Enrollment Process Flow Chart



Once a participant is enrolled, they operate independently during the one-year performance period. At the end of one year, the technical reviewer analyses the actual savings achieved at the facility or facilities enrolled for that participant.

CHANGES TO MODELING SINCE PY2017

The technical reviewer indicated the most significant change to the modeling requirements was the relaxation of the variance threshold. Some participants struggled with the 28-day rolling variance, so the threshold was relaxed to 5% from 3.5% to increase participation. IESO chose 5% to encompass the majority of the applications struggling to meet the modeling requirement. However, participants and ESPs continue to see the 28 day rolling variance requirements as a pain point.

5.1.4 SUCCESSES AND PAIN POINTS – IMPLEMENTER PERSPECTIVES

As the interviews were conducted in early 2020, when the impacts of COVID-19 remained current in the minds of participants, respondents were asked to focus on the perspectives and experiences in PY2019 before the pandemic began. Program staff agreed that prior to COVID-19 there was a high level of interest in the pay-for-performance program model. Outreach/sales staff reported higher-than-expected attendance at an informational webinar in Fall 2019, with a high level of enthusiasm.

The challenge has been in converting that enthusiasm into enrolled participants. Program staff identified several potential pain points for participants:

- Internal capacity for developing the baseline model as well as executing projects

- Model development and verification
- Year-long performance period, plus two months processing time for the incentive
- Tension between competing program offerings, particularly retofit rebates

Program implementation staff explained that some companies that were interested in EPP did not have the internal staff expertise to develop a baseline model, requiring them to hire an external consultant. Program staff perceived this as a potential participation barrier. For those participants able to develop and submit a model, the program staff explained that there could be “a lot of back and forth” between the technical reviewer and the participant on verifying and accepting the model. The added review time lowers participant satisfaction and could also be an enrollment barrier.

The very nature of pay-for-performance entails a performance period of a set duration. However, the delay in receiving incentives and the need to provide up-front capital for energy efficiency improvements create a fiscal challenge for many commercial businesses.

Several program staff members described the competing benefits between EPP’s pay-for-performance structure and the traditional retrofit rebate model, with one respondent saying they are at “direct odds” with each other.

5.1.5 ENVISIONING THE FUTURE OF EPP

The program staff expressed a few ideas for future changes to EPP. One was to find a way to bring Energy Manager and EPP together in a more defined, structured way. An embedded Energy Manager might help participants struggling with internal expertise, and time, to implement comprehensive measure and O&M changes. This aligns with the design of the Energy Manager program for participants to utilize the EMs as an enabling resource that provides opportunities to develop energy efficiency projects incentivized through other IESO programs.

Another possible change was to increase the focus on demand savings and to explain the long-term cost benefits more clearly from O&M improvements.

Finally, some program staff pondered whether a shorter performance period might alleviate some of the barriers to entry. One respondent said, “Maybe there is an ‘EPP-Lite’ out there.”

5.2 PROGRAM PARTICIPANT AND ENERGY SERVICE PROVIDER PERSPECTIVES

In-depth interviews were conducted with EPP participants and their energy service providers (ESP) to understand their perspectives and experience in the program better. As shown in Table 5.1, four interviews were completed in PY2019.

Table 5.1 | Completed Participant and ESP Interviews

Market Actor	Interviews Completed	Available Population
Participant	2	4
Energy Service Provider[9]	2	4
Total	**4**	**8**

Interviews included a battery of satisfaction questions regarding the customer and ESP's experience with the program, as well as questions regarding the Save on Energy website, incentives for industry training, job impacts, and COVID-19 impacts on their businesses.

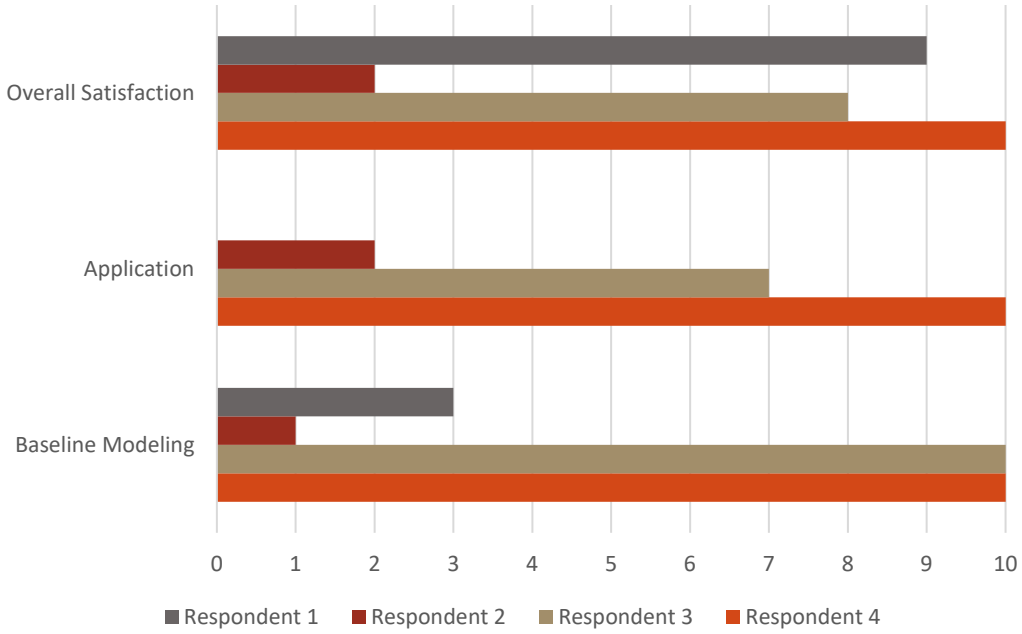
All participant and ESP respondents were screened to ensure they had some involvement or knowledge of the decision-making behind joining EPP, implementing projects, and experience with the program processes. The two participants we interviewed were a Sustainability Analyst and an Energy and Automation Systems Specialist that oversaw energy efficiency for all of their companies' facilities. The two ESP representatives were a President and a Managing Partner for their firms and led the EPP activities for their clients. All of the respondents stated that the energy efficiency decisions made by the participating companies were centralized at the corporate level and influenced by corporate conservation policies. The two ESPs managed all of the applications, baseline modeling, and implementation plans for their clients. One of the participants handled all of the modeling themselves, while the other participant relied entirely on their ESP for modeling and additional program support.

5.2.1 CUSTOMER SATISFACTION

The customer satisfaction questions were asked on a scale of 1 to 10, with one as not at all satisfied and ten as extremely satisfied. This battery focused on how satisfied customers were with various aspects of the program, including overall experience, the application process, the baseline modeling process, reporting requirements, and the Save on Energy website. Figure 5.2 summarizes the four respondents' satisfaction scores.

[9] One of the ESPs interviewed is associated with one of the participants interviewed. The other ESP is working with another participant that we were not able to conduct an interview with during this evaluation year.

Figure 5.2 | EPP Customer Satisfaction Scores*



*Respondent 1 did not provide an answer to their satisfaction with the application process.

Satisfaction scores varied for the different program topics, but the sample size was minimal as the program is still in its early stages in the Interim Framework. The evaluation team will continue to monitor satisfaction ratings to look for longer-term trends. Some of the key takeaways from the satisfaction surveys were:

- **Participants and ESPs generally were satisfied with their overall experience with EPP.** Overall satisfaction scores for EPP ranged from 2 to 10. Three of the four participants and ESP respondents provided a favorable satisfaction score of 8 or higher.
- Satisfaction scores for the application process varied from 2 to 10 as well but were favorable on average. Respondent 2 had the lowest satisfaction score with the application process and mentioned a long approval time and the requirement for hourly instead of monthly data as reasons for their dissatisfaction. Respondents 3 and 4 communicated that the process was smooth and straightforward when IESO representatives and technical reviewers were responsive to questions. They also expressed satisfaction from the lower administrative burden and not having to fill out applications for every efficiency measure. However, Respondent 3 stated the application review process was lengthier than they expected, and it negatively affected their project planning and implementation timeline.
- The satisfaction scores for establishing a baseline were split with two respondents indicating dissatisfied scores, and two respondents extremely satisfied with the process.
- While none of the participants and ESP respondents had completed a post-performance savings report yet, two provided a satisfaction score of 3 and 10. Respondent 1 said that they would appreciate some type of portal or dashboard to access up to date performance metrics. Respondents 2 and 3 did not provide an answer.

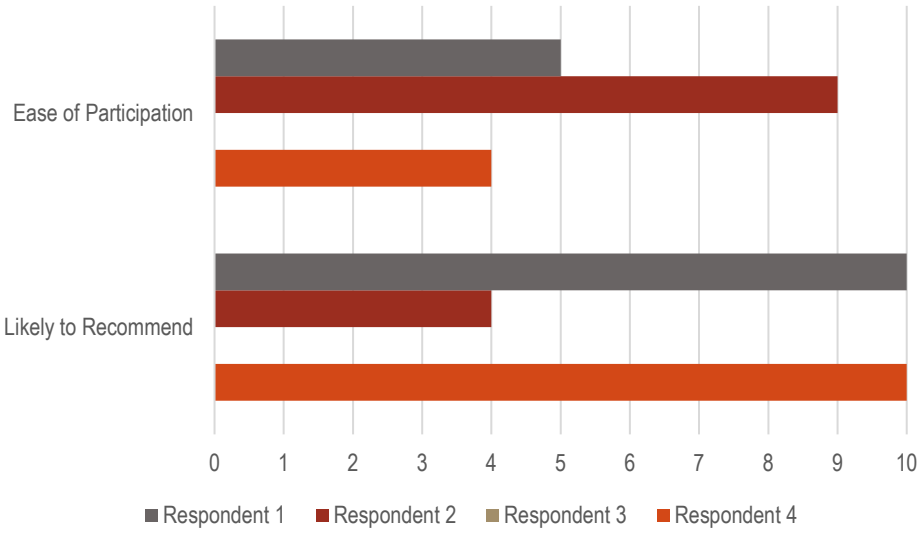
- Only one of the participant and ESP respondents (Respondent 3) had ever used the Save on Energy website, and they were delighted with it and used the site to download all of the necessary program documents they needed. Respondent 1 was not aware the website existed.

CUSTOMER PERSPECTIVES – WHAT IS WORKING WELL IN EPP

The most common praise of EPP from the participants and ESPs was its straightforward application process and reduction of administrative paperwork for the various planned energy efficiency measures. Respondents were asked to rate EPP in terms of ease of participation on a scale of 1 to 10, where one is “very easy,” and ten is “very complicated.” Scores ranged from 4 to 9. Respondent 2 had low satisfaction ratings for the program in general and provided a complexity score of 9. Their experience with baseline modeling primarily drove this. Meanwhile, the other two respondents provided mid-range scores that represent “normal” complexity. Despite the mid-range complexity scores, these respondents said the overall program requirements and processes were straight forward and not overly burdensome. Respondent 4 said that while the modeling efforts were not trivial, they were much less complicated than assembling several applications for Retrofit or other programs to receive incentives for their planned EPP projects.

Participants and ESPs were also asked how likely they were to recommend EPP to another business in their network. Respondents rated the likelihood on a scale of 1 to 10, where one is not at all, and ten is extremely. Two of the respondents answered that they are extremely likely to recommend EPP to another business, while Respondent 2 provided a score of 4. All responses are shown in Figure 5.3.

Figure 5.3 | EPP Customer Experience Scores*



*Respondent 3 did not provide answers on ease of participation or likeliness to recommend.

Respondent 3 stated that EPP pushed their organization to improve their energy consumption data structures and processes. They also expressed that they had wanted to set up an energy model for their facilities before their enrollment in EPP, and having their model reviewed and approved by the technical reviewer was a driver for their program satisfaction.

"Enrolling in [EPP] made me accelerate the ease of access to our metering data from the utility and metering automation… The data was more cumbersome than what you would want. I have been making strides in streamlining that. I can see the data daily now instead of monthly, so it has really helped me accelerate that. We can catch issues faster now." – EPP Participant

CUSTOMER PERSPECTIVES – PAIN POINTS

Overall, there were two topics that the participant and ESP respondents focused their feedback on—the baseline modeling process and communication.

Respondents 1 and 2 were dissatisfied with the baseline modeling process. Respondent 1 expressed frustration with having to make baseline adjustments for construction activities and mentioned that one change was not accepted by program staff. Respondent 2 said that generally, the baseline modeling process was fine, but the Rolling 28 day Variance Analysis Report requirement was a significant pain point. In fact, the respondent expressed that without the variance requirement, their satisfaction score for the baseline modeling process would have been a 10. However, with the requirement, their satisfaction score was low.[10]

Respondent 2's dissatisfaction with the 28 day rolling variance requirement stemmed from the inability to meet that target for several facilities and the difficulty in learning from the facility operations team what happened during that particular time to cause the variance in energy consumption. The back and forth created a significant delay in getting the baseline model approved, which was costly for the ESP. They estimated the baseline modeling cost nearly $15,000 per facility and "blew the budget."

All participants and ESP respondents were asked on a scale of 1 to 10, where one is "very unreasonable," and ten is "very reasonable," how would they rate the cost of modeling. Respondent 2 provided a score of 2, while Respondent 4, the only other respondent to provide an answer, responded with a ten as their baseline modeling process was much more straightforward. Respondent 4, also an ESP, believed the modeling costs were very reasonable and stated that the $1,500/facility modeling incentive was fair.

The stark contrast in modeling costs and satisfaction with the baseline modeling process highlights the variable nature of baseline modeling in EPP. If the participant's facilities have more variable energy consumption or non-routine events (NREs) the cost of modeling can quickly grow based on project costs.

[10] EPP requires all applications to provide a one year Rolling 28 day Variance Analysis Report to demonstrate validity of the baseline model for approval. The 28 day rolling variance average cannot exceed ±5% to ensure that the baseline model output is adequately representative of the actual consumption throughout the facility's baseline period.

A common theme that affected satisfaction scores was a lack of communication surrounding progress through the program and how the COVID-19 shutdowns in Ontario would affect savings calculations. Respondent 1 was unaware of which particular facilities they had enrolled in the program. They indicated that they were interested in registering more facilities but were not getting enough communication from their ESP regarding the performance of facilities currently enrolled and the opportunities that EPP may provide. Respondent 3 expressed frustration with the primary contact at IESO and the technical reviewer. Their primary contact was not responding after several attempts, and it turned out they were no longer with the company. Having to bring a new contact up to speed on their projects and plan takes time and limits their ability to be a resource for program participation. They also said they had not heard from the IESO how the COVID-19 shutdowns would affect their performance in the program and what the future of the program will look like following the significant impacts of the pandemic. The participants and ESPs may not fully recognize the COVID-19 messaging efforts of the IESO communications team during the pandemic. Streamlining and centralizing communications through the EPP business advisor, specifically about difficulties participants are facing during the COVID-19 crisis, could help alleviate some if this uncertainty felt by participants and their ESPs.

CUSTOMER SUGGESTIONS FOR IMPROVEMENT

Participants and ESP were asked if they had any suggestions for how to improve EPP. Two of the respondents, one participant, and one ESP, answered that extending the performance period from two years to four years would be an improvement. As part of the shift to the IF, the IESO reduced the performance period from four years in CFF to two years. They indicated that the additional two years of performance incentives significantly strengthens the project economics and would allow for larger projects.

Respondent 1 suggested that an online portal should be available for participants to track their facilities' progress and performance in the program, as well as enhance communication from the IESO program team and technical reviewers. The evaluation team believes that much of the responsibility of monitoring savings performance and progress belongs participants and the ESPs.

Respondent 2 had the lowest satisfaction scores across the board and suggested that removing the 28 day rolling variance requirement and modeling EPP after Toronto Hydro's OPsaver program would improve the program.

5.2.2 PROGRAM AWARENESS AND OVERLAP

Before a customer can participate in EPP, a key contact at the business must become aware of the program and be motivated to pursue it for his or her facility. Three of the four respondents learned of EPP directly from an IESO representative. These respondents said they had existing relationships with IESO representatives through other programs such as Business Retrofit and Energy Manager and learned of the program through those contacts. Respondent 3 learned of the program through the Save on Energy website and followed up with an IESO contact to learn more. Respondent 1 learned of the program through their ESP. The respondent began working for the participating company after it had already enrolled in EPP.

Direct contact with IESO program representatives was the primary method for raising awareness of EPP offerings.

EPP operates within a larger Save on Energy portfolio of incentive programs to optimize customers' energy choices. These programs are all designed with the goal to make Ontario's energy systems more efficient. These programs can overlap to enhance participation or even compete with each other for customer attention and funding. Participants and ESPs were asked an open-ended question to list the IESO programs of which they have heard. Table 5.2 summarizes their responses.

Table 5.2 | Customer Awareness of Save on Energy Programs

Program	# of Respondents that named the program
Business Retrofit	4
Energy Manager	4
Process and Systems Upgrades	1
Small Business Lighting	1

All of the participants and ESPs were aware of the Business Retrofit and Energy Manager programs. Respondent 2 was aware of all four Save on Energy programs. Respondents 1 and 2 had received more than ten incentives from other Save on Energy programs before enrolling in EPP, while Respondent 3 had received between six and ten.

Both of the interviewed participants are enrolled in the Energy Manager program. The participants were asked how influential the Energy Manager (EM) was in the decision to undertake energy efficiency projects through EPP, using a similar 0-10 scale where zero is "not at all influential," and ten is "extremely influential."[11] Respondent 1 indicated that the EM was influential with a score of 9. Respondent 3 said that it was the other way around—their decision to enroll in EPP drove their decision to join the Energy Manager program and have an EM to help manage the many EPP projects they have planned.

The evaluation team also interviewed participants and ESPs about how beneficial they think having a dedicated EM would be in optimizing their organizations' performance in EPP. **Respondents 1 and 3, the participants, both indicated that an Energy Manager would boost their EPP performance.**

[11] This question was part of the NTG battery which uses a scale of 0-10. The 1-10 scale was used for customer satisfaction and experience questions to align with current IESO market research being conducted for other programs.

> "An [embedded] Energy Manager would be 100% helpful… Consultants are not actually working for the company. I feel that sometimes it is hard to know what recommendations to take, they don't have the same objectives we do." – EPP Participant

One of the participants was an IESO-funded EM before joining their organization. Through this role, they gained knowledge of IESO program processes and energy management strategies that they leverage to optimize EPP performance. The ESP, who responded, said that it would not be necessary as they had already placed an additional person to administer the program for their client. They said IESO should put more focus on empowering the operations teams at participating organizations, rather than another coordinator.

In terms of cross-program competition, Respondent 2 expressed that not being able to participate in EPP and the Retrofit program concurrently was a significant hurdle to increasing the number of their client's facilities enrolled in EPP. They said that they prefer to complete capital projects through the Retrofit program but do not want to enroll facilities in EPP because it would lock them out from Retrofit incentives.

Respondents were asked about what goes into the company's decision-making criteria at the facility-level when determining when to pursue equipment rebates through the Retrofit program and when to enroll a facility in EPP. **Two of the respondents stated that their preference would be to implement capital measures through the Retrofit program instead of EPP.** Respondent 1 answered that it depends on capital plans and which program is going to give the company the most energy savings. They indicated that EPP is more focused on operational and maintenance (O&M) measures than capital measures and that for capital projects such as LED upgrades, they would instead go through the Retrofit program. Respondent 2 had a similar opinion, agreeing that if you have a retrofit project, they will go through the Retrofit program. They also expressed that if they had the option to adjust their EPP model for Retrofit program capital measures, they would be more inclined to complete both capital and O&M actions in their EPP enrolled facilities.

Respondent 3 said they would forego the Retrofit program as they understood when they entered EPP that it would not be an option. Respondent 4, an ESP, indicated that this decision making was the responsibility of their client and did not offer an opinion.

5.2.3 IESO FUNDED TRAINING

The IESO provides incentives of up to 50% to customers on energy management and energy efficiency training courses, including foundational development, specialized development, and professional certification offerings. Respondents were asked if they had completed the courses for which IESO offers incentives and what their satisfaction with the courses was. Table 5.3 summarizes their responses on the 1 to 10 scale.

Table 5.3 | IESO Funding Training Satisfaction

Training Course Title	Respondents that completed training	Respondents that used the IESO incentive	How Useful? (1-10)	How Satisfied? (1-10)	How likely are you to recommend? (1-10)
Foundational Development					
"Dollars and $ense" Energy Management Workshops	1	1	8	7	6
Specialized Development					
Compressed Air Challenge	-				
Pump Systems Matter	-				
HVAC Optimization	-				
Advanced RCx	1	1	7	7	8
RET Screen	-				
Energy Efficiency Building Operators (EEBO) 101	-				
Professional Development Certification					
Building Operator Certification (BOC)	-				
Certified Energy Manager (CEM)	2	2	9.5 and 7	10 and 8	10 and 8
Certified Measurement and Verification Professional (CMVP)	1	1	10	No answer	No answer
Building Commissioning Professional Certification	-				
Certified Energy Auditor (CEA)	-				

The courses that were attended by EPP participants and their ESPs include: “Dollars and $ense” Energy Management Workshops, Advanced RCx, Certified Energy Manager (CEM), and Certified Measurement and Verification Professional (CMVP). The CEM certification course was the only course that was attended by more than one respondent. All of the respondents used the IESO incentive to fund their training. **Overall, the satisfaction scores were very high for the courses, and the respondents are likely to recommend them to their colleagues.**

5.2.4 COVID-19 IMPACTS

Participants and ESPs were asked how the COVID-19 pandemic had affected their businesses. The first half of 2020 in Ontario was marked by widespread shutdowns and stay at home orders to slow the spread of the virus. **All respondents expressed their businesses had been greatly affected by the pandemic and the measures used to combat the spread.** Both participants have seen major decreases in occupancy at their facilities due to stay at home orders and changes in operations. Respondent 1’s company has put together a COVID-19 task force to address health concerns in their facilities, including increased deep cleanings of facilities and upgrades to HVAC air filtration systems. They also indicated that electricity and water consumption at their facilities has heavily declined since March. Respondent 3 completely closed their facilities in mid-March and set equipment into “setback mode.” They estimate they are consuming about 50% of the usual electricity. Respondent 3’s facilities are currently gearing up for about 30% occupancy to begin in August 2020. The company mothballed its capital investments and planned energy efficiency projects for the rest of the fiscal year (April to April).

The ESPs also indicated that their operations and businesses have been affected by COVID-19, although to a lesser extent. Respondent 2 indicated that they have moved to a virtual approach to meet and work with clients and that energy efficiency has been surpassed by safety as their clients’ main concern. Respondent 4 said that their projects are fairly long-term and already funded, which has protected them from the initial impacts of COVID-19 and subsequent shutdowns. However, installations and coordinating with clients has been made much harder in the socially distant environment in which they operate. They, too, were conducting business and site visits virtually as much as possible throughout the shutdowns in Ontario.

As outlined in Section 5.2.1, participants have confusion about how IESO will handle the impacts of COVID-19 and shutdowns for EPP. Respondent 3 stated that they had not heard from the IESO regarding the pandemic and was uncertain if the program would continue throughout the IF.

5.3 JURISDICTIONAL SCAN OF NORTH AMERICAN P4P PROGRAMS

Nine P4P programs throughout North America were reviewed to summarize and categorize different program attributes to help the IESO optimize EPP to attract more customers and increase program savings. The jurisdictional scan entailed two primary research methods: 1) A detailed literature review of nine commercial P4P programs; and 2) In-depth interviews with four P4P program administrators. This section summarizes the key findings from this jurisdictional scan.

Publicly available program information and documents were reviewed for the following P4P programs:

- Bonneville Power Administration Strategic Energy Management Program
- DC Sustainable Energy Utility Pay for Performance Program
- Efficiency Vermont Deep Retrofit Program
- Energy Trust of Oregon Commercial Pay for Performance Program
- New Jersey's Clean Energy Program Pay for Performance Program for C&I Existing Buildings
- NYSERDA and Con Edison Business Energy Pro Pay for Performance Initiative Commercial Pilot
- PG&E Commercial and Public Sector Whole Building Performance-Based Retrofit Program
- Seattle City Light Deep Retrofit Pay for Performance Program
- Southern California Edison Normalized Metered Energy Consumption Offering

EcoMetric completed in-depth interviews with utility staff from the following programs:

- Seattle City Light Deep Retrofit Pay for Performance Program
- Energy Trust of Oregon Commercial Pay for Performance Program
- DC Sustainable Energy Utility Pay for Performance Program
- NYSERDA and Con Edison Business Energy Pro Pay for Performance Initiative Commercial Pilot

After completing the interviews, EcoMetric carefully sliced key findings into five categories:

- Eligibility & Application Requirements
- Payment Structure
- Program Delivery
- Measurement and Verification
- Perspectives from Program Administrators

5.3.1 ELIGIBILITY & APPLICATION REQUIREMENTS

The P4P programs reviewed have largely set participant eligibility requirements based on two building characteristics: size and energy consumption. The requirements set for each program vary depending on program goals and the characteristics of their jurisdictions.

- Many programs provide partial payout incentives based on expected savings before the performance periods begin. This payment structure allows participants to offset project costs they bear in the early stages of program participation. This approach also requires greater effort and scrutiny in the project planning phases, which should result in more predictable incentive payments and savings achieved.

- All P4P programs reviewed collect project cost data from participants, and most require reporting of measure-level incremental costs.

5.3.2 PAYMENT STRUCTURE

Common P4P payment structures fall into two categories: blended payments on expected savings before the performance and on verified savings post-performance; and payment solely on verified savings post-performance.

- Many programs provide partial payout incentives based on expected savings before the performance periods begin. This payment structure allows participants to offset project costs they bear in the early stages of program participation. This approach also requires greater effort and scrutiny in the project planning phases, which should result in more predictable incentive payments and savings achieved.
- All P4P programs reviewed collect project cost data from participants, and most require reporting of measure-level incremental costs.

5.3.3 PROGRAM DELIVERY

Six of the P4P programs reviewed rely on approved implementers, contractors, or energy service providers to help deliver the program and recruit customers. The list of approved contractors and energy services providers is available to prospective customers on utility websites along with program manuals, fact sheets, and FAQ sheets. These market actors are relied upon for marketing and outreach due to having experience in the local markets dealing directly with customers. Implementers, contractors, and energy services providers also work closely with customers to prepare and deliver application requirements such as baseline models and project plans. NYSERDA's Business Energy Pro P4P program stands alone as the only program to rely on aggregators selected through a competitive bid process for program delivery. The selected 1-3 aggregators have the responsibility of conducting marketing, customer acquisition, project installations, reporting, and QA/QC.

- Most commercial P4P programs rely on a group of approved contractors and energy services companies to recruit and provide support to participants throughout the application and performance periods.

5.3.4 MEASUREMENT AND VERIFICATION

Pay-for-performance programs provide rules, tools, or guidelines that direct the general format for submitting baseline and performance period energy models. The M&V requirements for EPP generally aligned with those of the other P4P programs, with some notable exceptions.

- EPP's current PC based modeling platform approach is consistent with the majority of current programs by not mandating or specifying a specific modeling tool.
- M&V guidelines for EPP not requiring a specific statistical model are similar to the majority of peer programs.
- EPP is unique that it encourages using a modeling consultant but does not require or provide access to pre-approved modeling consultants.

- Most programs limit baseline model metrics to accuracy CV(RMSE), bias (NMBE), and model fit (R^2). Most programs require a model accuracy of threshold CV(RMSE) value of less than 25%.
- All reviewed programs require climate normalized weather data for savings estimates.[12]

5.3.5 PERSPECTIVES FROM PROGRAM ADMINISTRATORS

Program administrators interviewed all believed in the P4P model and think it has the potential to expand as EE programs move into a future with fewer options for lighting upgrades and other cost-effective retrofits to buoy savings portfolios.

- Program managers all said their programs targeted commercial buildings with relatively stable and predictable energy consumption patterns. Nearly all respondents mentioned commercial real estate, including office, retail, warehouse, and restaurant.
- Respondents consistently reported that marketing and outreach tend to be simple, with little formal marketing collateral beyond simple handouts and the program webpage. Personal relationships, whether via account managers or trade allies, were viewed as essential and influential.

Program administrators pointed to the following key challenges in their efforts to implement a successful P4P program:

- Recruiting participants
- Upfront cost
- P4P is different – commercial customers are used to the measure incentive EE model
- Commercial customers are unique – one size does not fit all
- The tension between different program offerings (e.g., P4P vs. SEM vs. Custom)
- Analytical Capabilities (for in-house modelers and reviewers)
- Regulatory constraints (re. cost-effectiveness and energy savings calculations)

Barriers to entry to P4P program for commercial customers included:

- The upfront cost of investing in capital improvements
- Being accustomed to the traditional measure rebate model
- Finding a program design that works for the majority of commercial customers

In general, the administrators interviewed were all practicing adaptive management in their respective programs. Solutions to these challenges included ensuring additional training for program implementers and applying for the regulatory exception. Training and time seemed to be the go-to solution for administrators. There was a universal acknowledgment that these programs are still in their formative stages and will take time and an iterative approach to land on the best approach.

[12] Climate normalized data, often called Typical Meteorological Year (TMY) data, describes the average climate for a location over a longer period of time—often 10 or 30 years. This data is available for locations in Ontario from Environment Canada through Energy Plus.

6. JOB IMPACTS ANALYSIS

The efforts to administer, implement, and participate in EPP result in direct and indirect job impacts in Ontario. Direct jobs are generated by program actors who 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, participants, and ESPs, market actors were asked how many full-time employees (FTEs) had worked on and are attributable to EPP activities. These FTEs are classified as direct jobs. Table 6.1 summarizes their responses.

Table 6.1 | PY2019 EM Job Impacts

Market Actor	FTEs attributable to EPP program in PY2019	FTEs attributable to EPP in PY2020 and PY2021
IESO Program Staff	2	2.5
Technical Review Staff	6	6
Respondent 1 (Participant)	1	1
Respondent 2 (ESP)	8	With current program rules, 8. If EPP is improved, 2 additional 10
Respondent 3 (Participant)	1	1
Respondent 4 (ESP)	0.5	0.5
Total	**18.5**	**19***

*Eight FTEs were used for Respondent 2, assuming no major program rule changes.

EPP generated a total of 18.5 FTEs in PY2019. IESO and technical review staff had two and six FTEs working on EPP in PY2019, respectively. The participants and ESPs accounted for 2 and 8.5 FTEs in PY2019, respectively. Only one market actor, an ESP, hired an additional staff person to work on EPP. This ESP estimated that they would have hired another employee to work on EPP activities without the impacts of COVID-19.

When asked about job impacts in PY2020 and PY2021, all of the market actors expected the number of FTEs at their organizations attributable to EPP would remain the same except for IESO program staff—who expected an additional 0.5 FTE.

As the population of market actors is small in the first program year for EPP in the IF, these job impact numbers are preliminary. It is expected that FTEs generated by EPP will increase throughout future program years—especially from the participants and ESPs. EPP also creates indirect job impacts by providing work and funding for energy managers, energy modelers, contractors, engineers, and inspectors. Estimating indirect job impacts from EPP will require more surveys, and a larger population of market actors needs to be available for research. A more accurate job impact estimate will be provided in the PY2022 annual report when the total participation, savings impacts, and cumulative direct job impacts of EPP are known.

EcoMetric will use the Statistics Canada (StatCan) Input-Output model to estimate direct and indirect job impacts of EPP in PY2020-22 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 | EPP Evaluation Findings and Recommendations

Finding Number	Finding	Recommendation Number	Recommendation	Actionable Audience
1	Participants and ESPs generally were satisfied with their overall experience with EPP. The application and baseline modeling processes received mixed reviews and are a major pain point for some participants.		No Recommendation	
2	The satisfaction scores for the process of establishing a baseline were split with two respondents indicating dissatisfied scores and two respondents extremely satisfied with the process.		No Recommendation	
3	The most common praise of EPP from the participants and ESPs was its straightforward application process and reduction of administrative paperwork for the various planned energy efficiency measures.		No Recommendation	
4	Respondents expressed frustration with the process of making baseline adjustments and the Rolling 28 day Variance Analysis Report.	1	Drop the Rolling 28 day Variance Analysis Report. (See Recommendation #8)	IESO Program Staff

Finding Number	Finding	Recommendation Number	Recommendation	Actionable Audience
5	Participants see communication as an issue. A common theme that affected satisfaction scores was a lack of communication surrounding progress in the program and how the COVID-19 shutdowns in Ontario would affect savings calculations. Participants also expressed confusion surrounding their progress and performance status in the program.	2	Hold regular update meetings with both the participant and their ESP to encourage communication, provide progress updates, gather feedback on experience, and plan for future projects. The participants and ESPs may not fully recognize the COVID-19 messaging efforts of the IESO communications team. Streamline and centralize communications through the EPP business advisor, specifically about difficulties participants are facing during the COVID-19 crisis. As the uncertainty surrounding the impacts of COVID-19 wanes and program participation increases in the long term, update meetings can be scaled back in frequency.	IESO Program Staff, Technical Reviewers
6	All of the participants and ESPs were aware of the Business Retrofit and Energy Manager programs.		No Recommendation	

Finding Number	Finding	Recommendation Number	Recommendation	Actionable Audience
7	Both participants interviewed indicated that an Energy Manager would boost their performance in EPP, allowing them to identify more measures and facilities to participate in the program.	3	Develop cross-program marketing and trainings to leverage the potential of EMs in driving EPP participation and performance. The Energy Manager is an enabling resource that provides opportunities to develop energy efficiency projects incentivized through other IESO programs such as Retrofit and Process & Systems Upgrades (PSUP) programs. The non-incented target of the EM also ensures the facilities also generates natural spillover without program assistance.	IESO Program Staff
8	Two of the respondents stated that their preference would be to implement capital measures through the Retrofit program instead of EPP	4	Build a business case or case study to show the benefits of coordinating both capital and O&M measures through EPP and reducing the risk of uncertainty surrounding the performance payment to encourage participants to pursue both types of actions through the program.	IESO Program Staff
9	Overall, the satisfaction scores were very high for the IESO-funded training and courses, and the respondents are likely to recommend them to their colleagues.		No Recommendation	

Finding Number	Finding	Recommendation Number	Recommendation	Actionable Audience
10	Programs that commonly use building size as an eligibility requirement tend to focus on small to medium-size buildings and typically have more predictable energy consumption than industrial and manufacturing facilities.		No Recommendation	
11	Nearly all the P4P programs studied require that applicants provide a detailed project plan that can meet a certain threshold of savings to be reviewed before an application is approved.		No Recommendation	
12	Many programs reviewed require an intensive application and screening processes that include detailed project implementation plans, project cost estimations, baseline models and modeling explanations, and even site visits to verify existing building conditions.	5	Create an incentive mechanism that provides funding in the planning or implementation phase beyond the modeling incentive. Providing an opportunity for participants to offset costs early on in the project timeline is especially important during the current pandemic when capital budgets are impacted.	IESO Program Staff

Finding Number	Finding	Recommendation Number	Recommendation	Actionable Audience
13	Many programs provide partial payout incentives based on expected savings before the performance periods begin. This payment structure allows participants to offset project costs that are borne in the early stages of program participation. This approach also requires more significant effort and scrutiny in the project planning phases, which should result in more predictable incentive payments and savings achieved.	5	See Recommendation #5	IESO Program Staff
14	All other P4P programs reviewed collect project cost data from participants, and most require reporting of measure-level incremental costs. This data is used to set incentive thresholds and calculate the cost-effectiveness of the program.	6	Require EPP participants to provide invoices for capital projects and cost estimates for O&M measures.	IESO Program Staff
15	Most commercial P4P programs rely on a group of approved contractors and energy services companies to recruit and provide support to participants throughout the application and performance periods.	7	Consider developing a list of preferred contractors and ESPs for which EPP participants can partner.	IESO Program Staff

Finding Number	Finding	Recommendation Number	Recommendation	Actionable Audience
16	EPP is unique that it encourages using a modeling consultant but does not require or provide access to pre-approved modeling consultants.	7	See Recommendation #7	
17	EPP's current PC based modeling platform approach is consistent with the majority of existing programs.		No Recommendation	
18	EPP is consistent with most reviewed programs by not mandating or specifying a specific modeling tool.		No Recommendation	
19	EPP M&V guidelines not requiring a specific statistical model are similar to the majority of peer programs.		No Recommendation	
20	EPP is unique that it encourages using a modeling consultant but does not require or provide access to pre-approved modeling consultants.	7	See Recommendation #7	

Finding Number	Finding	Recommendation Number	Recommendation	Actionable Audience
21	Most programs reviewed limit baseline model metrics to accuracy CV(RMSE), bias (NMBE), and model fit (R^2).	8	Remove the CUSUM and 28-day rolling variance baseline requirements for EPP. CV(RMSE), NMBE, and R^2 metrics set sufficient standards on model performance for a P4P program and meet IPMVP and other industry protocols. EcoMetric's experience with statistical energy modeling also suggests that the three metrics are sufficient to validate baseline models.	IESO Program Staff
22	Most programs reviewed require a model accuracy of threshold CV(RMSE) value of less than 25%.	9	Increase the EPP CV(RMSE) threshold to 25%.	IESO Program Staff
23	All reviewed programs require climate normalized weather data for savings estimates.	10	Require climate normalized data for performance period savings estimates. Savings calculations normalized for climate will ensure customer incentive payments are not rewarded or penalized for changes in consumption due to weather. Climate normalized savings estimates will also facilitate incorporating EPP savings more accurately in integrated resource plans (IRP's).	IESO Program Staff

Finding Number	Finding	Recommendation Number	Recommendation	Actionable Audience
24	EPP M&V guidelines requesting thorough identification and documentation for any needed site adjustments are similar to peer programs, including California NMEC based programs.		No Recommendation	