ECOMETRIC

PROGRAM YEAR 2019 REVIEW REPORT: AN ADDENDUM TO PY2018 REVIEW REPORT

CONSERVATION FIRST FRAMEWORK INDUSTRIAL PORTFOLIO AND ENERGY PERFORMANCE PROGRAM PY2019

Date: 13 November 2020
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Acknowledgements

The evaluation team would like to thank Nik Schruder, Jessei Kanagarajan, Alice Herrera, Jimmy Lu, Gavin Zheng, and Nam Nguyen at the Independent Electricity System Operator (IESO) for their assistance in coordinating this evaluation effort. With their support and guidance, the evaluation team was able to complete their activities as efficiently and successfully as possible.

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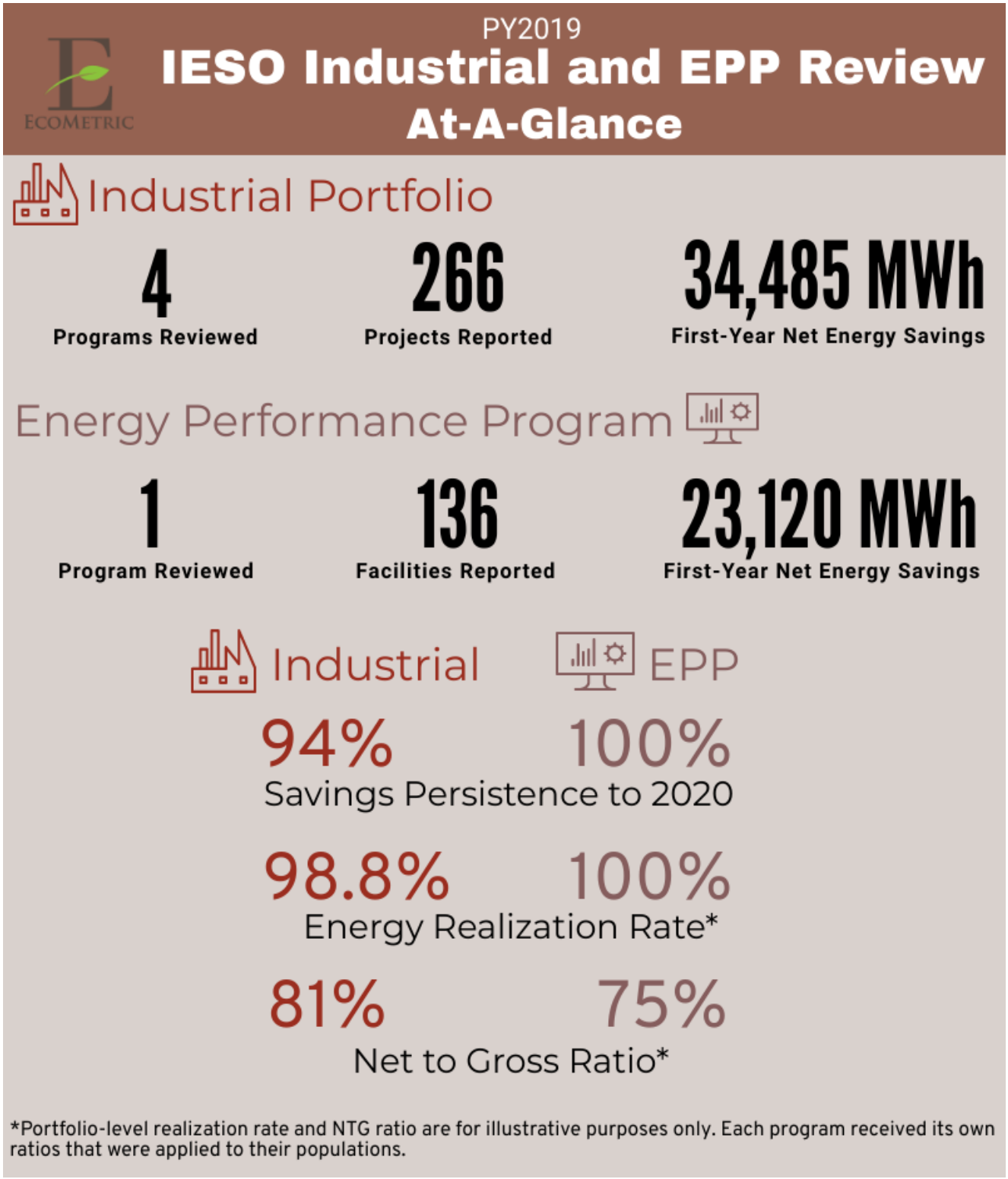
Abbreviations

Abbreviation	Definition
BMG	**Behind-the-meter Generation**
CFF	**Conservation First Framework**
CHP	**Combined Heat and Power**
EE	**Energy Efficiency**
EM	**Energy Manager**
EM&V	**Evaluation, Measurement and Verification**
EPP	**Energy Performance Program**
EUL	**Effective Useful Life**
IAP	**Industrial Accelerator Program**
IAP CI	**Industrial Accelerator Program: Capital Incentives**
IESO	**Independent Electricity System Operator**
kW	**Kilowatt**
kWh	**Kilowatt hour**
LDC	**Local Distribution Company**
M&T	**Monitoring and Targeting**
M&V	**Measurement and Verification**
MMBTU	**One million British thermal units**
MW	**Megawatt**
MWh	**Megawatt Hour**
NTG	**Net-to-Gross**
O&M	**Operations and Maintenance**
PSUP	**Process and Systems Upgrades Program**
PY	**Program Year**
RR	**Realization Rate**
YOY	**Year-over-Year**

Foreword

This report is an addendum to the Evaluation of 2018 Industrial and EPP Programs Report and provides an overall summary of the energy and demand savings achieved by the Independent Electricity System Operator (IESO) –funded residential energy efficiency programs in program year (PY) 2019 within the Conservation First Framework (CFF). This report is intended for all parties interested in industrial energy efficiency programs in Ontario and the Energy Performance Program. During the next two (2) years, energy and demand savings achieved by the industrial and EPP CFF programs will be provided as an addendum to the 2018 report. All projects pre-approved by the local distribution companies before May 1, 2019 are given until December 31, 2020 to be completed except for the Process & Systems Upgrades Program which was given until June 30, 2021 to complete all projects.

1. EXECUTIVE SUMMARY



Industrial programs incentivize equipment measures, engineering studies, and Energy Manager services for commercial and industrial facilities in Ontario. The Energy Performance Program (EPP) provides a performance-based approach to incenting energy efficiency improvements for multi-site commercial customers. This report contains gross and net energy and demand impacts for the following CFF programs:

- Process and Systems Upgrades Program (PSUP),
- Industrial Accelerator Program (IAP),
- Energy Manager Non-Incented measures (EM)
- Monitoring and Targeting (M&T), and
- Energy Performance Program (EPP).

PSUP is LDC administered and offered to companies connected to Ontario's distribution system. The program provides financial support for the implementation of energy efficiency projects and system optimization projects for facilities that are intrinsically complex and capital-intensive.

IAP is offered to companies connected directly to Ontario's transmission system. This program provides incentives through three program streams: Capital Incentives (referred to interchangeably as IAP Process & Systems), Retrofit, and Energy Manager.

The Energy Manager program is offered to both sets of customers noted above. The 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.

The Monitoring and Targeting program encourages industrial distribution customers to install or upgrade M&T systems to relate a facility's energy consumption data to the weather, production schedule, or other measures in such a way as to provide a better understanding of how energy is being used.

Throughout this report, PSUP, IAP, EM, and M&T are referred to as the "industrial portfolio".

Finally, the Energy Performance Program provides a performance-based whole-building approach to incenting energy efficiency improvements for multi-site customers that span multiple LDCs in the province.

1.1 Impact Methodology and Goals

The Conservation First Framework was discontinued effective March 21, 2019 by ministerial directive. All projects pre-approved by the local distribution companies before May 1, 2019 are given until December 31, 2020 to be completed except for the Process & Systems Upgrades Program which was given until June 30, 2021 to complete all projects.

This report focuses on an orderly and cost effective impact review of the performance of the CFF industrial portfolio and EPP in PY2019. This simplified approach to review will reduce the costs associated with program evaluation.

Approaches used to conduct this simplified CFF wind down review included a review of projects reported and an adjustment to reported savings to calculate gross and net savings based on historical realization rates and net to gross ratios.

In abbreviated form, goals of this simplified CFF wind down review include:

- Adjust reported energy and summer peak demand savings by program to estimate gross and net savings
- Analyze the cost-effectiveness of each program

No cost effectiveness evaluation was performed for PY2019. As CFF is winding down and fewer projects are expected to be completed, the cost effectiveness results of PY2019 CFF programs may not accurately be representative of the programs' performance. Instead, the overall cost effectiveness of each of the industrial programs and EPP covering all program years in CFF will be presented in the final evaluation report.

1.2 Reported Savings

IESO's Program Year (PY) 2019 industrial program portfolio comprises the programs and initiatives shown in Table 1.1 below. This table includes projects in-service starting in calendar year 2019 meaning:

a) they have at least one quarter (3 months) of measurement and verification (M&V) data available and are not otherwise on hold for administrative reasons (PSUP, IAP).

OR

b) they have been through the technical review process for the program and are not otherwise on hold for administrative reasons (Energy Manager non-incented, M&T, EPP).

Table 1.1 below shows reported savings and program contributions to the industrial portfolio and EPP in PY2019.

Table 1.1 | PY2019 Reported Savings

Program	PSUP	Energy Manager	M&T	IAP Initiative	EPP	Annual Total
2019 Projects Reported	9	231	3	23	136	**402**
2019 Reported Energy Savings (MWh)	6,743	22,866	2,317	11,416	30,827	**74,170**

1.3 Impact Results Summary

In reviewing the CFF industrial portfolio for PY2019, 266 projects were reported. For EPP, 136 facilities were reported. **Total industrial portfolio gross estimated energy savings in PY2019 are 42,815 MWh, or 98.8% of total reported savings. For EPP, total gross estimated energy savings in PY2019 are 30,827 MWH, or 100.0% of total reported savings. Savings persistence is an important component of CFF, and 94% of first-year savings achieved in the industrial portfolio in PY2019 persist through 2020. 100% of the savings for EPP persist through 2020.**[1] This is typical of industrial and commercial sector measures that tend to have relatively long measure effective useful lives (EUL).

Net estimated energy savings for the industrial portfolio are 34,485 MWh, or 81% of gross estimated savings due to low levels of free-ridership across the programs in previous analyses. Historically, there has been no spillover attributed to the programs across the portfolio. **EPP achieved 23,120 MWh of net estimated energy savings, 75% of gross estimated savings.**

Energy savings from the review of the industrial portfolio and EPP in PY2019 is summarized in Figure 1.1 and Table 1.2 below. The results in Figure 1.1 and Table 1.2 and throughout the remainder of this report include projects that were reported during PY2019 and went into service starting in 2019. Projects that went into service in 2018 and before under the CFF but were not included in previous evaluations as the technical review process had not been completed in time are referred to as "true up" projects. Savings results for true up projects can be found in Appendix A.

In total, the industrial portfolio and EPP achieved 57,605 MWh of net energy savings in PY2019, compared to 108,540 MWh in PY2018. The IAP initiative saw the largest drop in savings with an 83% decrease year over year. In PY2018, a large CHP unit achieved 35,720 MWh of net energy savings through the IAP Capital Incentive track. There were also 42 more projects reported in the IAP initiative in PY2018. All programs saw a decrease in energy savings compared to PY2018 except for M&T and EPP.

1 Four facilities with negative savings (increased consumption) in their first reported performance years were given an EUL of 1. EPP is designed to reach savings goals over a two year period and it is expected the facilities will improve their savings performance in the next performance period. As such, the 2020 savings for these facilities is zero and will be estimated again in 2020.

Figure 1.1 | PY2019 Reported, Gross Estimated, and Net Estimated Savings by Program (MWh)

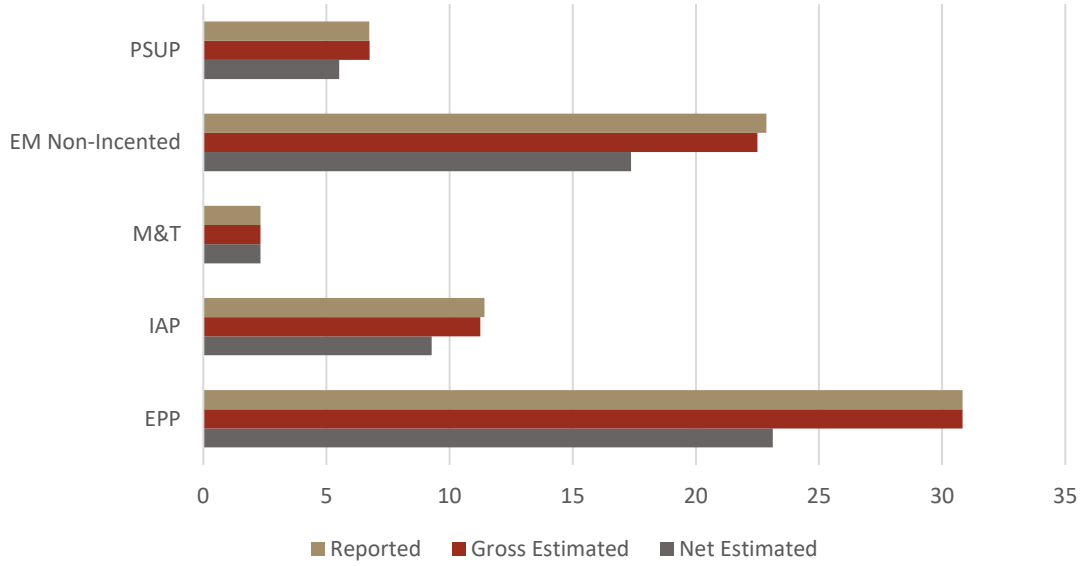


Figure 1.2 | Net Estimated First Year Energy Savings Comparison (MWh)

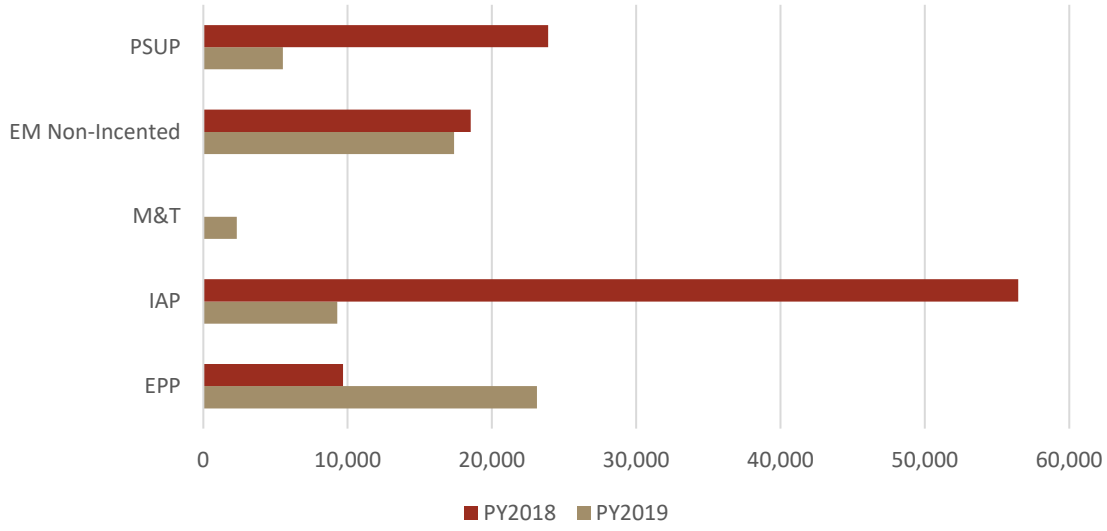


Table 1.2 | Impact Review Results Summary

Program	# of Projects Reported	Energy Realization Rate[2]	Gross Estimated Energy Savings (MWh)	Demand Realization Rate	Gross Estimated Summer Peak Demand Savings (MW)	Energy Net to Gross Ratio[3]	Net Estimated First Year Energy Savings (MWh)	Net Estimated 2020 Energy Savings (MWh)	Net Estimated Summer Peak Demand Savings (MW)
Process & Systems Upgrades (PSUP)	9	100.1%	6,750	107.70%	1.65	82%	5,521	5,521	1.34
Energy Manager Non-Incented (EM)	231	98.4%	22,500	108.50%	3.68	77%	17,370	16,140	2.94
Monitoring & Targeting (M&T)	3	100.00%	2,317	100.00%	4.37	100%$	2,317	2,317	4.37
IAP Initiative	23	98.52%	11,248	89.41%	3.00	83%	9,276	8,527	2.58
Industrial Portfolio Total	266	98.78%	42,815	100.40%	12.70	81%	34,485	32,505	11.23
Energy Performance Program (EPP)	136	100.00%	30,827	NA	NA[4]	75%	23,120	23,695	-
Grand Total	402	99.29%	73,642	100.40%	12.70	78%	57,605	56,200	11.23

[2] Realization Rate (RR) is the gross estimated savings divided by the reported savings.

[3] Net to Gross (NTG) Ratio is the result of historical net to gross analyses that defined the total change in every consumption attributable to each program. NTG ratio is defined as 100% – free ridership + spillover.

[4] Summer peak demand savings are not reported for the Energy Performance Program.

2. Process & Systems Upgrades Program Results

The Process & Systems Upgrades Program (PSUP) provides financial support for the implementation of energy efficiency projects and system optimization projects for facilities that are intrinsically complex and capital-intensive. Twenty industrial customers completed PSUP projects in PY2019. Nine of these projects have been invoiced to the IESO by the LDCs and are included in this report. Completing the invoicing process for a project is a requirement for savings to be reported.[5]

2.1 PSUP Gross Estimated Savings

In PY2019, a total of nine PSUP projects have met the reporting requirements. **Gross estimated energy savings were a total 6,750 MWh or 100.1% of reported savings.** Total gross summer peak demand savings for PSUP reached 1.65 MW in PY2019. Measurement and Verification and technical review activities designed for the program have historically resulted in highly accurate estimates of energy savings. Throughout this addendum, the PY2018 wind-down results are included to compare the year-on-year changes in program results. The PY2018 results do not include true-up projects.

Table 2.1 | PY2019 PSUP Gross Estimated Savings Results

Program Year	# of Projects Reported	Energy Realization Rate %	Gross Estimated First Year Energy Savings (MWh)	Gross Estimated Summer Peak Demand Savings (MW)
2019	9	100.10%	6,750	1.65
2018	10	100.10%	29,200	3.47

2.2 PSUP Net Estimated Savings

Total net estimated energy savings for PSUP projects in PY2019 is 5,521 MWh, 81.8% of gross estimated savings. Net summer peak demand savings for PSUP total 1.34 MW. As is common in industrial sector projects, 100% of the first year savings achieved in PSUP persist through 2020.

Net estimated energy savings declined by 77% in PY2019 compared to PY2018. In PY2018, there was a large CHP project that achieved 13,326 MWh of net energy savings. In PY2018, seven of the ten PSUP projects implemented in were behind-the-meter CHP projects, accounting for 93% of the program electricity savings. In PY2019, there were just two CHP projects reported that accounted for less than half of the PSUP savings. The largest PSUP project completed in PY2019 achieved 2,104 MWh of net energy savings. Table 2.2 summarizes the net estimated results for PSUP in PY2019.

[5] Projects completed and technically reviewed in PY2018 but did not get invoiced will be reported in the PY2018 results as true ups in future addendums once invoiced.

Table 2.2 | PY2019 PSUP Net Estimated Savings Results

Program Year	# of Measures Reported	Energy NTGR (%)	Net Estimated First Year Energy Savings (MWh)	Net Estimated 2020 Energy Savings (MWh)	Net Estimated Summer Peak Demand Savings (MW)	Net Estimated 2020 Summer Peak Demand Savings (MW)
2019	9	82%	5,521	5,521	1.34	1.34
2018	10	82%	23,886	23,886	2.82	2.82

Historically, free-ridership in the PSUP has been low, especially for the larger behind-the-meter generation (BMG) projects in which past interviews revealed that the decision-making is more likely to be made independent of IESO/LDC program incentives. While the energy cost reductions and program benefits were viewed favourably by the BMG project interviewees, these large projects were, on average, more likely to be implemented without program incentives. Throughout the NTG analysis of the program in CFF in 2015-2017, no spillover has been attributed to PSUP. Past interviews have revealed that customers do plan on completing additional projects through PSUP or other IESO programs, but they expect to receive program incentives for the projects. While this cannot be counted as spillover for PSUP, it shows the value that PSUP plays in encouraging continued project activity for its customers.

3. Energy Manager Program Results

This section contains the PY2019 energy and demand savings results for the individual programs in the industrial portfolio, as well as the Energy Performance Program. The 2019 results represent savings achieved in PY2019 for projects that went in service in 2019. The 2018 results represent savings achieved in PY2018 for projects that went in service in 2018 and were reported in the PY2018 Review Report. The impact results from True Up projects are summarized in Table 14. True up projects went into service in 2018 and before under the CFF but were not included in previous evaluations as the technical review process had not been completed in time for reporting or they were on hold for administrative reasons.

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 identify capital improvements that are eligible for incentive payments through PSUP, Business Retrofit, and EPP. Savings from these projects accrue to, and are evaluated in, the program that incents the improvement. Non-incented Energy Manager projects from commercial LDC accounts, industrial LDC accounts, and transmission-connected accounts were evaluated together. The gross and net estimated savings values presented in this section of the report focus on LDC accounts. Savings associated with transmission-connected accounts (IAP EM) are discussed in Section 4.

3.1 EM Gross Estimated Savings

Table 3.1 shows gross estimated energy savings for the LDC Energy Manager non-incented measures in PY2019. **Overall, the measures achieved 22,500 MWh in gross energy savings in PY2018—98.4% of reported savings.** Gross summer peak demand savings totaled 3.68 MW.

Table 3.1 | PY2019 EM Non-Incented Gross Estimated Savings Results

Program Year	# of Projects Reported	Energy Realization Rate %	Gross Estimated First Year Energy Savings (MWh)	Gross Estimated Summer Peak Demand Savings (MW)
2019	231	98.40%	22,500	3.68
2018	144	98.40%	23,992	3.86

3.2 EM Net Estimated Savings

Table 3.2 below summarizes the EM non-incented net savings. **The program-level NTG for the EM non-incented measures in PY2018 was 77.2%, totaling 17,370 MWh net first year energy savings and 2.94 MW net peak demand savings**.

About 92% of these savings persist through 2020. The Energy Manager program has historically had the lowest persistence rate of the industrial portfolio due to the high number of operational and maintenance (O&M) and behavioural measures completed through the program. To calculate persistence, EcoMetric relied on the measure life assumptions supplied by the Energy Managers and technical reviewers.

Net savings achieved in the Energy Manager program in PY2019 declined 6% from PY2018. However, the number of measures reported increased by 87. Projects completed in PY2019 achieved an average of 75 MWh net energy savings per measure compared to an average of 129 MWh in PY2018. As is typical in the non-incented EM program track, the projects implemented in both years were a diverse set of capital and O&M measures.

Table 3.2 | PY2019 EM Non-Incented Net Estimated Savings Results

Program Year	# of Measures Reported	Energy NTGR (%)	Net Estimated First Year Energy Savings (MWh)	Net Estimated 2020 Energy Savings (MWh)	Net Estimated Summer Peak Demand Savings (MW)	Net Estimated 2020 Summer Peak Demand Savings (MW)
2019	231	77%	17,370	16,140	2.94	2.92
2018	144	77%	18,522	15,379	3.09	2.39

Energy managers have found to be key players in project identification, analysis, and documentation. The program has also proven to encourage participants to complete additional projects, although no spillover has been historically attributed to the program as participants expect to receive incentives through the IESO's other program offerings.

4. Industrial Accelerator Program Results

The Industrial Accelerator Program is administered directly by the IESO, offered to transmission-connected customers, and provides incentives through three program tracks: Capital Incentives (referred to interchangeably as IAP Process & Systems and IAP CI), Retrofit, and Energy Manager. Program delivery for each of these tracks closely mimics the respective LDC-administered programs. For clarity, savings from IAP Retrofit and IAP EM are not included with Business Retrofit or LDC account EM programs.

Between the three tracks, 23 IAP projects were completed in PY2019. The IAP Capital Incentives initiative, with just one project, is responsible for 13% of the IAP net energy savings in PY2019. Eight IAP Energy Manager non-incented measures with 2019 in-service dates were included, accounting for 53% of IAP net energy savings. The IAP Retrofit program had 14 projects with 2019 in-service dates ready for review. The IAP Retrofit program, consisting of smaller projects, accounted for 34% of PY2019 IAP net energy savings.

4.1 IAP Gross Estimated Savings

Table 4.1 shows gross estimated savings for the IAP Capital Incentives, Retrofit, and Energy Manager Non-Incented measures**. All energy realization rates are very close to 100%, resulting in an overall energy realization rate of 98.5% for the entire initiative. Total gross estimated energy savings are 11,248 MWh.** The entire IAP Initiative also achieved 3 MW of gross estimated summer peak demand savings in PY2019.

Table 4.1 | PY2019 IAP Gross Estimated Savings Results

Initiative	Program Year	# of Projects Reported	Energy Realization Rate (%)	Gross Estimated First Year Energy Savings (MWh)	Gross Estimated Summer Peak Demand Savings (MW)
IAP Capital Incentives	2019	1	99.91%	1,279	0.18
IAP Retrofit	2019	14	103.98%	3,665	0.50
IAP Energy Manager Non-Incented	2019	8	95.35%	6,304	2.31
2019 Total	**2019**	**23**	**98.52%**	**11,248**	**3.00**
IAP Capital Incentives	2018	7	100.00%	54,644	0.58
IAP Retrofit	2018	25	98.00%	6,047	0.78
IAP Energy Manager Non-Incented	2018	33	98.00%	8,846	1.01
2018 Total	**2018**	**65**	**99.70%**	**69,537**	**2.44**

4.2 IAP Net Estimated Savings

The overall NTG ratio for the IAP Initiative was 82.5%, as shown in Table 4.2. **Total net estimated savings for the IAP Initiative was 9,276 MWh in PY2019.** Historically, NTG surveys conducted between 2015-2017 found that IAP projects demonstrated low levels of free-ridership and no attributed spillover. The IAP Capital Incentives had the highest NTG ratio (92%), followed by IAP Retrofit (86%) and IAP Energy Manager non-incented (79%).

More than 92% of the first year net energy savings achieved by the IAP Initiative persist through 2020. The IAP Energy Manager program has the lowest persistence rate in the IAP Initiative, due to a higher number of O&M and behavioural measures with lower effective useful lives. All savings achieved by the IAP Capital Incentive and Retrofit tracks persist to 2020.

Net energy savings achieved by the IAP Initiative fell 84% from PY2018, largely due to a decline in the number of projects reported. Historically, the IAP CI initiative supported robust savings in IAP due to the complexity and size of the projects the program funds. However, in PY2019 only one IAP CI project was reported.

Table 4.2 | PY2019 IAP Net Estimated Savings Results

Initiative	Program Year	# of Projects Reported	Energy NTGR (%)	Net Estimated First Year Energy Savings (MWh)	Net Estimated 2020 Energy Savings (MWh)	Net Estimated Summer Peak Demand Savings (MW)	Net Estimated First Year Energy Savings (MWh)
IAP Capital Incentives	2019	1	92%	1,175	1,175	0.17	0.17
IAP Retrofit	2019	14	86%	3,141	3,141	0.44	0.44
IAP Energy Manager Non-Incented	2019	8	79%	4,960	4,211	1.98	0.43
2019 Total	**2019**	**23**	**83%**	**9,276**	**8,527**	**2.58**	**1.04**
IAP Capital Incentives	2018	7	82%	44,698	44,698	0.47	0.47
IAP Retrofit	2018	25	82%	4,934	4,934	0.67	0.67
IAP Energy Manager Non-Incented	2018	33	77%	6,829	3,495	0.86	0.54
2018 Total	**2018**	**65**	**81%**	**56,462**	**53,127**	**1.99**	**1.68**

5. Monitoring & Targeting Program Results

The Monitoring and Targeting (M&T) Program encourages industrial distribution customers to install or upgrade M&T systems to relate a facility's energy consumption data to the weather, production schedule, or other measures in such a way as to provide a better understanding of how energy is being used. M&T systems are expected to identify signs of avoidable energy waste or other opportunities to reduce consumption. Project eligibility is partly contingent on achieving a savings goal within 24 months of installation and sustaining these savings for the terms of the participant agreement, five years from the date the M&T system is installed.

Monitoring & Targeting had three projects in service starting in PY2019 and ready for review. Historically, no M&T projects had been reported in the CFF. The two-year implementation schedule of M&T projects leads to a somewhat longer technical review phase and supporting data to verify savings that has not been available in the past.

5.1 M&T Gross Estimated Savings

Table 5.1 shows gross estimated energy savings for the M&T program in PY2019. **Overall, the three projects achieved 2,317 MWh in gross energy savings in PY2019—100% of reported savings.**[6] Gross summer peak demand savings totaled 4.37 MW.

Table 5.1 | PY2019 M&T Gross Estimated Savings Results

Program Year	# of Projects Reported	Realization Rate %	Gross Estimated First Year Energy Savings (MWh)	Gross Estimated Summer Peak Demand Savings (MW)
2019	3	100.00%	2,317	4.37
2018	0	0	0	0

[6] As part of the simplified approach for evaluating CFF wind down programs, programs which were previously evaluated and have no historical basis, RRs and NTGs are assumed to be 100%.

5.2 M&T Net Estimated Savings

Table 5.2 summarizes the M&T net savings below. **The program-level NTG for the EM non-incented measures in PY2019 was 100%[7], totaling 2,317 MWh net first year energy savings and 4.37 MW net peak demand savings. 100% of these energy savings persist through 2020.[8]**

Table 5.2 | PY2019 M&T Net Estimated Savings Results

Program Year	# of Projects Reported	NTGR (%)	Net Estimated First Year Energy Savings (MWh)	Net Estimated 2020 Energy Savings (MWh)	Net Estimated Summer Peak Demand Savings (MW)	Net Estimated 2020 Summer Peak Demand Savings (MW)
2019	3	100.00%	2,317	2,317	4.37	4.37
2018	0	0	0	0	0	0

[7] As part of the simplified approach for evaluating CFF wind down programs, programs which were previously evaluated and have no historical basis, RRs and NTGs are assumed to be 100%.

[8] An effective useful life (EUL) of three years was applied to all M&T projects—representing a conservative lifetime for a standard monitoring system in an industrial setting.

6. Energy Performance Program Results

The Energy Performance Program for Multi-Site Customers (EPP) provides a performance-based whole-building approach to incenting energy efficiency improvements which gives multi-site customers with greater flexibility in measure selection. The program was designed to reduce the administrative burden and challenges for multi-site customers in participating in Save on Energy programs across multiple LDC service areas. Energy savings are rewarded at the same rate for both capital and non-capital efficiency measures, which are calculated at the whole-building level. Each facility has four one-year performance periods.

The facilities and their performance period reported in PY2019 are summarized in Table 6.1. The PY2019 review population included 136 facilities, representing all facilities that were technically reviewed in time for reporting. The results for EPP include the most recent performance period that has been reviewed for all facilities. This includes 28 facilities that had not been previously reported. Of these 28 facilities being reported for the first time, 12 had completed the first year of performance and the remaining 16 had completed their second year. There are also 108 facilities with savings included in this report that have had their first performance year results previously reported in PY2017 or PY2018.

Table 6.1 | EPP Facilities Reported in PY2019

Performance Year in PY2019	Facilities Reported in PY2019	Facilities Reported for First time
Year 1	12	12
Year 2	94	16
Year 3	30	0

6.1 EPP Gross Estimated Savings Results

Estimated gross savings from the PY2019 review of the EPP program are summarized in Table 6.2 below. **Total gross estimated energy savings for EPP are 30,827 MWh.** Summer peak demand savings were not required to be tracked or verified by the program design. As such, no demand savings are reported.

Table 6.2 | PY2019 M&T EPP Impact Results Summary

Program Yea	# of Facilities Reported	Realization Rate %	Gross Estimated First Year Energy Savings (MWh)	Gross Estimated Summer Peak Demand Savings (MW)
2019	136	100.00%	30,827	0
2018	72	100.00%	12,894	0

6.2 EPP Net Estimated Savings Results

Total net estimated energy savings for EPP projects included in PY2019 is 23,120 MWh, 75% of gross estimated savings. Historically, interview responses suggested that while the EPP enabled participants to expand the scope and depth of the energy efficiency projects being implemented, at least some portion of these changes would have been made even if they did not participate in EPP.

100% of these savings persist through 2020. There were 11 facilities in PY2019 that showed increased consumption in their performance periods.[9] Four of these facilities were in their first year of performance. The evaluation team assigned facilities with increased consumption in their first performance year an EUL of one year as EPP is designed to encourage savings over four year-long performance periods participants are expected to create an implementation plan to correct their course and achieve savings. One facility had reported increased consumption of over 908,000 kWh. The evaluation team determined that this large increase in consumption was too high to be attributable to program activities and was likely the result of a modeling error or a missed non-routine event. As such, the savings for this facility were reported as zero with an EUL of one.

The average net estimated energy savings per facility is 170 MWh for facilities reported in PY2019. The highest performing facility achieved 2,586 MWh net energy savings while the lowest achieved -247 MWh. With nearly twice as many facilities reporting than in PY2018, net energy savings increased 139% in PY2019.

Table 6.3 | PY2019 EPP Net Estimated Savings Results

Program Year	# of Measures Reported	Energy NTGR (%)	Net Estimated First Year Energy Savings (MWh)	Net Estimated 2020 Energy Savings (MWh)	Net Estimated Summer Peak Demand Savings (MW)	Net Estimated 2020 Summer Peak Demand Savings (MW)
2019	136	75.00%	23,120	23,695	NA	NA
2018	72	75.00%	9,671	9,671	NA	NA

[9] Four facilities with negative savings (increased consumption) in their first reported performance years were given an EUL of 1. EPP is designed to reach savings goals over a two year period and it is expected the facilities will improve their savings performance in the next performance period. As such, the 2020 savings for these facilities is zero and will be estimated again in 2020.

Appendix A: Portfolio Results Summary File

Table A.1 | PY2019 Portfolio Results Summary Table

Program/ Implementation Year	Projects Reported	Energy RR	Gross Adjusted Energy Savings (MWh)	Demand RR	Gross Adjusted Summer Peak Demand Savings (MW)	NTG Ratio	Net Adjusted First Year Energy Savings (MWh)	Net Adjusted 2020 Energy Savings (MWh)	Net Adjusted Summer Peak Demand Savings (MW)
Process & Systems Upgrades (PSUP)									
2019	9	100.1%	6,750	107.7%	1.65	81.8%	5,521	5,521	1.34
2018 True Ups[10]	8	100.1%	6,065	107.7%	1.32	81.8%	4,961	4,961	1.07
Total PSUP	**17**	**100.1%**	**12,815**	**129.1%**	**2.97**	**81.8%**	**10,482**	**10,482**	**2.41**
Energy Manager Non-Incented (EM)									
2019	231	98.4%	22,500	108.5%	3.68	77.2%	17,370	16,140	2.92
2018 True Ups	121	98.4%	11,181	108.5%	0.90	77.2%	8,632	7,649	0.65
2017 True Ups	18	94.3%	2,112	111.1%	0.19	71.6%	1,511	1,203	0.13

[10] True up projects went into service in 2018 and before under the CFF but were not included in previous evaluations as the technical review process had not been completed in time for reporting.

Program/ Implementation Year	Projects Reported	Energy RR	Gross Adjusted Energy Savings (MWh)	Demand RR	Gross Adjusted Summer Peak Demand Savings (MW)	NTG Ratio	Net Adjusted First Year Energy Savings (MWh)	Net Adjusted 2020 Energy Savings (MWh)	Net Adjusted Summer Peak Demand Savings (MW)
2016 True Ups	2	97.9%	1,239	92.9%	0.11	86.0%	1,066	1,066	0.10
Total EM	**372**	**98.1%**	**37,032**	**108.2%**	**4.88**	**77.2%**	**28,579**	**26,058**	**3.79**
Monitoring and Targeting (M&T)									
2019	3	100.0%	2,317	100.0%	4.37	100.0%	2,317	2,317	4.37
2018 True Ups	2	100.0%	218	100.0%	0.01	100.0%	218	218	0.01
Total M&T	**5**	**100.0%**	**2,535**	**100.0%**	**4.38**	**100.0%**	**2,535**	**2,535**	**4.38**
IAP Initiative									
2019	23	98.5%	11,248	89.4%	3.00	82.5%	9,276	8,527	2.59
2018 True Ups	21	99.4%	80,121	99.2%	16.59	89.2%	71,480	68,401	14.79
2017 True Ups	2	93.7%	23	93.5%	0.00	71.6%	16	16	0.00
2016 True Ups	2	98.5%	878	99.9%	0.03	84.8%	745	87	0.02
2015 True Ups	12	105.8%	47,017	98.8%	5.40	81.7%	38,391	38,391	4.40
Total IAP	**60**	**101.4%**	**139,287**	**97.8%**	**25.01**	**86.1%**	**119,908**	**115,422**	**21.80**

Program/ Implementation Year	Projects Reported	Energy RR	Gross Adjusted Energy Savings (MWh)	Demand RR	Gross Adjusted Summer Peak Demand Savings (MW)	NTG Ratio	Net Adjusted First Year Energy Savings (MWh)	Net Adjusted 2020 Energy Savings (MWh)	Net Adjusted Summer Peak Demand Savings (MW)
Energy Performance Program									
2019 YR 1 Performance	12	100.0%	5,773	NA	-	75.0%	4,330	4,793	0
2019 YR 2 Performance	94	100.0%	17,667	NA	-	75.0%	13,250	13,362	0
2019 YR 3 Performance	30	100.0%	7,387	NA	-	75.0%	5,540	5,540	0
Total EPP	**136**	**100.0%**	**30,827**	**NA**	**0**	**75.0%**	**23,120**	**23,695**	**0**
Grand Total	**590**	**100.5%**	**222,496**	**100.1%**	**37.25**	**83.0%**	**184,626**	**178,192**	**32.48**