Nova Scotia POWER
An Emera Company

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June 29, 2026

Crystal Henwood
Clerk of the Board
Nova Scotia Energy Board
1601 Lower Water Street, 3rd Floor
Halifax, NS B3J 3S3

Re: CI C0021839 IT – Customer Energy Management 2025 Evaluation, Measurement and Verification Report – Extension Request

Dear Ms. Henwood:

On October 21, 2021, the Nova Scotia Utility and Review Board (NSUARB), now referred to as the Nova Scotia Energy Board (NSEB, Board), approved CI C0021839 IT - Customer Energy Management (CEM). In its Decision, the Board directed NS Power to work with stakeholders to develop an Evaluation, Measurement & Verification (EM&V) plan.[1] The Company provided the amended CEM EM&V Plan to the NSUARB for its final approval on February 16, 2022. The NSUARB approved the amended CEM EM&V Plan on March 30, 2022.

On May 1, 2025, Nova Scotia Power Inc. (NS Power) filed its 2024 (Year 3) Customer Energy Management (CEM) Evaluation, Measurement and Verification (EM&V) Report with the Board. Prior to this filing, on March 6, 2025, NS Power requested an extension to file the CEM EM&V Year 3 Report on May 1, 2025. NS Power also requested that the filing date for all subsequent CEM EM&V Reports be May 1 of each year. The Board approved both requests.

On April 24, 2026, NS Power requested an extension to file its Year 4 CEM EM&V Report on July 1, 2026, which the Board approved. As has been identified in the Monthly Update Reports filed with the Board in relation to M12273, the 2025 CEM EM&V Report was impacted by the cybersecurity incident, resulting in additional time being required to compile and share data with Econoler.

[1]M10164, NSUARB Decision Letter, CI C0021839 IT - Customer Energy Management (CEM), October 21, 2021.

As set out in the NS Power's Monthly Update Reports (M12273), the My Energy Insights (MEI) platform has been unavailable since April 2025 and remains unavailable as of the time of this filing. Consequently, associated data, analysis, and customer alerts are unavailable. Additionally, 2025 AMI data is only available for analysis from January 1, 2025, to March 31, 2025.

Given the data limitations noted above, NS Power consulted with Econoler to develop an approach to the 2025 CEM EM&V which resulted in Econoler conducting the 2025 CEM EM&V in two parts:

- Part 1: Econoler evaluated the CEM impacts for the period of January to March 2025, using a methodology consistent with the 2023 and 2024 EM&V Reports.

- Part 2: Econoler estimated the impacts for the period of April 1, 2025, to December 31, 2025, given that the CEM platform was not available during that timeframe. Econoler compared evaluated results for the period of January to March 2025 with those of the same three-month period in 2024 to calculate a weighted average ratio of 2025-to-2024 results.

The Company provides its CEM EM&V Year 4 report herein, prepared by consultant Econoler. Please refer to Attachment 1.

CEM EM&V Year 3 NSEB Direction

The Board provided the following direction its Decision on the Year 3 CEM EM&V Report proceeding (M12251):

> The Board finds that enhancing the CEM and My Energy Insights with features specifically designed for commercial rate classes may help incentivize increased usage amongst that class. The Board encourages NS Power to improve its understanding of commercial customer needs that can be addressed through the CEM. Accordingly, NS Power is directed to continue reporting on initiatives aimed at boosting commercial customer participation in the CEM and My Energy Insights in its next EM&V Report.
>
> The Board considers the use of EOne data to mitigate confounding factors to be an effective and reasonable approach. Recognizing that CEM results are not cumulative, the Board directs that future results be presented in a format consistent with Tables 2 and 3 in Econoler's Report submitted as Attachment 1, to enable assessment of whether the CEM is driving significant and sustainable behavioral changes that

> justify the investment.
>
> Given that the EM&V did not demonstrate statistical significance for several key metrics, the Board further directs that the Year 4 EM&V Report includes a discussion on the practical significance of the findings to better interpret the magnitude and real-world impact of changes associated with the CEM.[2]

Because the platform has been unavailable since April 2025, NS Power has been unable to roll out any initiatives in 2025 aimed at boosting commercial customer participation in the CEM and My Energy Insights. NS Power's efforts have been focused on restoring the platform for customers. NS Power remains committed to increasing customer awareness and adoption of CEM once access has been restored to customers.

In accordance with Board direction, Tables 2 and 3 in Econoler's Report have been presented in a consistent manner with the Year 3 report, and Econoler has included discussion in its report on the practical significance of the report findings.

CEM EM&V Year 4 Report Highlights

EM&V Metrics

The Year 4 report reports on the metrics established in the CEM EM&V Plan and approved by the Board for which data was available for 2025. Those metrics are as follows:

[2] M12251, Board Decision, CI C0021839 IT – Customer Energy Management (CEM) 2024 (Year 3) Evaluation, Measurement and Verification (EM&V) Report, July 8, 2025.

Table 1: Impact Evaluation Metrics

CEM Effectiveness Category	Measurement Metric	Measurement Description	What Is Measured	How it Is Measured	Measurement Approach	To Be Included in 2025 Year 4 Evaluation
Customer Load and Energy Usage	Billing Impact	Billing amount impact by bill period for CEM high/low user groups	Billed amount (CAD)	By usage group	DID	Yes.
		Billing amount impact by CEM high/low user groups that subscribe to alerts	Billed amount (CAD)	By usage group	DID	Yes, specifically for high usage alerts.
	Load During Peak	Customer usage analysis to determine shifts in usage for peak period-related rates (TVP and TOD)	Peak period usage in kW	By usage group	DID	Yes, for residential TOU, CPP, and TOD rate codes.
		Customer usage analysis to determine changes in peak demand usage for associated business rates	Customer demand usage in kW	By usage group	DID	Yes.
	Energy Usage	Reduction in total energy usage	Overall kWh	By usage group	DID	Yes.
		Reduction in total energy usage by CEM high/low user groups that subscribe to alerts	Overall kWh	By usage group	DID	Yes, specifically for high usage alerts.
		Customer load shift comparative analysis pre-post CEM activation (yearly load profiles)	Load profile	By rate class	Comparative analysis	Yes, this includes all customers in the rate code for the baseline and post periods.
Cost-Effectiveness Measures	Service Cost Efficiencies	Changes in Customer Care Centre call volumes (by measurable usage group)	Call volume (transaction cost savings)	By usage group	DID	No, data not available for 2025 analysis.
		Changes in Customer Care Centre call length (by measurable usage group)	Average handle time (transaction cost savings)	By usage group	DID	No, data not available for 2025 analysis.
	Paperless Billing	Paperless billing uptake pre/post CEM activation (paperless billing subscription rate)	Paper bill volume cost savings	By usage group	DID	Yes.

Energy Usage and Billing Impact in particular were broadly found to have delivered statistically significant savings for several customer classes across low and high CEM users. These findings are summarized in the table below, with statistically insignificant values presented in grey text.

Table 7: Summary of Customer Load and Energy Usage Savings - Residential

Rate Code	CEM Usage Level	Post Period Energy Usage Savings (kWh)		Average Load Savings During Morning Peak (kW)		Average Load Savings During Evening Peak (kW)		Post Period Bill Savings ($)	
		Value	Margin of Error	Value	Margin of Error	Value	Margin of Error	Value	Margin of Error
Residential Standard	Low	22	± 35					4	± 6
	High	40	± 32					7	± 5
Residential TOD	Low	-48	± 148	-0.011	± 0.065	-0.055	± 0.065	14	± 36
	High	195	± 122	0.047	± 0.063	0.057	± 0.064	28	± 16
Residential CPP	Low	36	± 157	0.286	± 0.086	0.252	± 0.359	20	± 28
	High	-76	± 181	0.875	± 0.103	0.776	± 0.370	42	± 37
Residential TOU	Low	89	± 107	0.060	± 0.034	0.058	± 0.032	29	± 37
	High	-28	± 162	0.118	± 0.054	0.096	± 0.057	22	± 32

High users under the Residential Standard and Residential TOD rate codes achieved statistically significant energy usage savings with TOD customers seeing the greatest reductions. Users on the Residential CPP and TOU rate codes demonstrated a mix of positive and negative energy savings, all of which were not statistically significant. That said, all users on TVP rates achieved statistically significant load savings during

both morning and evening peaks, except for evening peaks for Residential CPP low users.[3] It should also be noted that load savings during peak were higher for customers on the CPP rate code compared to the TOU rate code. This suggests that, while overall energy consumption may not decline, CPP customers are actively shifting their usage away from peak periods during CPP events. Annual bill impacts are a mix of statistically significant and non-significant positive savings.

> Care should be taken when interpreting energy and bill savings presented above, as they only reflect impacts for the period of January to March 2025 and therefore do not include variations in savings across the entire year. Indeed, based on previous CEM evaluations, energy and bill savings tend to not be uniformly distributed throughout the year.[4]

There have been improvements in both the commercial and residential class uptake of the CEM platform and MyEnergy Insights. As highlighted in the Year 4 report, as of March 2025, a total of 301,690 customers (278,550 residential and 23,140 commercial) had activated CEM accounts, representing an increase of 13,187 (11,812 residential and 1,375 commercial) compared with December 2024, which is the last month of the CEM Year 3 evaluation.[5]

NS Power will continue to research other enhancements and features that may encourage increased commercial customer participation in the CEM and My Energy Insights.

Yours truly,

Jessie Wallace
Manager, Regulatory Strategic Planning & Innovation

[3] For CPP load savings, only months that included either morning or evening peak events in both the pre and post periods were included in the analysis.
[4] Attachment 1, CEM EM&V Year 4 Report prepared by Econoler, pages 18-19.
[5] Attachment 1, CEM EM&V Year 4 Report prepared by Econoler, page 38.

Nova Scotia Power

EVALUATION OF THE CUSTOMER ENERGY MANAGEMENT PLATFORM, YEAR 4

Final Report

June 25, 2026

ECONOLER

ABBREVIATIONS

AMI	Advanced metering infrastructure
CEM	Customer Energy Management (platform)
CPP	Critical Peak Pricing
DID	Difference-in-difference
DSM	Demand-side management
EM&V	Evaluation, measurement, and verification
kW	Kilowatt
kWh	Kilowatt-hour
MURB	Multi-Unit Commercial Building
NS Power	Nova Scotia Power
NSEB	Nova Scotia Energy Board
NSUARB	Nova Scotia Utility and Review Board
TOD	Time-of-Day
TOU	Time-of-Use
TVP	Time-Varying Pricing
W	Watt

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EXECUTIVE SUMMARY

Nova Scotia Power (NS Power) began onboarding customers to the Customer Energy Management (CEM) platform in November 2021. The CEM is an online tool that serves to analyze and visualize the energy consumption of each customer to offer customized energy saving tips. The platform includes features that disaggregate energy consumption by end-use type, compare historical energy costs, and bring unusual consumption patterns to the attention of users. The goal is to increase the awareness and knowledge of customers about their energy consumption and energy efficiency as well as to encourage the adoption of energy efficient behaviours.

The CEM was first offered to Time-Varying Pricing (TVP) pilot participants (both residential and commercial) in November 2021 and then to customers on the Residential Standard, Residential Time-of-Day (TOD), Commercial Small General, and Commercial General rate codes in June 2022.

As in previous years, the Year 4 CEM evaluation consisted of measuring the change in energy usage (kWh), customer load (kW), customer bills, and other cost-effectiveness measures attributable to the CEM, per the Evaluation Measurement and Verification (EM&V) Plan. These metrics were calculated for all rate codes, with the exception of Commercial TVP (Critical Peak Pricing [CPP] and Time-of-Use [TOU]) and Commercial Multi-Unit Residential Building (MURB) customers because there were too few customers on these rate codes. Following the cyber incident reported by NS Power in April 2025, NS Power customers have not been able to access the CEM portal, and AMI data has not been available. Therefore, all evaluation metrics, except paperless billing uptake, were only measured for the period of January to March 2025. This differs from the evaluation of Year 1 to Year 3, for which the evaluation period consisted of January to December. For the period of April to December 2025, Econoler estimated unrealized CEM impacts, that is, impacts on customer energy consumption (savings) that could have occurred if customers had been able to access the CEM portal for that period. While these estimated unrealized impacts are fundamentally different from evaluated impacts, they aim to provide information to stakeholders in the interim. These estimates also support continuity in the assessment of CEM and help place evaluated results for January to March 2025 into a broader annual context, thereby facilitating the interpretation these partial-year results.

Despite the shorter evaluation period, the methodology used to estimate the evaluation metrics presented herein is consistent with previous CEM evaluations. This methodology is based on a difference-in-difference (DID) approach, meaning that, to obtain net impacts, the electricity usage variation over time and cost-effectiveness metrics for CEM low and high users (the treatment group) were compared to the same variation over time of customers that did not use the CEM (the control group). The objective of this approach is to isolate variations that are linked to customers' use of the CEM only.

As part of the CEM Year 2 evaluation, Econoler concluded that: 1) CEM users tend to electrify their space heating load (e.g. replacing their oil-fired boiler with an electric heat pump) compared with customers who do not use the CEM; and 2) performing the DID electricity consumption analysis on CEM users and using non-CEM users as a control group without applying further selection criteria primarily captures electrification (an increase in electricity consumption that is due to customers replacing non-electrical heating systems with electrical ones). Since increased electrification is probably not due to the CEM, a modified DID approach is used to capture impacts on energy efficiency behaviour. This was accomplished in two ways: 1) Only CEM users that already use electrical space heating were considered; and 2) for customers on the Residential Standard Rate, the control group was established through a one-for-one match for each treatment customer.

Quantitative results are presented throughout this report, along with their confidence intervals (the interval between which the real value is expected to be found at a confidence level of 90%). Where appropriate,

Econoler discusses the statistical significance of those values and whether a larger sample size is likely to yield positive and statistically significant savings.

Evaluation Findings

Overall, 61% of CEM eligible customers have an activated CEM account.

- As of March 2025, a total of 301,690 customers (278,550 residential and 23,140 commercial) had activated CEM accounts, representing an increase of 13,187 (11,812 residential and 1,375 commercial) compared with December 2024, which is the last month of the CEM Year 3 evaluation.
- Among the subset of customers included in the analyses, the share of customers who did not log into the CEM was 78% for Residential Standard customers and 67% for Residential TOD customers. For TVP rate codes, the share of customers who did not log into the CEM was 46% for CPP and 50% for TOU. It should however be reiterated that the evaluation period covered only three months, and most CEM users typically don't log in every month. The share of commercial customers who did not log into the CEM was 96% for Small General customers and 95% for General customers.
- Customers on the Residential TOD and TVP rate codes use the CEM in greater proportion and more often than other customers, which is expected given the more complex nature of their electricity tariffs.

CEM users generally participated in EfficiencyOne programs at a higher rate than non-CEM users.

- The additional annual savings were deducted from the savings captured by the DID approach so that no savings already claimed by EfficiencyOne were counted again in the CEM evaluation.

The impact evaluation on a subset of electrically heated customers served to capture savings attributable to the CEM platform.

- High users under the Residential Standard and Residential TOD rate codes achieved statistically significant energy usage savings representing 0.6% and 3.3% of annual energy consumption respectively. The remaining subsets of residential customers had non-significant energy savings.
- Load savings during morning peak periods are positive and statistically significant for all users under the Residential CPP and Residential TOU rate codes. For evening peak periods, load savings are only statistically significant for CPP high user customers and for all TOU users. Remaining subsets of customers had non-significant load savings. It should also be noted that peak load savings were higher for customers on the CPP rate code compared to other rate codes, suggesting that CPP customers are actively shifting their usage away from peak periods during CPP events.
- Annual bill impacts are a mix of statistically significant and non-significant positive savings. The statistical significance or non-significance of bill savings for customers of a given rate code is generally the same as that of energy savings (kWh) for that customer group. High users under the Residential CPP rate code are the exception to that trend: they achieved statistically significant bill savings despite energy savings being non-significant, which is likely linked to peak savings achieved by that group, which in turn has a strong impact on the total monthly bill.
- Results that are not statistically significant mean that the evaluation could not distinguish the effect of CEM from externalities and random effects at the selected confidence level. However, they do not mean that CEM has no effect on customers' energy consumption behaviour.

Savings due to high bill alerts were generally not statistically significant.

- The comparison of energy and bill savings for high and low users that subscribed to high bill alerts compared to those that did not subscribe generally did not yield statistically significant results, with the exception of March 2025 savings for high users on the Residential Standard rate code. At less than 5% of the sample analyzed, the group of non-subscribed customers was too small to yield consistent results.

Paperless billing uptake among CEM eligible customers has increased across all rate codes since the baseline period.

› Paperless billing uptake was particularly high among customers who have activated the CEM, and generally even more so among customers who have used the CEM.

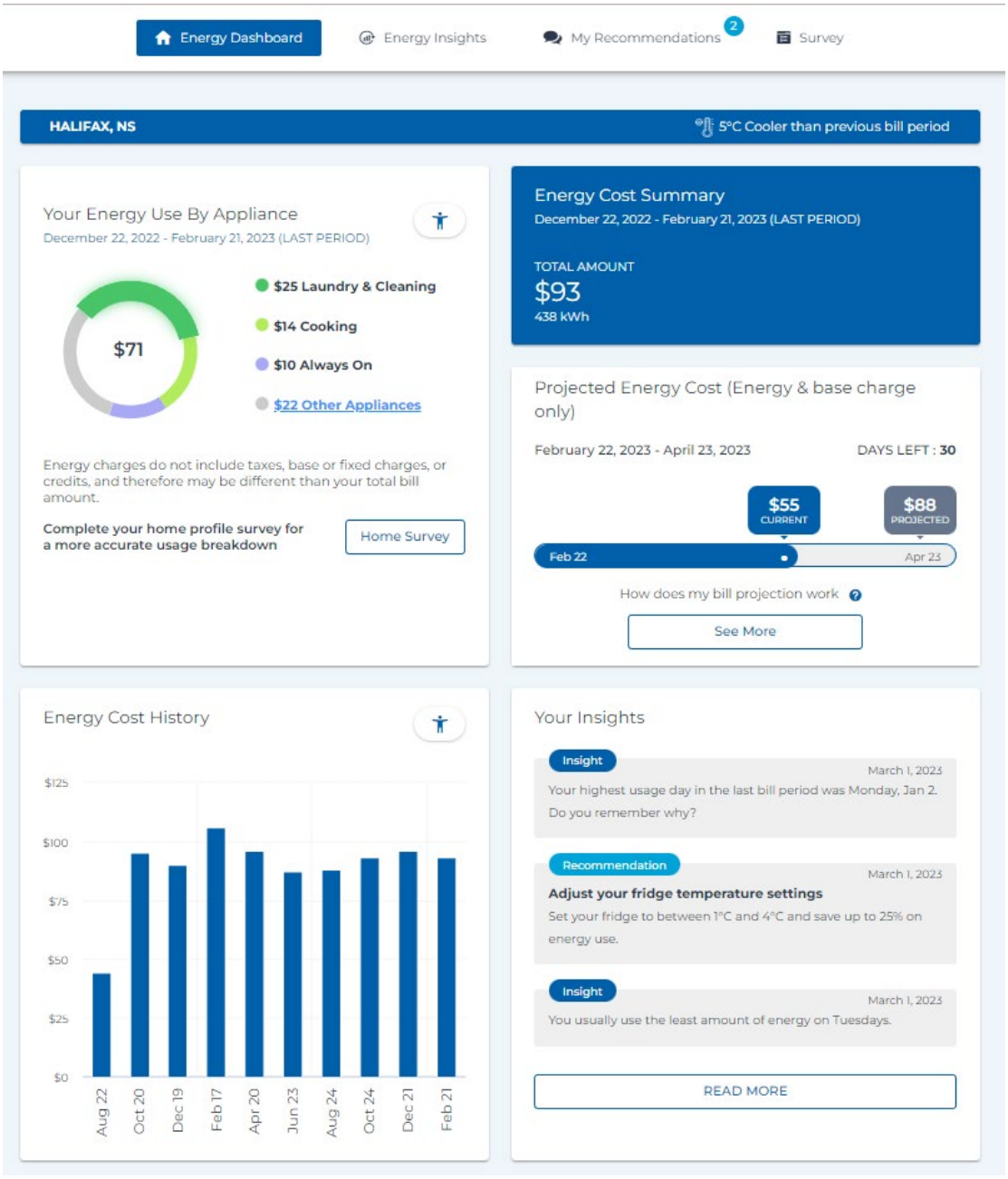
Service cost efficiency metrics could not be evaluated.

› The effects of the CEM portal on the number of calls treated by the NS Power customer service team as well as the average call handle time could not be evaluated due to data being unavailable for all 12 months of 2025.

INTRODUCTION

Nova Scotia Power (NS Power) started onboarding customers to the Customer Energy Management (CEM) platform in November 2021. The CEM is an online tool that serves to analyze and visualize the energy consumption of each customer to offer customized energy-saving tips. The platform notably includes features that disaggregate energy consumption by end-use type, compares historical energy costs, and brings unusual consumption patterns to the attention of users. Presented in Figure 1 is an example of the information presented in the CEM dashboard.

Figure 1: CEM Energy Dashboard



The goal of the CEM platform is to increase awareness and knowledge of customers about their energy consumption and energy efficiency as well as encourage the adoption of energy efficient behaviours. One of the intents of the platform is to benefit customers by providing them with information to help reduce their energy consumption and electricity costs.

In November 2021, the CEM was first offered to Time-Varying Pricing (TVP) pilot participants. The goal of the TVP pilot was to incentivize customers to use electricity when electricity demand is low by modulating tariffs either through Time of Use (TOU) or Critical Peak Pricing (CPP) tariffs. Other NS Power customers that did not participate in the TVP pilot were onboarded starting in mid 2022 and, by the end of 2022, 461,601 accounts with advanced metering infrastructure (AMI) meters could access the CEM platform. As of November 2022, NS Power had implemented the following four alert features:

- High bill alerts: These consist of sending an email that prompts customers to log into the CEM if NS Power detects an unusually high bill. This is automatically included when activating the CEM, and customers can opt out.
- Billing period summary: This is sent via an email to customers every month or every two months (depending on billing frequency), summarizing electricity use. This is automatically included when activating the CEM, and customers can opt out.
- Budget alert: An email is sent to customers that have spent between 75% and 100% of their chosen budget for the given month. This is an option that customers can select once the CEM is activated (opt-in).
- Projected energy cost alert: This is sent as an email to customers in the middle of their billing period and includes their actual and projected energy costs for the month. This is an option that customers can select once the CEM is activated (opt-in).

The first Evaluation Measurement and Verification (EM&V) Plan, based on 2022 data (Year 1), for the CEM platform was filed with the Nova Scotia Utility and Review Board (NSUARB), now named the Nova Scotia Energy Board (NSEB), on 28 April 2023 in accordance with NSUARB direction. The EM&V Plan required an evaluation of 2022 results, specifically for TVP participating customers (as they were the only customers who had CEM access over the entire 2022 calendar year), as well as complete annual evaluations for all customer types (TVP participating customers or non-TVP customers) for 2023 and onward.

This Year 4 CEM evaluation report maintains the same approach and presents an analysis for all CEM customer types. These CEM users include residential and commercial customers that do not participate in TVP as well as customers that are on TOD rates since those customers were given access to the CEM later in 2022. As in previous CEM evaluations, due to the small number of CEM users among commercial customers on TVP rates, these participants were not included in the Year 4 CEM evaluation because evaluating the related impacts would not have yielded statistically significant results.

Quantitative results are presented throughout this report, along with their confidence intervals (the interval within which the real value is expected to be found with a confidence level of 90%). Where appropriate, Econoler discusses the statistical significance of those values and whether a larger sample size would have likely yielded positive and statistically significant savings.

Evaluation Scope

This assignment consisted of conducting an impact evaluation intended to measure the change in energy usage (kWh), customer load (kW), customer bills, and other cost-effectiveness measures due to the CEM. Per the EM&V Plan, the metrics outlined in Table 1 below were measured by both usage group (low and high CEM users) and rate code.

Implications of the Cyber Incident

Following the cyber incident reported by NS Power in April 2025, NS Power customers have not been able to access the CEM portal, and AMI data has not been available. Therefore, energy usage as well as load and billing impacts were only evaluated for the period from January to March 2025. Additionally, service cost efficiency metrics (changes in Customer Care Centre call lengths and volumes) could not be evaluated as the required data were not available for the entire 2025 calendar year. Paperless billing uptake data has not been affected by the cyber incident, and this metric was evaluated for January to December 2025.

Table 1: Impact Evaluation Metrics

CEM Effectiveness Category	Measurement Metric	Measurement Description	What Is Measured	How it Is Measured	Measurement Approach	To Be Included in 2025 Year 4 Evaluation
Customer Load and Energy Usage	Billing Impact	Billing amount impact by bill period for CEM high/low user groups	Billed amount (CAD)	By usage group	DID	Yes.
		Billing amount impact by CEM high/low user groups that subscribe to alerts	Billed amount (CAD)	By usage group	DID	Yes, specifically for high usage alerts.
	Load During Peak	Customer usage analysis to determine shifts in usage for peak period-related rates (TVP and TOD)	Peak period usage in kW	By usage group	DID	Yes, for residential TOU, CPP, and TOD rate codes.
		Customer usage analysis to determine changes in peak demand usage for associated business rates	Customer demand usage in kW	By usage group	DID	Yes.
	Energy Usage	Reduction in total energy usage	Overall kWh	By usage group	DID	Yes.
		Reduction in total energy usage by CEM high/low user groups that subscribe to alerts	Overall kWh	By usage group	DID	Yes, specifically for high usage alerts.
		Customer load shift comparative analysis pre-post CEM activation (yearly load profiles)	Load profile	By rate class	Comparative analysis	Yes, this includes all customers in the rate code for the baseline and post periods.
Cost-Effectiveness Measures	Service Cost Efficiencies	Changes in Customer Care Centre call volumes (by measurable usage group)	Call volume (transaction cost savings)	By usage group	DID	No, data not available for 2025 analysis.
		Changes in Customer Care Centre call length (by measurable usage group)	Average handle time (transaction cost savings)	By usage group	DID	No, data not available for 2025 analysis.
	Paperless Billing	Paperless billing uptake pre/post CEM activation (paperless billing subscription rate)	Paper bill volume cost savings	By usage group	DID	Yes.

In addition to these evaluation metrics, the unrealized impacts of the CEM for the period following the cyber incident (for customers who would have logged in had the CEM portal been accessible during that period) were also estimated. These estimates are indications of the impacts on customer energy consumption (savings) that may have occurred if customers had been able to access the CEM portal for that period. These estimated unrealized impacts fundamentally differ from evaluated impacts, and should instead be interpreted as directional estimates that are intended to provide information to stakeholders in the interim. Including estimated unrealized impacts in this report aims to:

- Partially fill the data gap created by the cyber incident, which prevented a full-year evaluation of CEM impacts, and provide a more complete overview of CEM's annual performance;
- Allow for continuity in the assessment of CEM;
- Place evaluated results for January to March 2025 into a broader annual context, thereby facilitating the interpretation of these partial-year results.

1 CEM Usage Overview

This section presents CEM login data and how they were used to establish groups of non-, low, and high CEM users for the Year 4 CEM evaluation.

1.1 CEM Login Data

Econoler analyzed the CEM login data with the objective of understanding the extent to which the CEM was used and the evolution of usage throughout the three-month evaluation period. It should be noted that the login data presented in this section are exclusively for customers for which consistent data were available for the complete evaluation period; for instance, customers who changed rate codes or account numbers and customers who had multiple premises were excluded from the analysis.

Figure 2 to Figure 5 below illustrate the variations by rate code in monthly logins between January 2025 and March 2025. These figures indicate that CEM logins slightly decreased from January to March (especially for residential CPP and TOU customers who have a higher tariff during winter).

Figure 2: 2025 Monthly CEM Logins for Residential Standard

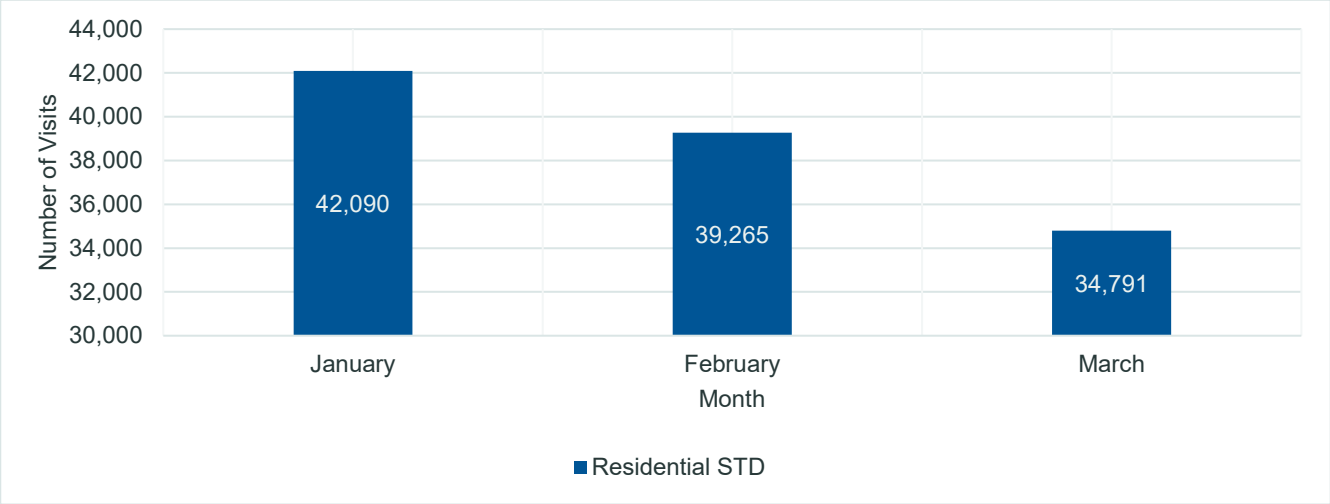


Figure 3: 2025 Monthly CEM Logins for Residential TOD

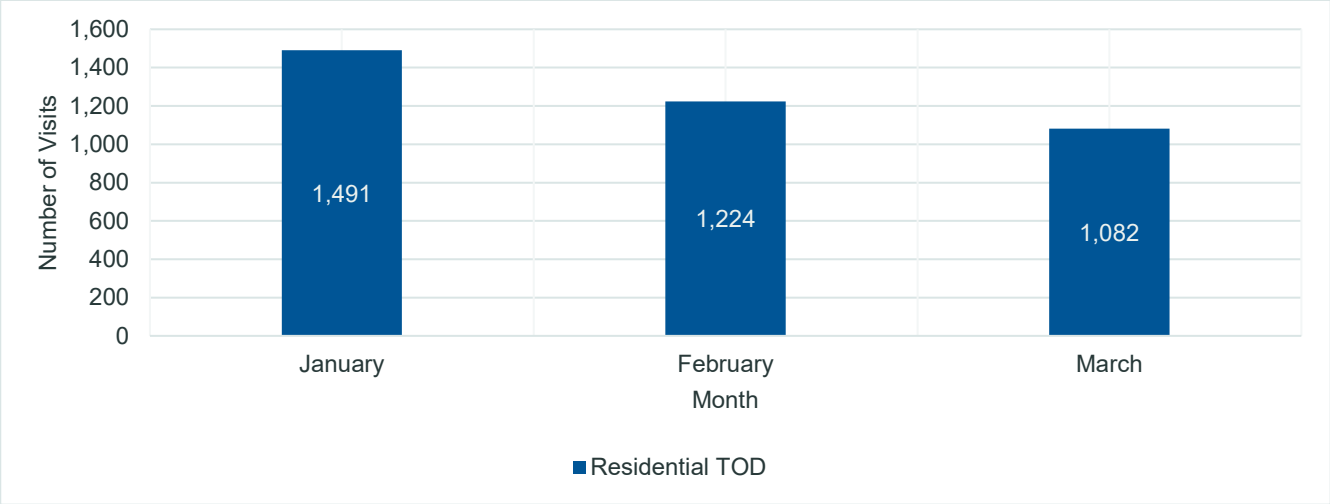


Figure 4: 2025 Monthly CEM Logins for Residential CPP and TOU

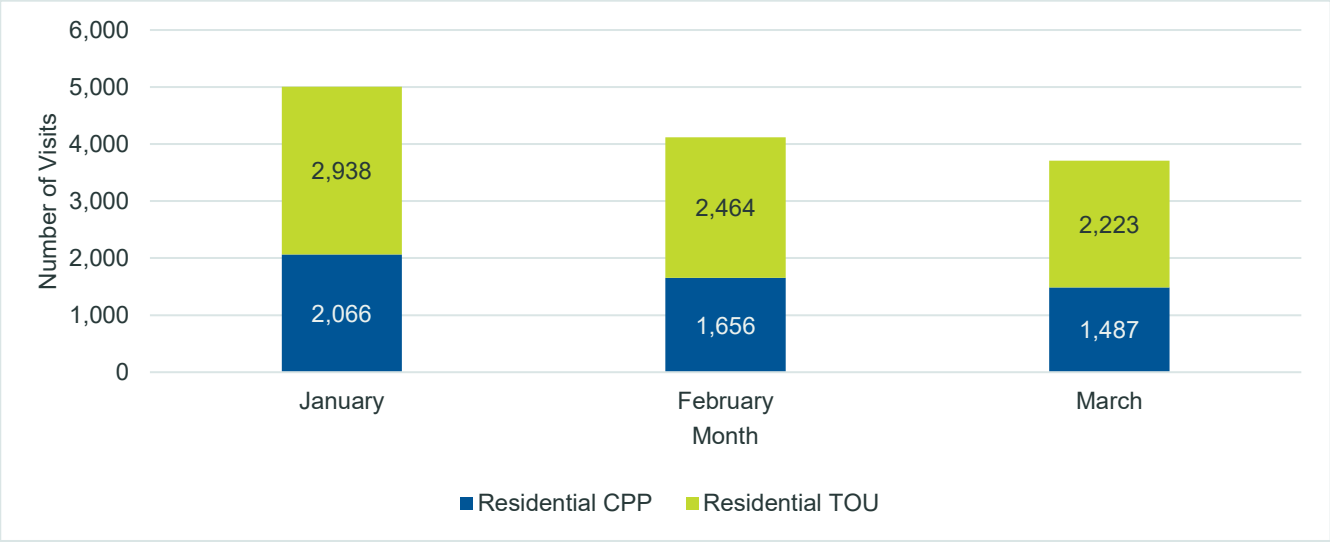
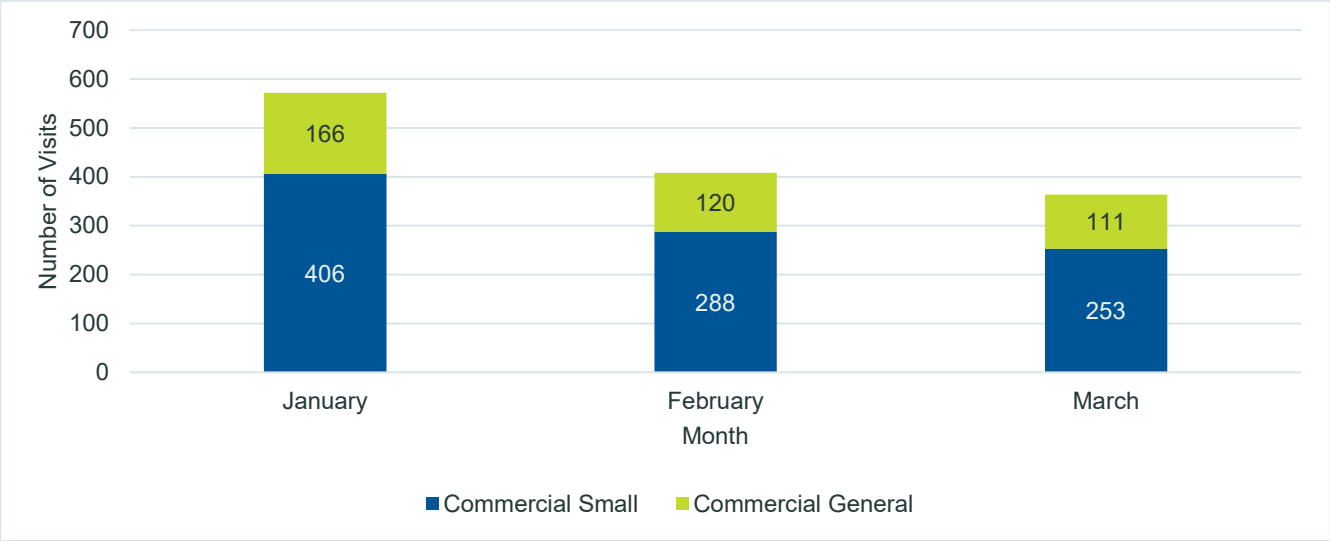


Figure 5: 2025 Monthly CEM Logins for Commercial General and Small General



Additionally, Table 2 and Table 3 below summarize the number of CEM eligible customers who had an activated CEM account, for residential and commercial customers respectively, along with the change between 2024 and 2025. The tables also show the distribution of the number of logins per customer from January to March 2025, along with 2024 values for those months for comparison. For 2024, totals over the full year are presented in parentheses.

Table 2: CEM Enrollment and Logins for Residential Customers in 2024 and 2025

Statistical Parameters	2024				2025			
	Standard	TOD	CPP	TOU	Standard	TOD	CPP	TOU
All Eligible Customers								
Total Number of Eligible Customers	397,996	9,866	801	2,058	441,606	11,052	2,680	5,837
Number of Customers with Activated CEM (Share of Eligible Customers)	256,897 (65%)	7,025 (71%)	794 (99%)	2,022 (98%)	263,310 (60%) +6,413*	7,488 (68%) +463*	2,470 (92%) +1,676*	5,282 (90%) +3,260*
Number of Customers Who Did Not Activate CEM (Share of Eligible Customers)	141,099 (35%)	2,841 (29%)	7 (1%)	36 (2%)	178,296 (40%)	3,564 (32%)	210 (8%)	555 (10%)
Customers Included in the Analysis								
Number of Customers Included in the Analysis	259,105	1,828	587	1,438	309,055	4,076	1,819	3,844
Number of Customers with Activated CEM	161,402	1,367	587	1,438	192,981	2,797	1,797	3,708
Number of Customers Who Did Not Activate CEM	97,703	461	0	0	116,074	1,279	22	136
Average Number of Logins – Jan-March [annual]**	0.3 [1.3]	0.8 [3.7]	3.5 [10.4]	1.9 [7.4]	0.4	0.9	2.9	2.0
Number of Customers Included in the Analysis with at Least 1 Login since Activation (percentage of customers included in the analysis)	80,027 (31%)	940 (51%)	531 (90%)	1180 (82%)	42,433 (14%)	921 (23%)	975 (54%)	1,847 (48%)
Number of Customers Included in the Analysis Who Did Not Log in (percentage of customers included in the analysis)	179,078 (69%)	888 (49%)	56 (10%)	258 (18%)	266,622 (86%)	3,155 (77%)	844 (46%)	1,997 (52%)
Number of Logins for Customers Included in the Analysis – January to March								
25% Quantile	0	0	0	0	0	0	0	0
50% Quantile	0	0	1	1	0	0	1	0
75% Quantile	0	0	3	2	0	0	2	2
90% Quantile	1	2	8	4	1	2	5	4
Maximum	63	63	63	61	90	88	80	90

*New CEM activations between December 2024 and March 2025.

**For 2024, the average for January to March is presented first, followed by the annual average in brackets.

As shown in the table above, residential TVP participants tend to use the CEM the most. The table also indicates a significant increase in the number of customers that activated the CEM. As of March 2025, the number of residential customers who had an activated account reached 278,550 (60% of eligible customer base), an increase of 11,812 compared with December 2024. Of all residential customers included in the analysis for 2025, 63% have an activated CEM account, and 23% of those logged in at least once in 2025 (representing 14% of all customers included in the analysis). Table 2 also compares 2024 CEM login data to 2025 data. The percentage of customers that did not log in significantly increased in 2025 compared to 2024 for all rate codes. In addition, only a small percentage of customers logged in more than once (i.e. the 75% quantile in some cases). The average number of CEM logins for residential customers increased for all rate codes in 2025 compared to 2024, except for Residential CPP.

Table 3: CEM Logins per Commercial Customer in 2024 and 2025

Statistical Parameters	2024		2025		
	General	Small General	General	Small General	MURB
All Eligible Customers					
Total Number of Eligible Customers	10,079	24,067	10,371	24,947	10
Number of Customers with Activated CEM (Share of Total)	7,260 (72%)	14,505 (60%)	7,664 (74%) +404*	15,473 (62%) +968*	3 (30%) +3*
Number of Customers Who Did Not Activate CEM (Share of Total)	2,819 (28%)	9,562 (40%)	2,707 (26%)	9,474 (38%)	7 (70%)
Customers Included in the Analysis					
Average Number of Logins – Jan-March [annual]**	0.07 [0.2]	0.05 [0.2]	0.07	0.06	0
Number of Customers Included in the Analysis	6,650	14,846	5,683	15,926	0
Number of Customers with Activated CEM	4,731	8,652	4,054	9,452	-
Number of Customers Who Did Not Activate CEM	1,919	6,194	1,629	6,574	-
Number of Customers Included in the Analysis with at Least 1 Login since Activation	805 (12%)	1,403 (9%)	257 (5%)	644 (4%)	-
Number of Customers Included in the Analysis Who Did Not Log in	5,845 (88%)	13,443 (91%)	5,426 (95%)	15,282 (96%)	-
Number of Logins for Customers Included in the Analysis – January to March					
25% Quantile	0	0	0	0	-
50% Quantile	0	0	0	0	-
75% Quantile	0	0	0	0	-
90% Quantile	0	0	0	0	-
Maximum	8	32	45	26	-

*New CEM activations between December 2024 and March 2025.
**For 2024, the average for January to March is presented first, followed by the annual average in brackets.

As shown in the table, commercial customers use the CEM significantly less than residential customers. As of March 2025, 23,140 commercial customers (66% of eligible customer base) had activated CEM, an increase of 1,375 compared to 2024. Of all commercial customers included in the analysis, 63% have an activated CEM account, and 4% of those logged in at least once in 2025. A vast majority of customers never logged into the CEM more than once in 2025. And while three of the ten MURB customers eligible for CEM had an activated account, none of them logged in; therefore, none were included in the analyses.

1.2 Usage Level Definition

The CEM usage level for each month is defined using a metric named MDef3, which is calculated as the sum of logins for the two previous months. This metric was identified as correlating the most with observed savings for all participants in the Year 2 CEM evaluation.

Table 4 below lists the thresholds used to determine whether CEM users were low or high users for a given month according to their rate code.

Table 4: CEM Usage Level Thresholds per Rate Code, Based on MDef3 Metric

Rate Code	Low CEM User Threshold	High CEM User Threshold
Residential Standard	≥1	≥2
Residential TOD	≥1	≥2
Residential CPP and TOU	≥1	≥3
Small General and General	≥1	≥2

To determine these thresholds, Econoler analyzed MDef3 logins for each rate code. For most rate codes, there was not a sufficient number of customers who had MDef3 logins above two to consider a higher threshold to define high CEM users. This was the case for Residential Standard, Residential TOD, and commercial rate codes, for which the threshold for high users was therefore set at two. Conversely, Residential CPP and TOU customers used the CEM more often; for these rate codes, the high CEM user threshold was set at three. Evaluation results are presented separately for low and high users wherever possible herein.

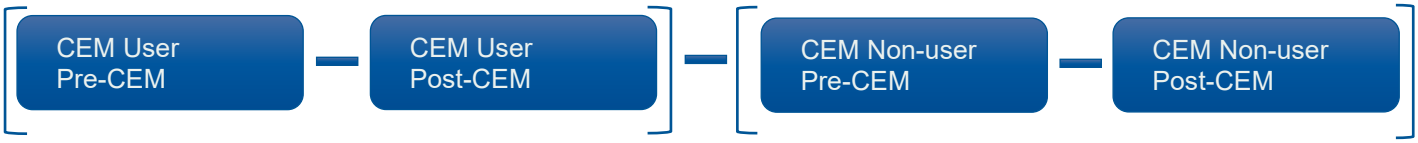
2 Evaluation Methodology

The EM&V Plan establishes a general methodology for measuring the impacts of the CEM platform. Econoler further refined that methodology before implementing it.

The EM&V Plan establishes how impacts will be estimated based on a difference-in-difference (DID) approach, meaning that, to obtain net impacts, the variation in electricity usage over time and cost-effectiveness metrics of CEM low and high users will be compared to the same variation over time of customers that did not use the CEM. The objective of this approach is to isolate variations that are linked to the usage of the CEM only. The EM&V Plan states:

"The high user group's bills in the post-CEM period will be compared to their bills pre-CEM period. For this example, the high users achieved five percent bill reductions during this period. The same comparison would also be done for the non-user group: they achieved three percent bill reductions between post-CEM and pre-CEM periods despite not having access to CEM. To calculate the bill impact of CEM for high users, three percent would be subtracted from five percent, leading to two percent savings that can be attributed to CEM."

This methodology requires that data points be collected and computed during the four following periods to calculate each metric (whether it be in kWh, kW, bill amounts, etc.):



In previous evaluations, the post period included all 12 months of the evaluation year (e.g. January to December of the evaluation year). In the Year 4 evaluation, the cyber incident reported by NS Power in April 2025 prevented customer access to the CEM from the end of April and into 2026. Additionally, AMI data has not been available for that period. Therefore, the post period for the evaluation is limited to January to March 2025.

In previous evaluations, the baseline period, or pre-CEM period, corresponded to the 12-month period immediately before the CEM was made available to customers, which varied depending on rate code since the CEM was not made available to all customers at the same time. For TVP Year 1 participants, the pre-CEM period was November 2020 to October 2021 (since the CEM was activated for all participants in November 2021). For non-TVP participants, including commercial participants, and TVP participants after the first cohort, the baseline period was between June 2021 and May 2022 since the CEM became available for those customers starting in June 2022. For the Year 4 evaluation, the pre-CEM period was aligned with the post period (January to March 2025) by matching calendar months in the pre and post periods. Therefore, for TVP Year 1 participants, the pre-CEM period was January 2021 to March 2021, while for non-TVP participants and TVP participants after the first cohort, the baseline period was between January 2022 and March 2022.

Monthly data points are obtained for both the metric being measured and the CEM usage level. By comparing one month at a time for each participant, weather variations as well as CEM usage variations from month to month are better isolated. Econoler also believes this approach should alleviate the concern of some stakeholders that the gradual increase in CEM usage would be lost by using a single date to define the baseline and post-CEM periods.

2.1 Available Data

NS Power provided the following data to calculate CEM impacts:

- CEM web user login information: Number of logins by month and by customer from November 2021 to March 2025.
- Monthly electricity consumption for each customer from November 2020 to March 2025 (in total kWh for all, kWh during peak periods for TVP and TOD customers, and peak demand charge for commercial customers).
- Identification of customers based on their rate code.
- Hourly temperature files for each weather station and identification of the weather station closest to each customer.
- Paperless billing uptake status for the entire year 2025 and paperless enrollment date (if applicable) for each customer.

In addition to NS Power data, Econoler obtained from EfficiencyOne a list of NS Power account numbers that took part in programs between 2020 and 2025. For each account, EfficiencyOne indicated the programs and the years in which customers participated. The programs for which data were available in sufficient quantity (i.e. more than 80% of EfficiencyOne program participants had an account number and were, therefore, included in the data) were: (1) Green Heat; (2) Home Energy Assessment; (3) Efficient Product Installation; (4) Appliance Retirement; (5) Appliance Replacement; (6) Business Energy Rebates (Application Rebates); (7) Small Business Energy Solutions; and (8) Custom. The EfficiencyOne program participation data were used to determine the CEM evaluation savings that should be attributed to increased participation in EfficiencyOne programs rather than to CEM usage. These savings attributable to increased participation in EfficiencyOne programs are referred to as confounding effects in this report and analyzed in Subsection 3.2 below.

2.2 User Definitions

CEM users for a given month are customers that meet the low or high CEM usage threshold as described in Subsection 1.2 above; those customers constitute the treatment group. Non-users constitute the pool of potential control group customers. Non-users are defined as CEM eligible customers that have not activated their CEM portal. These customers do not receive any alerts or communications on their energy usage beyond their electricity bill and, therefore, cannot be influenced by the CEM in any way.

This is the definition of non-users applied to all rate codes except for Residential TVP customers because the latter are part of a pilot, automatically have their CEM portal activated when they enroll in a TVP rate (whether they log in or not afterwards), and log into the CEM portal significantly more often than other rate code customers. The control group for Residential TVP customers would be too small if only customers that have not activated their CEM were included. Instead, the control group for these customers consists of Residential TVP customers who are non-users according to the login metric for each month (i.e. have not logged into the CEM for a given month). This is the same control group definition that was used in the Year 3 evaluation.

2.3 Comparison of CEM and TVP Evaluation Methodologies

The methodology used for the CEM evaluation differs from that used for the TVP evaluation, and savings measured for the CEM and TVP are not cumulative. The non-cumulative nature of these savings applies specifically to residential customers since CEM savings are not measured for commercial TVP customers. While both evaluations are based on a DID approach with treatment and control groups, the composition of these groups differ. For Residential TVP customers on the TOU rate, savings attributable to the CEM platform are measured by comparing TOU customers who are also CEM users (treatment group) with TOU customers who do not use CEM (control group). On the other hand, savings attributable to the TOU rate are measured by comparing customers on the TOU rate (treatment group) to customers not on the TOU rate (e.g. on the Residential Standard Rate). Additionally, reference (baseline) periods and post periods differ for the CEM and TVP evaluations. Although savings achieved by the CEM portal and TVP rates may overlap (e.g. savings achieved by a given TOU customer may be partly attributable to the CEM platform), it is not possible to distinguish the extent of this overlap given the differences in the methodologies used for each analysis. Therefore, CEM and TVP savings should not be combined and should be compared with care (e.g. CEM savings are not a subset of TVP savings). That being said, the objective of the analysis conducted for the CEM evaluation is primarily to determine if CEM usage helps achieve savings. In that light, the issues of overlapping savings and the comparability of results are not critical.

3 Control Group Selection

As part of the CEM Year 2 evaluation, Econoler concluded that performing the DID electricity consumption analysis on CEM users and using non-CEM users as a control group without applying further selection criteria primarily captures electrification, that is, an increase in electricity consumption that is due to customers replacing non-electrical heating systems with electrical ones.

Since increased electrification is probably not due to the CEM, a modified DID approach was used in the CEM Year 2, Year 3, and Year 4 evaluations to capture impacts on energy efficiency behaviour. This was accomplished in two ways: 1) Only CEM users that already used electrical space heating were considered; and 2) for customers on the Residential Standard Rate, the control group was obtained through a one-for-one match for each treatment customer by using the algorithm described in Subsection 3.1 below.

Residential TOD rate code customers were not matched one for one as the control and treatment groups were already very homogeneous and similar. For Residential TVP, it was not possible to match customers because most customers were in both the control and treatment groups, and this, in itself, ensured that the two groups were similar. Therefore, all Residential TVP control customers as defined in Subsection 1.2 above and that were electrically heated in both the baseline and post-CEM periods were considered for the control group. For the Commercial General rate code, the sample size was too small to add a cluster based on EfficiencyOne program participation; therefore, the clusters were limited to geographic area. For the Commercial MURB rate code, none of the 10 eligible customers logged into the CEM during the evaluation period, so no analyses were carried out for this rate code.

Table 5 lists the criteria applied to each rate code to identify customers that used electrical systems, and these criteria are the same as those used in previous evaluations.

Table 5: Criteria for Including Customers in the Analysis

Rate Code	Criteria for Including Customers in the Analysis
Residential Standard	Part of the highest third of electricity consumption (more than 11,400 kWh per year), electrical space heating in the baseline period and in the post period.
Residential TOD	No further criteria: Customers must heat electrically to be on the TOD rate code.
Residential TVP (CPP and TOU)	Electrical space heating in the baseline period and in the post period.
Small General	Electrical space heating in the baseline period and in the post period.
General	No further criteria: Sample size is small and most General rate customers do not heat electrically.
MURB	No criteria: No eligible customers used the CEM during the evaluation period.

Prior to the Year 4 evaluation, whether customers used electrical space heating in the baseline and post period was determined based on the ratio of January to June electricity consumption (minimum 1.2 to be considered electrically heated) as well as a minimum annual consumption threshold that was set at 4,824 kWh annually for residential customers and at 4,640 kWh annually for commercial customers. This approach could not be applied in the Year 4 evaluation because the electricity consumption for the month of June 2025 was not available. Instead, electrically heated customers during the post period were identified based on the magnitude of the correlation between electricity consumption and outdoor temperature (a strong negative correlation indicates higher consumption during colder periods, suggesting an electrically heated household. Low negative to positive correlation suggests non-electric heating). NS Power performed this analysis for all customers and then transmitted the results to Econoler. To maintain consistency, the approach was applied retroactively to the baseline period.

For the Residential Standard rate code analysis, only customers in the top third of electricity consumption (more than 11,400 kWh per year) were included. This approach was aimed at limiting the impact of any

incremental electrification that could occur in partially electrically heated households. This condition was not applied to rate codes other than Residential Standard as it would have overly reduced the sample size.

3.1 Control Matching Algorithm

This subsection describes the algorithm used to establish a matched control group for customers on the Residential Standard rate to gather customer load and energy usage metrics. As previously mentioned, only customers that used electrical space heating were considered for matching, and this was applicable to both control and treatment group customers. The treatment group for the Residential Standard rate code consisted of all customers identified as either low or high CEM users for at least one month during the post period. Each of these treatment customers was assigned a matched control customer using the following approach.

For each treatment customer, potential control customers were selected among the same cluster as that treatment; a cluster is a group of customers that share similar characteristics such as geographic location and participation in EfficiencyOne programs between their baseline and post periods.

Within the cluster of potential control customers for each treatment customer, control customers were matched to treatment customers based on a consumption similarity metric. This approach is similar to the one used to match control customers for the TVP evaluation. The consumption similarity metric measures the average difference between monthly consumption of the potential controls and each treatment customer in the baseline period. The potential control customer that has the smallest average difference is selected as the matched control for the given treatment customer. Econoler established a threshold for the consumption similarity metric above which the treatment customer match was considered not acceptable[1] and excluded those customers from further analysis; in all cases, this represented less than 1% of treatment customers. It should also be noted that a potential control customer can be selected as the best matched control for more than one treatment customer.

Table 6 presents the average number of customers included in the impact analysis after all data cleaning and control matching steps were performed.

Table 6: Average Number of Customers Included in Impact Analysis

Rate Code	Average Monthly Number of Customers Included in the Analysis		
	Control	Low	High
Residential Standard	10,076	7,455	4,072
Residential TOD	1,279	542	391
Residential CPP	442	337	212
Residential TOU	1,019	704	266
Commercial Small General	3,891	201	69
Commercial General	4,257	172	39

[1] The maximum value for the similarity metric, which is based on the mean absolute deviation between monthly consumption of the control and treatment customers in the baseline period, was set at 0.5.

3.2 Confounding Effects

Confounding effects refer to the CEM evaluation savings that should be attributed to increased participation in EfficiencyOne programs rather than to CEM usage.

Econoler calculated the sum of the savings achieved through the programs for each customer based on the annual average savings per participant for each program obtained from EfficiencyOne annual evaluation reports. This allowed for a more precise assessment since not all programs result in the same level of savings per participant.

Econoler considered the sum of EfficiencyOne savings over the entire period between the baseline and post periods. Indeed, when comparing the post period electricity consumption to that of the baseline period, it is expected that the post period consumption should be lower than the baseline consumption by at least the sum of the EfficiencyOne program savings over the period between the baseline and post periods. For instance, for a customer for which we compare the electricity consumption in the month of January 2025 (post) to the electricity consumption in January 2022, EfficiencyOne savings from 2022 to 2024 should impact post consumption in January 2025. Annual EfficiencyOne savings were divided by 12 to obtain monthly savings for that customer.

EfficiencyOne program savings are captured in the CEM evaluation when the sum of EfficiencyOne savings between the end of the baseline period and the post period is higher or lower for treatment customers than for control customers. If control customers had participated in EfficiencyOne programs at an equal level as treatment customers between the baseline and post periods, the reduction or increase in energy consumption due to EfficiencyOne program participation would have been automatically captured through the DID approach. This is not the case when treatment and control customers participate in EfficiencyOne programs at different rates, hence why confounding effects are treated separately from the DID approach in the CEM evaluation. For each rate class and each month, Econoler calculated the difference in EfficiencyOne savings (summing all savings between the baseline and post periods) between the treatment and control customers. This differential was then deducted from the savings measured through the DID approach to ensure no EfficiencyOne savings were included in this CEM evaluation. While the differential was initially calculated in kWh, Econoler also estimated the differential in dollars to be subtracted from the bill impacts as well as in kW to be subtracted from peak load impacts (assuming a steady level of savings throughout the year and dividing by 8,760 hours).

4 Evaluation Results

The evaluation results presented below first relate to customer load and energy usage savings and then to cost-effectiveness measures. To eliminate the impacts of electrification as much as possible, the results are presented only for the subset of selected customers as described in Section 3.

4.1 Customer Load and Energy Usage

This subsection summarizes customer load and energy usage savings per customer for residential and commercial rate codes for the period of January to March 2025. Table 7 and Table 8 below include residential load savings for morning and evening peaks (for all rate codes that have peak pricing), while Table 9 further below presents commercial peak demand charge[2] savings. In all tables, values that are not statistically significant are in grey (i.e. values for which the confidence interval at 90% includes a nil value, in other words, values for which the absolute value of the margin of error is larger than the absolute value of savings). Statistical significance indicates whether the effect of CEM can be distinguished from externalities and random consumption variations at the selected confidence level. While statistically non-significant results mean that the analyses could not distinguish the effect of CEM from externalities and random effects, they do not mean that CEM has no effect on customers' energy consumption behaviour and these results can still provide an approximate scale of the CEM effect.

Table 7: Summary of Customer Load and Energy Usage Savings - Residential

Rate Code	CEM Usage Level	Post Period Energy Usage Savings (kWh)		Average Load Savings During Morning Peak (kW)		Average Load Savings During Evening Peak (kW)		Post Period Bill Savings ($)	
		Value	Margin of Error	Value	Margin of Error	Value	Margin of Error	Value	Margin of Error
Residential Standard	Low	22	± 35					4	± 6
	High	40	± 32					7	± 5
Residential TOD	Low	-48	± 148	-0.011	± 0.065	-0.055	± 0.065	14	± 36
	High	195	± 122	0.047	± 0.063	0.057	± 0.064	28	± 16
Residential CPP	Low	36	± 157	0.286	± 0.086	0.252	± 0.359	20	± 28
	High	-76	± 181	0.875	± 0.103	0.776	± 0.370	42	± 37
Residential TOU	Low	89	± 107	0.060	± 0.034	0.058	± 0.032	29	± 37
	High	-28	± 162	0.118	± 0.054	0.096	± 0.057	22	± 32

High users under the Residential Standard and Residential TOD rate codes achieved statistically significant energy usage savings with TOD customers seeing the greatest reductions. All users on the Residential CPP and TOU rate codes demonstrated statistically non-significant energy savings. On the other hand, all users on TVP rates achieved statistically significant load savings during both morning and evening peaks, except for evening peaks for Residential CPP low users[3]. It should also be noted that load savings during peak were higher for customers on the CPP rate code compared to the TOU rate code. This suggests that, while overall energy consumption may not decline, CPP customers are actively shifting their usage away from peak

[2] The peak demand charge corresponds to the monthly maximum kW demand over 15-minute periods as recorded by NS Power.
[3] For CPP load savings, only months that included either morning or evening peak events in both the pre and post periods were included in the analysis.

periods during CPP events. Annual bill impacts are a mix of statistically significant and non-significant positive savings.

Care should be taken when interpreting energy and bill savings presented above, as they only reflect impacts for the period of January to March 2025 and therefore do not include variations in savings across the entire year. Indeed, based on previous CEM evaluations, energy and bill savings tend to not be uniformly distributed throughout the year.

Table 8 below presents the same metrics in relative terms. To obtain the percentage of savings, the savings calculated in Table 7 above were divided by the annual consumption, average peak load, and annual bill of the treatment group in the baseline period.

Table 8: Relative Customer Load and Energy Usage Savings - Residential

Rate Code	CEM Usage Level	Post Period Energy Savings (%)	Morning Peak (kW)	Evening Peak (kW)	Post Period Bill Savings ($)
Residential STD	Low	0.32%			0.32%
	High	0.58%			0.57%
Residential TOD	Low	-0.56%	-0.14%	-0.64%	1.14%
	High	3.31%	0.62%	0.71%	2.34%
Residential CPP	Low	0.63%	2.05%	1.67%	2.29%
	High	-1.47%	6.88%	6.04%	5.30%
Residential TOU	Low	2.14%	0.49%	0.47%	3.80%
	High	-0.67%	1.45%	1.19%	2.86%

Table 9 below summarizes the results for commercial rate codes. All statistically significant results showed negative savings, except for peak demand charge savings for low users under the Commercial General rate code.

Table 9: Summary of Customer Load and Energy Usage Savings - Commercial

Rate Code	CEM Usage Level	Post Period Average Energy Usage Savings (kWh)		Average Peak Demand Charge Savings (kW)		Average Post Period Bill Savings ($)	
		Value	Margin of Error	Value	Margin of Error	Value	Margin of Error
Commercial General	Low	-590	± 442	0.31	± 0.26	92	± 139
	High	-1,688	± 814	-0.20	± 0.17	-276	± 164
Commercial Small General	Low	-300	± 158			-47	± 31
	High	109	± 154			-17	± 24

The evaluation results for high and low users under the Commercial General code and for low users under the Commercial Small General rate code appear to be statistically significant, but they result in negative energy savings. Econoler suspects that some electrification (heating and non-heating related) may still be captured by the analysis even though only customers identified as electrically heated in both the baseline and post periods were considered in the analysis. Ideally, only customers consuming high levels of electricity would have been considered (as was the case for the Residential Standard rate code), but the relatively small sample of available CEM users in the Commercial rate codes made this option impractical.

The following subsections present further details and example visualizations of the metrics particularly for residential rate codes whose results were conclusive. Appendix II contains graphs for all metrics and rate codes.

4.1.1 Energy Usage

The two figures below illustrate the energy usage savings achieved by residential rate code customers that are high CEM users (low users exhibit a similar pattern and corresponding graphs are provided in Appendix II). In previous years, Standard and TOD customers generated savings during winter, while their savings were negative during summer, which was aligned with an increased uptake of heat pumps for the treatment group in the post period compared to the baseline period and the control group. However, this pattern could not be observed in Year 4 due to the evaluation period being limited to January – March 2025. Overall, winter savings in Year 4 were lower than in Year 3 for Standard and TOD rate codes.

Figure 6: Monthly Energy Usage Savings, Residential Standard – High Users

Figure 7: Monthly Energy Usage Savings, Residential TOD – High Users

The four figures below illustrate the energy usage savings achieved by TVP rate code customers that are both high and low CEM users. In previous years, TVP customers demonstrated relatively steady levels of savings throughout the year – those savings were generally not statistically significant for individual months. This pattern was observed again for winter months in the Year 4 evaluation. It should be noted that the confidence interval is broad for TVP rate codes due to the smaller sample sizes.

Figure 8: Monthly Energy Usage Savings, Residential CPP – High Users

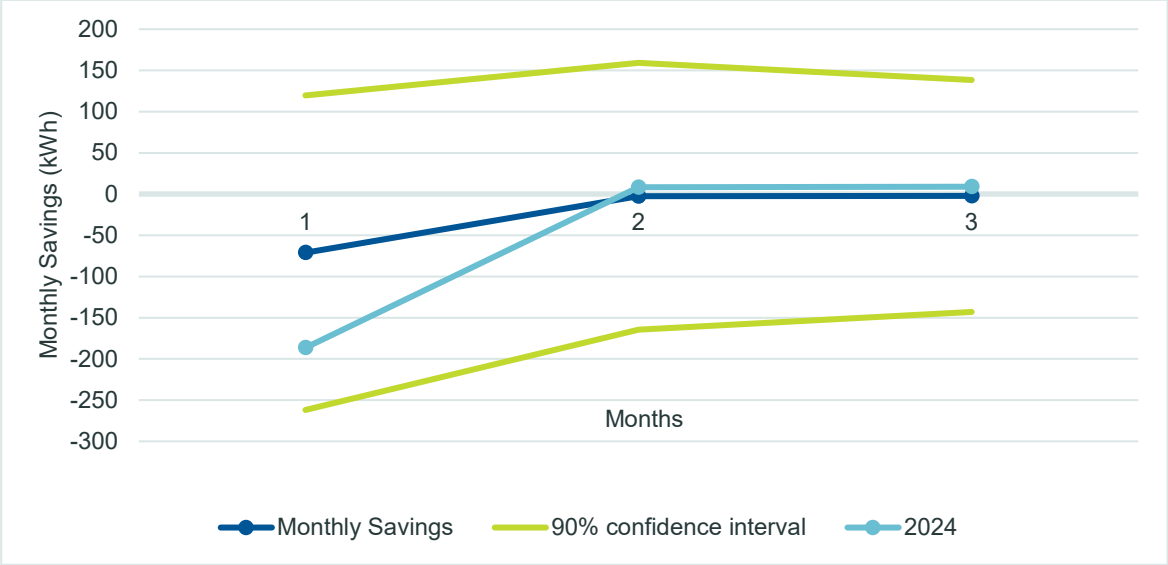


Figure 9: Monthly Energy Usage Savings, Residential CPP – Low Users

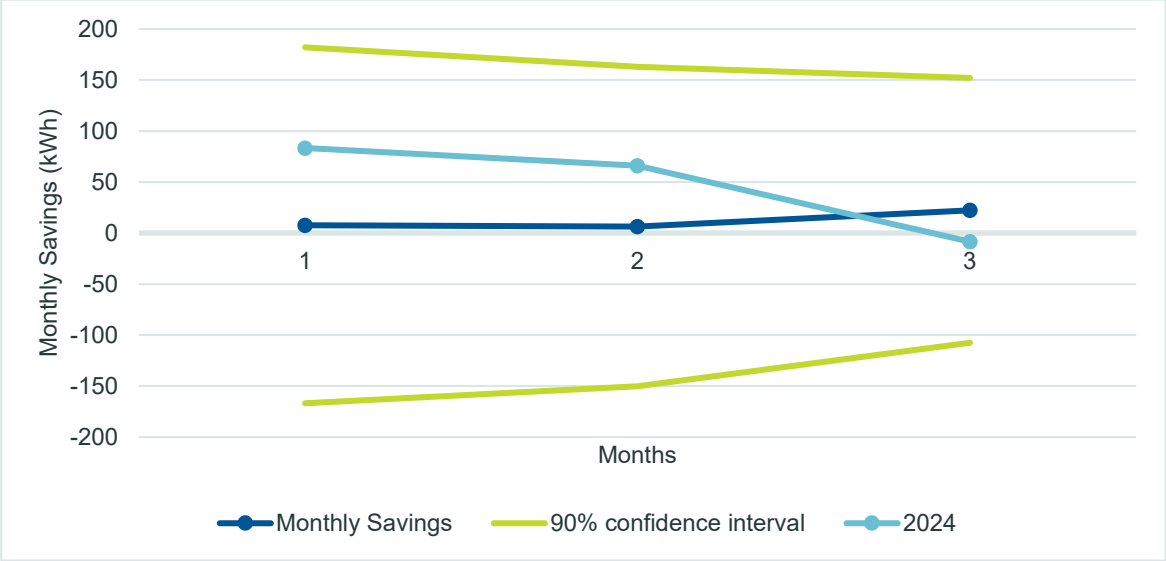


Figure 10: Monthly Energy Usage Savings, Residential TOU – High Users

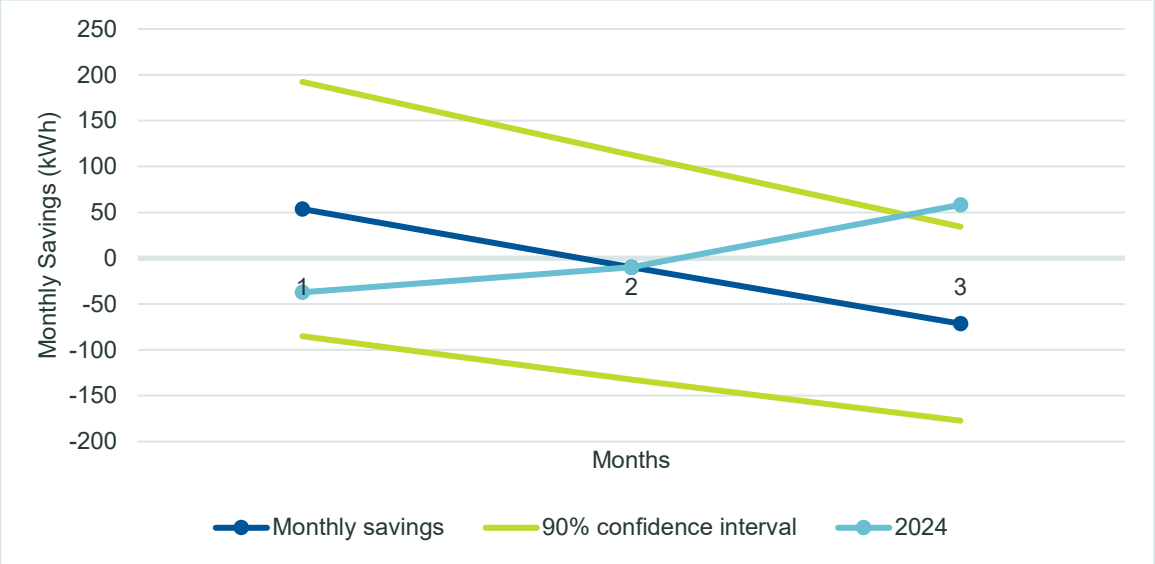


Figure 11: Monthly Energy Usage Savings, Residential TOU – Low Users

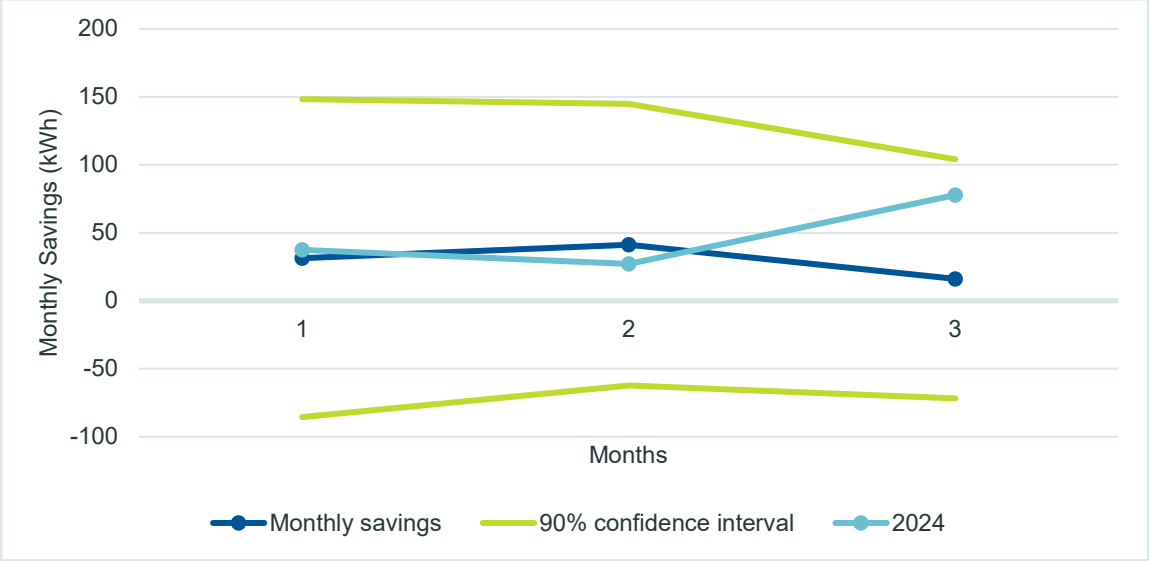


Figure 12 and Figure 13 below illustrate the energy usage savings achieved by commercial rate code customers that are high CEM users. High users under the Small General rate code were the only subset of commercial customers who had overall positive energy savings, but these savings did not reach statistical significance. It should be noted that, for larger commercial customers, CEM is likely a much less impactful energy consumption driver, especially compared with other important factors such as operations or production needs.

Figure 12: Monthly Energy Usage Savings, Commercial Small General – High Users

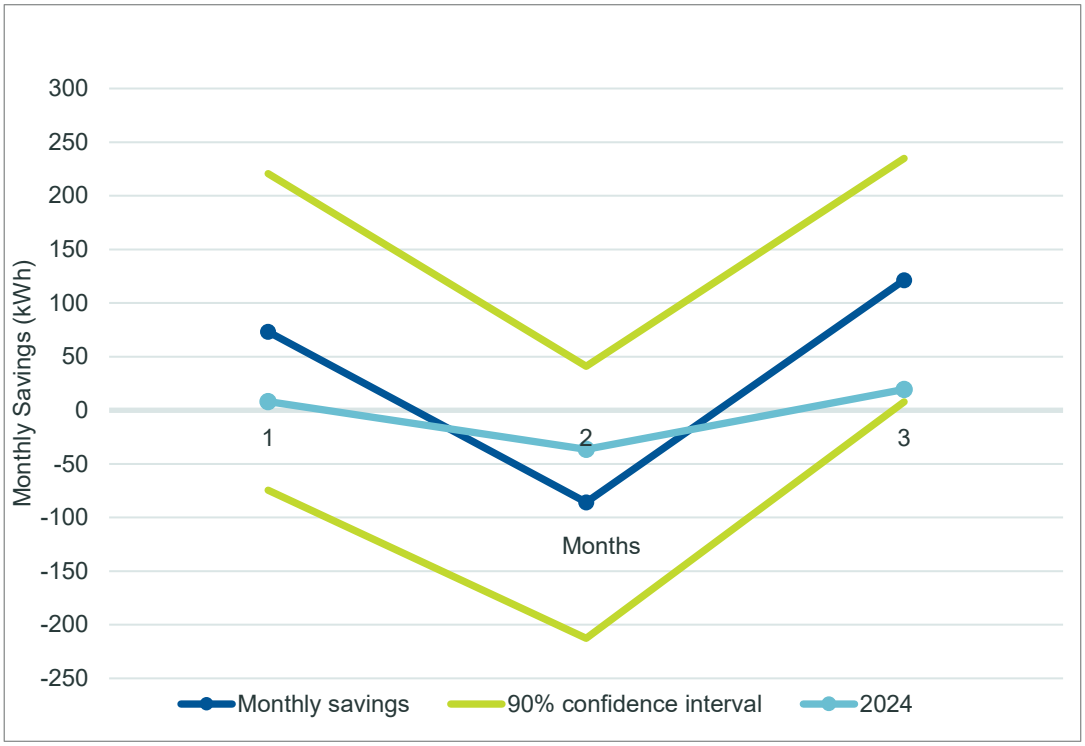


Figure 13: Monthly Energy Usage Savings, Commercial General – High Users

4.1.2 Load Savings During Peak Periods

Load savings during peak periods are generally close to zero on average over the winter peak period and a mix of statistically significant and non-significant results. Figure 14 and Figure 15 below illustrate an example of average monthly load savings during morning peaks for TOU high and low users respectively. CPP high users exhibit statistically significant savings of approaching 1 kW for morning and evening peaks. Corresponding graphs are presented in Appendix II.

Figure 14: Average Monthly Load Savings During Morning Peak, Residential TOU – High Users

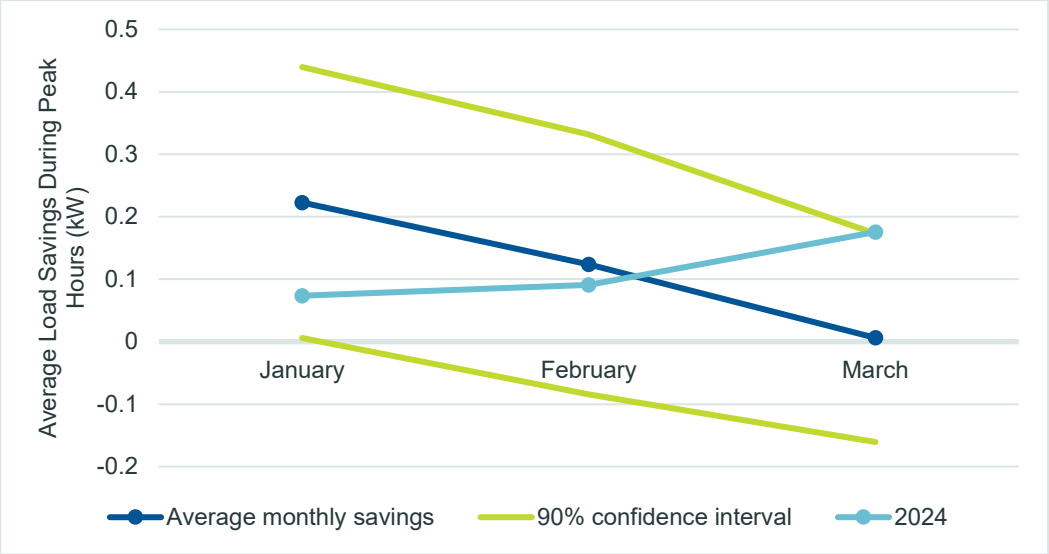
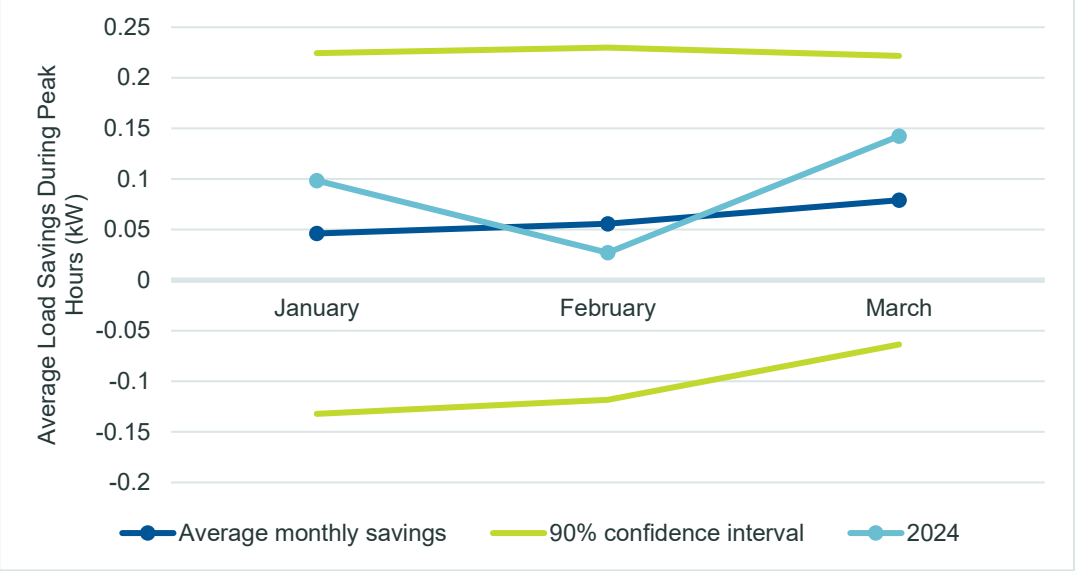
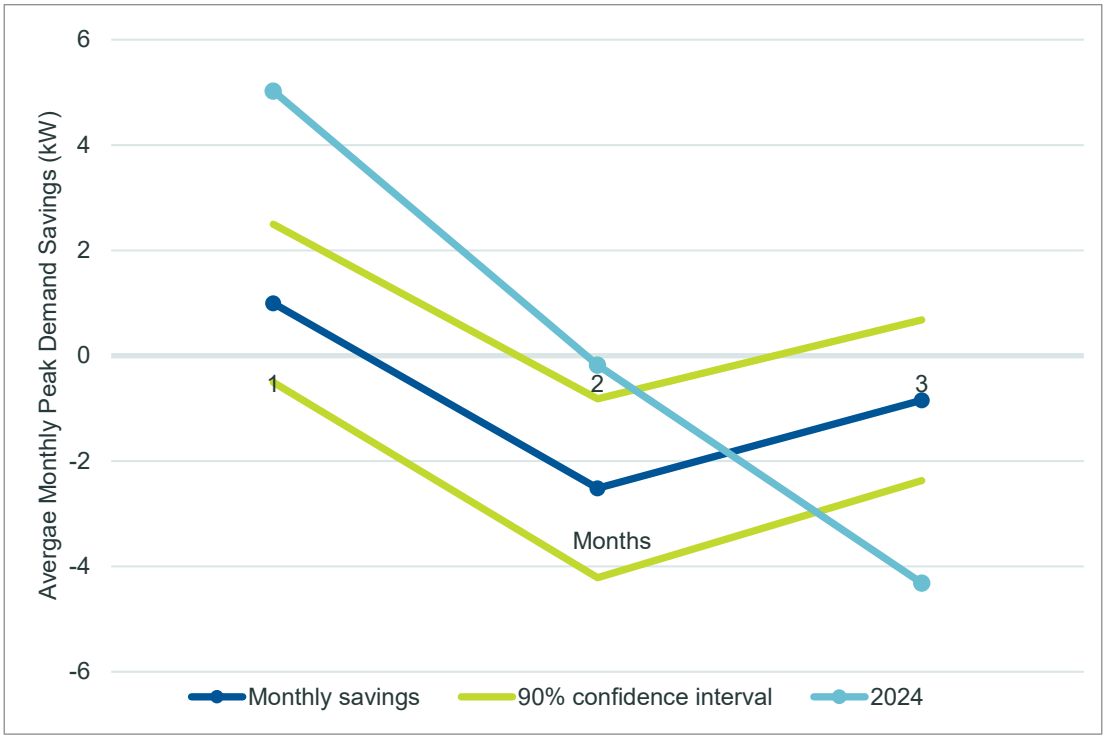


Figure 15: Average Monthly Load Savings During Morning Peak, Residential TOU – Low Users



For Commercial General customers, load savings were measured for the monthly peak demand. Figure 16 below illustrates that these load savings are usually near zero and generally remain between the confidence interval, which corresponds to statistically non-significant savings.

Figure 16: Average Monthly Peak Demand Savings, Commercial General – High Users



4.1.3 Billing Impacts

For residential customers, billing impacts are generally positive when energy usage savings are positive. For Residential Standard rate and Commercial Small General customers, the bill impacts follow the same pattern as energy savings since kWh are billed at a fixed rate. For customers not on the Standard rate code, load during peak period also plays a role; therefore, CPP high users have statistically significant bill impacts even if energy usage savings are negative and statistically non-significant. Billing impacts for TOU high users and CPP high users are illustrated in Figure 17 and Figure 18 below.

Figure 17: Monthly Bill Savings, Residential TOU – High Users

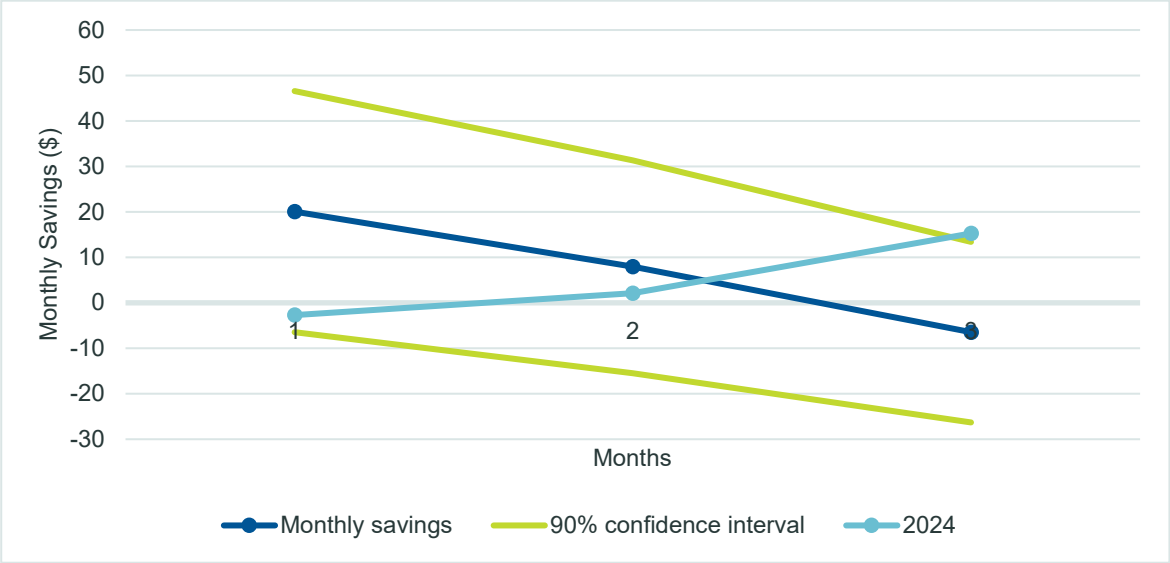
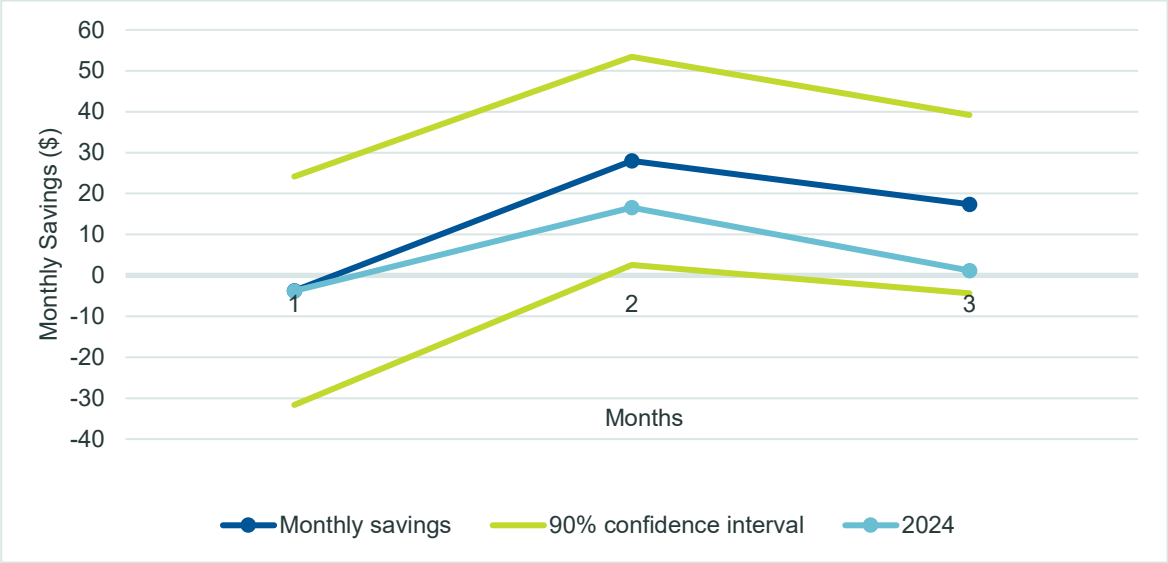


Figure 18: Monthly Bill Savings, Residential CPP – High Users



4.1.4 Alert Impacts

Econoler sought to determine if the CEM high and low user groups that subscribe to alerts achieved higher savings than those who do not subscribe to alerts. This analysis was performed for the high bill alert only, the only alert for which there was a sufficient number of customers in both the "subscribed" and "not subscribed" groups for some rate codes; the Residential Standard and Residential TOD rate codes were analyzed, while the other residential rate codes and the commercial rate codes were not. The DID approach was performed on both subscribed and not subscribed customers, and the difference in monthly energy usage savings was established as presented in Figure 19 to Figure 21[4] below.

[4] For customers on the Residential TOD rate code, there were some months for which there were no customers in the "not subscribed" group, making the comparison impossible for those months. This was the case for the month of March for low users (only two data points shown on the graph), and for the months of January and February for high users (graph not presented given that only one data point exists).

As illustrated in the figures, the patterns of additional monthly savings due to high bill alert subscription are not consistent and not statistically significant; some values are positive while others are negative. This is primarily due to the small number of customers that are included in the non-subscribed group; less than 5% of customers are not subscribed to high-bill alerts.

Figure 19: Additional Savings for Customers Subscribed to High Bill Alerts, Residential Standard – High Users

Figure 20: Additional Savings for Customers Subscribed to High Bill Alerts, Residential Standard – Low Users

Figure 21: Additional Savings for Customers Subscribed to High Bill Alerts, Residential TOD – Low Users

4.1.5 Load Shift Analysis

The EM&V Plan requires a comparative analysis of the annual energy usage load shape be performed to determine if noticeable changes occurred following the introduction of the CEM. Therefore, Econoler calculated the average electricity consumption of all customers within each rate code for the baseline and post periods.[5] For all rate codes, the curves are very similar for both periods, as illustrated in by Figure 22 to Figure 27 below. A comparison of the two curves captures any differences between the two years, including weather and level of economic activity. Hence, Econoler does not recommend using this comparative analysis to issue conclusions on the effect of the CEM portal on electricity consumption.

Figure 22: Monthly Electricity Consumption in the Baseline and Post Periods – Residential Standard

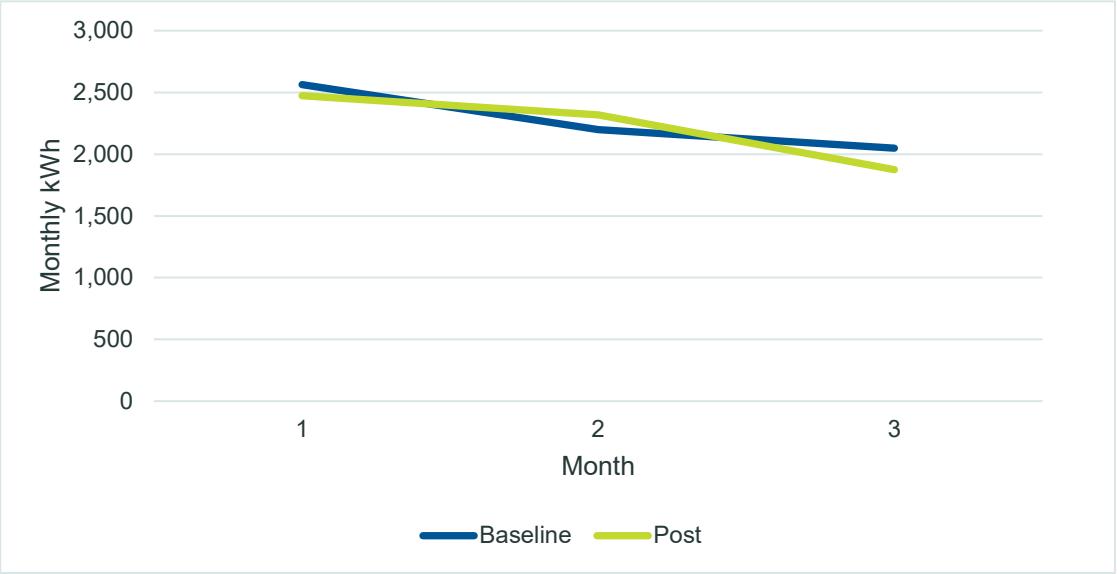
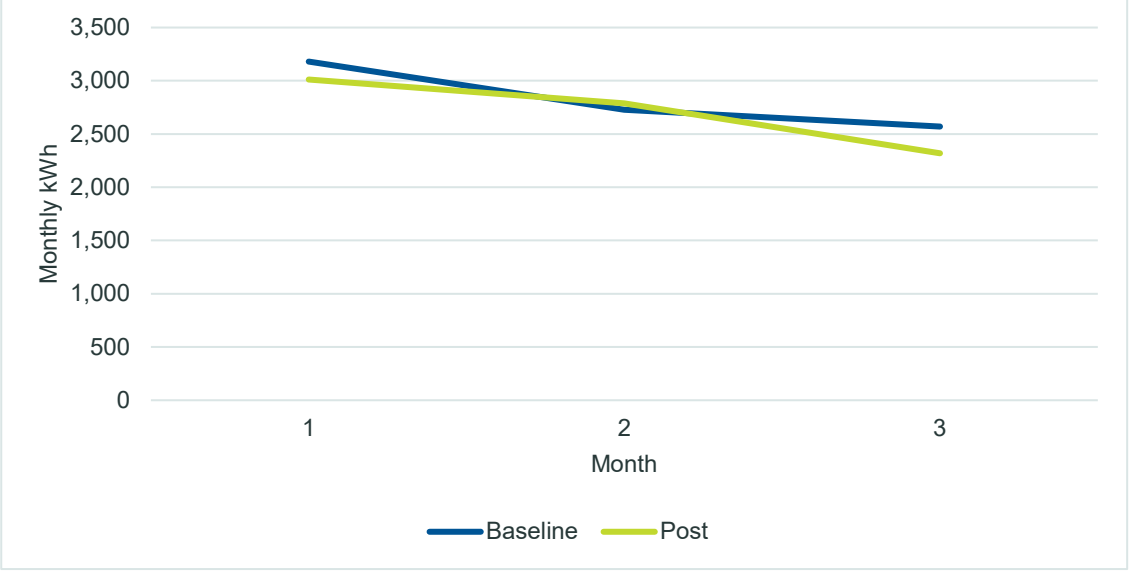


Figure 23: Monthly Electricity Consumption in the Baseline and Post Periods – Residential TOD



[5] The post period includes January to March 2025, while the baseline period varies per rate code (see details in Section 2).

Figure 24: Monthly Electricity Consumption in the Baseline and Post Periods – Residential CPP

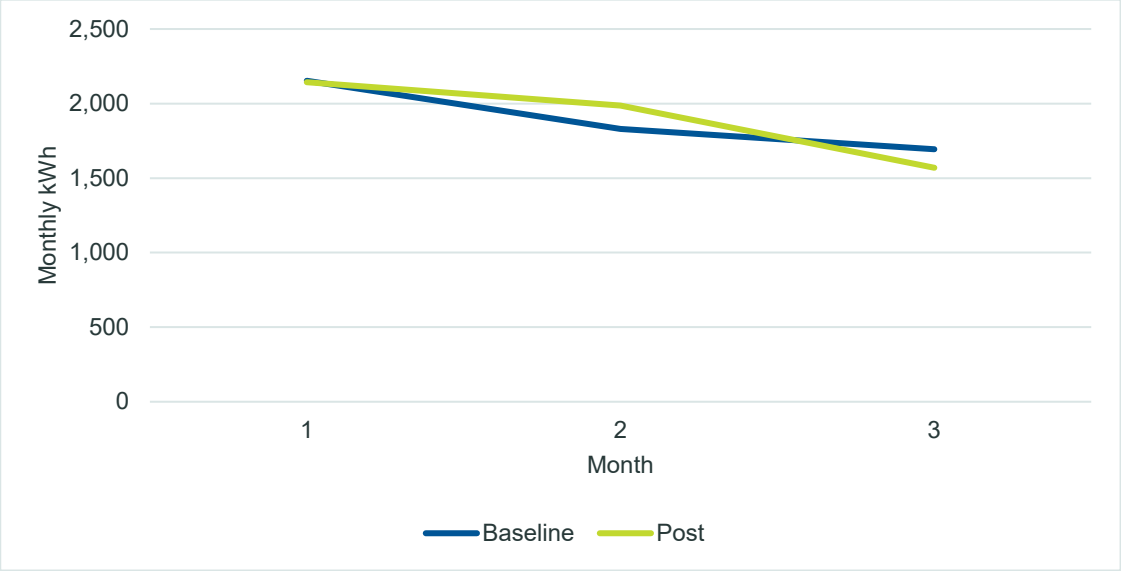


Figure 25: Monthly Electricity Consumption in the Baseline and Post Periods – Residential TOU

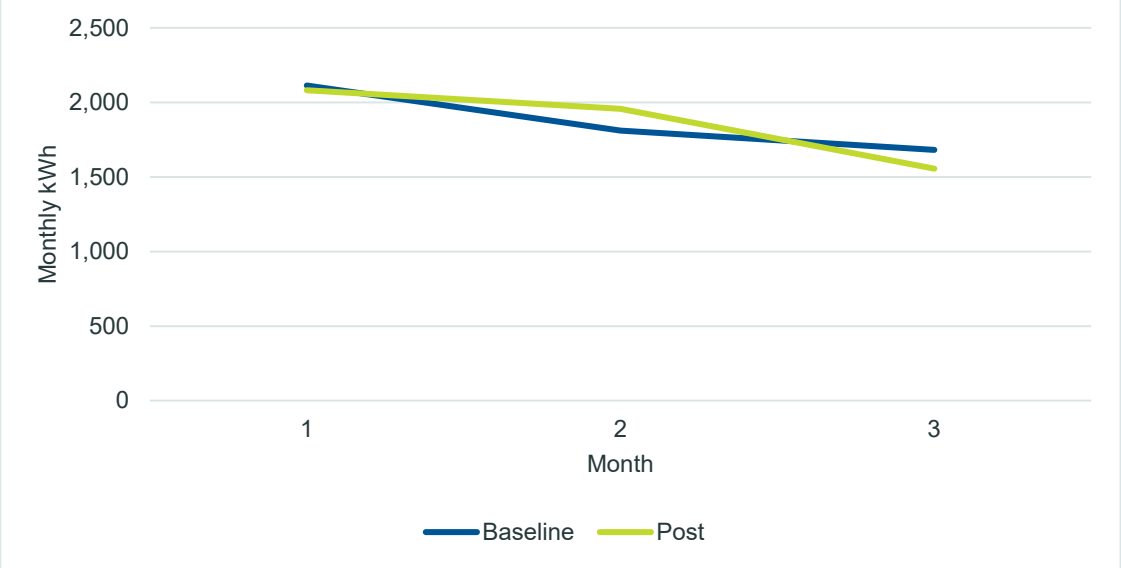


Figure 26: Monthly Electricity Consumption in the Baseline and Post Periods – Commercial General

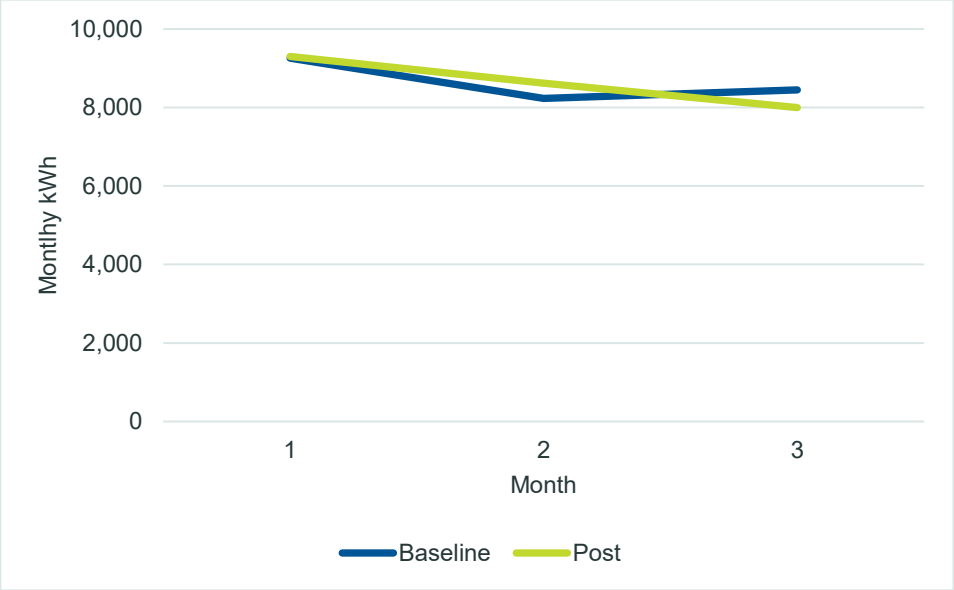
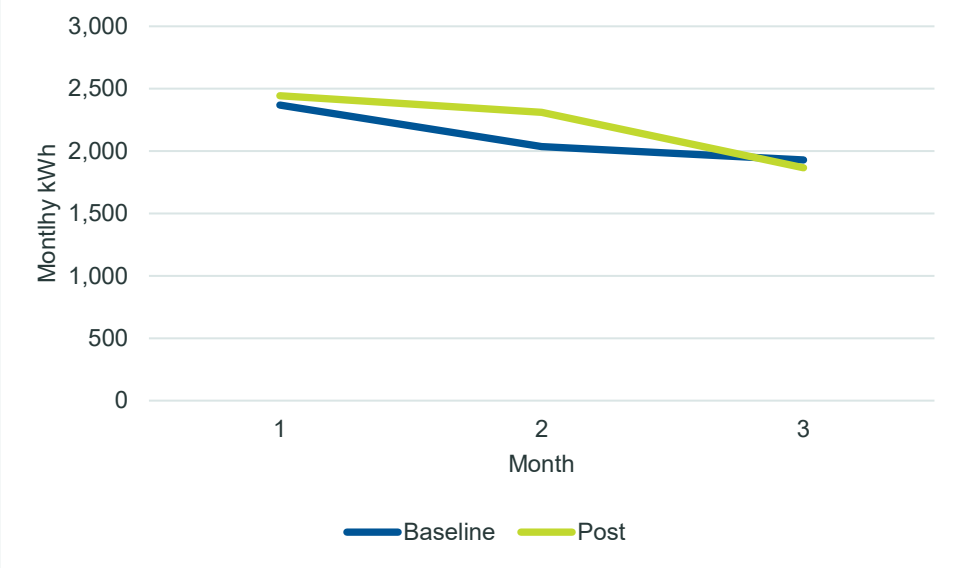


Figure 27: Monthly Electricity Consumption in the Baseline and Post Periods – Commercial Small General



4.2 Cost-effectiveness Measures

This subsection presents the results for cost-effectiveness measures.

4.2.1 Service Cost Efficiencies

Service cost efficiency metrics, which include changes in Customer Care Center call volumes and length, were not evaluated since these data were not available for all 12 months in 2025.

4.2.2 Paperless Billing

To determine the impact of the CEM on the uptake of paperless billing, Econoler compared the percentage of customers that used paperless billing in the baseline period and then in the post period. Given that paperless billing subscription data were available for the entire year 2025, the baseline and post periods were not limited to the January to March period as was the case for load and energy usage analyses. For TVP Year 1 participants, the baseline corresponds to November 2020 to October 2021 (since the CEM was activated for all participants in November 2021). For non-TVP participants and TVP participants after the first cohort (Years 2, 3, and 4), the baseline period is between June 2021 and May 2022 since the CEM became available for those customers starting in June 2022.

Econoler also compared the paperless billing uptake at the end of the baseline period to the expected percentage of customers using paperless billing at the end of the post period, had the annual paperless billing uptake increase continued linearly between the end of the baseline period and the end of the post period. To calculate the expected percentage of paperless billing uptake, Econoler used the annual increase during the baseline period and multiplied it by the number of years between the end of the baseline and the post periods (3.58 years for all rate codes except Residential TVP for which a period of 4.17 years was used). These figures are presented in Table 10 below.

It should be noted that only CEM eligible customers were included in this analysis, and the percentages of CEM eligible customers presented in the table below might not be aligned with the percentage of paperless billing uptake among NS Power's entire customer base.

Table 10: Percentage of CEM Eligible Customers Using Paperless Billing

Rate Code	End of Baseline Period		End of Post Period (December 2025)	
	% of Paperless Billing	Annual Increase in % of Paperless Billing over Baseline Year	% of Paperless Billing	Expected % of Paperless Billing if Annual Increase During Baseline Period Had Been Maintained[6]
Residential Standard	40.9%	4.6%	56.3%	57.3%
Residential TOD	55.1%	4.3%	68.3%	70.5%
Residential CPP	71.5%	6.5%	90.3%	94.6%
Residential TOU	68.4%	6.8%	87.0%	92.9%
Commercial Small General	45.8%	3.2%	51.3%	54.1%
Commercial General	60.0%	3.5%	64.3%	68.9%

In both the baseline and post periods, paperless billing uptake varies considerably between rate codes. TVP pilot participants are most likely to use paperless billing, whereas commercial customers are less likely to do so, especially Commercial Small General rate code customers.

Overall, paperless billing adoption increased across all rate codes, with the highest uptake observed among residential TVP customers. Indeed, Residential CPP and TOU customers showed the strongest performance, reaching 90.3% and 87.0% adoption respectively, reflecting both high baseline participation and rapid growth in paperless billing uptake. These trends suggest that residential customers, particularly those on TVP rates, are more engaged with digital tools such as paperless billing than their commercial counterparts.

To better understand the variations in paperless billing uptake, customers were divided into three groups for the post period: Those who had not activated their CEM; those who had activated their CEM and did not use it; and those who had activated their CEM and used it. The detailed results are presented in Table 11 below.

[6] Projections are made assuming linear trends and are included here to put the percentage of paperless billing (end of post period) into perspective. Actual uptake trends are likely not linear.

Table 11: Percentage of 2025 CEM Eligible Customers Using Paperless Billing per CEM Status

Rate Code	Non-activated CEM		Activated CEM, Not Used		Activated CEM, Used		Overall	
	% of Paperless Billing	% of Rate Code Customers	% of Paperless Billing	% of Rate Code Customers	% of Paperless Billing	% of Rate Code Customers	% of Paperless Billing	% of Rate Code Customers
Residential Standard	6.3%	40.4%	71.3%	15.2%	96.5%	44.4%	56.3%	100.0%
Residential TOD	9.7%	32.2%	93.1%	6.6%	96.4%	61.2%	68.3%	100.0%
Residential CPP	8.6%	7.8%	87.3%	2.9%	97.6%	89.2%	90.3%	100.0%
Residential TOU	14.4%	9.5%	59.1%	4.9%	96.7%	85.6%	87.0%	100.0%
Commercial Small General	8.2%	38.0%	81.6%	39.4%	85.0%	22.7%	54.5%	100.0%
Commercial General	14.6%	26.1%	86.0%	48.1%	88.6%	25.8%	68.0%	100.0%

In 2025, paperless billing uptake was particularly high among customers who activated the CEM, and generally even more so for customers who used the CEM compared to those who did not. The difference in paperless billing uptake between customers who used CEM and those who did not is greatest for Residential TOU customers. Customers who had not yet activated CEM in 2025 overwhelmingly still used paper billing, indicating that CEM activation is likely correlated with high paperless billing uptake. Overall, results presented in Table 11 suggest a significant correlation between CEM activation and paperless billing uptake.

5 Estimated Unrealized Impacts for April to December 2025

While it was not possible to evaluate CEM impacts for April to December 2025, Econoler estimated the unrealized CEM impacts for that period. These estimates are an indication of the impacts on customer energy consumption (savings) that could have occurred if customers had been able to access the CEM portal for that period. These estimated unrealized impacts fundamentally differ from evaluated impacts, and should instead be interpreted as directional estimates that are intended to provide information to stakeholders in the interim. Including estimated unrealized impacts in this report aims to:

- Partially fill the data gap created by the cyber incident, which prevented a full-year evaluation of CEM impacts, and provide a more complete overview of CEM's annual performance;
- Allow for continuity in the assessment of CEM;
- Place evaluated results for January to March 2025 into a broader annual context, which help in interpreting these partial-year results.

To estimate the unrealized CEM energy usage impacts for the April to December 2025 period, Econoler compared evaluated results for the January to March 2025 period with those of the same three-month period in 2024 to calculate a weighted average ratio of 2025-to-2024 results. The ratio obtained was then applied to the evaluated monthly impact results for the April to December 2024 period to provide an indicator of estimated unrealized impacts for April to December 2025. Given that the distribution of energy savings is typically not uniform throughout the year (with some months showing negative savings, as illustrated in Figure 28 and Figure 29 below), Econoler calibrated the monthly unrealized impacts for April to December 2025 to ensure they were coherent with the distribution of savings for 2024. This analysis was performed separately for each rate code and only for annual energy usage (kWh) impacts. The results of this analysis are presented in Table 12. The table also presents, for each rate code and usage level, the number of customers included in the evaluated impacts analysis for January to March 2025 (see Section 4 above), which serves as an estimate of the customer base that may have contributed to unrealized impacts had CEM been available.

Table 12: Estimated Unrealized CEM Energy Consumption Savings for April to December 2025

Rate Code	CEM Usage Level	Estimated Unrealized Energy Consumption Savings for April to December 2025 (kWh)	Number of Customers Included in the Analysis for January to March 2025
Residential Standard	Low	-17	7,455
	High	-13	4,072
Residential TOD	Low	104	542
	High	38	391
Residential CPP	Low	-41	337
	High	7	212
Residential TOU	Low	70	704
	High	-70	266
Commercial General	Low	-375	172
	High	2,262	39
Commercial Small General	Low	-707	201
	High	359	69

Each estimated unrealized energy consumption savings value provided in Table 12 is the sum of monthly estimated values for April to December 2025. To illustrate this, monthly energy savings estimates (April to December) as well as evaluated monthly savings (January to March) for Residential Standard high and low user customers respectively are provided in Figure 28 and Figure 29 below.

Figure 28: 2025 Evaluated and Estimated Unrealized Monthly Energy Savings – Residential STD Low Users

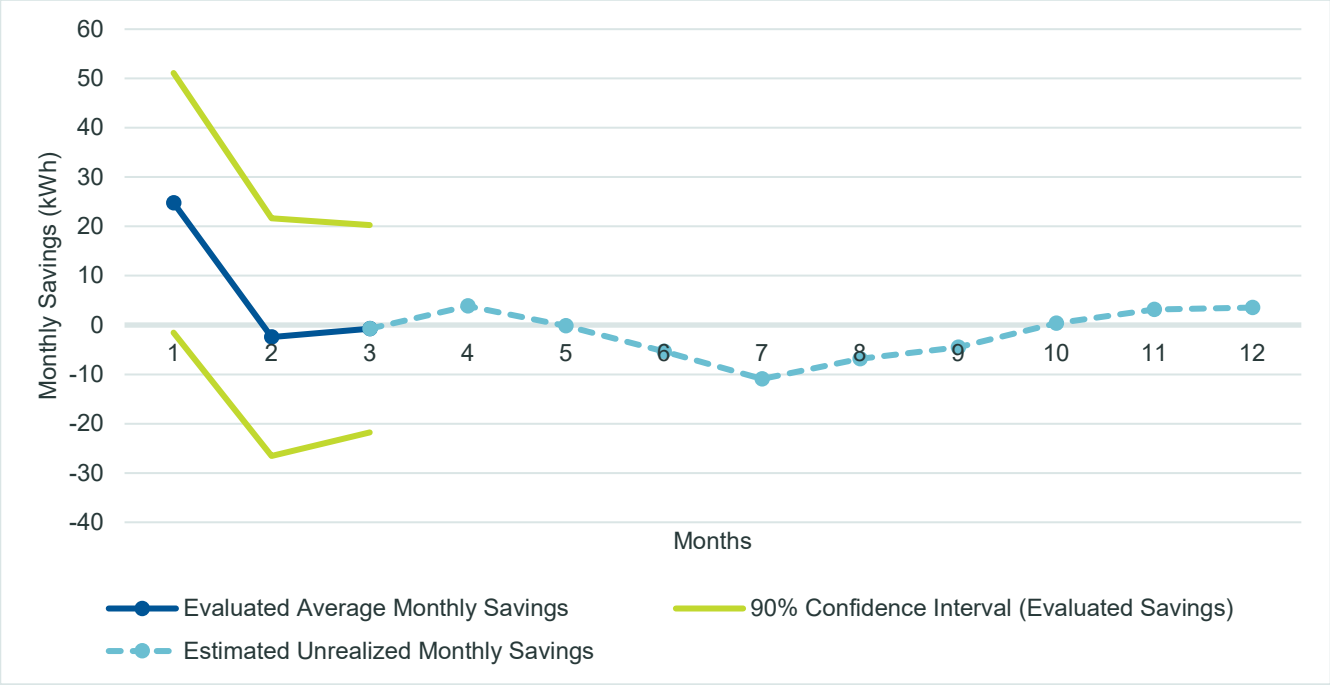
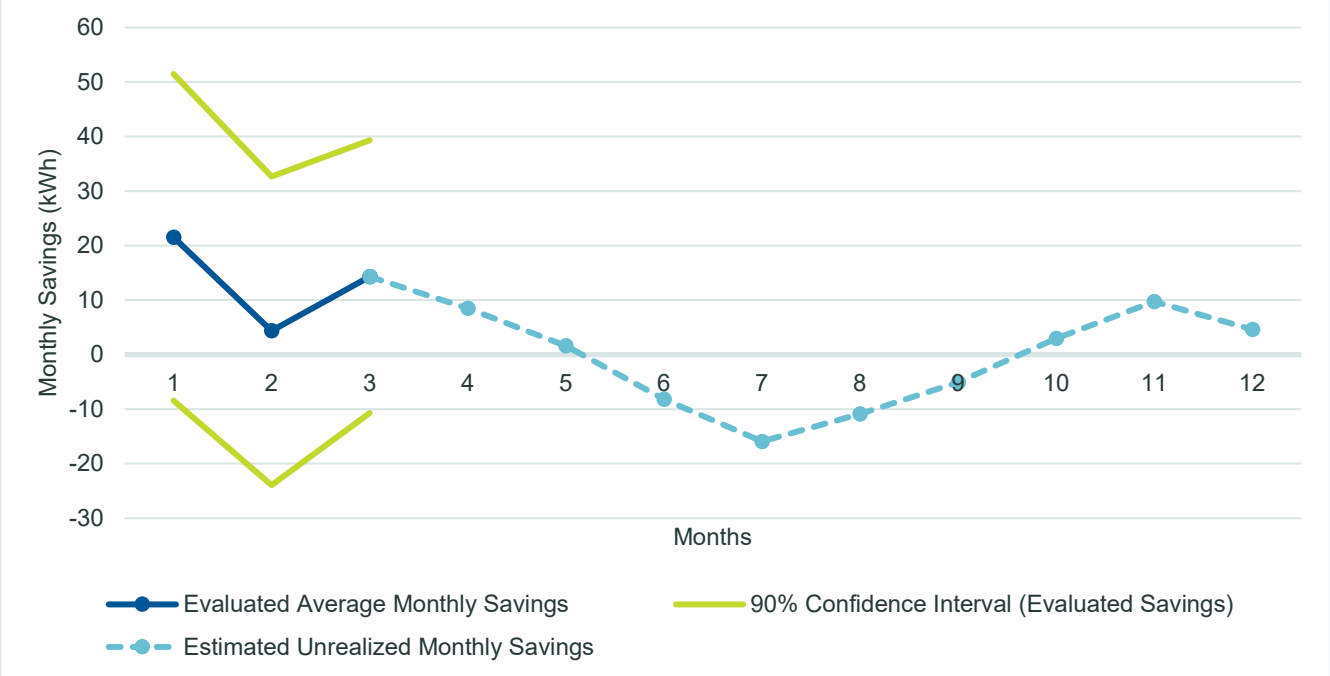


Figure 29: 2025 Evaluated and Estimated Unrealized Monthly Energy Savings – Residential STD High Users



KEY FINDINGS

This section presents the key findings of the CEM platform evaluation for Year 4, which included all eligible rate codes except Commercial TVP participants for which there were too few participating customers to conduct an analysis and provide conclusive results.

Overall, 61% of CEM eligible customers have an activated CEM account.

- As of March 2025, a total of 301,690 customers (278,550 residential and 23,140 commercial) had activated CEM accounts, representing an increase of 13,187 (11,812 residential and 1,375 commercial) compared with December 2024, which is the last month of the CEM Year 3 evaluation.
- Among the subset of customers included in the analyses, the share of all CEM eligible customers who did not log into the CEM was 78% for Residential Standard customers and 67% for Residential TOD customers. For TVP rate codes, the share of customers who did not log into the CEM was 46% for CPP and 50% for TOU. The share of commercial customers who did not log into the CEM was 96% for Small General customers and 95% for General customers. It should, however, be reiterated that the evaluation period covered only three months (January to March 2025), and most CEM users typically do not log in every month. Therefore, had CEM been available for the full year, the shares of customers who did not log in during the evaluation period may have likely been lower.
- Customers on the Residential TOD and TVP rate codes use the CEM in greater proportion and more often than other customers, which is expected given the more complex nature of their electricity tariffs.

CEM users generally participated in EfficiencyOne programs at a higher rate than non-CEM users.

- The additional annual savings were deducted from the savings captured by the DID approach so that no savings already claimed by EfficiencyOne were counted again in the CEM evaluation.

The impact evaluation on a subset of electrically heated customers served to capture savings attributable to the CEM platform.

- High users under the Residential Standard and Residential TOD rate codes achieved statistically significant energy usage savings representing 0.6% and 3.3% of annual energy consumption respectively. The remaining subsets of residential customers had statistically non-significant energy savings.
- Load savings during morning peak periods are positive and statistically significant for all users under the Residential CPP and Residential TOU rate codes. For evening peak periods, load savings are only statistically significant for CPP high user customers and for all TOU users. Remaining subsets of customers had non-significant load savings. It should also be noted that peak load savings were higher for customers on the CPP rate code compared to other rate codes, suggesting that CPP customers are actively shifting their usage away from peak periods during CPP events.
- Annual bill impacts are a mix of statistically significant and non-significant positive savings. The statistical significance or non-significance of bill savings for customers of a given rate code is generally the same as that of energy savings (kWh) for that customer group. High users under the Residential CPP rate code are the exception to that trend: they achieved statistically significant bill savings despite energy savings being non-significant, which is likely linked to peak savings achieved by that group, which in turn has a strong impact on the total monthly bill.
- Results that are not statistically significant mean that the evaluation could not distinguish the effect of CEM from externalities and random effects at the selected confidence level. However, they do not mean that CEM has no effect on customers' energy consumption behaviour.

Savings due to high bill alerts were generally not statistically significant.

› The comparison of energy and bill savings for high and low users that subscribed to high bill alerts compared to those that did not subscribe generally did not yield statistically significant results, with the exception of March 2025 savings for high users on the Residential Standard rate code. At less than 5% of the sample analyzed, the group of non-subscribed customers was too small to yield consistent results.

Paperless billing uptake among CEM eligible customers has increased across all rate codes since the baseline period.

› Paperless billing uptake was particularly high among customers who have activated the CEM, and generally even more so among customers who have used the CEM.

Service cost efficiency metrics could not be evaluated.

› The effects of the CEM portal on the number of calls treated by the NS Power customer service team as well as the average call handle time could not be evaluated due to data being unavailable for all 12 months of 2025.

APPENDIX I
Electricity Tariffs

All tariffs used in the analysis exclude riders such as the Fuel Adjustment Mechanism (FAM) Tariff or the Demand Side Management Cost Recovery Rider (DCRR).

Residential Tariffs

Effective January 1, 2025

Domestic Rate Codes 02 and 03
Customer charge ($/month)
19.17
Energy charge (¢/kWh)
16.931

TOD Rate Code 05 and 06	
Customer charge ($/month)	
19.17	
Energy charge (¢/kWh)	
Winter period (December to February)	
7:00 am to 12:00 pm	22.565
12:00 pm to 4:00 pm	17.987
4:00 pm to 11:00 pm	22.565
11:00 pm to 7:00 am	10.710
Other period (March to November)	
7:00 am to 11:00 pm	17.987
11:00 pm to 7:00 am	10.710

CPP Rate Code 70	
Customer charge ($/month)	
19.17	
Energy charge (¢/kWh)	
Non-critical peak hours	14.222
During a critical peak event	169.310

TOU Rate Code 80	
Customer charge ($/month)	
19.17	
Energy charge (₵/kWh)	
Non-winter period (April 1 to October 31) – All hours	
11.426	
Winter period (November 1 to March 31)	
On-peak (morning) - 7:00 am to 11:00 am	33.862
Off-peak - 11:00 am to 5:00 pm	16.931
On-peak (evening) - 5:00 pm to 9:00 pm	33.862
Off-peak - 9:00 pm to 7:00 am	16.931

Commercial Tariffs

Effective January 1, 2025

Standard Rate

Rate Code 10 (Small General Tariff)		Rate Code 11 (General Tariff)	
Customer charge ($/month)		**Demand charge ($ per kW of peak demand per month)**	
21.28		10.554	
Energy charge (¢/kWh)			
For the first 200 kWh per month	For all additional kWh	₵/kWh for the first 200 kWh per month per kW of peak demand	For all additional kWh
17.567	15.841	14.287	10.990

APPENDIX II
Detailed Results

Figure 30: Monthly Energy Usage Savings, Residential Standard – High Users

Figure 31: Monthly Energy Usage Savings, Residential Standard – Low Users

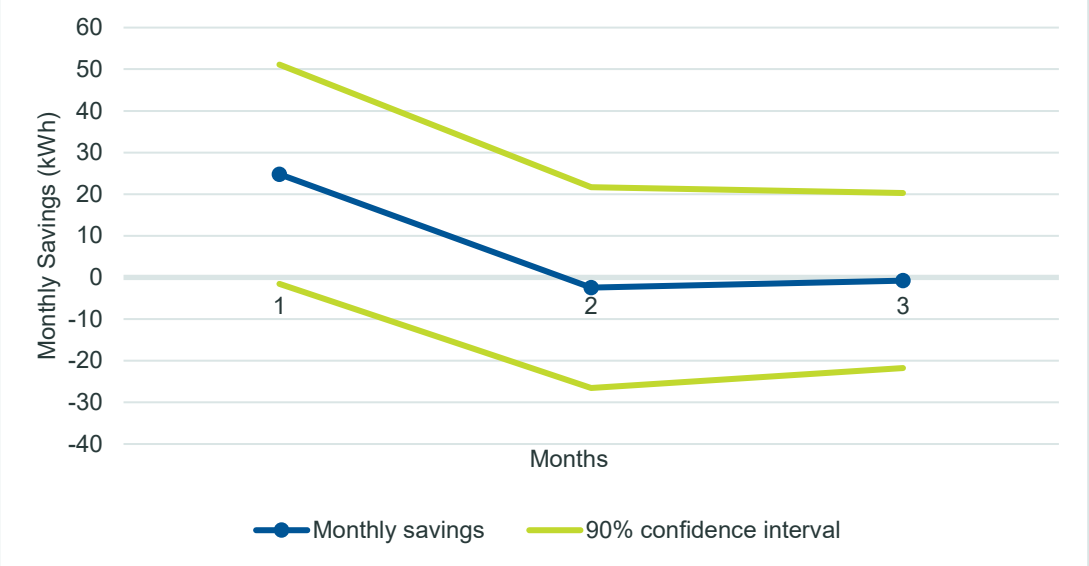


Figure 32: Monthly Bill Savings, Residential Standard – High Users

Figure 33: Monthly Bill Savings, Residential Standard – Low Users

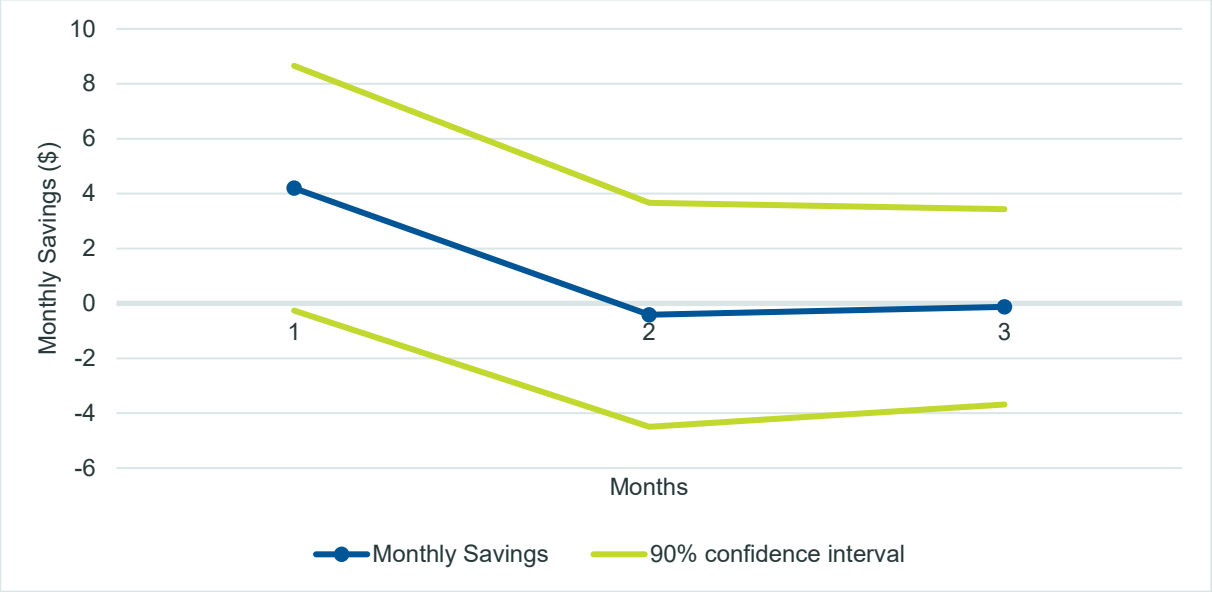


Figure 34: Monthly Energy Usage Savings, Residential TOD – High Users

Figure 35: Monthly Energy Usage Savings, Residential TOD – Low Users

Figure 36: Average Monthly Load Savings During Morning Peak, Residential TOD – High Users

Figure 37: Average Monthly Load Savings During Morning Peak, Residential TOD – Low Users

Figure 38: Average Monthly Load Savings During Afternoon Peak, Residential TOD – High Users

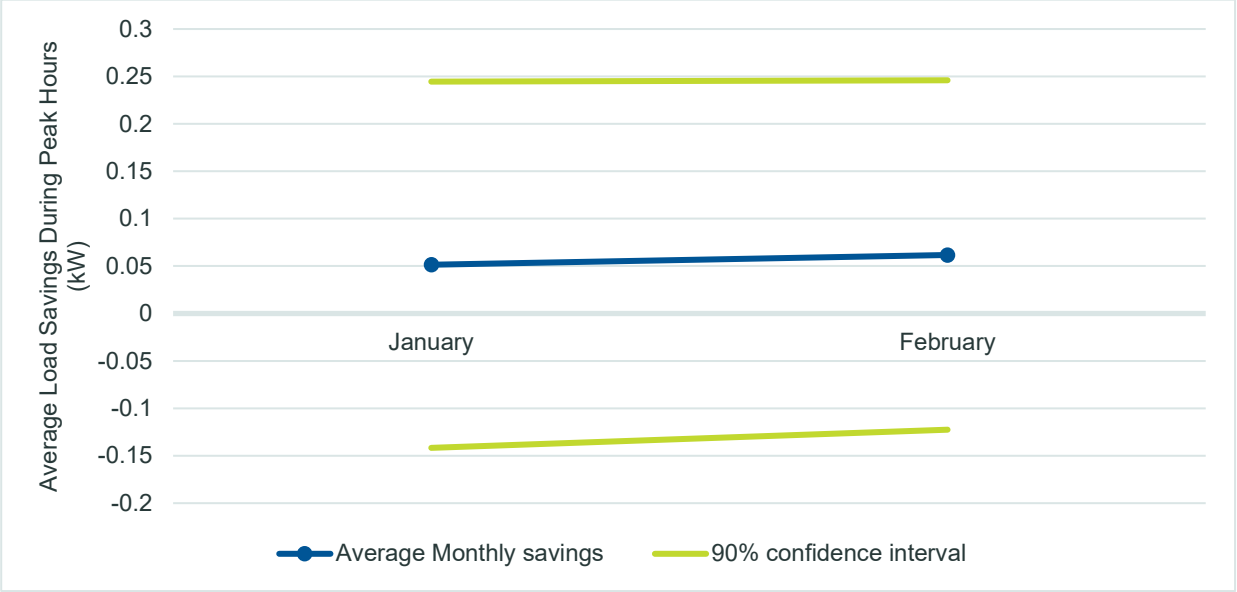


Figure 39: Average Monthly Load Savings During Afternoon Peak, Residential TOD – Low Users

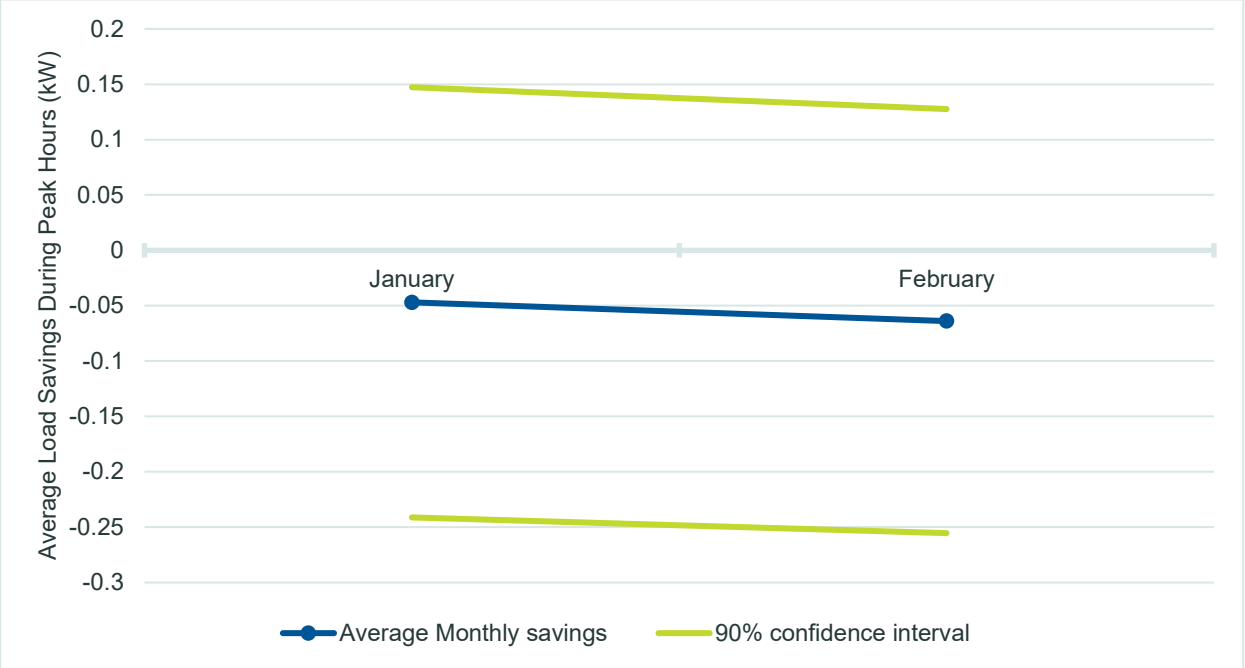


Figure 40: Monthly Bill Savings, Residential TOD – High Users

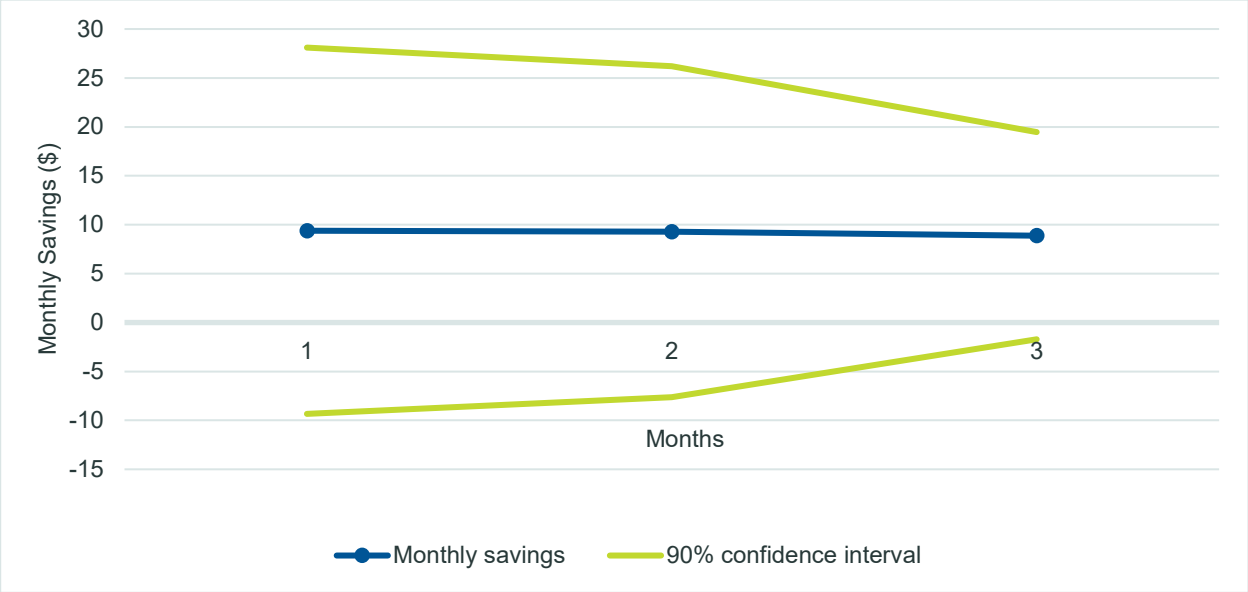


Figure 41: Monthly Bill Savings, Residential TOD – Low Users

Figure 42: Monthly Energy Usage Savings, Residential CPP – High Users

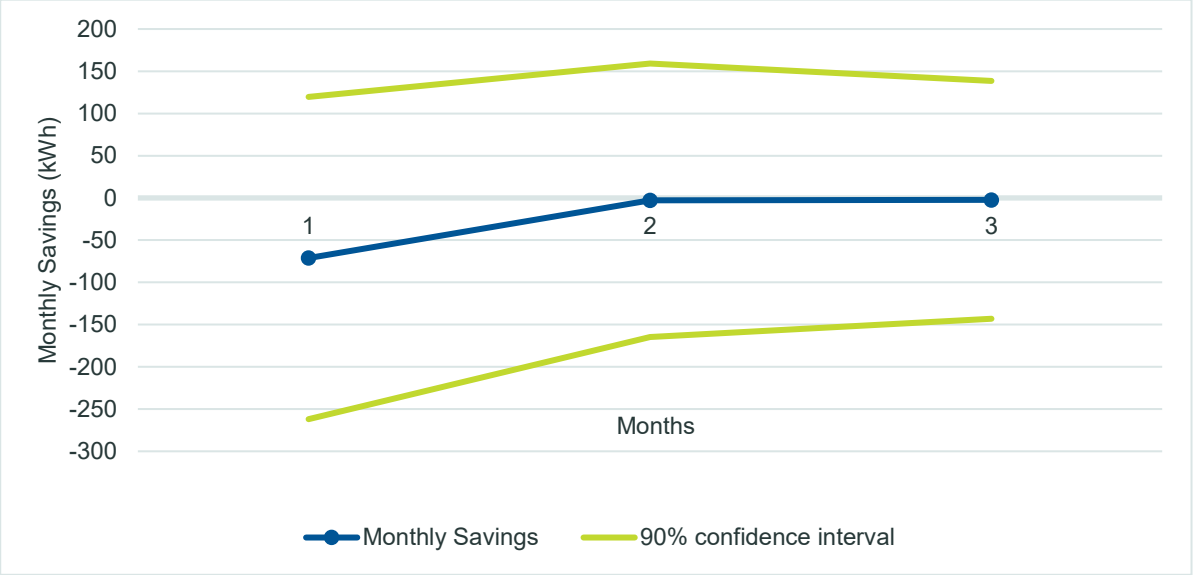


Figure 43: Monthly Energy Usage Savings, Residential CPP – Low Users

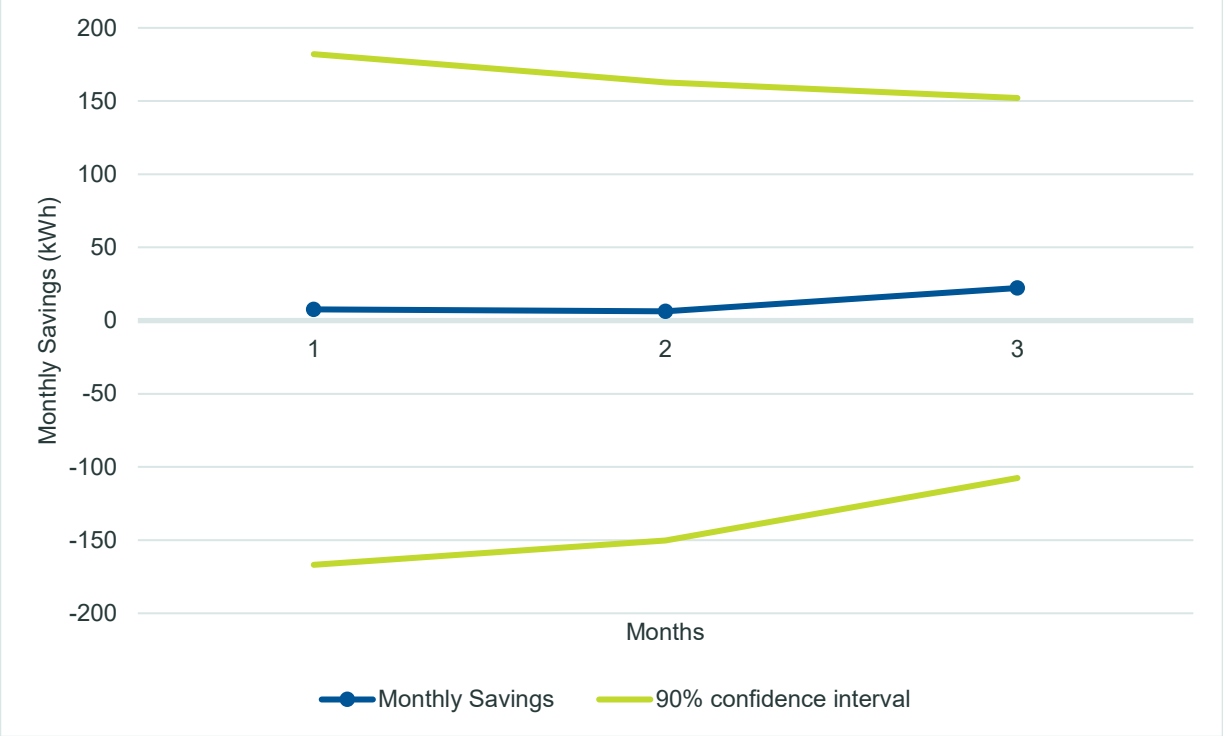


Figure 44: Average Monthly Load Savings During Morning Peak, Residential CPP – High Users

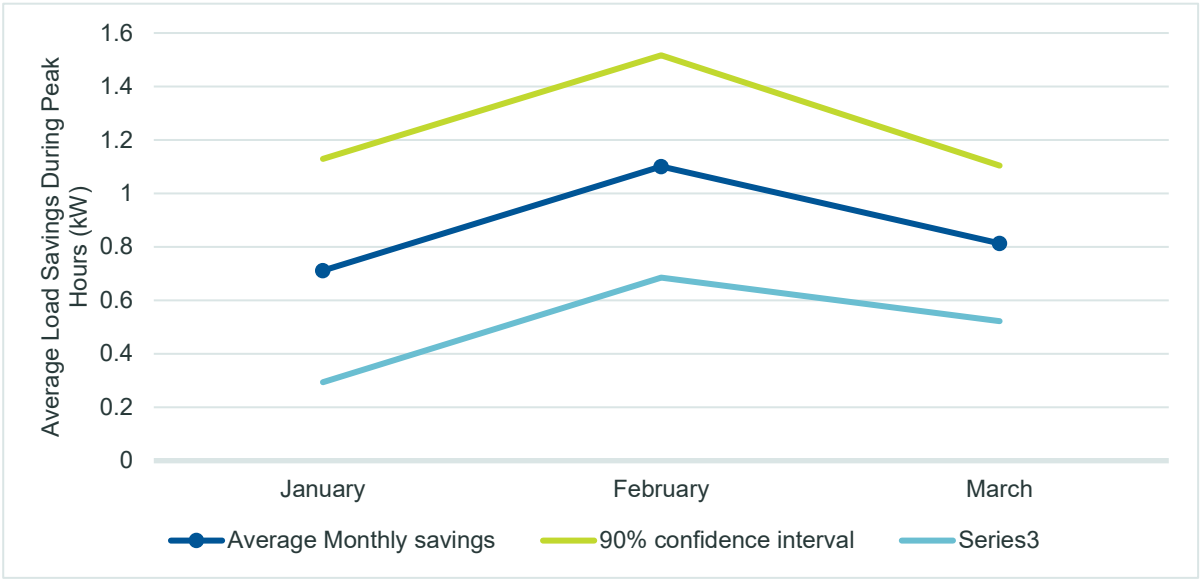


Figure 45: Average Monthly Load Savings During Morning Peak, Residential CPP – Low Users

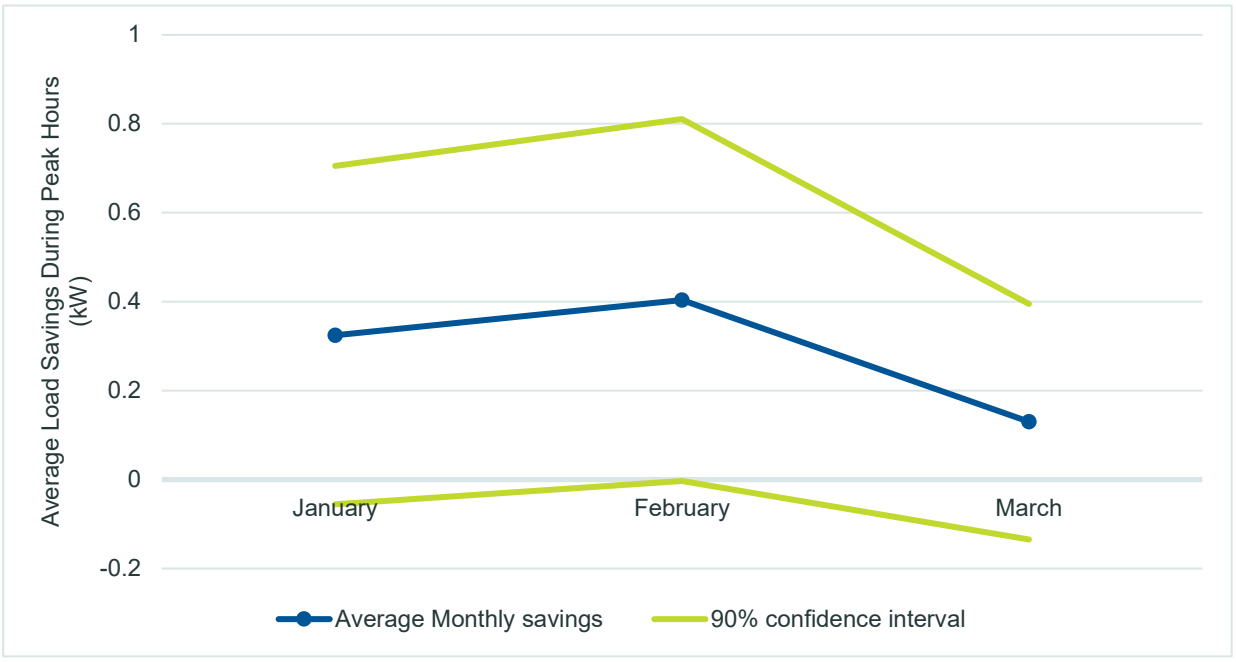


Figure 46: Average Monthly Load Savings During Afternoon Peak, Residential CPP – High Users

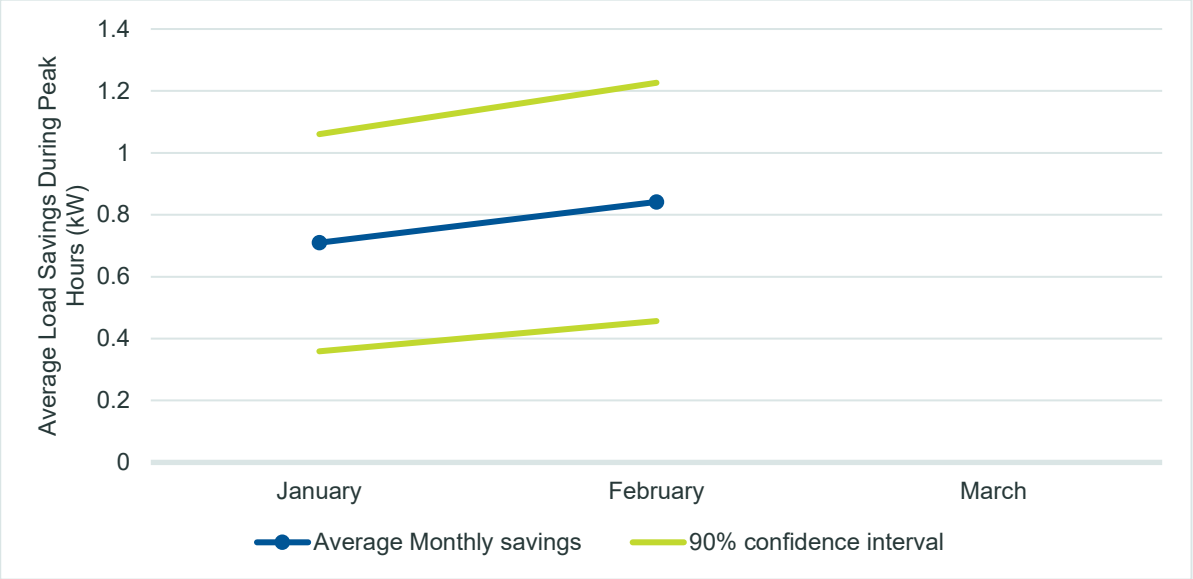


Figure 47: Average Monthly Load Savings During Afternoon Peak, Residential CPP – Low Users

Figure 48: Monthly Bill Savings, Residential CPP– High Users

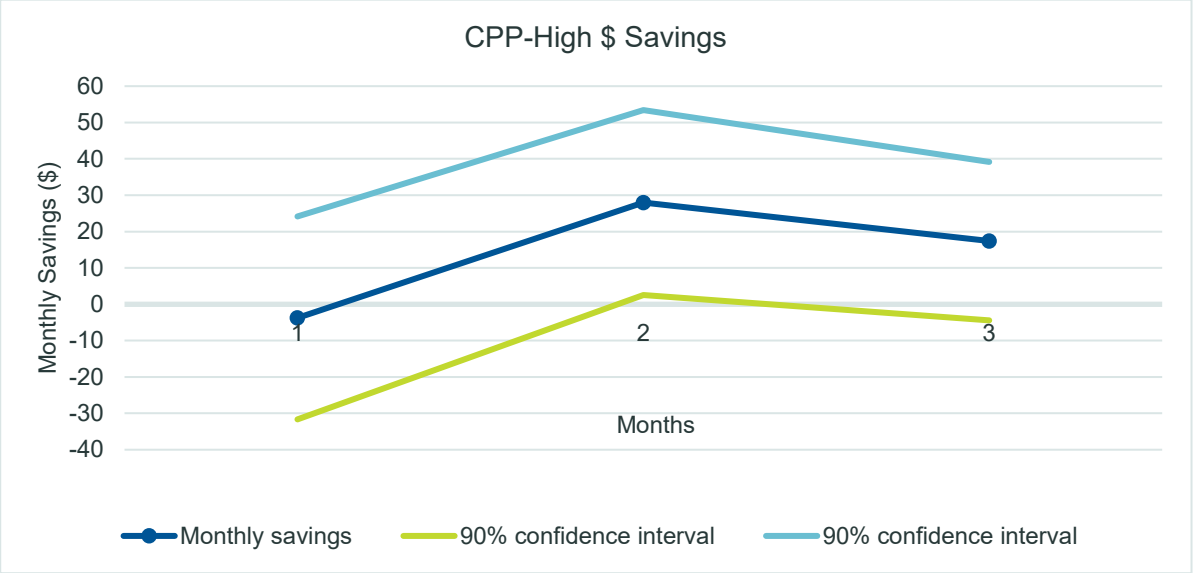


Figure 49: Monthly Bill Savings, Residential CPP– Low Users

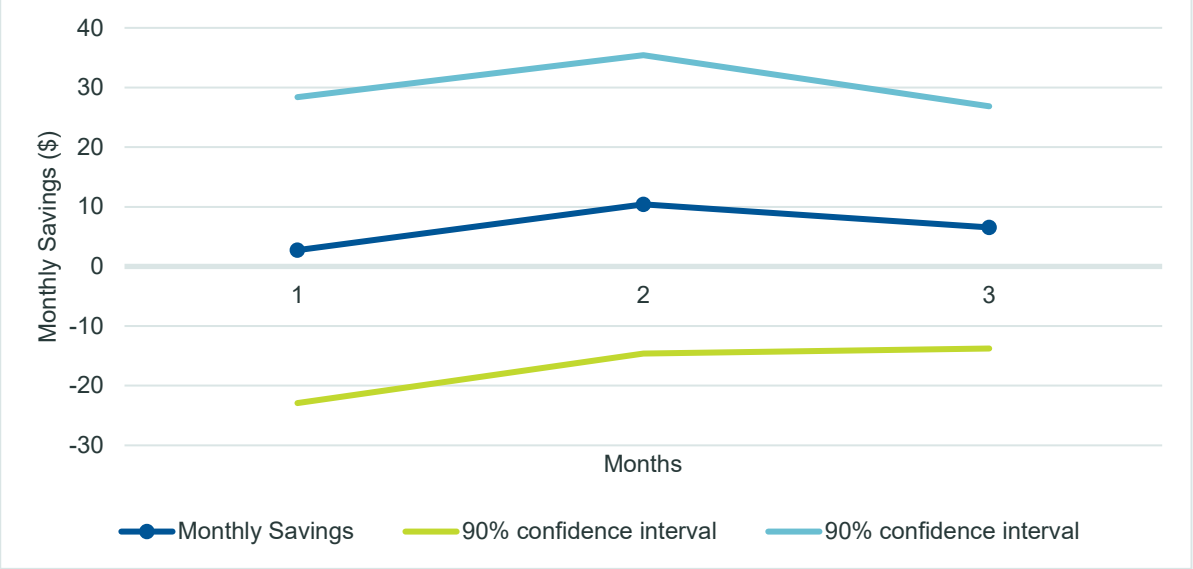


Figure 50: Monthly Energy Usage Savings, Residential TOU – High Users

Figure 51: Monthly Energy Usage Savings, Residential TOU – Low Users

Figure 52: Average Monthly Load Savings During Morning Peak, Residential TOU – High Users

Figure 53: Average Monthly Load Savings During Morning Peak, Residential TOU – Low Users

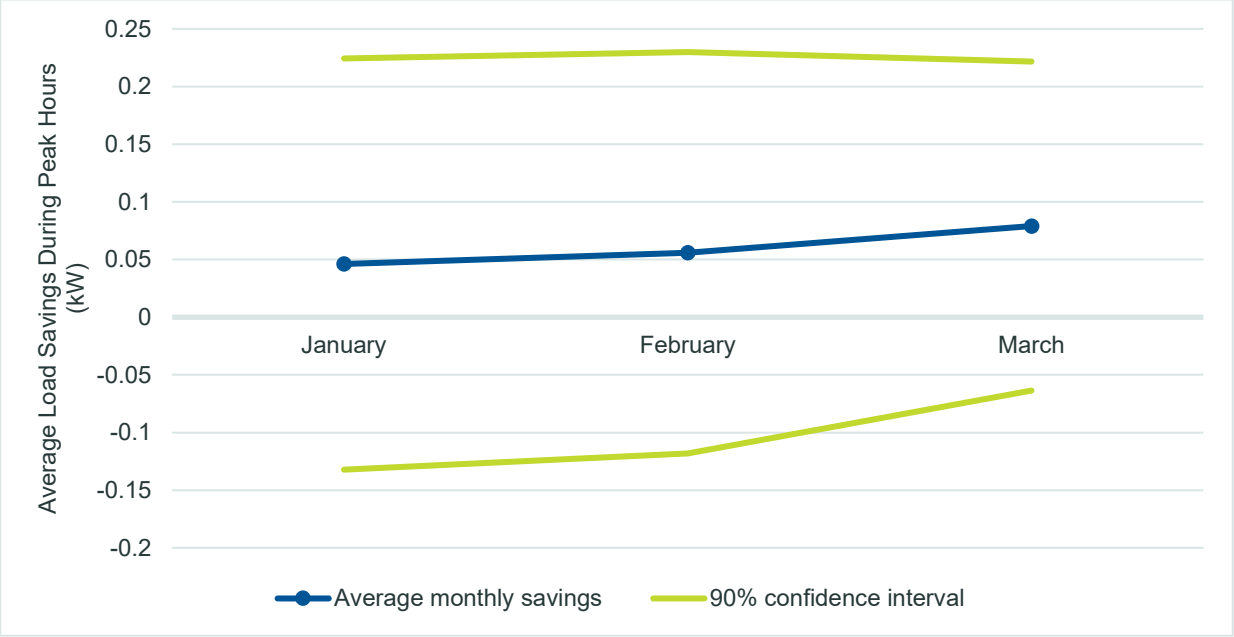


Figure 54: Average Monthly Load Savings During Afternoon Peak, Residential TOU – High Users

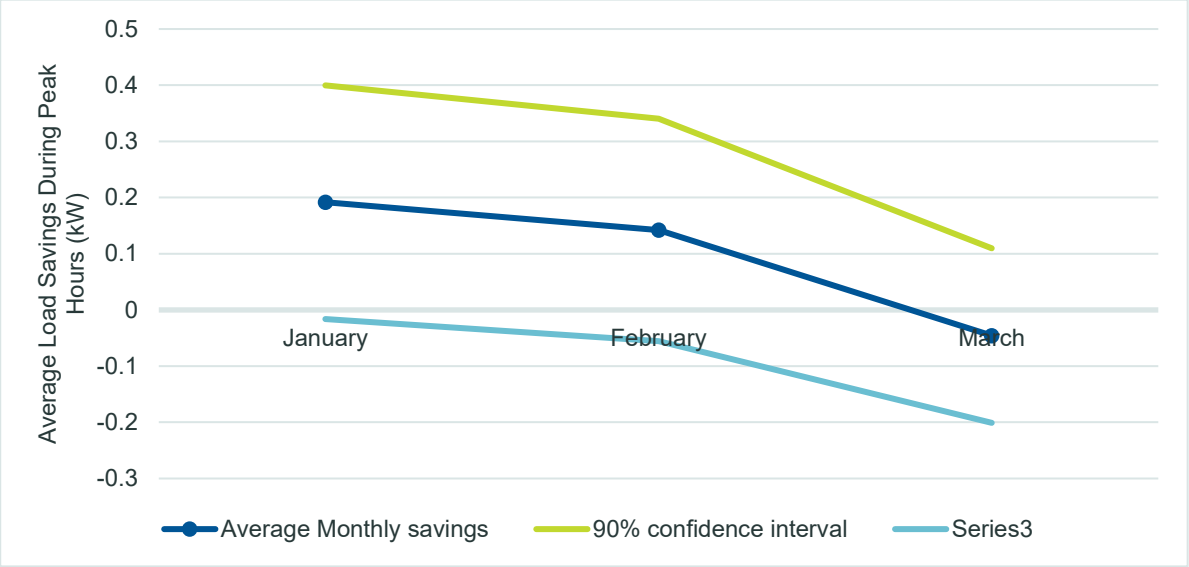


Figure 55: Average Monthly Load Savings During Afternoon Peak, Residential TOU – Low Users

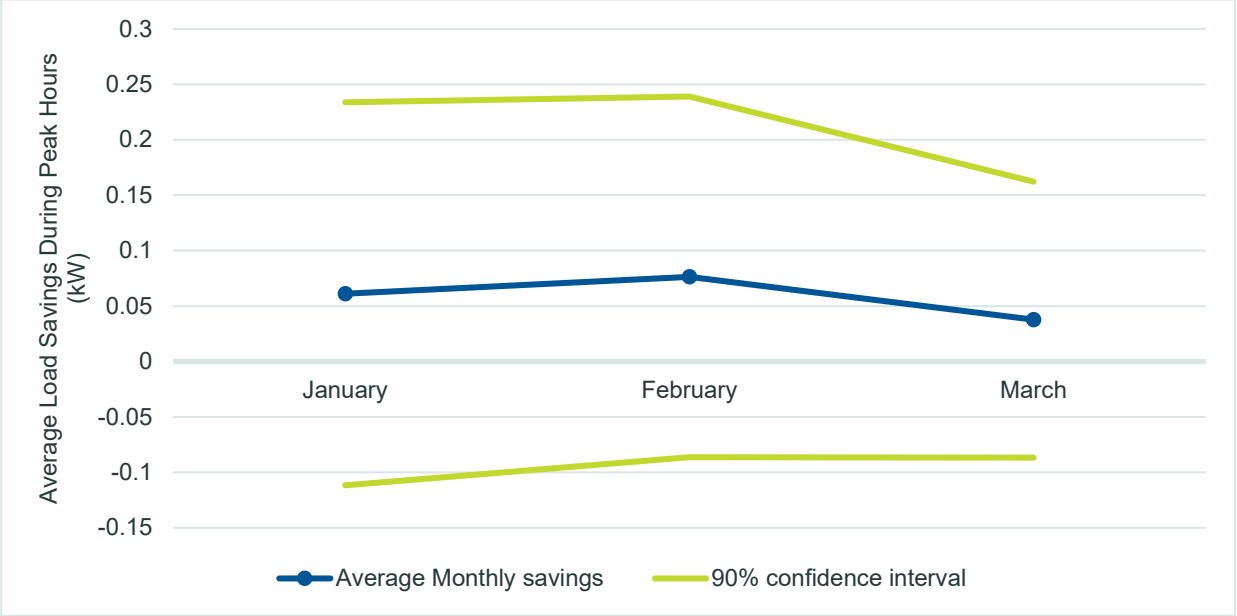


Figure 56: Monthly Bill Savings, Residential TOU – High Users

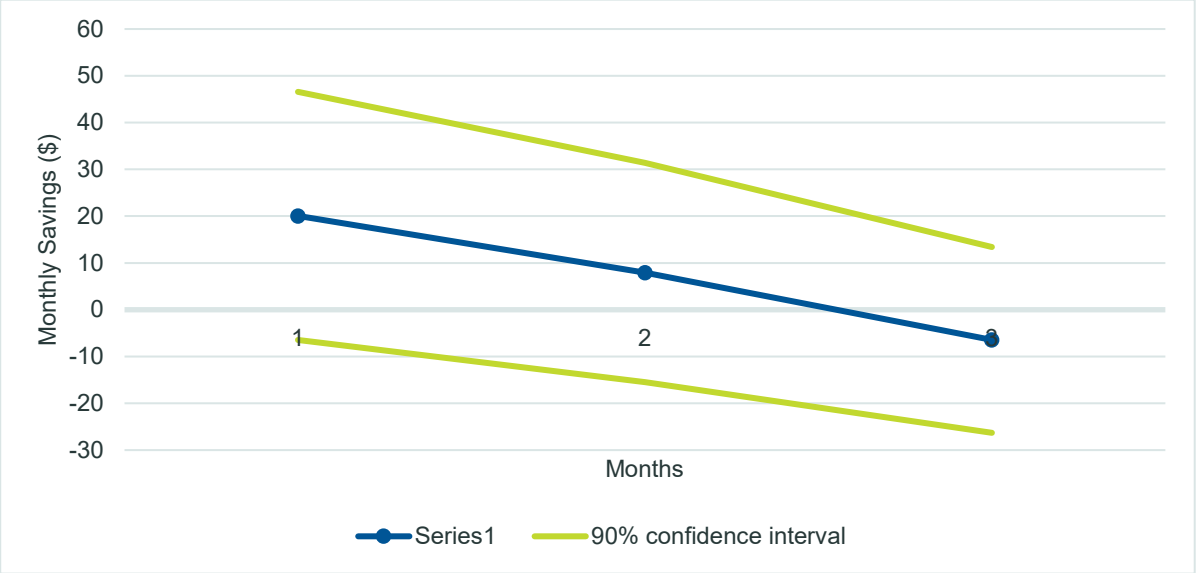


Figure 57: Monthly Bill Savings, Residential TOU – Low Users

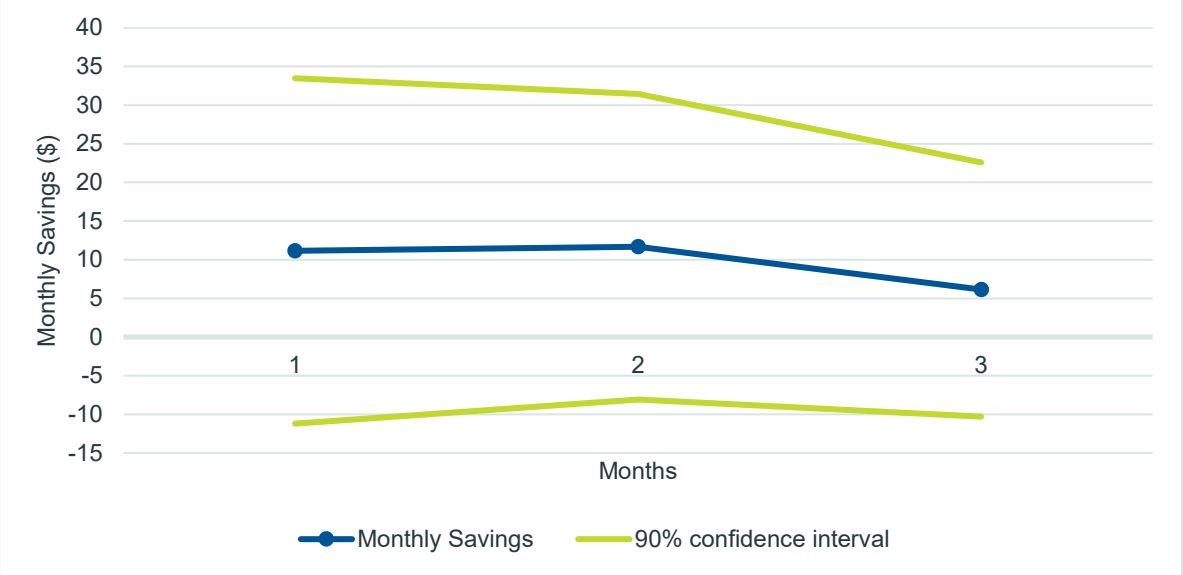


Figure 58: Monthly Energy Usage Savings, Commercial Small General – High Users

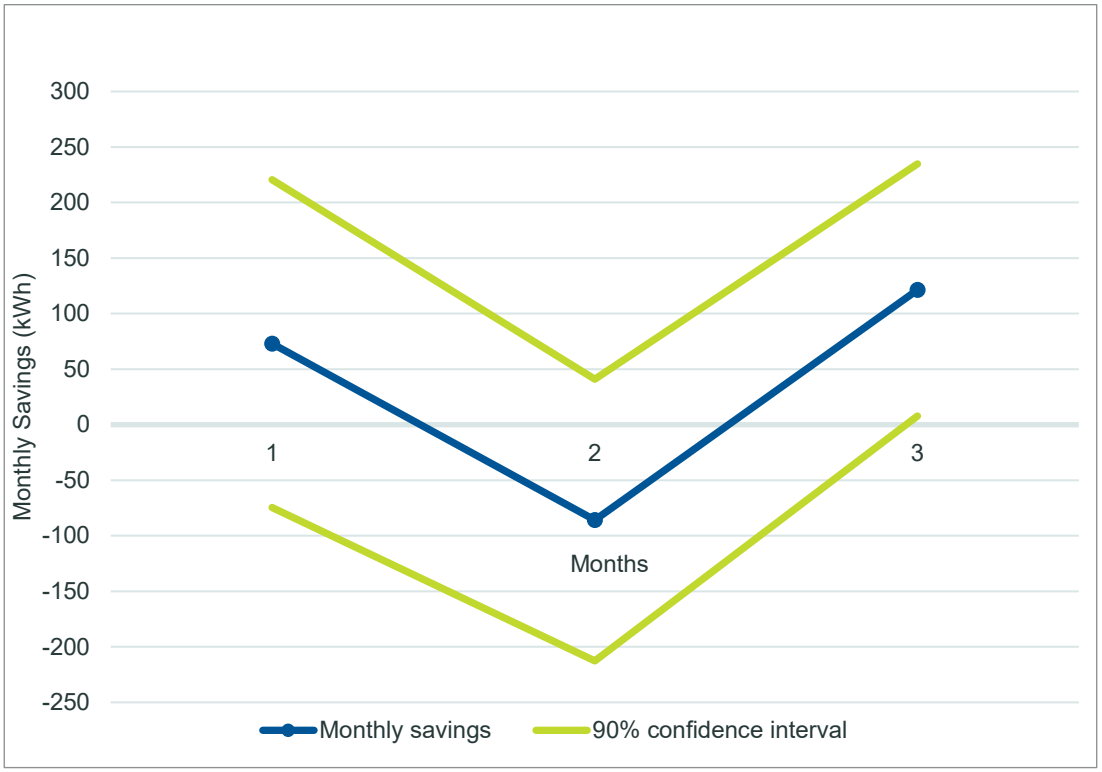


Figure 59: Monthly Energy Usage Savings, Commercial Small General – Low Users

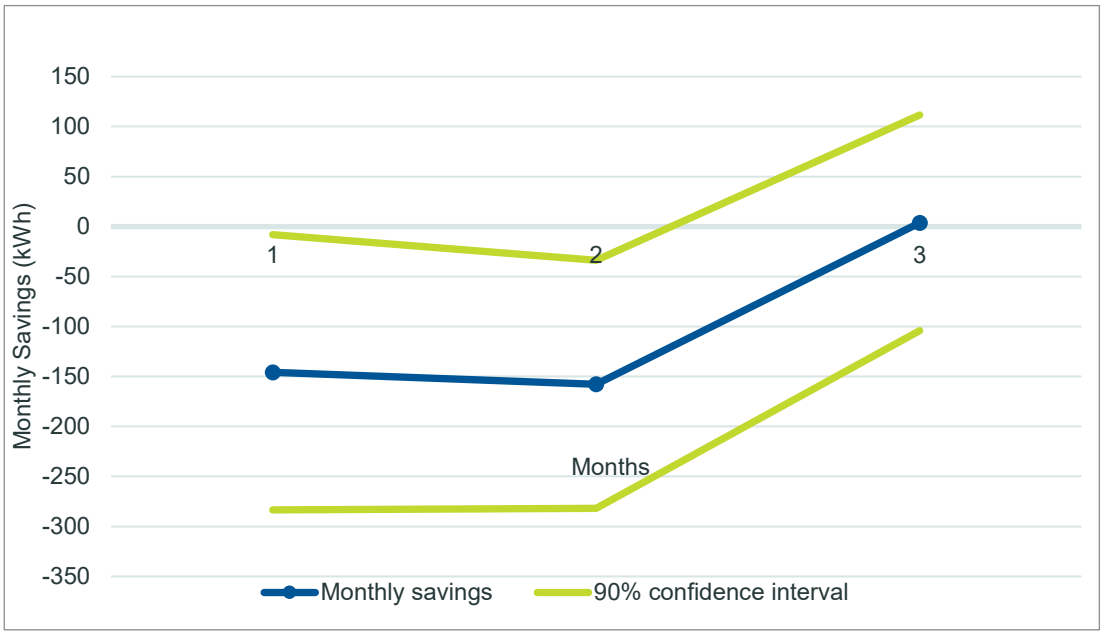


Figure 60: Monthly Energy Usage Savings, Commercial General – High Users

Figure 61: Monthly Energy Usage Savings, Commercial General – Low Users

Figure 62: Average Monthly Peak Demand Savings, Commercial General – High Users

Figure 63: Average Monthly Peak Demand Savings, Commercial General – Low Users

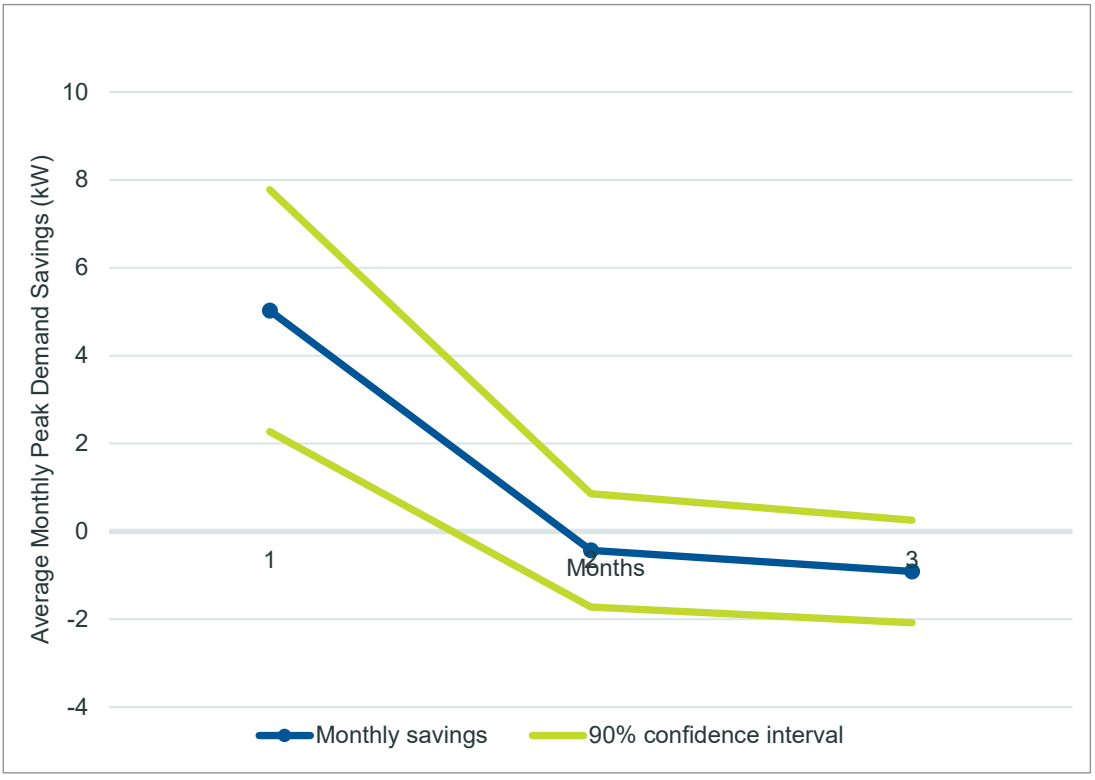


Figure 64: Monthly Bill Savings, Commercial Small – Low Users

Figure 65: Monthly Bill Savings, Commercial Small – High Users

Figure 66: Monthly Bill Savings, Commercial General – Low Users

Figure 67: Monthly Bill Savings, Commercial General – High Users

Figure 68: Additional Savings for Customers Subscribed to High Bill Alerts, Residential Standard – High Users

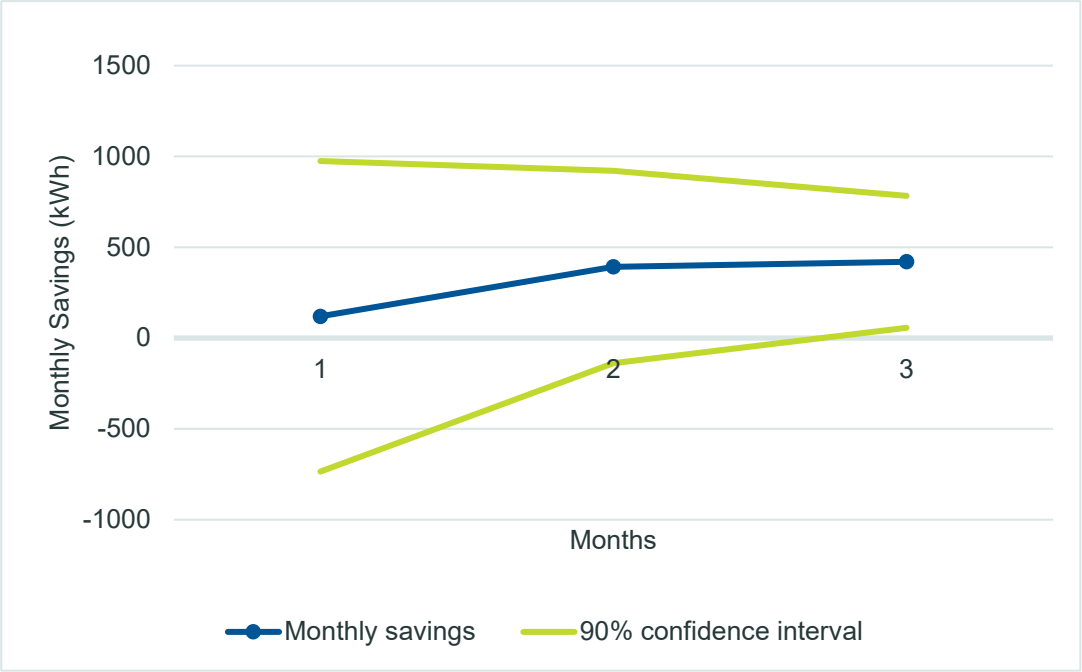


Figure 69: Additional Savings for Customers Subscribed to High Bill Alerts, Residential Standard – Low Users

Figure 70: Additional Savings for Customers Subscribed to High Bill Alerts, Residential TOD – High Users

Figure 71: Additional Savings for Customers Subscribed to High Bill Alerts, Residential TOD – Low Users

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