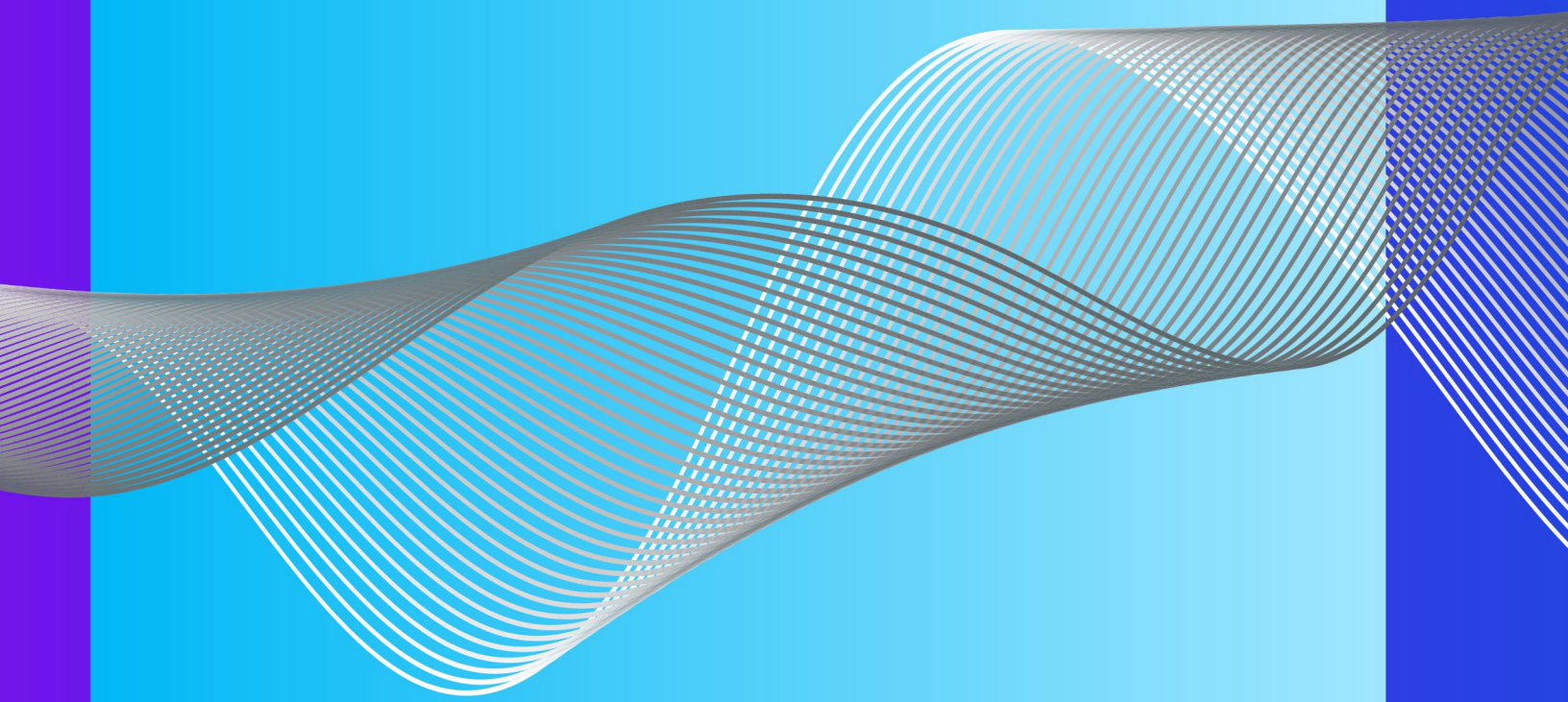
KPMG

Residential Customer Assessment

April 24, 2025



Disclaimer

This report has been prepared by KPMG LLP ("KPMG") for use by New Brunswick Power Corporation ("NB Power" or the "Organization") to assist NB Power with an assessment of residential customer meters and bills to assist in identifying the root cause of the increases observed in customer bills as described more fully below. For the avoidance of doubt, we will not assume any responsibility or liability for any costs, damages, losses, liabilities, or expenses incurred by NB Power as a result of circulation, publication, reproduction, use of or reliance upon our report.

Readers are cautioned that this report has been prepared for NB Power for the purpose described above and for no other purpose. This report is not intended for general use and recipients other than NB Power. Any other party who obtains or reviews a copy of this report is not entitled to rely on our report and do so at their own risk.

KPMG obtained the data provided by NB Power and we assumed it was complete and accurate for our purposes. We were not present for the extraction of the data and while we performed data quality diagnostics and completeness testing, we did not audit or otherwise verify the information and documentation received and thus, we express no audit opinion thereon. Our calculations could be significantly affected if the documentation or data reviewed is not complete or is incorrect.

KPMG neither warrants nor represents that the information contained in this report is accurate, complete, sufficient or appropriate for use by any party or entity other than NB Power. KPMG will not assume any responsibility or liability for any costs, damages, losses, liabilities, or expenses incurred by anyone as a result of circulation, publication, reproduction, use of or reliance upon our report. Comments in our report should not be considered to be a legal opinion as we are not qualified to provide such an opinion.

Should any additional information relevant to our report come to our attention subsequent to the date of our report, we reserve the right to review, and if necessary, to amend our observations, although we are not obliged to do so.

The services provided in connection with this engagement comprise an advisory engagement, which is not subject to assurance or other standards issued by the Canadian Auditing and Assurance Standards Board and consequently no opinions or conclusions intended to convey assurance have been expressed.

We have relied on information provided to us by NB Power. We have not audited or otherwise validated the data. The procedures we carried out do not constitute an audit, and as such, the content of this document should not be considered as providing any level of assurance.

Table of contents

1 Executive summary

NB Power's residential customers have expressed concerns regarding their December 2024 bills. Residential customers have observed an unexpected dollar increase in their bills and some have reported a larger than expected increase in power consumption compared to December 2023 and November 2024. As a result, residential customers are expressing concerns about NB Power's metering and billing systems.

NB Power's Board of Directors asked KPMG to conduct an operational assessment related to residential customer meters and bills to assist in identifying the root cause of the increases observed in customer bills.

The analysis highlighted that the primary factors contributing to the higher-than-expected bills in December 2024 were a mix of:

- Increased power prices;
- Higher power consumption levels due to colder weather temperatures;
- Longer billing periods; and
- Fewer power outages compared to December 2023.

KPMG selected a statistically significant, random sample of NB Power residential customers and NB Power tested the meters using their test procedures. KPMG identified that 2.5% of tested meters showed an under-reporting of power consumption when considered in reference to NB Power's standards of a one percent tolerance.

We understand that the meters were tested in a Measurement Canada accredited facility using NB Power's testing procedures which are certified by Measurement Canada. No meters were rejected due to an over-reporting of power consumption, and the meters that were rejected due to an under-reporting of power consumption would have all met the dispute resolution standards set by Measurement Canada which uses a three percent tolerance.

KPMG extrapolated the error rate of 2.5% pertaining to meters showing an under-reporting of power consumption, to estimate that approximately 7,692 NB Power residential customers have meters that are currently operating outside of the one percent tolerance level. Based on the statistically significant sample, we are 95% confident that the number of NB Power residential customers with meters registering power consumption outside of the one percent tolerance level, is a maximum of 23,076.

KPMG also identified that residential customers that changed from a conventional meter (including legacy mechanical and legacy electronic meters) to a smart meter in the last year did not experience an increase in their power consumption compared to prior years. KPMG identified that even before their meter was changed, the group of residential customers who changed their meter in the last year had a historically higher power consumption in certain winter months compared to the power consumption of the group of residential customers who did not change their meter in the last year. As a result of the observations above, there is no

evidence that either conventional meters or smart meters were overstating the power consumption levels of NB Power residential customers in December 2024.

KPMG also selected a risk-based sample of NB Power residential customers based on their higher power consumption compared to last year. KPMG instructed NB Power to contact these customers proactively, even if these customers had not raised any concerns to NB Power directly with respect to the December 2024 bills.

KPMG recommends that NB Power develop a proactive customer outreach initiative whereby customers that experienced a significant increase in their electricity bills compared to the prior year are contacted by NB Power in order to address customer concerns in a timely manner, rather than a reactive approach to customer concerns, whereby customers would only be contacted if they reached out to the NB Power call centre directly.

Additionally, NB Power should develop and implement customer awareness programs related to power prices and power consumption in order for residential customers to better anticipate their bill amounts.

A summary of the procedures performed by KPMG and the results are described in the table below.

Procedures performed	What we observed
We reviewed a sample of higher bill complaints received by NB Power in their call center to understand the extent of customers' concerns. **(See Section 3)**	• Residential customer inquiries about higher bills increased from 532 inquiries in January 2024 to 3,649 inquiries in January 2025. • We identified that residential customers are concerned about significant increases in power consumption, increases in power rates, and the combined impact on the affordability of power.
We reviewed a sample of invoices to consider whether power consumption was accurately recorded and billed. **(See Section 4)**	• KPMG reviewed a sample of 40 customer invoices to consider whether power consumption was accurately recorded and billed. • **No discrepancies were noted**. For every item in the sample, all residential customer meter readings recorded by NB Power were properly applied to customers' bills.

We analyzed residential customer data to identify potential factors contributing to higher-than-expected bills. **(See Section 5)**	Year-over-year, there was approximately a 25% average increase in bills from December 2023 to December 2024. This is comprised of: • **Increase in prices**: Approximately half of the year-over-year increase related to higher power prices (approximately 13%). For instance, the base rate charged per kilowatt hour ("kWh")[1], the variance account amount charged per kWh, and the service charge all increased between December 2023 and December 2024. • **Increase in power consumption**: The other half of the increase related to increased power consumption (approximately 12%). Factors leading to **higher power consumption** include: • **Colder weather temperatures**: There is a statistically significant correlation between weather temperature and power consumption. Average weather temperatures in New Brunswick were 2.0 to 3.7°C colder in the December 2024 billing period compared to the December 2023 billing period. The impact of weather temperature on higher bills varied based on customer type (urban, rural or seasonal), and location in the province. • **More billing days:** There were, on average, 1.24 more days included on bills in December 2024 compared to December 2023, which resulted in an increase in power consumption being reflected on the December bills (a 3.81% increase in pre-tax billing in December 2024 compared to December 2023). • **Fewer Power Outages**: There were 68% fewer power outage hours in December 2024 compared to December 2023.
We analyzed trends with respect to residential customers who changed their meter in the last year, compared to customers who did not change their meter type in the last year. **(See Section 5)**	• **Meter type**: KPMG observed that residential customers who changed from a conventional meter (including legacy mechanical and legacy electronic meters) to a smart meter in the last year, had a higher increase in power consumption in December 2024 compared to residential customers who did not change their meter in the last year. However, these same customers also had similarly higher power consumption in January 2021, December 2021 and January 2023 (i.e., before their meters were changed). • **No discrepancies were noted.** The above tests indicate that overall, customers who changed their meter between December 2023 and December 2024 did not experience an increase in their power consumption as a result of a change in their meter.

[1] Kilowatt-hours (kWh) is the standard unit of measurement for power consumption on meters across North America.

We selected a statistically significant random sample of residential customer meters for NB Power to test for accuracy.
 	
(See Section 6)
	• NB Power performed meter testing of a sample of 400 meters selected by KPMG ("random sample"), consisting of 181 conventional meters and 219 smart meters, using NB Power's testing procedures that are certified by Measurement Canada.
	• Out of the 400 meters that were tested, 12 meters (3% of meters tested) were rejected for not meeting NB Power's certified test procedures of which:
	  ○ 2 meters (0.5%) were rejected for reasons unrelated to the accuracy of the meter (a connectivity issue and a dial reading mismatch issue).
	  ○ 10 meters (2.5%) were rejected as they were found to be registering power consumption outside of the one percent tolerance level. All of these meters were **conventional meters** that were **under-reporting** power consumption levels.
	  ○ KPMG identified that all of the rejected meters were operating above a one percent tolerance level, but below a three percent tolerance level. As a result, each of the rejected meters would have passed the Measurement Canada standard of a three percent tolerance in a dispute resolution situation.
	• KPMG extrapolated the 2.5% error rate pertaining to meters showing an under-reporting of power consumption, to the population of residential customers. Based on the results of the extrapolation, approximately 7,692 residential customers have meters that are registering power consumption that is outside of the one percent tolerance level. Based on our statistically significant sample, we can also be 95% confident that the number of NB Power residential customers with meters registering power consumption outside of the one percent tolerance level, is a maximum of 23,076 residential customers.
	• Given that all of the meters that showed an under-reporting of power consumption were conventional meters and that NB Power is continuing the process of replacing conventional meters with smart meters, the number of customers with a meter operating outside of the one percent tolerance threshold will likely decrease over time.
	• As a result of the above testing of the random sample of 400 meters, we have not identified evidence that either conventional meters or smart meters were reporting faulty meter readings that would have overstated the power consumption levels of NB Power residential customers in December 2024.
	• In addition, none of the smart meters that were tested registered power consumption outside of the one percent tolerance level.

We selected a risk-based sample of residential customer meters for NB Power to test for accuracy.
 	
(See Section 6)
	• NB Power performed meter testing of a sample of 100 meters ("risk-based sample") consisting of 54 conventional meters and 46 smart meters selected by KPMG, using NB Power's testing procedures that are certified by Measurement Canada. These customers were selected because they had an increase in power consumption between December 2023 and December 2024 in excess of 30%.
	• Out of the 100 meters that were tested, 3 meters were rejected (3%) of which:
	  ○ 1 meter (1%) was rejected for reasons unrelated to the accuracy of the meter (connectivity issue).
	  ○ 2 meters (2%) were rejected as they were found to be registering power consumption outside of the one percent tolerance level. Both of these rejected meters were conventional meters and, in both cases, the rejected tests were the result of the meters under-reporting power consumption levels.
	  ○ KPMG identified that both of the rejected meters were operating above a one percent tolerance level, but below a three percent tolerance level. As a result, both of the rejected meters would have passed the Measurement Canada standard of a three percent tolerance in a dispute resolution situation.

We compared the power consumption levels of the 100 customers in the risk-based sample to their past NB Power invoices.
 	
(See Section 6)
	• Out of the 100 customers in the risk-based sample:
	  ○ 59 customers had a higher or similar level of power consumption in a previous billing period in the last 5 years compared to December 2024.
	  ○ 13 customers had no power consumption history in winter months between 2019 and 2022, either because they were a new customer or because they had moved from a different premise.
	  ▪ 12 of these 13 customers had their meter tested and the meters passed NB Power's testing procedures. The remaining meter was rejected as it was found to be registering power consumption outside of the one percent tolerance level. The rejected meter was a **conventional meter**, and the rejected test was the result of the meter **under-reporting** power consumption levels.
	  ○ 28 customers had power consumption in December 2024 that was at least 10% higher than any winter month in the last 5 years.
	  ▪ All of these 28 customers had their meter tested and the meters passed NB Power's testing procedures.

We analyzed the results of the customer outreach conducted by NB Power with respect to the 100 residential customers that were selected as part of the risk-based sample.
 	
(See Section 6)
	• Out of the 100 customers in the risk-based sample:
	  ○ KPMG identified that subsequent to the customer outreach, 75 of the 100 customers were considered as “resolved” by NB Power, whereas five customers were considered as “unresolved”. The remaining 20 customers could not be reached.
	  ○ KPMG identified that three of the unresolved customers had their meters tested, and all passed NB Power’s testing procedures and were operating below the tolerance of one percent. The remaining two unresolved customers did not permit NB Power to test their meters.
	• As a result of the above testing of the risk-based sample of 100 meters, we did not identify evidence that either conventional meters or smart meters were overstating the power consumption levels of NB Power residential customers in December 2024.

2 Our objectives, scope and approach

2.1 Objective

We understand that NB Power residential customers have expressed concern regarding their December 2024 NB Power bills.[2]

Residential customers have observed an unexpected dollar increase in their December 2024 bills and some have reported a large increase in power consumption compared to December 2023 and November 2024. As a result, residential customers are expressing concerns about NB Power's metering and billing systems.

NB Power's Board of Directors has asked KPMG to conduct an operational assessment related to residential customer meters and bills to assist in identifying the root cause of the increases observed in bills. Assessment procedures included observations as well as data and analytics-based procedures.

2.2 Scope and approach

To perform the assessment, KPMG completed the following procedures:

- **Understanding customer concerns** - KPMG reviewed a sample of higher bill complaints received by NB Power in their call centre to understand the extent and nature of customer concerns.
- **Observed residential customer meter readings from meter read to bill** - From the intake of the customer meter reads at NB Power, KPMG selected a random sample of 40 meter reads in order to identify if the residential customer's meter read data recorded by NB Power was properly applied to bills.
- **Analyzed NB Power's data to identify potential factors contributing to higher-than-expected bills** - NB Power provided KPMG with all of its residential customer data to assist us in attempting to identify the contributing factors associated with increased power consumption and/or charges for the December 2024 power consumption cycle compared to the December 2023 and November 2024 power consumption cycles for NB Power residential customers. Residential customer data was anonymized, and customer names and street addresses were not collected.

  KPMG performed a year-over-year ("YoY") and month-over-month ("MoM") analysis of power charges[3] and identified patterns and trends, as well as anomalies. The trend analytics that were performed included but were not limited to:

  - Isolating and quantifying the impact of rate changes on amounts billed;
  - Isolating and quantifying the impact of kWh changes on amounts billed;

[2] December 2024 billing dates vary by customer but include an average of 31.77 days between November 27, 2024, and January 23, 2025, with the majority of billed days falling in the month of December 2024. We have referred to this period as the "December 2024 bills" regardless of the specific customer billing cycle for this period.

[3] Power charges include charges for electricity used, monthly Service Charges, Variance Account Amounts, and other charges as outlined in the YoY analysis.

- Analyzing the relationship and consistency of the correlation between weather temperature and kWh consumed; and
- Analyzing customer accounts with significant increases in billing YoY to identify any trends, such as changes in meter types, geographic locations, etc.

KPMG also divided NB Power residential customers into two distinct groups:

- Residential customers who changed from a conventional meter to a smart meter in the last year (i.e., between December 2023 and December 2024); and
- Residential customers who did not change their meter in the last year. Because they had a conventional meter at the end of December 2024, or because they had a smart meter prior to December 2023.

KPMG compared the power consumption trends of these two groups of customers between 2019 and 2024 to determine if there was an increase in the power consumption for residential customers who changed their meter from a conventional meter to a smart meter in the last year, as compared to customers who did not change their meter in the last year.

- **Observed NB Power testing of residential customer meters** - NB Power selected a sample of 40 residential customer meters, and KPMG observed as NB Power undertook testing using NB Power's test procedures that are Measurement Canada certified.
- **Selected a Random Sample of residential customers for analysis** - KPMG selected a statistically significant, random sample of 400 NB Power customers and asked NB Power to test the meters using NB Power test procedures. The results of this testing were provided to KPMG for analysis such that an error rate could be calculated for all rejected meters that affected the meter reading. This error rate could then be extrapolated to estimate the total number of meters operating above a one percent tolerance level for all NB Power residential customers.
- **Selected a Risk Sample of residential customers for analysis** - KPMG selected a risk-based sample of 100 residential customers that experienced an increase in kWh hours in excess of 30% between December 2023 to December 2024. KPMG asked NB Power to test the meters using the NB Power test procedures. In addition, KPMG asked NB Power to contact these customers to understand if there were other factors that may explain the increase in power consumption. KPMG compiled the observations obtained from this customer outreach.

3 Our understanding of residential customer concerns

KPMG reviewed NB Power's customer service logs for residential customer higher bill inquiries and concerns received for the month of January 2025. In total, there were 3,649 higher bill inquiry log records during this period compared to 532 in January of 2024. Key customer concerns are summarized below.

Key concern	Description of concerns

Increase in power consumption for December 2024	• Increases in power consumption in December 2024 compared to November 2024 and compared to December 2023.
	• Some customers described increases in power consumption reflected on their bills despite:
	  ○ The property being vacant during the billing period and appliances had been turned off.
	  ○ Energy-efficient products installed at the property, like heat pumps and insulation, or installation of a secondary heating source such as a wood stove.
	  ○ Lifestyle changes to reduce power consumption; such as reducing the set indoor temperature on the thermostat or limiting usage of appliances and lighting.

Increases in rates and rate transparency	• Increased rates - bills were reported as being higher in December 2024 compared to the prior year despite the customer's power consumption decreasing year-over-year. • Customers are concerned rate increases are not affordable. • Rate per kilowatt hour consumed was not identified on their bill.
Meter readings perceived as inaccurate	• Customers suggested that there may be issues with the accuracy of meter readings, particularly for newly installed smart meters in the absence of any other explanatory variables.

Government of New Brunswick electricity rebates lower than expected	• Inquiries regarding the Government of New Brunswick's 10% electricity rebates, noting it was lower than expected. The Government of New Brunswick announced the rebate effective January 1, 2025, meaning it would apply to electricity used on, or after, January 1. However, customers reported that they were expecting a full 10% rebate on December power bills received in January, not a portion prorated for January 2025 days only. Customers expressed they were not clear on how this amount was calculated or applied to their total bill.
Impact of the estimated power consumption approach for billing	• Customers expressed concerns regarding the accuracy of estimated power consumption and the impact on the current bill period and future bill periods when actual power consumption is known.

KPMG considered the above concerns to inform the residential customer billing data analysis performed in this assessment.

4 Observing residential meter readings from meter read to bill

KPMG selected a random sample of 40 meters from NB Power's financial and billing system ("SAP"). The sample included an actual meter reading from a smart meter and an actual meter reading from a conventional meter from each of NB Power's 19 billing groups in the province (38 samples), as well as power consumption estimates for a smart meter and conventional meter (2 samples). Note that this is a separate sample from the 40 meters selected by NB Power as discussed in **Section 6.1**.

KPMG compared the customer meter read data collected by NB Power and confirmed that readings were properly reflected in the December 2024 bills. The sample selected by KPMG included smart meter and conventional meter readings for the billing period and included both actual and estimated readings.

Observation procedures differed based on whether the reading was taken from a smart meter or from a conventional meter. Detailed testing procedures are described below.

- Smart meter readings: Smart meter data is automatically transmitted from meters to NB Power's Meter Data Management system ("MDM") every eight hours. For each smart meter selected, KPMG identified the kWh power consumption data for the billing period recorded in the MDM system and compared it to the power consumption recorded in SAP. KPMG compared the power consumption recorded in SAP to the customer bill to identify if there were any discrepancies in the data.
- Conventional meter readings: For conventional meters, readings are collected manually by NB Power technicians or are collected via drive-by radio frequency collection. Conventional meter readings are stored in SAP[4]. For each conventional meter reading sampled, KPMG compared the kWh power consumption for the billing period as recorded in SAP to the customer bill to identify if there were any data discrepancies in the data.
- Other meter and bill information: In addition to the above, KPMG observed that the customer number, meter serial number, bill invoice number, bill date, power consumption charges, variance account rate charges, and rate category was consistent from source systems (MDM or SAP) to bills.

4.1 Results

For all 40 samples, billing period meter readings were observed to be consistent from MDM or SAP to bills and no discrepancies in billing period meter readings and power consumption amounts billed to residential customers were identified.

[4] Radio frequency meter readings are collected by technicians driving by residential homes using devices that measure radio frequencies. Manual and radio frequency readings are collected on handheld devices before being transferred to NB Power's Field Collection System (FCS). SAP pulls in readings from FCS. Data is only stored in FCS for three days; SAP is the system of record for meter readings.

5 Analysis of potential factors contributing to higher-than-expected bills

NB Power provided KPMG with all residential customer data pertaining to power consumption and rates for the December 2024 billing period, as well as the same details for the December 2023 and November 2024 billing periods. Residential customer data was anonymized, and customer names and street addresses were not collected.

KPMG performed various analyses of power consumption and assessed patterns, trends and anomalies. Detailed results are presented below.

5.1 Key differences from December 2023 to December 2024 billing periods

The following outlines the key differences between the December 2023 and December 2024 billing periods:

5.1.1 Rate changes

- Per NB Power data, “Base rate”[5] charged per kWh, used to calculate the "Charges for electricity used”, increased from 12.27¢ to 13.46¢ per kWh.
- Per NB Power data “Variance Account Amount” rate[6] increased from a (0.12)¢ credit to a 0.38¢ charge per kWh (a 0.50¢ per kWh increase).

5.1.2 Colder temperatures (weather)

- The average weather temperature was colder in December 2024 compared to December 2023 by 2.0 to 3.7°C across New Brunswick[7].

5.1.3 Billing days in period

- Per NB Power data, there were, on average, 1.24 more days included on bills in December 2024 compared to December 2023.

5.1.4 Power outages

- Per NB Power data, there were 68% fewer power outage hours in December 2024 compared to December 2023.

5.1.5 Interim rate adjustments

- Interim rates and Service Charges[8] were adjusted to Energy Utility Board approved rates as reflected in December 2024 bills. This adjustment resulted in a credit of approximately $10 for urban customers and an additional charge of approximately $10 for rural customers.

[5] The "Base rate” is the rate used to calculate the line item “Charges for electricity used” on a NB Power bill. For more information, refer to: https://nbpower.com/en/accounts-billing/understanding-your-bill/reading-a-typical-bill

[6] Rate used to calculate the line item “Variance account amount” on a NB Power bill. For more information, refer to: https://nbpower.com/en/accounts-billing/understanding-your-bill/reading-a-typical-bill

[7] https://climate.weather.gc.ca/historical_data/search_historic_data_e.html

[8] Fixed fee charge billed on the line item “Monthly service charge” on a NB Power bill. For more information, refer to: https://nbpower.com/en/accounts-billing/understanding-your-bill/reading-a-typical-bill

5.1.6 Government of New Brunswick power rebates

- Customers received a rebate on their December bill relating to the portion of days in January that were included on their bill. The Government of New Brunswick announced the rebate effective January 1, 2025, meaning it would apply to electricity used on, or after, January 1[9]. However, we noted that some customers communicated concerns to NB Power that they were expecting a full 10% rebate for the December 2024 bill, not a portion prorated for January 2025 days only.

5.1.7 Meter changes

- Per NB Power data, approximately 47% of residential customers had their meter type changed from a conventional meter to a smart meter between December 2023 and December 2024 as NB Power continues to advance the meter technology.

5.1.8 Larger Equalized Payment Plan ("EPP") annual settlement payments

- The NB Power EPP allows customers to spread the cost of their annual power usage equally throughout the year. Equalized monthly payments are calculated using customer averages from the prior year[10]. We understand that after the first six months, NB Power follows up with customers on an EPP whose actual consumption is in excess of the estimated consumption and that settlements as compared to actual usage occur annually based on the date of enrollment in the plan. Given weather temperature differences between billing years, some customers may have experienced a larger annual settlement in the December 2024 billing period.

5.2 Procedures

As a first step, in advance of performing the analyses and procedures described below, KPMG recalculated all December 2024 and December 2023 bills using the approved power rates, and no discrepancies were identified. We subsequently performed each of the procedures, subject to the noted assumptions as set out below.

5.2.1 Procedure 1 – Quantification of impact of rate changes

KPMG isolated and quantified the impact of rate changes and kWh changes on year-over-year ("YoY") and month-over-month ("MoM") amounts billed.

Assumptions:

- For the YoY analysis, KPMG analyzed customers that were present in both December 2024 and December 2023. Similarly, for the MoM analysis, KPMG analyzed customers that were present in both December 2024 and November 2024.
- KPMG excluded amounts relating to adjustments for power consumption from a different time period (e.g., interim rate adjustments) and charges that were non-recurring in nature (e.g., tax rebates, late payment penalties). This was performed to ensure only comparative charges were included in the analysis.

[9] https://www2.gnb.ca/content/gnb/en/corporate/promo/electricity-rebate.html

[10] https://www.nbpower.com/en/accounts-billing/billing-and-payment/equalized-payment-plan/

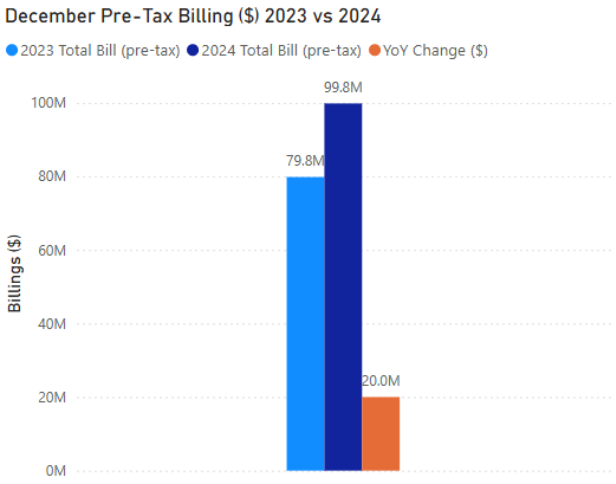
Results of December 2023 to December 2024 year-over-year analysis:

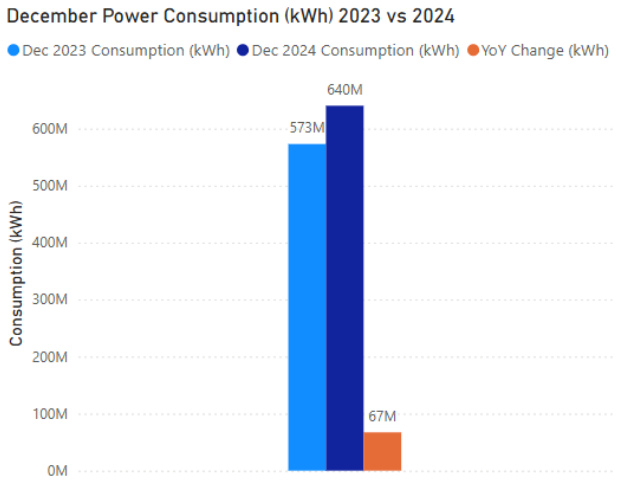
For all residential customer accounts that existed in both December 2023 and December 2024 billing cycles, we analyzed the change in total pre-tax billing amounts and power consumption between those periods. We identified the following observations:

- **25% total increase in bills:** There was an increase of 25% in pre-tax billings ($79.8 million in December 2023 compared to $99.8 million in December 2024, amounting to an increase of approximately $20 million in pre-tax billings).
- **12% increase in power consumption:** There was an increase of 12% in power consumption (573 million kWh in December 2023 compared to 640 million kWh in December 2024, amounting to 67 million kWh more in power consumed).

The following illustrates the total change in pre-tax billing and power consumption between December 2023 and December 2024:

Figures 1 and 2: December Pre-Tax Billing and Power Consumption 2023 versus 2024





Of the approximately $20 million increase in pre-tax billings, approximately 54% ($10.7 million) was attributable to rate changes (i.e., price) and approximately 46% ($9.3 million) was attributable to an increase in power consumption (i.e., volume).

Of the increase in pre-tax billing that was attributable to rate changes, the following was observed:

- On November 8, 2024, the New Brunswick Energy and Utilities Board ("NBEUB") issued a verbal decision on NB Power's two-year General Rate Application to increase the Base rate charged per kWh (i.e., the rate used to calculate the Charges for Electricity Used), by 9.7% from 12.27¢ to 13.46¢ per kWh[11]. This rate change accounts for $6.8 million of the $10.7 million increase.
- The Variance Account Amount rate increased from a 0.12¢ credit (reducing bills) to a 0.38¢ debit (increasing bills) per kWh. This 0.50¢ rate change accounts for $2.9 million of the $10.7 million increase.
- Increases to fixed fee charges, such as the Service Charge, accounted for approximately $1 million of the $10.7 million increase.

[11] https://www.nbpower.com/en/about-us/regulatory/rate-application/rate-decision/

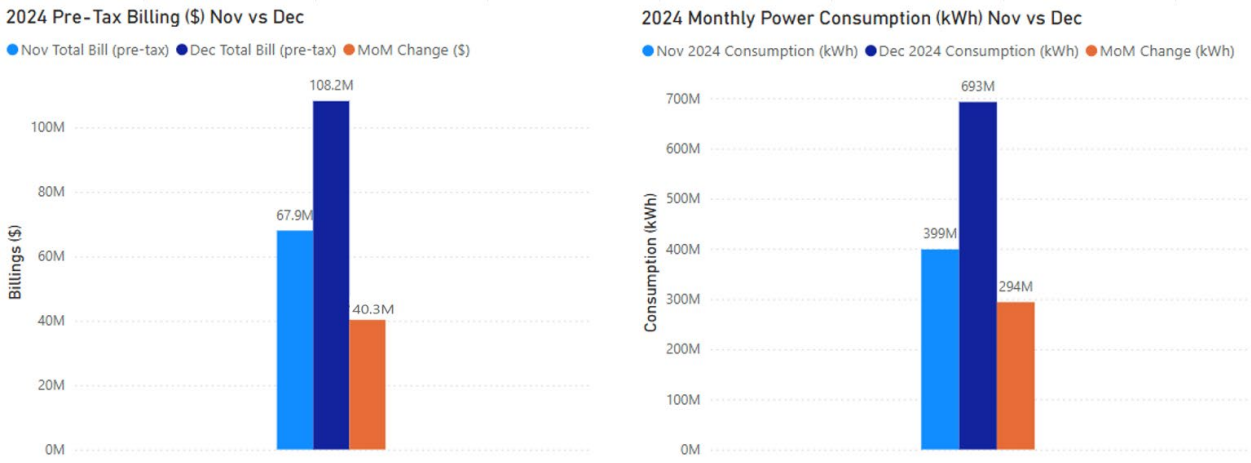
Results of November to December month-over-month analysis:

In addition to the YoY analysis, KPMG performed a MoM analysis to compare bills for November 2024 and December 2024.

For all residential customer accounts that existed in both November 2024 and December 2024 billing cycles[12], we analyzed the changes in pre-tax billing amounts and power consumption between those periods. We observed the following:

- **59% total increase in bills**: There was an increase of 59% in pre-tax billings ($67.9 million in November 2024 compared to $108.2 million in December 2024, amounting to $40.3 million more in pre-tax billings in December 2024).
- **74% increase in power consumption:** There was an increase of 74% of power consumed (399 million kWh in November 2024 compared to 693 million kWh in December 2024, amounting to 294 million kWh more in power consumed). See **Figures 3** and **4** below.

Figures 3 and 4: Pre-Tax Billing and Power Consumption November vs. December 2024



Given that the rates were consistent between November 2024 and December 2024, the $40.3 million increase in pre-tax billings between November 2024 and December 2024 was due to the increase in power consumption.

5.2.2 Procedure 2 – Relationship between weather temperature and power consumption

KPMG analyzed the relationship and consistency of the correlation between weather temperature and actual kWh power consumption.

Data assumptions:

- KPMG excluded date ranges outside of November 1 to January 31 in the December 2023 and December 2024 billing periods. The excluded dates represented approximately 0.1% of the population for both December 2023 and December 2024.

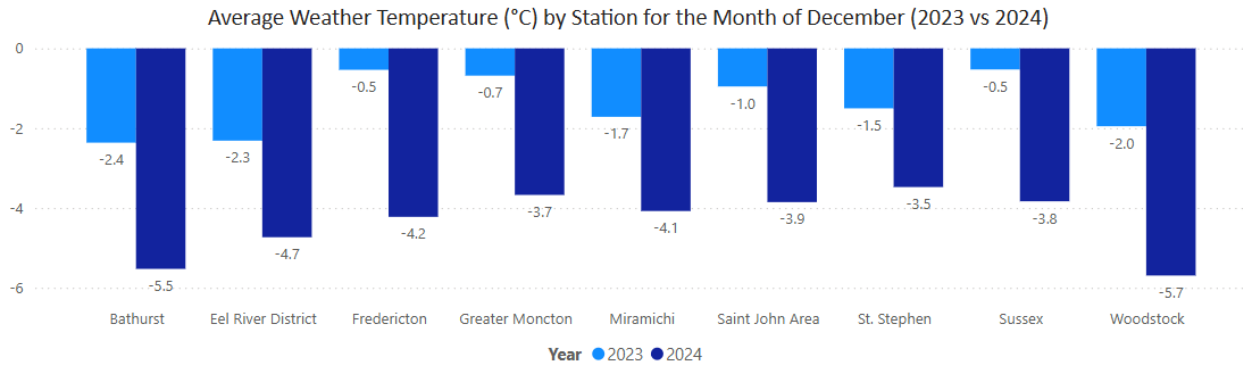
[12] Based on customer account number.

- KPMG only included bills with power consumption from actual meter readings, and excluded all estimated power consumption, as estimated power consumption is not influenced by weather temperature. Estimated power consumption represented approximately 2.6% of the bills for December 2023 and approximately 3.5% of the bills for December 2024.
- KPMG excluded bills where there was no power consumption (e.g., only additional fees were charged). This represented approximately 3.4% of the bills for December 2023 and approximately 3.3% of the bills for December 2024.
- KPMG collected daily weather temperature data from Environment Canada[13].

Results of relationship between weather temperature and power consumption:

The average weather temperature was colder across New Brunswick in December 2024 compared to December 2023[14].

Figure 5: Average Weather Temperatures in 2023 and 2024 by Geography



Correlation between weather temperature and power consumption

KPMG used a multiple linear regression model[15] to assess the relationship between weather temperature and power consumption.

We observed that there is a statistically significant correlation between weather temperature and power consumption.

Impact of weather temperature on urban, rural, and seasonal customers

Based on the data provided, customers situated in rural areas experienced more pronounced sensitivity to weather temperature variations, followed by those in urban areas. Seasonal customers were less impacted by weather temperature variations.

[13] https://climate.weather.gc.ca/historical_data/search_historic_data_e.html

[14] December was used as an illustrative example month given that December represents the majority of the December 2023 and 2024 billing cycle days.

[15] A multiple linear regression model is used in statistics to help investigate the relationship between two or more variables. The goal of this model is to identify a linear relationship that describes, as closely as possible, the relationship between a dependent variable (power consumption) and one or more independent variables (weather).

5.2.3 Procedure 3 – Analysis of customer trends

KPMG analyzed customers with increases in billing YoY to identify any trends, such as changes in meter type, geographic location, etc. We have performed our analysis under the following topic areas:

I. Analysis of power consumption trends;

II. Analysis by customer type;

III. Analysis by geography;

IV. Analysis of customers with significant increases; and

V. Customers with Meter Type Change vs. Customers with no Meter Type Change.

Data assumptions:

- For the YoY analysis, KPMG analyzed customers that were present in both December 2024 and December 2023. Similarly, for the MoM analysis, KPMG analyzed customers that were present in both December 2024 and November 2024.
- KPMG excluded amounts relating to adjustments for power consumption from a different time period (e.g., interim rate adjustments) and charges that were non-recurring in nature (e.g., tax rebates, late payment penalties). This was performed to ensure only comparative charges were included in the analysis.

I. Analysis of power consumption trends

Due to rate increases between December 2023 and December 2024, residential customers with no change in power consumption saw an increase of 13.50% on their December 2024 bill compared to their December 2023 bill. The table below (**Table 1**) illustrates an example of a December 2024 bill for an urban customer if power consumption remained the same as December 2023, depicting the isolated percentage dollar increase only relating to rate changes.

Table 1: Illustrative Example of Impact in December 2024 bill due to Rate Changes[16] - *Based on Average Residential Urban Customer 2023 Power Consumption*

	Reference	2023 Illustrative Bill	Assumptions used to forecast the 2024 bill based on actual changes	2024 Forecasted Bill	% Increase
Power Consumption (kWh)	A	1,900[17]	Approximate average monthly usage for a residential urban customer in 2023 – no increase in power consumption	1,900	
Base rate	B	12.27¢	Approved base rate as of November 15, 2024	13.46¢	
Charges for power used	**C = A * B**	**$233.13**	*Calculated as kWh power consumption x Base rate*	**$255.74**	
Variance account amount rate	**D**	(0.12)¢	Change from credit to debit	0.38¢	
Variance account amount	**E = A * D**	**($2.28)**	*Calculated as kWh power consumption x Variance Account Amount rate*	**$7.22**	
Service Charge	**F**	**$24.57**	Approved charges for urban residential customer as of November 15, 2024	**$26.95**	
Total	**G = C + E+ F**	**$255.42**		**$289.91**	**$34.49** ***or*** **13.50%**

The table below (**Table 2**) illustrates an example of a December 2024 bill for an urban customer if power consumption increased by 12% (from 1,900 kWh to 2,128 kWh), depicting the percentage dollar increase relating to billing changes and power consumption changes. We used 12% as the percentage increase in power consumption given it was identified as the average increase observed in the YoY analysis noted above in Procedure 1.

[16] KPMG used the base rate, variance account amount rate and service charge for urban residential customer approved as of November 15, 2024

[17] 1,900 kWh is an approximate average monthly usage for an urban residential customer in 2023.

An increased number of billing days, fewer power outages, and colder weather temperatures contributed to increased power consumption reflected in December 2024 bills. Considering the increased pricing in combination with increased power consumption between 2023 and 2024, residential customers saw an average increase of 25.86% in their December 2024 bill compared to their December 2023 bill, as detailed in the table below (**Table 2**).

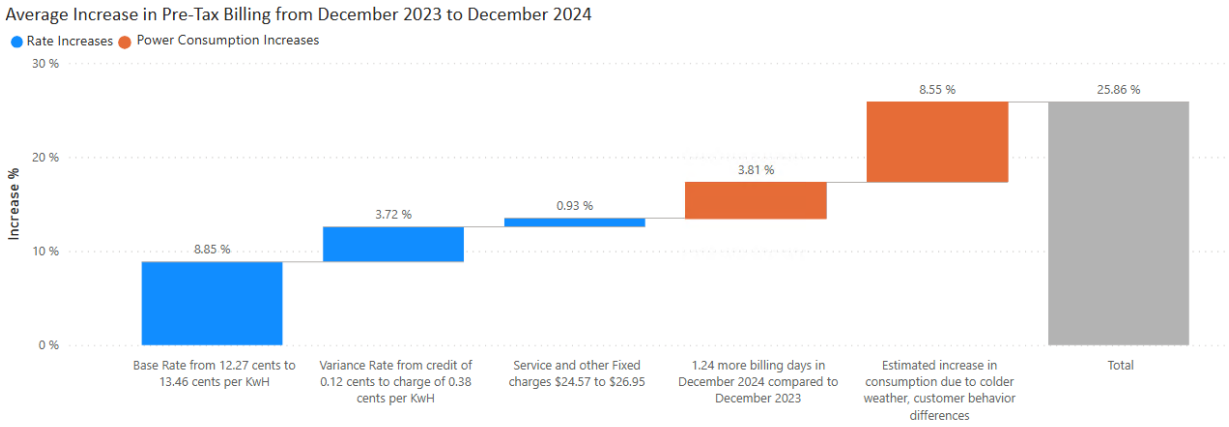
Table 2: Illustrative Example of Impact on December 2024 bill - *Based on Average Residential Urban Customer 2023 Power Consumption with a 12% increase in power consumption applied for 2024 Forecasted Bill*

	Reference	2023 Illustrative Bill	Assumptions used to forecast the 2024 bill	2024 Forecasted Bill	% Increase
Power Consumption (kWh)	A	1,900[18]	12% average increase in power consumption applied to the approximate average monthly usage for an urban residential customer in 2023	2,128[19]	
Base rate	B	12.27¢	Approved base rate as of November 15, 2024	13.46¢	
Charges for power used	**C = A * B**	**$233.13**	*Calculated as kWh power consumption x Base rate*	**$286.43**	
Variance account amount rate	**D**	(0.12)¢	Change from credit to debit	0.38¢	
Variance account amount	**E = A * D**	**($2.28)**	*Calculated as kWh power consumption x Variance Account Amount rate*	**$8.09**	
Service Charge	**F**	$24.57	Approved charges for urban residential customer as of November 15, 2024	$26.95	
Total	**G = C + E+ F**	**$255.42**		**$321.47**	**$66.05 *or* 25.86%**

[18] 1,900 kWh is an approximate average monthly usage for an urban residential customer in 2023.
[19] 1,900 kWh x 12% increase in power consumption= 2,128 kWh

A summary breakdown of factors contributing to bills being 25.86% higher, on average, in December 2024 compared to December 2023 is provided in **Figure 6** below.

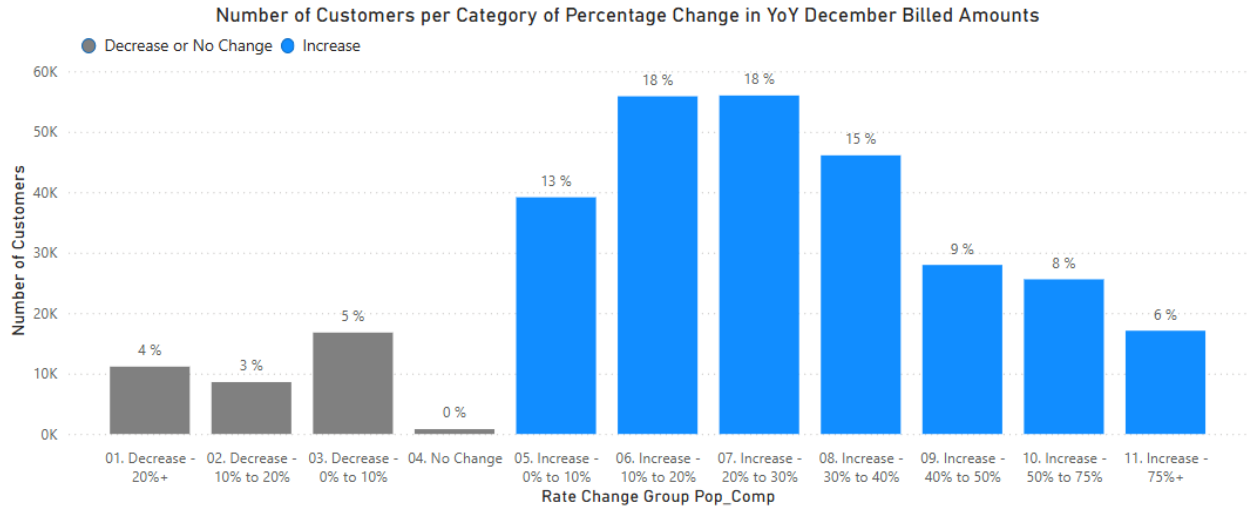
Figure 6: Average Increase in Pre-Tax Billing between December 2024 and December 2023



Increase Category	Increase %
NB Power Rate Increases	
Base Rate from 12.27 cents to 13.46 cents per KwH	8.85 %
Variance Rate from credit of 0.12 cents to charge of 0.38 cents per KwH	3.72 %
Service and other Fixed charges $24.57 to $26.95	0.93 %
Subtotal	**13.50 %**
Customer Consumption Increases	
1.24 more billing days in December 2024 compared to December 2023	3.81 %
Estimated increase in consumption due to colder weather, customer behavior differences	8.55 %
Subtotal	**12.36 %**
Total Average Bill Increase from December 2023 to December 2024	**25.86 %**

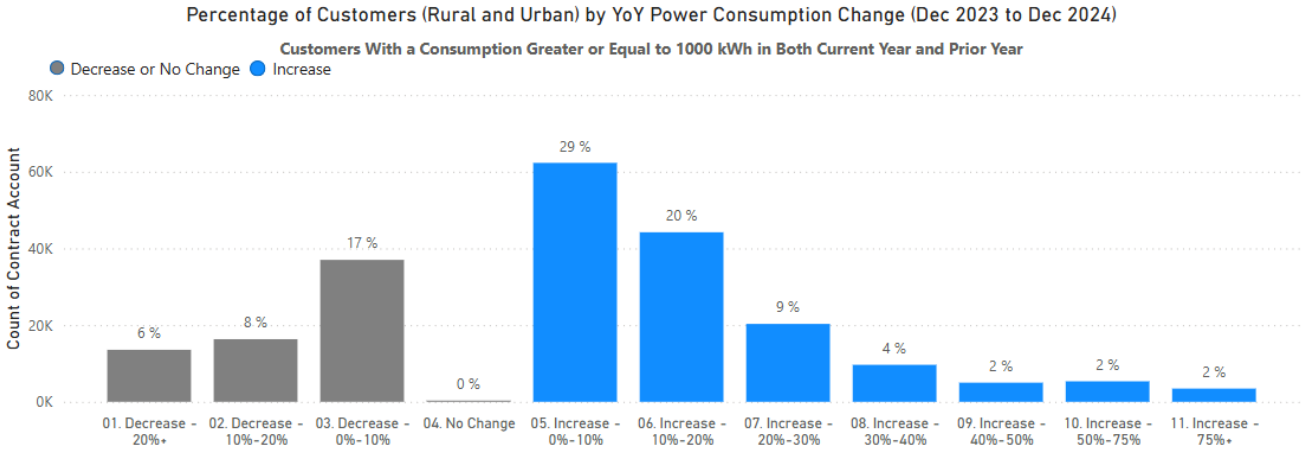
KPMG summarized the number of customers who experienced increases in total billing between different percentage ranges in **Figure 7** below. KPMG performed further analyses of customer accounts with increases greater than 30% (given that 25% was the average increase) to identify potential trends in higher bills by customer type, location, and type of meter. The results of these analyses are summarized below.

Figure 7: Number of Residential Customers per Category of Percentage Change in Year-Over-Year Amounts Billed



Additionally, for illustrative purposes, KPMG summarized the number of customers who experienced increases in power consumption between different percentage ranges. **Figure 8**, included below, summarizes changes in power consumption for residential customers with power consumption greater or equal to 1,000 kWh in both December 2023 and December 2024 for urban and rural customers. As shown below, approximately 31% of customers had a decrease in power consumption year-over-year, and approximately 49% had an increase of between 0-20%.

Figure 8: Customers with Power Consumption Greater or Equal to 1,000 kWh in Both Current and Prior Year per Category of Percentage Change in Year-Over-Year Power Consumption



II. Analysis by customer type

KPMG analyzed how urban, rural and seasonal customers were impacted by higher bills and identified that seasonal customers did not have as significant a variance in their power consumption. As a result, the billing increases for seasonal customers were driven by pricing changes rather than power consumption. In **Figure 9** below, we illustrate this analysis:

Figure 9: Percentage Breakdown of Customers' Year-Over-Year Billing Increase by Rate Category

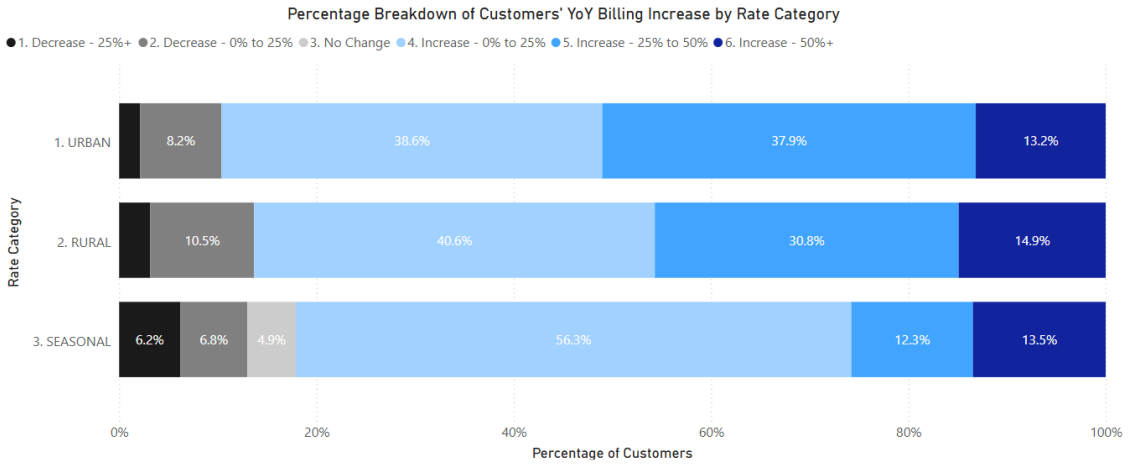


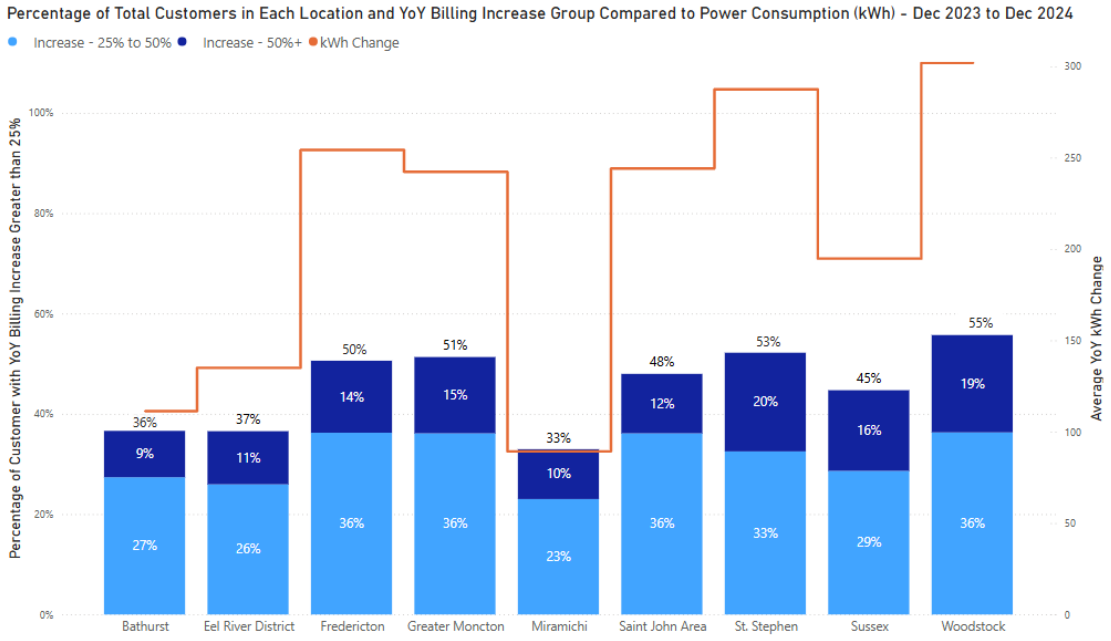
Table 3: Number of Residential Customers by Rate Category

Rate category	Number of customers	Percentage of customers
Urban	151,594	49.26%
Rural	139,878	45.46%
Seasonal	16,240	5.28%
Total	**307,712**	**100.00%**

III. Analysis by geography

KPMG identified that in Fredericton, Greater Moncton, St. Stephen, and Woodstock, more than half of residential customers had an increase in pre-tax billings of greater than 25%. This is illustrated in **Figure 10** below.

Figure 10: Percentage of Total Customers with Billing Increases Greater than 25% by Geography



KPMG analyzed the weather temperature in the December 2024 billing period compared to the December 2023 billing period for the above geographies. KPMG identified that in Fredericton, Greater Moncton, St. Stephen and Woodstock, there were more colder days (specifically in the range of -10 to -20°C) in the December 2024 billing period compared to the December 2023 billing period[20].

Table 4: Number of occurrences of temperature between -10°C to -20°C for December 2023 and December 2024 billing periods by Geography

Geography	Number of days -10°C to -20°C	
	December 2023 billing period	December 2024 billing period
Fredericton	6	13
Greater Moncton	2	9
St Stephen	6	9
Woodstock	6	14

Given the observed correlation between weather temperature and power consumption, a portion of the higher power consumption in these geographies can be attributed to colder weather during the month.

[20] https://climate.weather.gc.ca/historical_data/search_historic_data_e.html

IV. Analysis of customers with significant increases

KPMG observed that 47% of residential NB Power customers changed from a conventional meter to a smart meter between the end of the December 2023 billing period and the beginning of the December 2024 billing period.

To understand if a change in meter may have resulted in an increase in kWh, KPMG identified the customers with the largest increases in power consumption between December 2023 and December 2024.

A total of 466 customer accounts were analyzed by KPMG and we compared their December 2024 bill to their past NB Power December to March invoices from 2019 to 2023 (reflecting power consumption from late November to early March). KPMG only selected customers who had a power consumption greater or equal to 100 kWh in both the December 2024 and December 2023 billing cycles.

The power consumption was calculated on a per-day basis to account for differences in the number of days in each customer's billing cycle.

Out of the 466 customers:

- 275 customers did not have a change in their meter between December 2023 and December 2024. As a result, the power consumption increase they experienced in December 2024 was not due to a change in meter.
- 46 customers experienced a winter month in the last five years with either a higher level of power consumption compared to December 2024 or power consumption within 10% of the power consumption recorded in December 2024.
- 33 customers experienced a similar power consumption as compared to their peers in the three months following their change in meter (either a decrease, no increase, or a nominal increase). An additional 20 customers had either no bill following the change in meter or had disconnected their meter shortly after it was changed).
- For the remaining 92 customers, KPMG recommends that NB Power contact these customers to identify other factors that could explain their increase in power consumption.
    - While no further procedures were conducted on these specific customers, KPMG selected a statistically significant random sample of 400 meters and a risk-based sample of 100 meters, which included both conventional and smart meters, and we have not identified evidence that either conventional meters or smart meters were reporting faulty meter readings that would have overstated the power consumption levels of NB Power residential customers in December 2024. See the results in **Section 6.2 and Section 6.3**.

V. Customers with Meter Type Change vs. Customers with no Meter Type Change

KPMG identified that 144,607 NB Power customers changed from a conventional meter (including legacy mechanical and legacy electronic meters) to a smart meter between the end of the December 2023 billing period and the beginning of the December 2024 billing period. This represents approximately 47% of customers that were billed in both 2023 and 2024.

To determine if customers who changed their meter in the last year experienced higher levels of power consumption, KPMG divided NB Power residential customers into two distinct groups:

- Residential customers who changed from a conventional meter to a smart meter between December 2023 and December 2024; and
- Residential customers who did not change their meter between December 2023 and December 2024, either because they had a conventional meter at the end of December 2024, or because they had a smart meter installed prior to December 2023.

KPMG compared the power consumption trends of these two groups of customers between 2019 and 2024 to determine if there was an increase in the power consumption of residential customers who changed their meter from a conventional meter to a smart meter in the last year.

KPMG also conducted a regional analysis of power consumption differences between residential customers who switched from conventional meters to smart meters between December 2023 and December 2024 focusing on maintenance plants[21] of which at least 10% of customers changed their meter, including:

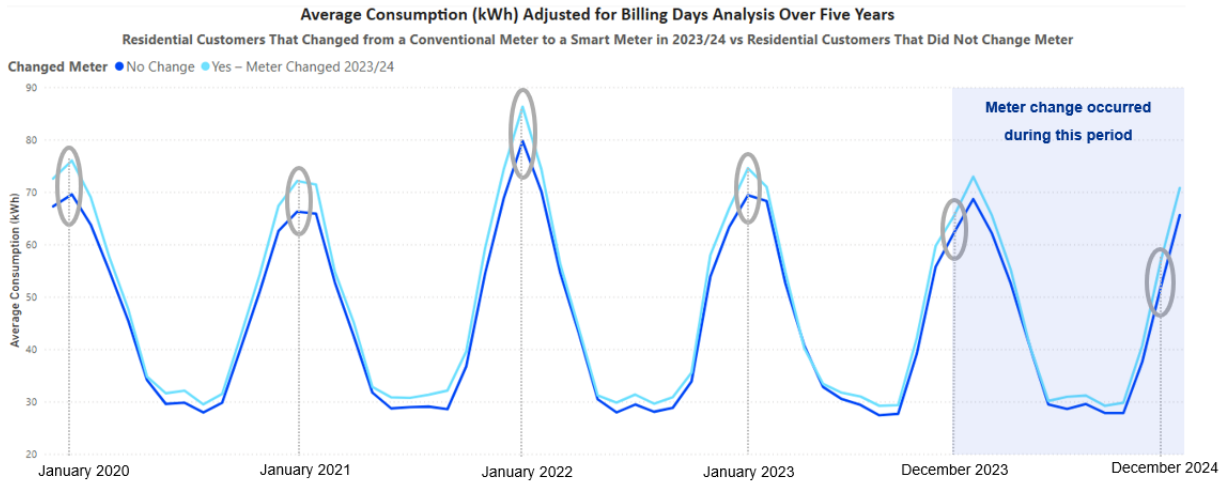
- Fredericton District;
- Grand Falls District;
- Moncton Regional Office;
- Rothesay District;
- St. Stephen District; and
- Woodstock District.

Finally, KPMG also analyzed consumption by Forward Sortation Area ("FSA"), corresponding to the first three characters of the customers' postal codes.

As demonstrated in **Figure 11** below, even before their meter was changed, the group of residential customers who changed from a conventional meter to a smart meter between December 2023 and December 2024 historically had a higher power consumption in certain winter months compared to the historical power consumption of the group of residential customers who did not change their meter between December 2023 and December 2024.

[21] NB Power division of regions for administrative purposes.

Figure 11: Average Power Consumption (kWh) Adjusted for Billing Days Analysis Over Five Years



The table below indicates that in December 2024, the average power consumption, as well as the power consumption differences between the two groups were similar to January 2021, December 2021 and January 2023 (See **Table 5**). This indicates that in general, customers who changed their meter between December 2023 and December 2024 did not experience an increase in their power consumption as a result of the meter change.

Table 5: Average Power Consumption (kWh) Adjusted for Billing Days

Change in Meter in 2023/24	Jan. 2021	Dec. 2021	Jan.2023	Dec. 2024
Yes	72.09	74.33	74.51	**70.41**
No	66.24	68.82	69.36	**64.81**
Difference (%)	8.83%	8.01%	7.43%	**8.64%**

As a result of performing the analysis on an overall, maintenance plant and FSA basis, KPMG concludes that customers who changed their meter between December 2023 and December 2024 did not experience an increase in their power consumption as compared to customers who did not change their meter between December 2023 and December 2024. Furthermore, the average power consumption in December 2024 was consistent with previous winter months such as January 2021, December 2021 and January 2023.

5.3 Conclusion

Based on the analyses performed in this section, KPMG concludes that:

- There was an increase of 25% in YoY pre-tax billings, of which 13% related to NB Power rate increases and 12% related to an increase in power consumption.
- The 13% increase in NB Power rates was made up of an increase in Base Rate, Variable Rate and Service Charges.

- The 12% increased in power consumption related longer billing periods in December 2024 and other customer behaviour differences.
- One of the reasons for the differences in customer behaviour was that December 2024 was colder than December 2023, and we observed that there is a statistically significant correlation between weather temperature and power consumption resulting in an increase in power consumption in December 2024.
- Customers who changed their meter between December 2023 and December 2024 did not experience an increase in their power consumption as compared to customers who did not change their meter between December 2023 and December 2024.

6 Observations of NB Power's residential customer meter testing

This section describes KPMG's observations from three different samples of customer meters that were tested:

- An initial sample of 40 meters selected by NB Power (**Section 6.1**)
- A random sample of 400 meters selected by KPMG (**Section 6.2**); and
- A risk-based sample of 100 meters selected by KPMG (**Section 6.3**).

6.1 Initial testing of a selection of 40 meters

KPMG first observed NB Power as it performed testing of a sample of residential customer meters. The purpose of this procedure was to observe NB Power testing a sample of conventional and smart meters through its Measurement Canada certified testing method.

6.1.1 NB Power's selection of residential customers meters for testing

For these tests, NB Power determined the sample size of meters to test, the type and location of the meters and selected the sample. Some of these sampled meters pertained to customers who specifically requested that NB Power test their meters.

In total, 40 residential meters[22] were selected by NB Power for testing from the Fredericton, Moncton, and Sussex areas. This sample included 20 smart meters and 20 conventional meters. As part of this assessment, all residential customers agreed to have their meters tested.

6.1.2 Observation of NB Power's residential customer meter testing

KPMG observed the first 20 meters[23] that were collected by NB Power technicians which were smart meters in the Fredericton and Moncton areas. KPMG compared the serial number of the meter removed from the customer's property by the NB Power technician to the serial number recorded in the customer's account. KPMG observed the NB Power technicians unload the meters from their vehicle to a facility inspected by Measurement Canada for the purposes of testing (the "Testing Facility").

NB Power's process for testing residential meters is described in its 2022 Technical Procedures Manual which we understand from NB Power is the latest version of the manual that is certified by Measurement Canada. A 2024 version of the Technical Procedures Manual is currently being reviewed by Measurement Canada for certification.

[22] The sample size and the specific meters selected for testing was determined by NB Power. KPMG had no involvement in the sample size or the selection process and therefore, we have not considered the sufficiency of the sample size, nor have we considered whether the selection process or the meters selected was appropriate.

[23] KPMG observed 20 meters, but verified that the ID number of the tested meter corresponded to the Meter ID of the customer per NB Power records for all 40.

Measurement Canada requires that all meters approved for use in Canada meet strict requirements related to accuracy[24]. KPMG was advised by NB Power that while Measurement Canada requires readings to be accurate to within a three percent tolerance (3%) in a dispute resolution situation, NB Power's Measurement Canada certified test procedures verify accuracy within a one percent tolerance (1%).

The testing process was completed by an NB Power Measurement Canada certified inspector (the "Inspector"), at the Testing Facility. Measurement Canada conducted its last audit of the Testing Facility in September 2024. Upon completion of the meter testing, an inspection certificate denoting the testing results was produced for each meter that was tested.

KPMG observed the Inspector's testing of the 40 meters collected from the point the meter arrived at the Testing Facility through to the point the inspection certificate was prepared.

The testing process began with the Inspector's visual inspection and confirmation that the nameplate information and markings on each meter were clear and identifiable. Subsequent tests diverge based on the type of meter and include continuity testing to consider the integrity of power connections, a segment check to ensure the meter display is functioning properly, and a data retention test to verify that the meter retained data after being powered off during power outages.

As part of the procedures for testing smart meters, the Inspector confirmed that the correct programming file was used, and that the firmware version was appropriate.

Energy and demand tests were performed by the Inspector to ensure meters accurately measured power usage. Dial and register tests were completed to evaluate the accuracy of the mechanical components. Additionally, creep tests[25] were conducted to confirm that the meters ceased to register power consumption when the power was cut such that inaccurate readings would not occur.

6.1.3 Observation limitations

KPMG's involvement in the meter testing was limited to observation only. As such, we did not evaluate the testing procedures, nor did we validate that the procedures were completed correctly by the Inspector. KPMG relied on the Inspector to represent that the appropriate testing was performed in accordance with appropriate protocols, and the testing results were both accurate and complete.

6.1.4 NB Power's testing results

The Inspector's summary of results indicated that all 40 meters were tested and verified to be accurate within a one percent tolerance, and no meters were rejected.

[24] https://ised-isde.canada.ca/site/measurement-canada/en/buying-and-selling-measured-goods/questions-and-answers-electricity-meters-incl-smart-meters

[25] A creep test is used to ensure that meters cease to register power consumption when power to the meter is cut (i.e., that meters do not 'creep' forward).

6.2 Residential customer meter representative sampling

6.2.1 Sampling methodology

Subsequent to the initial testing of 40 meters, KPMG selected a statistically significant, random probabilistic sample of NB Power customers and asked NB Power to test the meters selected using NB Power test procedures.

A probabilistic sample is a type of sampling technique used in statistics where every member of a population has a known, non-zero chance of being selected. This method is critical for ensuring that a sample is representative of the entire population, thus allowing for generalizations and inferences to be made with a certain level of confidence.

This probabilistic sample was selected such that every eligible NB Power residential customer had an equal chance of being selected for the sample[26]. The sample selected was representative by region, meter type[27] and customer type.

This type of sampling allows the calculation of the error rate of meters that do not fall within NB Power testing standards and that may be either over-reporting or under-reporting the amount of kWh consumed. This error rate could then be extrapolated to estimate the total number of meters with potentially erroneous readings for all NB Power residential customers.

Key aspects of this methodology include:

Use of Confidence Level and Margin of Error

- In statistics, the use of a confidence level and a margin of error allows the framing of the true value of the population using the results of a sample. Typical confidence levels range from 90 to 95% while margins of errors typically range from 3 to 7%. For the purposes of this analysis, KPMG chose a standard 95% confidence level with a 5% margin of error.
- With a population of 307,685[28] residential customers and a margin of error of 5%, a minimum sample size of 384 is required to achieve a confidence level of 95%. See “Selection” criteria in the section below.

Selection

- KPMG selected a random sample of 400 customers based on the December 2024 billing data, identifying both the account number and the premise number.
- KPMG only included customers in the sample who had invoices in both December 2023 and December 2024 billing cycles and excluded the 40 customers who had already been selected for meter testing as part of procedures referenced in **Section 6.1**.

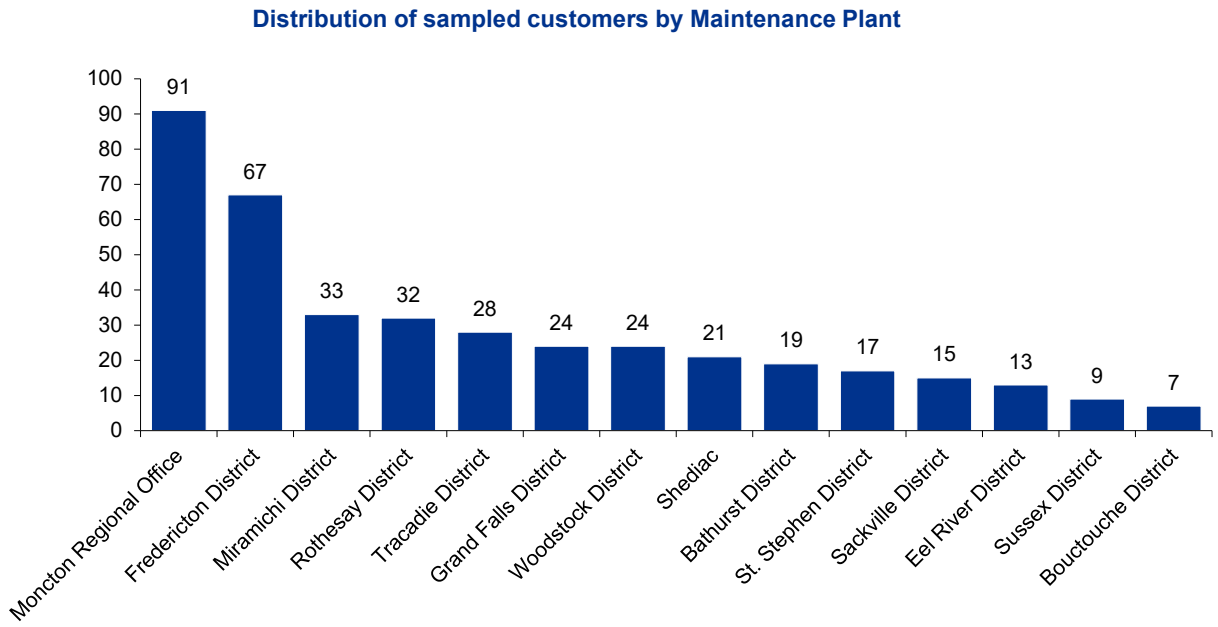
[26] Certain customers were excluded. See criteria in the “Selection” section below.

[27] Either conventional meters or smart meters.

[28] This figure is slightly less compared to Table 3 as it excludes customers that were tested in **Section 6.1.**

- As per the December 2024 billing data, the randomly selected sample consisted of 181 customers with conventional meters (45%) (including legacy mechanical and legacy electronic meters) and 219 customers with smart meters (55%)[29].
- The randomly selected sample was distributed amongst 14 maintenance plants as per the following distribution:

Figure 12: Distribution of sampled customers by Maintenance Plant



Replacement Samples

Out of the 400 residential customers selected, 45 (11.25%) could not be tested for the following reasons:

- 39 customers did not allow their meter tested after being contacted by NB Power;
- Two customers had circumstances that made replacing the meter unsafe, either because of the location itself, or because power could not be turned off for any period of time due to health concerns relating to the resident of the property;
- The remaining four customers could not participate for various reasons (e.g., they had recently disconnected their service, etc.)

Replacement samples were selected for these 45 customers. Each of the replacement samples was for residential customers from the same region, with the same meter type and customer type as the customer who could not be tested. Given the similarity to the original customer,

[29] For a few items in the sample, the meter selected had already been changed between January 2025 and March 2025 (i.e., before testing began). KPMG did not replace these items and assumed that the number of meters that had been recently replaced in the sample would be representative of the total number of replaced meters in the population.

KPMG has assumed that the results of the replacement samples would be consistent with that of the initial sample selected[30].

Testing

- All customers who were selected for testing were contacted by NB Power and agreed to have their meters tested. In each instance, the customer's meter was removed for testing and was immediately replaced with a new smart meter (even for customers who already had a smart meter).
- NB Power used the NB Power Measurement Canada certified testing method using the same methodology as described in **Section 6.1.** KPMG did not observe the testing performed by NB Power.
- As described in **Section 6.1**, KPMG was advised by NB Power that while Measurement Canada requires meter readings to be accurate to within a three percent tolerance in a dispute resolution situation, NB Power's Measurement Canada certified test procedures verify accuracy to within a one percent tolerance.
- Based on our discussions with NB Power, meter testing includes validating the accuracy of the meter when it is under a full load ("FLS") and low load ("LLS"). When the recorded measure is under-reporting or over-reporting by more than 1% for either the FLS or LLS test, the meter is rejected due to potentially inaccurate power consumption readings.

6.2.2 Results and extrapolation

Results

Out of the 400 meters that were tested, 12 (3%) were rejected for not meeting NB Power's certified test procedures.

- Two meters (0.5%) were rejected for reasons unrelated to the accuracy of the meter.
    - One smart meter was rejected due to a connectivity issue and one conventional meter was rejected due to a dial reading mismatch.[31] Based on our discussion with NB Power, it is our understanding that neither of these issues would have an impact on the power consumption reading of the meter, however, these meters were still replaced by NB Power.
- 10 meters (2.5%) was rejected as they were found to be registering power consumption outside of the one percent tolerance level.
    - All 10 rejected meters were **conventional, legacy mechanical meters.** None of the legacy electronic meters or the smart meters that were tested exceeded the one percent tolerance level;

[30] In statistics, this assumption is referred to as "MCAR" or "Missing Completely at Random", meaning that the inability to test the meter is unrelated to whether the meter is functioning or not.

[31] The conventional meter was rejected due to a mismatch between the "dial" reading and the radio frequency reported read. The meter passed the accuracy testing but was still rejected due to the communication process.

- All 10 rejected meters registered a power consumption that could lead to an **under-reporting** of the number of kWh. No meters were rejected due to the potential over-reporting of the number of kWh;
- The 10 rejected meters had an average life of approximately 35.5 years at the time they were tested and replaced, compared to an average of 18.8 years for all conventional meters that were sampled;
- Nine of the rejected meters under-reported power consumption under the LLS test while three of the meters under-reported power consumption under the FLS test (two meters were rejected for both tests). Based on our discussion with NB Power, it is our understanding that rejections due to FLS under-reporting are more likely to cause power consumption errors, as they better reflect normal customer use of the meter;
    - The nine meters that were rejected due to the LLS test were found to be under-reporting between 1.01% and 1.99%;
    - The three meters that were rejected due to the FLS test were found to be under-reporting between 1.01% and 1.29%.
- NB Power observed corroded lugs on three of the rejected meters. Based on our discussion with NB Power, we understand that it is likely that this corrosion contributed to the under-reporting and rejection of these meters;
- It is important to note that all 10 of the meters were rejected based on NB Power's Measurement Canada certified test procedures that have a one percent tolerance, however, all of these meters were rejected by a tolerance of between 1.01% and 1.99% and therefore, would have passed the Measurement Canada standard of a three percent tolerance in a dispute resolution situation;

Extrapolation

As detailed above, 2.5%[32] of the meters in the sample were rejected as they were found to be registering power consumption outside of the one percent tolerance level (10 samples out of 400). We extrapolated this error rate pertaining to meters showing an under-reporting of power consumption to the population of 307,685 residential NB Power customers, which allowed us to estimate that approximately 7,692[33] NB Power customers have meters that are currently operating outside of the one percent tolerance level.

Additionally, using the margin of error of 5%, we can be 95% confident that the percentage of NB Power residential customers with meters registering power consumption outside of the one percent tolerance level, to be between 0%[34] and 7.5% (2.5% ± 5%), or between 0 and 23,076[35] residential customers.

[32] This error rate was calculated based on the entire population and not solely based on customers with conventional meters. However, given that the customer meter type distribution in the sample was representative of the customer meter type distribution in the population, using a larger error rate of conventional meters with a lower population would have yielded a similar estimate.

[33] 307,685 customers x 2.5% error rate.

[34] Given that 2.5%-5% is less than 0, we have assumed a minimum rate of error rate of 0% for the purposes of this extrapolation.

[35] 307,685 customers x 7.5%.

As NB Power is continuing the process of replacing conventional meters with smart meters, the number of customers with a meter operating outside of the one percent tolerance threshold will likely decrease over time.

6.3 Risk-based sampling

6.3.1 Sampling methodology

In addition to conducting a random sample of NB Power customers as presented in **Section 6.2**, KPMG also conducted a risk-based sample by selecting NB Power customers with an increase in power consumption between December 2023 and December 2024 in excess of 30%.

Note that this risk-based sample is not probabilistic and thus no inferences about the entire population of NB Power customers can be made. Rather, this risk-based sampling was performed to understand if there were other factors that may explain large increases in power consumption between December 2023 and December 2024, that are anomalous in nature and are not necessarily experienced by all NB Power customers.

Key aspects of this methodology include:

Sample Size and selection

- 100 residential customers[36] were chosen randomly from a population of customers who had an increase in power consumption in excess of 30%[37] between December 2023 and December 2024 and had a minimum of 1,000 kWh in both December 2023 and December 2024. NB Power informed KPMG that 13 of the 100 customers in the risk-based sample selected by KPMG had already contacted NB Power with concerns about their bill.
- As per the December 2024 billing data, the risk-based sample consisted of 54 customers with conventional meters (including legacy mechanical and legacy electronic meters) and 46 customers with smart meters[38].

Testing and replacement samples

- All customers selected for testing were contacted by NB Power and agreed to have their meters tested. In each instance, the customer's meter was removed for testing and was immediately replaced with a new smart meter (even for customers that already had a smart meter).
- The testing method used NB Power's Measurement Canada certified testing method using the same methodology as described in **Section 6.1**. KPMG did not observe the testing performed by NB Power.
- In some cases, customers from the initial sample needed to be replaced for the same reasons as described in **Section 6.2.1.** 17 customers (17%) were replaced with customers from the same region, with the same meter type and customer type.

[36] Seasonal customers were excluded from this sample.

[37] KPMG selected the sample criteria such that at least 50 customers had an increase in excess of 50% from the prior year.

[38] For a few items in the sample, the meter selected had already been changed between January 2025 and March 2025 (i.e., before testing began). KPMG did not replace these items and assumed that the number of meters that had been recently replaced in the sample would be representative of the total number of replaced meters in the population.

6.3.2 Results

Out of the 100 customers who had their meters tested, three meters were rejected (3%):

- One smart meter (1%) was rejected because of a connectivity issue. Based on our discussion with NB Power, it is our understanding that this issue would not have an impact on the reading of the meter, but this meter was still replaced by NB Power.
- Two conventional meters (2%) were rejected due to under-reporting of power consumption values.
    - Both of these meters were legacy mechanical meters;
    - Both of these meters were rejected due to the FLS test under-reporting by 1.12% and 1.24% respectively;
    - One of the meters was also rejected due to the LLS test under-reporting by 1.47%;
    - The two rejected meters had an average life of 28.5 years when tested; and
    - It is important to note that both of the meters were rejected based on NB Power's Measurement Canada certified test procedures that have a one percent tolerance, however, both would have passed the Measurement Canada standard of a three percent tolerance in a dispute resolution situation.

6.3.3 Analysis of risk-based samples power consumption compared to prior years

KPMG compared the power consumption of the 100 customers in the risk-based sample[39] to their past NB Power December to March invoices from 2019 to 2023 (reflecting power consumption from late November to early March). The power consumption was calculated on a per-day basis to account for differences in the number of days in each customer's billing cycle. In addition, only billings with actual power consumption values were considered (estimated billings were excluded).

Summary of Observations

Our observations of the 100 risk-based sample are as follows:

Table 6: Summary of observations for the Risk-based sample

Customers with higher or similar power consumption in the last 5 years	No power consumption in prior winter months (between 2019 and 2022)	December 2024 was the largest power consumption in the last 5 years	Total
59	13	28	100

[39] KPMG used the initial 100 customers in the Risk-based sample, even if some of these customers could not have their meter tested for the reasons cited in the **Section 5.1**.

Customers with higher or similar power consumption in the last 5 years

There were 43 customers who experienced a previous winter month in the last five years with a higher level of power consumption compared to December 2024. An additional 16 customers experienced a winter month in the last five years that was within 10% of the power consumption recorded in December 2024. Combined, 59 customers had months with a higher or similar level of power consumption as compared to December 2024.

Additionally, 46 of these 59 customers experienced a higher or similar power consumption on more than one occasion in the last five years. Therefore, while there was an increase in power consumption when comparing December 2023 to December 2024, the power consumption observed in December 2024 was similar or lower than in prior years.

No power consumption in the winter months between 2019 and 2022

There were 13 customers who had no power consumption in the winter months between 2019 and 2022, either because they were a new customer or had moved from a different residence:

Only one of the 13 samples could not have their meter tested and it was replaced with a similar customer. The testing results indicated that:

- 12 meters passed NB Power's certified test procedures (11 of the original sample and 1 replacement sample), as the meters were operating within the one percent tolerance; and
- One meter was rejected as it was not operating within the 1 percent tolerance level. This meter was a conventional meter which was rejected due to an **under-reporting** of the FLS test by 1.24%.

December 2024 was the largest consumption in the last 5 years

- 28 customers had power consumption in December 2024 that was at least 10% higher than any winter month in the last 5 years.
- All of these 28 customers had their meter tested and passed NB Power's certified test procedures.

6.3.4 Residential Customer Outreach Results

NB Power contacted the 100 residential customers that were selected as part of the risk-based sample to inquire with respect to their power consumption increase.

NB Power asked the customers if there were any changes in their power consumption habits that could explain the increase. KPMG observed the call log provided by NB Power and categorized the results into the following four categories:

Increase due to power consumption habits: The customers indicated to NB Power that their power consumption habits had changed, and they expected their bill to be higher. For example, customers in this group had installed heat pumps, purchased new appliances, or performed renovations that increased their house size and therefore increased their house heating costs. These customers did not require any additional follow-up.

Accepted explanation from NB Power: As part of their discussion with these customers NB Power indicated that colder temperatures and additional billing days in 2024 may have led to an increase in power consumption. The customers understood this clarification and did not require additional follow-up.

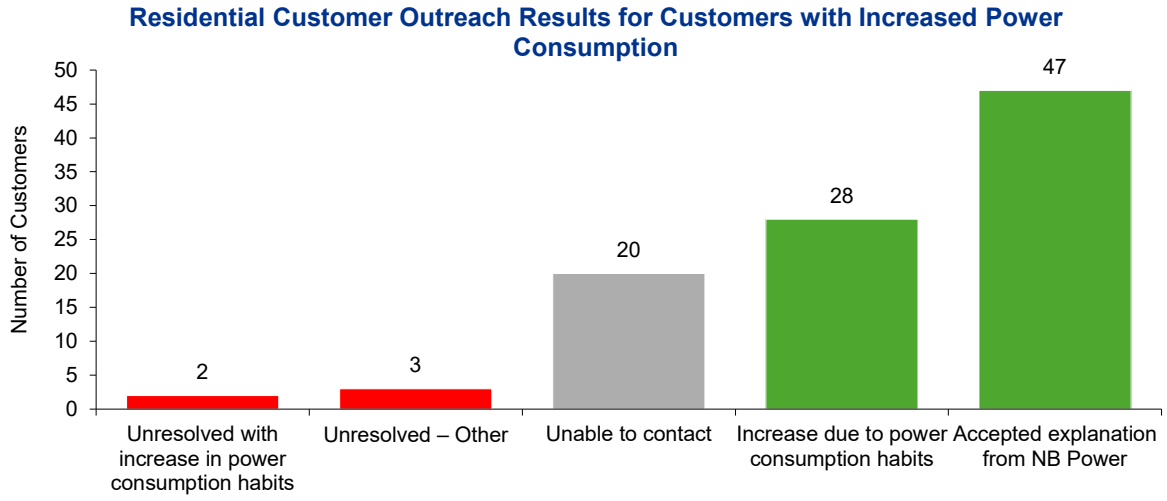
Unresolved with increase in power consumption habits: These customers explained to NB Power that while their power consumption habits had changed, the increase in power consumption was still above their expectations and they were not satisfied with NB Power's explanation.

Unresolved – Other: These customers could not provide any explanation to NB Power that would explain an increase in power consumption. They were not satisfied with NB Power's indication that colder temperatures and additional billing days in 2024 may have led to an increase in power consumption.

Unable to contact: NB Power attempted to contact these customers and left contact details when possible on multiple occasions but did not receive a call back. Therefore, NB Power was unable to discuss power consumption habits with these residential customers.

KPMG analyzed the residential customer outreach data and observed that 75 of the customers were considered as resolved by NB Power, five were considered as unresolved and 20 customers could not be reached (See **Figure 13** below).

Figure 13: Residential Customer Outreach Results for Customers with Increased Power Consumption



Out of the 100 customers in the risk-based group, KPMG observed that:

- 28 customers indicated to NB Power that their power consumption habits changed and did not require a follow-up;
- 47 customers accepted NB Power's explanations regarding possible causes of increased power consumption and did not require a follow-up;

- 20 customers could not be reached because they had an incorrect phone number on their file, did not have a voicemail or did not contact NB Power after a voicemail message was left[40]; and
- Five customers did not accept NB Power's explanations. NB Power offered a site visit to these customers when it was possible to do so. In addition:
    - Three of the customers who did not accept NB Power's explanations had power consumption in December 2024 that was similar to other months in the past five years, while two customers had power consumption for which December 2024 was higher than any month in the past five years.
    - Three of the customers who did not accept NB Power's explanations had their meters tested. Their meters passed the NB Power's certified test procedures and were operating below the tolerance of one percent. The remaining two customers did not allow NB Power to test their meter.

NB Power informed KPMG that 13 of the 100 customers in the above risk-based sample selected by KPMG had already contacted NB Power with concerns about their bill. Of these customers:

- Four customers indicated that their power consumption habits changed and did not require a follow-up;
- Eight customers indicated that they accepted NB Power's explanations regarding possible causes of increased power consumption and did not require a follow-up; and
- One customer did not accept NB Power's explanations. This customer had power consumption in December 2024 that was similar to other months in the past five years. This customer did not allow NB Power to test their meter.

6.4 Conclusion

KPMG selected a statistically significant, random sample of 400 NB Power customers and NB Power tested the meters using their test procedures. Of this sample, 2.5% of the tested meters were rejected due to the potential under-reporting of power consumption as per NB Power's standard of a one percent tolerance. However, they would have all met the standards set by Measurement Canada which uses a three percent tolerance in a dispute resolution situation. Furthermore, all of these rejected meters were conventional meters and none of them showed indications of over-reporting power consumption.

KPMG extrapolated this error rate and estimates that approximately 7,692 NB Power residential customers have meters that are currently operating outside of the one percent tolerance level.

For the 100 residential customers in the risk-based group, a majority (59) had months with a higher or similar level of power consumption as compared to December 2024. In addition, 75 customers understood the changes either because they represented that the increase in power consumption was due to a change in their consumer habit or understood that weather and extra billing days may have an impact on power consumption.

[40] NB Power attempted to contact the customers with a correct phone number on multiple occasions.

Amongst the customers that did not accept NB Power's explanations, some had previous months with power consumption that were similar to December 2024's power consumption and all meters passed NB Power's certified test procedures with the exception of the customers that did not allow their meter to be tested.

As a result of the above testing, there is no evidence that either conventional meters or smart meters were overstating the power consumption levels of NB Power residential customers in December 2024.

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