
Nova Scotia Energy Board

IN THE MATTER OF *The Public Utilities Act*, R.S.N.S. 1989, c.380, as amended

Net Metering – 2025 Annual Report

NS Power

March 31, 2026

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1.0 INTRODUCTION

This annual report was established in compliance with the Nova Scotia Energy Board's (NSEB, Board) 2011 Order in which the Board directed:

NSPI is to file an annual report with the Board by January 31st each year which provides a listing and details regarding each net metered customer generator connected to each distribution feeder. NSPI's annual report is also to include details regarding any portion of aggregated customer net metered load which was temporarily or permanently transferred to another distribution zone and was thereby affected by the terms of the Open Access Transmission Tariff.¹

In the Board's letter regarding Nova Scotia Power's (NS Power, Company) 2015 Net Metering (NM) Report (2015 Report), the Board further directed as follows:

The Board accepts NSPI's report as filed but directs that future reports be enhanced to include sections on analysis and discussion. Those enhancements should highlight, but not be limited to, the number of installations by resource, locational clustering, number of sales reductions, amounts paid to customers, trending or forecasting, and potential future impacts.²

In its May 3, 2024 letter, the Board accepted the 2023 Report and, in relation to the Company's proposal to combine NM reports, provided:

Given the recent start of the Commercial Net Metering Program, the Board finds that it would be appropriate to keep the reports separate until the Commercial Net Metering Program's operation and performance are well understood by both the Board and stakeholders. However, the Board does consider that providing a longer reconciliation period for the Net Metering report may reduce future discrepancies and that filing both reports on or before March 31 of each year may provide NS Power with some administrative efficiencies. NS Power is directed to file the annual Net Metering Report on or before March 31, each year.³

¹ M03666 – Board Order, Proposed Enhancements to NSPI's Regulation 3.6 – Net Metering – P-188. April 14, 2011.

² M07278 – Board Letter, NS Power 2015 Net Metering Report. February 19, 2016.

³ M11553 – Board Letter, NS Power Regulation 3.6 – 2023 Net Metering Report, 312843, page 2. May 3, 2024.

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1 The Company submits this correspondence as the 2025 NM Report. In accordance with the
2 Board's direction in M11553, the Company separately filed its 2025 CNMP Report on March 31,
3 2026 and has not included details pertaining to CNMP in this report.

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2.0 DIRECTIVE FROM THE 2024 REPORT

On March 27, 2025, the Company filed the 2024 Report. In its July 9, 2025 letter, the Board issued the following directive:

In IR-3, the Board requested that NS Power identify the factors contributing to the decline in excess generation compensation in 2024 and provide the underlying data supporting this analysis. NS Power could not provide the requested data, citing ongoing IT resource commitments to address a cybersecurity incident. The Board directs NS Power to provide a fulsome response to IR-3 in its 2025 Net Metering Report.⁴

In response to NSEB IR-3 part (a), **Appendix B** contains the source data for payouts for the reporting years 2011-2019 and 2025. As a result of the cyber incident, NS Power was unable to recover the source data for the payout tables for 2020-2024.

In response to NSEB IR-3 part (b), **Appendix C** provides the Board with the payout amounts to all customers expressed on a \$/kWh basis relative to estimated annual generation for all active customers between 2015 and 2024.

The Company has also included, as **Appendix D**, a Legacy Net Metering payout analysis report that examines the change in excess banked energy payouts between 2023 and 2024, along with the key drivers behind that change.

⁴ M12165 – Board letter, 322732, page 2. July 9, 2025.

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3.0 2025 REPORT

The 2025 Report includes details pertaining to participants of the legacy net metering (LNM) program and self-generating option⁵ (SGO) as of December 31, 2025. **Appendix A** provides the source, size, location, feeder, and application of aggregation⁶ for each customer, as well as additional analysis and discussion with respect to the number of installations by resource, locational clustering, amount of sales reductions, amounts paid to customers, and trends. The topics of potential future impacts and legacy customer net metered load being transferred to another distribution zone are addressed below.

The annual net metering reports present the total new and active participation figures reflective of a snapshot in time (i.e. as of December 31 of the report year). As a result, year-over-year comparisons of new interconnections and total active customers may fluctuate due to changes in participation (e.g. system retirements, capacity changes, program migrations). In **Appendix A** for any given report year:

- The ‘Total Active Customers’ provides the current participants at the end of the period;
- New interconnections reflects new additions in the report year; and
- Any customer migrations or customer system changes between December 31 of the prior and current reporting periods will be reflected as a variance (+/-) on a year-to-year comparison basis.

Please note that, due to the cyber incident, NS Power is still in the process of recovering information on changes (e.g. system retirements, capacity changes, program migrations) that have occurred to active participants (those customers participating in net metering prior to January 1, 2025). Upon recovery of this data and confirmation of any changes, the information provided

⁵ Self-Generating Option refers to the option available to all NS Power customers to install a renewable low-impact generator with a nameplate capacity up to 27 kW and made effective April 22, 2022.

⁶ Aggregation refers to more than one metered account, connected to the same Distribution Zone as the generator, owned by the same customer. Applicable to those participating under Regulation 3.6 - Net Metering Service.

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within ‘Total Active Customers’ is subject to change in the 2026 Report. If changes have occurred during the reporting period, NS Power will clearly identify these changes in the 2026 Report.

Table 1 provides results for the period ending December 31, 2025.

Table 1 – Summary of Net Metering Results for the Period ending December 31, 2025

Net Metering Program Results	2024	2025	Increase (Decrease) Y/Y	Totals
Legacy net metering and self-generating customers	2,813	1,943	(30.9%)	13,045
Net metering customers applying aggregation	6	0	(100%)	278
Total rated generation capacity installed (kWac)	25,152.8	18,597.1	(26.1%)	116,271.6
Payout for excess banked generation to customers on anniversary date ⁷	\$ 508,722	\$ 646,146	+27.0%	\$2,565,838

April 2022 amendments to the *Electricity Act* (Act) enabled customers to install a renewable generator with a nameplate capacity up to 27 kW without the requirement to participate in an NS Power program (i.e. SGO).⁸ These changes also removed the requirement of making an application to install an interconnected renewable generator of 27 kW or less and streamlined the interconnection process for these customers. Additionally, these changes removed the ability to apply aggregation for customers participating in the (SGO) which has resulted in a 100 percent decrease in 2025 as highlighted above in Table 1 under “Net metering customers applying aggregation.”

⁷ Under Regulation 3.6, “banked” excess self-generation will create an energy credit to be held by the customer-generator and will carry over until the customer’s annual anniversary date at which time the energy credit will be set to zero with compensation to the customer-generator priced at the appropriate retail rate.

⁸ Amendments made on April 22, 2022 to the Nova Scotia Electricity Act through Bill 145.

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3.1 2025 NM Results in Comparison with 2019 Dunsky Report

In 2019, Dunsky Energy Consulting (Dunsky) studied the residential solar industry in Nova Scotia and provided a growth forecast in megawatts. Table 5 from the Dunsky Report is reproduced below.⁹ In the second row, “Extend Current Incentives,” Dunsky’s forecast was for a cumulative installation of 9.2 MW by the end of 2020. The actual number at the end of 2020 for residential customers, who make up 97 percent of Net Metering installations, is approximately twice that amount, at 18 MW. Additionally, total participation in net metering as of December 31, 2025 was 116.3 MW, significantly higher than the cumulative installation forecast modeled by Dunsky for the end of 2025 under all scenarios.

Table 5: Forecasted Cumulative Uptake Under Modeled Incentive Scenarios

Cumulative Installed Capacity	Immediate Term (2020)	Medium Term (2025)	Long Term (2030)
Baseline (No Incentives)	4.4 MW	35 MW	140 MW
Extend Current Incentives	9.2 MW	39 MW	154 MW
Steep Ramp-Down	5.2 MW	37 MW	146 MW
Maintain Current Market Activity	7.4 MW	42 MW	170 MW
Support Sustainable Growth	8.3 MW	44 MW	178 MW

Table 2 provides the average nameplate capacity per year for the past five years.

Table 2 – Annual Average Nameplate Capacity for the Past Five Years

Year	2021	2022	2023	2024	2025
Nameplate capacity (kWac)	8.59	9.49	8.88	8.94	9.57

3.2 Potential Future Impacts

Net metering customers using solar photovoltaic generation under the legacy program and self-generating option, reduce their energy purchases from NS Power. As net metering customers are

⁹ Dunsky Energy Consulting, Nova Scotia Residential Solar: Market Outlook and Labour Force Study, Final Report, page 12. April 2019.

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1 subject to the variable nature of their renewable resource technology of choice (i.e. wind or solar),
2 they naturally move between producing more power than they require and consuming power from
3 NS Power, throughout the day and across the year. However, they do not reliably or consistently
4 reduce their demand during system peak due to the variable nature of the resource and the fact that
5 the generators, which are primarily solar based, are not generating during the winter evenings when
6 the Company's load typically peaks. As a result, NS Power must maintain firm generating capacity
7 to serve the peak demand for all net metering customers, as well as the transmission and
8 distribution infrastructure necessary to serve these customers when their self-generation
9 installations are not producing electricity. This also applies to allowance for energy to spill onto
10 the electricity system when their self-generation installations are producing more electricity than
11 they require.

12
13 The continued increase in net metering connections is being monitored by the Company with
14 respect to the implications for the power system and the associated transfer of cost responsibility
15 from customers participating in the program to the remainder of the customer base.

16
17 NS Power is currently developing a Distributed Energy Resource Integration Roadmap in
18 accordance with the Board's direction arising from the Smart Grid Nova Scotia final report
19 proceeding (M11621), which will take into consideration factors such as the potential future
20 impacts identified in this report.

2025 Net Metering Report Appendix A has been filed electronically only.

2025 Net Metering Report Appendix B has been filed electronically only.

Year	Energy (kWh)	Payout (\$)	Total Est. Annual Generation (kWh)	\$ per kWh per Est. Annual kWh
2024	2,881,875	\$ 508,721.59	107,690,385	0.004723928
2023	3,456,969	\$ 569,245.34	80,596,803	0.007062877
2022	2,273,821	\$ 374,970.97	58,351,126	0.006426114
2021	1,523,140	\$ 243,232.61	38,350,692	0.006342326
2020	642,490	\$ 101,109.16	23,208,095	0.004356633
2019	332,406	\$ 50,187.92	13,673,648	0.003670412
2018	212,972	\$ 32,513.44	7,373,103	0.004409736
2017	104,705	\$ 15,750.96	729,543	0.021590188
2016	62,722	\$ 9,059.53	772,001	0.011735127
2015	34,870	\$ 5,162.42	397,068	0.01300135

Legacy Net Metering – Payout Analysis Report

Response to 2024 NM Report (M12165) NSEB IR-3

1. Introduction

This report analyzes the factors that may be contributing to the decline in payouts to Legacy Net Metering (LNM) customers between 2023 (\$569,245) and 2024 (\$508,722). The analysis evaluates changes across several key drivers, including weather conditions and technology adoption.

The accompanying tables summarize the 2023 baseline values, the observed changes in 2024, and the directional impact of each factor on payout. Together, these results provide insight into how shifts in environmental conditions, customer electrification, and distributed generation influence both energy flows and financial outcomes under the LNM program.

2. Key Drivers Affecting Payout

Table 1 summarizes the major variables examined in the analysis and their year-over-year changes.

Table 1: Weather & Technological Driving Factors

Category	Metric	2023	2024	Change	Impact on Payout
Weather	Heating Degree Days (HDD) ¹	3,530	3,562	0.9%	↓
	Cooling Degree Days (CDD) ²	424	352	(17.0%)	↑
	Solar Irradiance (kW/m ²) ³	1,403	1,422	1.3%	↑
	Snow Cover	unknown	unknown	unknown	-
Technology	EV Ownership (%) ⁴	6.4%	11.9%	85.7%	↓
	HP Ownership (%) ⁵	44.3%	60.0%	15.1%	↓
	Electric Heating Ownership (%) ⁶	77.7%	81.0%	4.6%	↓

¹ A balance temperature of 15 degrees was used for HDD.

² A balance temperature of 18 degrees was used for CDD.

³ Global atmospheric reanalysis for the satellite era produced by NASA Global Modeling and Assimilation Office (GMAO).

⁴ Bidgely Analytics Workbench (AWB) disaggregation, Electric Vehicle Detection Algorithm.

⁵ Bidgely AWB disaggregation, Heat Pump Detection Algorithm.

⁶ NS Power internal heating classification model.

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Response to 2024 NM Report (M12165) NSEB IR-3

Category	Metric	2023	2024	Change	Impact on Payout
	Efficiency Loss ⁷	NA	NA	0.5%	↓
	LNM Solar Array Adoption ⁸	5,289	5,310	0.4%	↑
	Nameplate Capacity (kWac) ⁸	8.88	8.94	0.7%	↑

Interpretation

Several important trends emerge from these changes:

- Weather conditions shifted slightly between the two years (2023 and 2024). HDD increased modestly, indicating higher heating demand, while CDD decreased significantly, indicating lower cooling demand. At the same time, solar irradiance increased by approximately 1.3 percent, which improves the potential for solar generation. Furthermore, snow coverage on the solar panels during the winter can significantly affect energy generation; however, this was not quantified.
- Electrification accelerated in this customer segment. Electric vehicle (EV) ownership nearly doubled (85.7% growth), while heat pump and electric heating adoption also increased. These technologies increase household electricity consumption.

3. Calculating the Equivalent Energy Payout Difference

The Financial Impact, converted to Energy Equivalent,⁹ assuming all Customers on Domestic Standard Offer Rate, is presented in Table 2.

Table 2: Payout to Energy Equivalent Calculation

Year	Payout (CAD)		Volumetric Charge (\$/kWh)		Energy Equivalent (kWh)
2023	\$569,245.34	÷	0.16354	=	3,480,771
2024	\$508,721.59	÷	0.17547	=	2,899,194
Difference	\$60,523.75				581,577

⁷ Photovoltaic Degradation Rates analysis by NREL.

⁸ NS Power 2023 and 2024 NM Report (M11553 and M12165, respectively).

⁹ Energy Equivalent = Payout (CAD) ÷ Volumetric Charge (\$/kWh)

Legacy Net Metering – Payout Analysis Report

Response to 2024 NM Report (M12165) NSEB IR-3

4. Vehicle Electrification and Customer-level Impact Perspective

To provide perspective, the change in payout energy (581,577 kWh) is marginal converted to the individual customer level (approximately 110 kWh per year per customer).

Table 3: Per customer Annual Payout Difference compared to Sample of Advanced Metering Infrastructure Data

Formula	Metric	
A	Payout Energy Equivalent (kWh)	581,577
B	Customer Sample Size (year = 2023)	5,289
A/B	Annual Energy Payout Difference per Customer (kWh)	110

The total reduction in exportable energy of 581,577 kWh corresponds to approximately 110 kWh per customer annually across the 5,289-customer sample. This per-customer change is small considering the magnitude of change in all driving factors summarized in [Table 1](#).

Over the same period, EV ownership increased from approximately 6.4 percent in 2023 to 11.9 percent in 2024, representing an incremental 5.5 percent of customers. Applied to the sample, this corresponds to approximately 291 additional EV-owning households. Considering annual energy per EV from charging at home is 3,820 kWh,¹⁰ the independent effect of EVs should account for more than 1,100,000 kWh annual increase in consumption.

$$291 \times 3,820 \frac{kWh}{EV} \approx 1,100,000 kWh$$

This reinforces that the decline in payouts is not driven by any one metric, but rather by the cumulative effect of incremental electrification which is likely offset in partial by weather conditions and other factors. For additional perspective at the individual customer level, the average reduction of 110 kWh per year represents only a small fraction of typical household electricity use and a minor share of EV charging demand (approximately two full EV charges).

Furthermore, another contributing factor to decrease in solar generation is degradation. On average, the solar panels depreciate approximately 0.5 percent per year. This small change alone appears insignificant; however, this alone decreased production by approximately 250,000 kWh given the static enrolment in LNM, see calculation below.

$$\text{Annual Degredation Energy Loss (kWh)} = n * NC * CF * h * \delta = 250,000 kWh$$

¹⁰ M12349 – 2025 Load Forecast Report, June 27, 2025.

Legacy Net Metering – Payout Analysis Report

Response to 2024 NM Report (M12165) NSEB IR-3

Where:

n: Customers = 5,289

NC: Average nameplate capacity = 8.88 kWac

CF: Annual Solar Capacity Factor = 12.3%¹¹

h: Hours per year = 8,784

δ : Average annual solar PV degradation rate = 0.5 percent

Overall, payout of excess banked generation depends on consumption and generation which is affected by many driving weather and technological factors such as A electrification as observed in this analysis. Even factors such as degradation, which are likely a lesser of the main drivers can account for approximately 250,000 kWh decrease in annual payout.

In summary, electric vehicles and panel degradation were assessed and quantified in their individual impact towards payout for excess generation to give perspective on their magnitude.

6. Conclusion

The decline in Legacy Net Metering payouts from 2023 to 2024 is a result of several interacting drivers including weather, electrification, and technological factors, some of which can individually have greater effects than the net sum of their effects as observed in annual customer payouts. As such, the change in customer payout observed between the 2023 and 2024 NM Reports is marginal relative to the driving factors and primarily explained by large increase in customer electrification and weather variance.

¹¹ NS Power NM Report Estimated Annual Capacity Factor.