BEFORE THE NOVA SCOTIA ENERGY BOARD

**IN THE MATTER OF THE *PUBLIC UTILITIES ACT***

- and -

**IN THE MATTER OF AN APPLICATION** by Nova Scotia Power Incorporated about asset disposition relating to the Smart Grid Nova Scotia Project, including deferral of the unrecovered net book value costs of $1.7 million over an amortization period of five years and revisions to the Solar Garden Rate Rider

(Board M12178)

# Evidence of
# Jennifer Kallay and Melissa Whited

**On Behalf of**
**Counsel to Nova Scotia Energy Board**

**On the Topic of**
**Smart Grid Nova Scotia Project – Asset Disposition**

**July 3, 2025**

## Table of Contents

## 1. INTRODUCTION AND QUALIFICATIONS

**Q. Please state your name, title, and employer.**

A. **Kallay:** My name is Jennifer Kallay. I am a Principal Associate at Synapse Energy Economics, Inc. ("Synapse"), located at 485 Massachusetts Avenue, Cambridge, MA 02139, USA.

**Whited:** My name is Melissa Whited. I am a Vice President at Synapse, located at 485 Massachusetts Avenue, Cambridge, MA 02139, USA.

**Q. Please describe Synapse Energy Economics.**

A. Synapse is a research and consulting firm specializing in electricity and gas industry regulation, planning, and analysis. Our work covers a range of issues, including economic and technical assessments of demand-side and supply-side energy resources; energy efficiency policies and programs; integrated resource planning; electricity market modeling and assessment; renewable resource technologies and policies; and climate change strategies. Synapse works for a wide range of clients, including attorney generals, offices of consumer advocates, public utility commissions, environmental advocates, the U.S. Environmental Protection Agency, U.S. Department of Energy, U.S. Department of Justice, the Federal Trade Commission, and the National Association of Regulatory Utility Commissioners. Synapse's staff includes over 35 professionals with extensive experience in the electricity industry.

**Q. Please summarize your professional and educational experience.**

A. **Kallay:** I have 17 years of professional experience analyzing the benefits and costs of distributed energy resources (DERs) in the United States and Canada including Massachusetts, Rhode Island, Hawaii, Vermont, New Jersey, Arkansas, Minnesota, Virginia, Prince Edward's Island, Ontario, New Mexico, Alberta, New Brunswick, and Nova Scotia. I received a Bachelor of Arts from the University of Maryland and a Master of Energy and Environmental Analysis Degree from Boston University. My resume is attached as Appendix A.

**Whited:** I have 14 years of experience in economic research and consulting. At Synapse, I have worked extensively on issues related to utility regulatory models and rate design. I have been an invited speaker in numerous industry conferences, including as a panelist for the National Association of Regulatory Utility Commissioners (NARUC) Subcommittee on Rate Design at the 2021 Winter Policy Summit and the 2018 Annual Meeting.

I have sponsored testimony before the Newfoundland and Labrador Board of Commissioners of Public Utilities, the Massachusetts Department of Public Utilities, the Illinois Commerce Commission, the New Hampshire Public Utilities Commission, the Georgia Public Service Commission, the Rhode Island Public Utilities Commission, the Maine Public Utilities Commission, the California Public Utilities Commission, the Hawaii Public Utilities Commission, the Public Service Commission of Utah, the Public Utility Commission of Texas, the Virginia State Corporation Commission, and the Federal Energy Regulatory Commission. I hold a Master of Arts in Agricultural and Applied Economics and a Master of Science in Environment and Resources, both from the University of Wisconsin-Madison. My resume is attached as Appendix B.

**Q. Have you previously testified before the Nova Scotia Energy Board?**

A. **Kallay:** No.

**Whited:** Yes. I testified in Matter Nos. M11441, M09777, M10176, M10431, M10810, M10832, M11626, and M12164.

**Q. On whose behalf are you providing evidence in this case?**

A. We are providing evidence on behalf of Counsel to the Nova Scotia Energy Board ("Board").

**Q. What is the purpose of this evidence?**

A. The purpose of our evidence is to assess Nova Scotia Power's ("NS Power" or "the Company") proposal regarding asset disposition and the recovery of the remaining value of the Smart Grid Assets following the conclusion of the Smart Grid Nova Scotia Project. We also evaluate the reasonableness of NS Power's proposed modifications to the Solar Garden Rate Rider.

## 2. SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

**Q. What are your conclusions and recommendations regarding NS Power's proposed recovery of the remaining value of the Smart Grid Assets and revisions to the Solar Garden Rate Rider?**

A. Our conclusions are as follows:

- NS Power's request to defer the unrecovered net book value of the Smart Grid Assets until the Company is able to amortize these costs in its next General Rate Application (GRA) appears generally reasonable, as the assets provided data and learnings during the Smart Grid Nova Scotia Project. Allowing the Company to recover these costs provides an incentive for the Company to continue to propose and conduct innovative projects.

- NS Power has not sufficiently justified its proposed five-year amortization period through a rate impact analysis (rather than a revenue requirement analysis). Nonetheless, the proposal appears to strike a reasonable balance between costs to ratepayers, equity among ratepayers today and in the future, and timely recovery by the Company. This proposal also appears to be consistent with previous Board decisions and guidance.

- NS Power's proposed revisions to the Solar Garden Rate Rider align with the Board's Decision in M10176, which permits periodic updates to the credit and charge, as long as such changes are on net favourable to subscribers until 2031. Under NS Power's proposal, existing and new subscribers will fare better, though the net effect of the increase in both the subscription fee and solar energy credit may not be obvious to customers.

- Only 62 percent of the Solar Garden capacity is currently subscribed, which falls below the Company's subscription goal. The improved economics of the revised program and removal of the 100 kW cap may improve domestic and commercial program subscriptions.

- The Solar Garden Program does not serve low-income customers well due to negative net benefits in winter months (in which customer electricity bills are

also likely to be higher), as well as negative net annual benefits in the first few years of the program. The Nova Scotia Community Solar Program is a better option for low-income customers who are interested in subscribing as subscribers receive positive net benefits in all months and years of the program.

- All customers fare better under the Nova Scotia Community Solar Program as compared to the revised Solar Garden Program. This reduces the likelihood that the Solar Garden Program will be able to attract new subscribers.

**Q. What are your recommendations?**

A. We recommend that the Board:

- Approve NS Power's proposed request to defer and amortize the remaining net book value of the Smart Grid Assets over a five-year period.
- Direct NS Power to present rate impacts associated with future amortization proposals in percentage terms and customer bill impacts, rather than simply as impacts on annual and total revenue requirements.
- Approve NS Power's request to revise the Solar Garden Rate Rider as proposed.
- Direct NS Power to reach out to the five low-income customers in the Solar Garden Program to solicit approval to transition them from the Solar Garden Program to the Community Solar Program.
- Direct NS Power to ensure that the rider update notification for existing subscribers includes an illustration of the impact of the changes to the economics for subscribers.

## 3. SMART GRID ASSET DEFERRAL AND AMORTIZATION

**Q. Please summarize NS Power's proposal for Smart Grid Asset deferral and amortization.**

A. The unrecovered net book value of the Smart Grid Assets is $1,657,764, which consists of $1,116,651 associated with the Distributed Energy Resource Management System (DERMS) and $541,113 associated with EV chargers and the ev.energy platform. The Company proposes to retire these assets in accordance with Accounting Policy 6350 – Assets not Used and Useful. Further, NS Power proposes to defer the unrecovered net book value of the Smart Grid Assets until the Company files its next GRA, at which time it would amortize the costs over a five-year period.[1]

**Q. Do you have concerns with NS Power's proposal to recover the full net book value of the Smart Grid Assets?**

A. No. Although the assets are no longer used and useful, they provided data and learnings through the Smart Grid Nova Scotia Project, including through greater understanding of each asset's limitations.

**Q. How would NS Power's deferral and amortization proposal impact revenue requirements?**

A. NS Power analyzed multiple cost recovery scenarios and their impacts on annual and total revenue requirements. The Company's preferred scenario is presented as Scenario 4,[2] which would defer the unrecovered net book value costs until 2026 (in alignment with the expected timing of NS Power's next GRA) and recover the amortized costs over a five-year period from 2026 to 2030. Table 1 compares Scenario 4 to the other cost recovery scenarios that NS Power analyzed in terms of the present value of revenue requirements.[3]

[1] NS Power. CI C0010778 - Smart Grid Nova Scotia Project – Asset Disposition Filing ("Asset Disposition Filing"). M12178. April 4, 2025, at 14.
[2] Response to Synapse (NS Power) IR-13(f).
[3] Derived from NSPI's Asset Disposition Filing, Appendix A.

There are four scenarios with a lower present value of revenue requirements than Scenario 4 (Scenarios 5, 6, 8 and 9) and four scenarios with a higher present value of revenue requirements than Scenario 4 (Scenarios 1, 2, 3, and 7). The scenarios with a lower present value of revenue requirements than Scenario 4 generally begin cost recovery later than 2025 and have longer amortization periods (five years as opposed to three years).

**Table 1. Comparison of NS Power's Proposal (Scenario 4) to Other Scenarios**

| Scenario | PV of Revenue Requirement ($) | Change in PV of Revenue Req. from Scenario 4 ($) |
|---|---|---|
| Scenario 1 – Recovery in 2025 | 2,251,494 | 40,004 |
| Scenario 2 - Recovery over 3 years with amortization beginning in 2025 | 2,237,303 | 25,813 |
| Scenario 3 - Recovery over 5 years with amortization beginning in 2025 | 2,224,272 | 12,782 |
| Scenario 4 – Recovery over 5 years with amortization beginning in 2026 | 2,211,490 | 0 |
| Scenario 5 - Recovery over 5 years with amortization beginning in 2027 | 2,199,513 | (11,977) |
| Scenario 6 - Recovery over 5 years with amortization beginning in 2028 | 2,188,291 | (23,199) |
| Scenario 7 - Recovery over 3 years with amortization beginning in 2026 | 2,223,701 | 12,221 |
| Scenario 8 - Recovery over 3 years with amortization beginning in 2027 | 2,210,955 | (535) |
| Scenario 9 - Recovery over 3 years with amortization beginning in 2028 | 2,199,012 | (12,478) |

*Derived from Asset Disposition Filing, Appendix A.*

**Q. Did NS Power also analyze the impacts of each scenario on customer rates?**

A. No. Although NS Power conducted an analysis of the impact on revenue requirements, it did not analyze the impact on customer rates. A rate impact analysis would have, at a minimum, expressed the change in revenue requirements in percentage terms relative to current revenues. Without such context, it is difficult to determine whether the various cost recovery proposals would impact rates (and customer bills) in a significant manner.

**Q. Did you estimate the impact of various deferral and amortization proposals on customer rates?**

A. We conducted a rough estimate of the rate and bill impacts of Scenario 1 (recovery in 2025) and Scenario 4 (five-year amortization beginning in 2026). We estimate that the average bimonthly bill impact for a Domestic customer under Scenario 1 would be 0.14% (or $0.43), while the average bimonthly bill impact under Scenario 4 would be 0.04% (or $0.11).[4] Although neither bill impact is particularly large, we believe there may be value to mitigating the bill impact through approving a five-year amortization period (i.e., Scenario 4), particularly if additional rate increases are anticipated in the next GRA.

**Q. Do you have any concerns with NS Power's deferral and amortization timeline?**

A. No. While Scenario 4 is not the lowest cost option for ratepayers, it represents a reasonable compromise between meeting utility needs and mitigating ratepayer costs. Although deferring cost recovery to even later years (e.g., 2027 or 2028) would result in lower costs to ratepayers (in terms of the present value of revenue requirements), it raises intergenerational equity concerns since future ratepayers are not necessarily the same as current ratepayers. Deferral to 2026 is reasonable because it avoids more significant intergenerational equity concerns, has a lower cost as compared to no deferral (recovery in 2025), and permits NS Power to roll these costs into its GRA in 2026. In addition, the five-year amortization period results in lower costs for ratepayers than a three-year amortization period and reduces bill impacts.

**Q. What do you recommend regarding the Company's Smart Grid Asset deferral and amortization proposal?**

A. We recommend that the Board:

[4] Our analysis assumes NS Power electric revenues of approximately $1.7 billion, with 57.3% of costs ($951 million) allocated to the Domestic class, as shown in NS Power's 2022-2024 GRA Compliance Filing, "REDACTED 2022-2024 GRA Compliance Filing - FOR-05 Attachment 1." We also assumed approximately 2.9 million annual Domestic bills, for an average bi-monthly bill of $320. Finally, we assumed that 57% of the deferred Smart Grid Asset costs would be allocated to the Domestic class.

- Approve NS Power's proposed request to defer and amortize the Smart Grid Assets over a five-year period, and
- Direct NS Power to present rate impacts associated with future amortization proposals in percentage terms, rather than simply as impacts on annual and total revenue requirements.

## 4. REVISED SOLAR GARDEN RATE RIDER

**Q. Please provide an overview of NS Power's proposed revisions to the Solar Garden Rate Rider.**

A. NS Power is proposing four revisions to the design of the program:

1. An increase to the subscription fee from \$6.86 per $kW_{dc}$ to \$7.83 per $kW_{dc}$ for all years.
2. An increase in the solar energy credit from 5.493 cents per kWh to 7.295 cents per kWh for 2025.
3. Removal of the 100 kW cap per subscription.
4. Removal of the 60%/40% split between Domestic and Commercial subscribers' share of capacity.

**Q. Why is NS Power proposing these revisions?**

A. NS Power is proposing these revisions to the design of the program due to:

- Higher than anticipated program costs. Although capital costs were lower than projected, annual operations and maintenance costs were higher than projected and the capacity factor (and thus projected 30-year generation) was also lower than projected. The combined impact of these differences is an increase in the subscription cost per kilowatt. [5]
- Higher than projected program avoided costs. NS Power's most recent estimate of the levelized value of solar energy is \$85/MWh, instead of \$66/MWh.

[5] Asset Disposition Filing, at 27.

- Undersubscription in the program, especially by Commercial customers. As of April 2025, only 62 percent of the available capacity is subscribed with Domestic customers representing 55 percent and Commercial customers representing 7 percent.[6]

**Q. Will all existing subscribers be transitioned to the revised program rate rider?**

A. Yes. According to NS Power's response to Synapse IR-26, subscribers to the current Solar Garden Pilot Rate Rider will become subscribers to the revised Solar Garden Rate Rider if the Board approves the revisions to the program design.

**Q. Has the Board permitted updates to the subscription fee and solar energy credits over the course of the program?**

A. Yes. In its Decision approving the Solar Garden Pilot Rate Rider, the Board acknowledged that additional data and learnings would become available during the pilot until 2024, "at which time they will be evaluated for any modifications to the rate rider for future years." Further the Board's Decision provided that "changes to the proposed charge and credit may be made at any time, but must, on a net basis, be favourable to subscribers until 2031…." [7]

**Q. Would NS Power's proposed revisions benefit Domestic subscribers?**

A. Yes. According to the Company's calculations, the revisions would increase the net present value from $216 to $448 for a customer with an 8 kW share of capacity.[8]

**Q. Do NS Power's proposed revisions benefit Commercial subscribers?**

A. NS Power did not provide any modeling of the net present value benefits for a Commercial customer. However, we can assume that a Commercial customer would see a similar doubling of net subscriber benefits.

[6] NSPI (Synapse) IR-21 (a) and (b).
[7] Nova Scotia Utility and Review Board. Decision in M10176, In the Matter of an Application by Nova Scotia Power Incorporated for approval of a Smart Grid Nova Scotia Solar Garden Pilot Rate Rider. November 10, 2021, at 14.
[8] Asset Disposition Filing, at 30.

**Q. Will these program revisions enable the Commercial carve-out to be met?**

A. It is unclear whether these revisions would enable the Commercial carve-out to be met. As noted by the Company, the rebalancing of the credits and fee is not likely to substantially impact commercial enrollment, but the removal of the 100 kW cap will likely encourage additional Commercial customers to enroll. However, certain barriers will remain, particularly the prohibition on simultaneously participating in net metering.[9]

**Q. Are the proposed modifications to the Solar Garden rider likely to facilitate full program subscription?**

A. Not necessarily. Nova Scotia's Community Solar Program is more economically advantageous for subscribers than the Solar Garden program with a net subscriber benefit of $3,110 as compared to $448 under the Solar Garden Program.[10] Because the Nova Scotia Community Solar Program has no subscription fee, subscribers will see a net benefit in all months and years that they participate in the Community Solar Program, unlike in the Solar Garden Program. These factors are likely to continue to dampen enrollment in the Solar Garden program.

**Q. Are there low-income subscribers in the current Solar Garden program?**

A. Yes. NS Power states that there are five low-income subscribers with a subscribed capacity of 33.75 $kW_{dc}$.[11]

**Q. How are low-income subscribers likely to fare in the revised Solar Garden program?**

A. The revised Solar Garden program is unlikely to appeal to low-income customers. NS Powre's response to Synapse IR-26 (i) shows that low-income subscribers will likely experience negative net benefits in October through February. These are the months when subscribers are also likely to experience the highest monthly electricity bills. Given the difficulty that low income customers often face in paying their electricity bills, this additional cost in the winter months is likely to

[9] NSPI (Synapse) IR-22 (a) and (b).
[10] NSPI (NSEB) IR-9(b).
[11] NSPI (Synapse) IR-26 (g).

be unappealing for low-income customers. Further, costs are likely to exceed the benefits for all Domestic subscribers (including low-income) in each of the first three years of program participation.

As discussed above, the Nova Scotia Community Solar Program is likely a better option for all customers (including low-income customers) because there is no subscription fee and the net present value of the benefits is higher. The absence of a subscription fee eliminates the risk of negative net benefits in some months and in the early years of the Solar Garden Program, which is likely to be particularly beneficial for low-income customers.

**Q. Are you concerned about the economics for low-income subscribers in the revised program?**

A. Yes. Low-income subscribers are may face increased difficulty paying more for electricity in winter months, when electricity bills tend to be especially high. Also, it is unreasonable for low-income subscribers to have to wait three years to reap the benefits of their subscription. Since the Nova Scotia Community Solar Program provides benefits in all months and years, this program is a better option for low-income customers who are interested in solar.

**Q. How will subscribers to the current program be informed that they are being transitioned to the revised program?**

A. NS Power states that it will communicate with all current subscribers about the revised subscription fee, solar energy credit, and associated revised terms and conditions in advance of receiving their first bill under the Solar Garden rider.[12]

**Q. Do you have any concerns about this communication?**

A. Yes, as there are increases in both the costs and benefits, the net benefits of the program revisions may not be clear to subscribers. We recommend that NS Power provide the expected net impact on customers' bills for a 1 kW subscription.

[12] NSPI (Synapse) IR-26.

**Q. What are your recommendations regarding the revised Solar Garden Rate Rider?**

A. Regarding the revised Solar Garden Rate Rider, we recommend that the Board:

- Approve NS Power's request to revise the Solar Garden Rate Rider as proposed.
- Direct NS Power to reach out to the five low-income customers in the Solar Garden Program to solicit approval to transition them from the Solar Garden Program to the Community Solar Program.
- Direct NS Power to ensure that the rider update notification for existing subscribers includes an illustration of the impact of the changes to the economics for subscribers.

**Q. Does this conclude your evidence?**

A. Yes, it does.