

NOVA SCOTIA ENERGY BOARD

IN THE MATTER OF: THE PUBLIC UTILITIES ACT

- and -

IN THE MATTER OF: An Application by EFFICIENCYONE for approval of the 2027-2031 Demand Side Management Resource Plan

INFORMATION REQUESTS

FROM SOLAR NOVA SCOTIA TO EFFICIENCYONE

To: EfficiencyOne
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The Breton Law Group
By e-mail: jim@bretonlawgroup.com

From: Solar Nova Scotia

Copies: 1 electronic copy (PDF searchable)

Contact Person: David Brushett P.Eng
Chair, Solar Nova Scotia
info@solarns.ca

Issued at Halifax, Nova Scotia, this 7th day of May, 2026.

A handwritten signature in black ink, appearing to read 'David Brushett', with a horizontal line drawn underneath it.

David Brushett, Chair, Solar Nova Scotia

2 **Introduction**

3 Solar Nova Scotia’s members operate at the intersection of distributed solar generation,
4 customer-sited storage, electric vehicle charging, demand response, and grid-interactive
5 customer infrastructure.

6 The 2027–2031 DSM Plan is therefore directly relevant to Solar Nova Scotia’s members and to
7 the broader distributed energy resource ecosystem. In particular, the Plan may affect: the pace
8 and design of strategic electrification; the development of customer-facing delivery infrastructure
9 such as energy managers and navigators; the role of demand response and customer-sited
10 resources in meeting system needs; and the portfolio space available for demand response,
11 electrification, storage, and other distributed resources under the expanded DSM scope
12 authorized by amendments to the Public Utilities Act.

13 These Information Requests are intended to better understand the assumptions, delivery
14 models, cost-effectiveness analysis, and resource-planning considerations underlying the
15 proposed Plan.

16 **Information Requests**

17 These Information Requests are directed to EfficiencyOne regarding its proposed 2027-2031
18 Demand Side Management Plan. Unless otherwise stated, please provide responses for each
19 year from 2027 through 2031 and provide supporting workpapers in native electronic format with
20 formulas intact where applicable. Where data are requested at a level of granularity that
21 exceeds what is readily available in EfficiencyOne’s existing records, EfficiencyOne is invited to
22 respond at the closest available granularity and identify any limitation. Solar Nova Scotia is open
23 to discussing scope refinements where targeted requests would be unduly burdensome.

24 **IR-1: Smart Thermostats and Air Purifiers**

25 **Reference:** 2027-2031 DSM Plan; 2027-2031 Technical Tables.

26 The 2027-2031 Technical Tables appear to show air purifiers and smart thermostats accounting
27 for approximately 65.9 GWh of first-year savings, or approximately 52.2% of Residential energy
28 efficiency savings.

Measure / Channel	Units	First-Year Savings	Total Incentive	\$/kWh	Share of Residential EE
Air purifiers - Instant Savings	39,000	21.3 GWh	\$1.34M	\$0.063	16.9%
Smart thermostats - Instant Savings	52,500	21.1 GWh	\$1.35M	\$0.064	16.7%
Smart thermostats - Efficient Product Installation	68,539	23.5 GWh	\$13.43M	\$0.572	18.6%
Total	160,039	65.9 GWh	\$16.12M	\$0.245	52.2%

29
30 **Requests:**

- a) Confirm or correct the totals shown above.
- b) Provide the per-unit savings assumptions for air purifiers and smart thermostats.
- c) Explain the difference in unit cost between smart thermostats delivered through Instant Savings (\$0.064/kWh) and Efficient Product Installation (\$0.572/kWh), and provide the rationale for using the higher-cost channel rather than relying primarily on the lower-cost Instant Savings channel.
- d) Provide the Efficient Product Installation PAC result with smart thermostats removed.
- e) Confirm whether smart thermostats delivered through DSM are required or encouraged to enroll in EcoShift where technically eligible. If not, explain why not.

IR-2: Water Heating: Heat Pump Water Heaters and DR Readiness

Reference: 2027-2031 DSM Plan; 2027-2031 Technical Tables; NRCan residential electric water heater stock data.

NRCan data indicate approximately 246,000 residential electric water heaters in Nova Scotia in 2023. Assuming a 10- to 15-year replacement cycle, approximately 80,000 to 120,000 residential electric water heaters could be replaced during the 2027-2031 DSM Plan period.

Requests:

- a) Confirm whether this estimate aligns with EfficiencyOne's planning assumptions. If not, provide EfficiencyOne's revised assumptions or state that they are unavailable.
- b) The Technical Tables appear to show 1,838 cumulative residential heat pump water heater installations from 2027 to 2031 across multiple programs. Confirm or correct this figure.
- c) Confirm whether EfficiencyOne considered incentives for new standard electric water heaters with integrated controls, and whether the risk of missing lower-cost DR opportunities from such water heaters was assessed. If neither was considered, explain why not.
- d) Confirm whether water heater incentives are, or could be, linked to DR-ready capability or DR enrollment.

IR-3: EcoShift and Residential Demand Response

Reference: 2027-2031 DSM Plan; Residential Demand Response / EcoShift.

The Plan appears to maintain Residential DR at 2026 Extension levels with no new enrollments during the 2027-2031 Plan period.

Requests:

- a) Provide the basis for expecting Residential DR to become cost-effective in the future under the current program design scenario.
- b) Identify the main cost-effectiveness barriers for Residential DR and the assumptions that would need to change for the program to become cost-effective.

- c) Confirm whether EfficiencyOne has considered using DSM product measures, including smart thermostats and water heaters, to reduce incremental customer acquisition costs for EcoShift.

IR-4: Home Energy Assessment

Reference: 2027-2031 DSM Plan; Home Energy Assessment program; 2023 DSM Plan results.

The following figures appear to show a significant increase in Home Energy Assessment unit costs between the 2023 DSM Plan year and the 2031 DSM Plan year.

Year	Investment	First-Year Savings	Unit Cost
2023	~\$3.9M	~8.6 GWh	~\$0.45/kWh
2031	~\$6.1M	~2.0 GWh	~\$3.05/kWh

Requests:

- a) Confirm whether the figures above are correct. If correct, confirm that they imply an approximate 588% increase in unit cost between 2023 and 2031. If not, provide corrected figures and calculations.
- b) For 2023 and for each year from 2027 to 2031, provide the number of participating homes, total first-year electricity savings, and first-year savings broken down by lighting, heat pumps, insulation, and any other material end uses or measures.
- c) For 2023 and for each year from 2027 to 2031, provide the total cost of audit or assessment delivery, separate from incentives, administration, marketing, quality assurance, and other delivery costs.
- d) Explain how changes in federal and provincial funding between the 2023-2025 DSM Plan and the 2027-2031 DSM Plan have affected program costs, incentives, participation, savings, and unit costs. Provide federal and provincial funding amounts for each year of the 2023-2025 Plan period and the 2027-2031 Plan period to the extent readily available.
- e) Confirm whether alternative or lower-cost delivery models were considered, including a navigator service providing ongoing support rather than a single point-in-time audit. Provide any comparative analysis or explain why not considered.

IR-5: HomeWarming and Low-Income Single-Family Support

Reference: 2027-2031 DSM Plan; HomeWarming; Affordable Single-Family Homes.

For each year from 2020 to 2031, please provide the following information for HomeWarming/Affordable Single-Family Homes. Where data prior to 2023 are not available in comparable format, EfficiencyOne is invited to provide at the highest comparable granularity available and identify any limitation.

Requests:

- a) The number of unique low-income single-family homes supported, broken down by program, and an explanation of how repeat participation or multiple measures at the same home are treated.
- b) Annual electricity savings, non-electric fuel savings where applicable, and total program cost.
- c) Annual funding broken down by source, including DSM funding, Provincial funding, Federal/NRCan/OHPA funding, and other funding sources. For each amount, indicate whether it is an annual financial-statement figure, a multi-year contribution agreement total, or a planned investment amount.
- d) Any analysis comparing the cost-effectiveness, bill impacts, savings, and non-electric benefits of solar PV, strategic electrification, insulation, and heat pumps for low-income single-family homes, including the criteria used to determine whether each measure is offered, prioritized, limited, or excluded.

IR-6: Residential New Construction and DR Readiness

Reference: 2027-2031 DSM Plan; residential new construction activities.

Requests:

- a) Confirm whether the Plan includes no general residential new construction program for single-family homes beyond Mi'kmaw New Home Construction. If confirmed, explain why a broader DSM-funded offering was not included.
- b) Confirm whether DR-ready measures are included in eligibility, incentives, technical guidance, design support, or participant requirements for any EfficiencyOne-administered residential new construction activity, whether DSM-funded or externally funded.
- c) Provide any analysis of the cost and feasibility of incorporating DR readiness at the time of new construction compared with retrofitting after occupancy. If none exists, confirm and indicate whether EfficiencyOne intends to revisit this during the 2027-2031 Plan period.

IR-7: Small Business Energy Solutions (SBES)

Reference: 2027-2031 DSM Plan; SBES; 2027-2031 Technical Tables.

Requests:

- a) For each year from 2027 to 2031, provide the forecast number of unique participating small business customers or premises, separate from the number of measures installed. Please also provide EfficiencyOne's estimate of the total eligible small business customers or premises in Nova Scotia, including eligibility criteria and data sources.
- b) For SBES heat pump measures, including measures listed as "mini-split" and any heat pumps included within "HVAC" in the Technical Tables, provide by year: forecast units, first-year savings, assumed unit capacity, total cost per unit, incentive per unit, savings per unit, \$/kWh, and PAC results.
- c) Confirm whether federal incentives for qualifying SBES heat pump projects, including the 30% Clean Technology Investment Tax Credit and 100% first-year accelerated depreciation,

were considered in program design, incentive levels, participant cost assumptions, uptake assumptions, and cost-effectiveness screening. If not, explain why not.

d) Confirm whether alternative delivery models were considered, such as free roving energy manager support to help small businesses with project identification, federal incentive access, project development, procurement, contractor coordination, and other non-financial barriers. Provide any analysis or explain why not considered.

e) Explain the drivers of the increase in SBES unit costs from approximately \$0.43/kWh in 2020 to approximately \$1.64/kWh in 2031.

IR-8: Custom Program

Reference: 2027-2031 DSM Plan; Custom Program; Existing Buildings; New Construction.

Requests:

a) For each year from 2027 to 2031, provide first-year savings and number of projects broken down by Existing Buildings and New Construction.

b) Confirm or correct the following: Custom Program savings decline from approximately 73.2 GWh from 191 projects in 2027 to approximately 27.7 GWh from 72 projects in 2031.

c) Explain why forecast Custom savings and project volumes are significantly higher in 2027 than in later years, including the drivers of the decline in savings and project volumes through 2031.

d) Provide details of the planned enhancement to support BNI Demand Response for New Construction.

e) For 2024 and 2025, provide the percentage of Existing Buildings Custom savings from Energy Manager-supported accounts. To the extent forecast at this level of granularity, provide the equivalent expected percentage for the 2027-2031 Plan period.

IR-9: Energy Managers and Navigators in Integrated DSM Delivery

Reference: 2027-2031 DSM Plan; energy managers; delivery model; integrated DSM resources.

Recent amendments to the Public Utilities Act expanded the scope of DSM to include DR, strategic electrification, DERs, and other non-traditional resources. Individual customer projects may increasingly span multiple DSM resource categories, such as an oil-to-hybrid heat pump conversion with DR controls, or a new construction project combining efficiency, solar PV, storage, EV charging, and DR-ready controls.

Requests:

a) Confirm whether EfficiencyOne has considered a coordinated delivery platform – including energy managers for C&I and small business customers, and navigators for residential customers – to deliver integrated DSM across efficiency, DR, strategic electrification, DERs, and external funding. If considered, provide any analysis of the platform's potential to:

- i. reduce customer acquisition costs, administrative duplication, delivery risk, and lost opportunities compared with program-by-program delivery;
 - ii. improve uptake of DR-ready controls, hybrid heating, solar-plus-storage readiness, and EV charging readiness at equipment replacement, renovation, or new construction;
 - iii. help customers access external funding, including federal tax incentives, financing, NRCan funding, or other sources, and improve ratepayer-perspective cost-effectiveness.
- b) Identify any regulatory, budget, reporting, staffing, or cost-effectiveness barriers to using energy managers, roving energy managers, or navigators as an integrated delivery platform during the 2027-2031 Plan period.
- c) Provide the current FTE count of on-site energy managers and roving energy managers (including host organizations, segments served, and whether each role is embedded, sector-based, or roving), and the current dollar amount and percentage of energy manager funding from DSM, plus all other funding sources.
- d) For 2024 and 2025, provide a table of energy-manager-supported outcomes, including annual electricity savings with DSM attribution, solar projects by count and kW, strategic electrification projects by count, fossil fuel savings and electricity impacts, DR capacity enrolled, external funding leveraged, and associated DSM project value or customer investment enabled. Where a category is not tracked, please indicate that.

IR-10: Smart Synergy

Reference: 2027-2031 DSM Plan; Smart Synergy; batteries and generators.

Requests:

- a) Provide the number of batteries, gas generators, and diesel generators enrolled in Smart Synergy in 2025 and forecasted totals from 2027-2031, including total enrolled or available capacity by technology type.
- b) Comment on whether the DSM Plan duration or funding approval period creates a barrier to supporting capital-intensive DERs where customer investment depends on longer-term incentive certainty.

IR-11: Strategic Electrification, Heat Pumps, Electric Vehicles, and Managed Charging

Reference: 2027-2031 DSM Plan; Strategic Electrification; modified PAC screening; electric vehicles; managed charging; 2023 E3 Strategic Electrification report commissioned by Nova Scotia Power.

A 2023 E3 report commissioned by Nova Scotia Power concluded that managed-charging light-duty electric vehicles provide approximately \$3,400 net present value per vehicle to utility ratepayers and noted that a portion of these ratepayer benefits could be used to support up-front vehicle or charging infrastructure incentives. The same report also found that electrification of homes currently using fuel oil can provide net benefits to homeowners, ratepayers, and Nova Scotia, including for best-in-class heat pumps and dual-fuel mini-splits.

Requests:

- a) Provide all strategic electrification measures and scenarios considered for the 2027-2031 Plan.
- b) For each measure or scenario for which analysis was prepared, provide the modified PAC inputs and outputs and the unit cost assumptions.
- c) Confirm whether lower-cost delivery approaches were considered, including delivery through energy managers or navigators, or focusing on end-of-life replacement where electrification may represent an incremental cost rather than a full replacement cost. Provide supporting analysis.
- d) Confirm whether federal incentives were considered in unit cost and cost-effectiveness scenarios, including the 30% refundable Clean Technology Investment Tax Credit, 100% first-year accelerated depreciation for eligible commercial heat pumps, and the \$5,000 federal EV incentive. If not, explain why not.
- e) Confirm whether including measures that fail the modified PAC on a stand-alone basis was considered as part of an overall cost-effective portfolio. Describe the framework for portfolio-level versus measure-level assessment.
- f) Confirm whether EfficiencyOne assessed the differing short- and long-term rate impact characteristics of strategic electrification, which may increase short-term utility revenues, versus efficiency, which may reduce long-term capacity and energy costs. Confirm whether a combined portfolio could provide a more balanced rate impact profile than one weighted toward a single resource. If no analysis was completed, confirm and explain why.
- g) Confirm whether electric vehicle purchase incentives, managed charging incentives, EV charger incentives, or EV charging control measures were considered for the 2027-2031 DSM Plan, including any analysis of linking such incentives to managed charging participation or DR enrollment. If considered, provide the cost-effectiveness and ratepayer-impact analysis, including how the E3 findings were incorporated. If not, explain why not.

IR-12: Portfolio Design, Rebate Effectiveness, and Unit Cost Discipline

Reference: 2027-2031 DSM Plan; portfolio design; measure saturation; incentive setting; portfolio management; unit cost control; performance incentive framework.

As low-cost, short-payback measures saturate, remaining opportunities may be higher-cost and longer-payback. This may reduce the ability to bundle short-payback measures with deeper savings and may reduce rebate effectiveness where incentives become a smaller share of total project cost.

Requests:

- a) Confirm whether EfficiencyOne has assessed how saturation of low-cost measures, including lighting, affects the economics of deeper retrofit projects.
- b) Confirm whether rebate elasticity has been evaluated by segment or measure type, including whether higher incentives produce proportional increases in participation or savings.

- c) Identify any segments or measures where rebates are becoming less effective due to declining share of total project cost or significant non-financial barriers.
- d) Confirm whether alternatives to higher rebates and lower-cost delivery approaches were considered, including technical assistance, energy managers, navigators, financing support, measure bundling, and external funding leverage.
- e) Explain whether higher PAC-ratio measures or programs are prioritized over measures or programs that pass cost-effectiveness with a smaller margin. Identify any safeguards against designing programs at the highest unit cost that still passes the cost-effectiveness test.
- f) Explain what mechanisms in the proposed Plan, budget framework, reporting framework, mid-course adjustment process, or performance incentive framework encourage EfficiencyOne to reduce actual unit costs below forecast while still achieving savings targets.

IR-13: IRP Benchmark, Preferred Plan, and Affordability Trade-off

Reference: 2027-2031 DSM Plan; Preferred Plan; IRP-aligned savings scenario.

Requests:

- a) Provide the analysis supporting the conclusion that 435.4 GWh in the Preferred Plan, rather than 683.1 GWh in an IRP-aligned scenario, represents the appropriate balance of short-term affordability and long-term ratepayer value.
- b) Explain which programs, measures, segments, or delivery channels were reduced, removed, or constrained in moving from an IRP-aligned scenario to the Preferred Plan.
- c) Provide any analysis of the short-term bill impacts and long-term avoided-cost impacts associated with the Preferred Plan compared with an IRP-aligned scenario.
- d) Confirm whether any lower-cost delivery models or external funding leverage strategies were considered to reduce the affordability impact of achieving higher savings.

IR-14: Research, Innovation, and Enabling Strategies

Reference: 2027-2031 DSM Plan; Research and Innovation; Enabling Strategies.

Requests:

- a) Provide details of research, innovation, market transformation, and enabling-strategy projects completed in 2025.
- b) Break down the \$29.1 million Enabling Strategies budget according to which activities are discretionary and which are required for compliance or core delivery.
- c) Provide planned 2027-2031 research, innovation, market transformation, and enabling-strategy projects.
- d) Identify the expected benefits of each planned project.

- 2 e) Explain how research and innovation results will be incorporated into program design during
3 the Plan period, including whether successful projects can be scaled within the Plan period
4 and what approvals or budget transfers would be required.

5 **IR-15: Preferred Partner Engagement**

6 **Reference:** 2027–2031 DSM Plan; program delivery; Preferred Partner Network.

7 EfficiencyOne’s website lists approximately 438 Efficiency Preferred Partners. Given proposed
8 changes to the DSM portfolio, including measure saturation, rising unit costs, and expanded
9 DSM scope to include demand response, strategic electrification, and DERs:

10 **Requests:**

- 11 a) Please describe any engagement undertaken with the broader Efficiency Preferred Partner
12 network in developing the 2027–2031 DSM Plan.
- 13 b) Please summarize any feedback received regarding measure availability, customer demand,
14 workforce capacity, delivery barriers, lighting saturation, rebate effectiveness, or new DSM
15 opportunities.
- 16 c) Please explain how this feedback was reflected in the proposed Plan.
- 17 d) If broad Preferred Partner engagement was not undertaken, please explain why not.