BEFORE THE NOVA SCOTIA ENERGY BOARD

In the Matter of an Application by EfficiencyOne for Approval of a New Benefit-Cost Analysis Test for Evaluating Demand Side Management Plans

(NSEB M12282)

Evidence of
Courtney Lane

On Behalf of
Counsel to Nova Scotia Energy Board

July 17, 2025

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I. INTRODUCTION AND QUALIFICATIONS

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

A. My name is Courtney Lane. I am a Senior Principal at Synapse Energy Economics, Inc. ("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 attorneys general, 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 40 professionals with extensive experience in the electricity industry.

Q. Please summarize your professional and educational experience.

A. I have over 20 years of experience in energy policy and regulation. At Synapse, I work on performance-based regulation, grid modernization, benefit-cost analysis, rate and bill impacts, and review of utility distributed energy resource program filings. Prior to working at Synapse, I spent six years at National Grid where I led the development of National Grid's Annual and Three-Year Energy Efficiency Plans and System Reliability

Procurement Plans for the state of Rhode Island. This involved collaborating with internal and external stakeholders, facilitating the Rhode Island Energy Efficiency Collaborative, overseeing benefit-cost models, testifying before the Public Utilities Commission, and participating in Rhode Island grid modernization and power sector transformation proceedings. Prior to joining National Grid, I worked on regulatory and state policy issues pertaining to energy conservation, retail competition, net metering, and the Alternative Energy Portfolio Standard for Citizens for Pennsylvania's Future (PennFuture). Prior to that, I worked for Northeast Energy Efficiency Partnerships, Inc. where I promoted energy efficiency throughout the Northeast.

I have sponsored testimony before the Maryland Public Service Commission, the Minnesota Public Utilities Commission, the New Hampshire Public Utilities Commission, the New Mexico Public Regulation Commission, the Pennsylvania Public Service Commission, the Public Service Commission of the District of Columbia, and the Rhode Island Public Utilities Commission.

I hold a Master of Arts in Environmental Policy and Planning from Tufts University and a Bachelor of Arts in Environmental Geography from Colgate University. My resume is attached as Appendix A.

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

A. No, I have not.

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

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

Q. What is the purpose of your evidence?

A. The purpose of my evidence is to review EfficiencyOne's (E1) proposal for a new benefit-cost analysis (BCA) test for evaluating demand side management (DSM) plans, referred to as the Nova Scotia Test.

II. SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

Q. Please describe your conclusions.

A. My conclusions are:

- E1's approach to developing the Nova Scotia Test is reasonable and follows the sound economic guidance from the *National Standard Practice Manual for Benefit-Cost Analysis of Distributed Energy Resources* (NSPM) on the development of a new BCA test.[1]
- The proposed Nova Scotia Test is an improvement over the current total resource cost (TRC) test because it accounts for Nova Scotia energy policy goals by including other fuels and societal impacts.
- The proposed Nova Scotia Test is also an improvement over the current TRC test because it accounts for both host customer benefits and costs and is more consistent with Nova Scotia's energy policy goals through the incorporation of non-energy impacts as directed by recent legislation.
- The use of proxy values is a reasonable approach to estimate host customer non-energy benefits (NEB) in cost-effectiveness analysis. However E1 has not sufficiently justified its proposal for NEB proxy values. While proxies are often based on professional judgement, they should not be arbitrarily chosen and should

[1] National Energy Screening Project, 2020. *National Standard Practice Manual for Benefit-Cost Analysis of Distributed Energy Resources*. Available at, https://www.nationalenergyscreeningproject.org/national-standard-practice-manual/.

be based on a review of literature, proxy values used by other jurisdictions, and should consider differences between jurisdictions.

Q. What are your recommendations?

A. Based on my conclusions, I offer the following recommendations:

- The Board should approve the Nova Scotia Test as proposed by E1 for use in the 2027–2031 DSM Plan.
- The Board should approve the inclusion of both host customer costs and NEBs in the Nova Scotia Test.
- The Board should approve E1's proposed NEB proxy adders for use in the 2027–2031 DSM Plan with the following modifications:
  - The non-income-qualified NEB proxy adders for building shell measures and the business, non-profit, and institutional (BNI) Custom Measures should be reduced from 20 percent to 12 percent, to align with average NEB values found in other jurisdictions. This in turn would also reduce the maximum income-qualified NEB values to 24 percent. Should E1 want to include the higher NEB values, it should provide justification in its upcoming 2027-2031 DSM Plan
- The Board should direct E1 to launch a process for updating the NEB proxies in 2029 for use in the next DSM Plan.

III. PROCEEDURAL BACKGROUND

Q. Please summarize the currently approved cost-effectiveness test.

A. The current approved cost-effectiveness test used to assess EI's DSM Plans is the TRC test. The TRC test, as implemented in Nova Scotia, compares the costs incurred by E1 to administer DSM programs and the costs incurred by host customers to participate in those programs to electric utility benefits, which includes avoided costs of energy,

capacity, transmission, distribution, and carbon.[2] The TRC test uses Nova Scotia Power's Weighted Average Cost of Capital (WACC) as the discount rate.[3] The Board assesses the results of the TRC at the program level to evaluate the cost-effectiveness of E1's DSM Plan, in accordance with the *Public Utilities Act*.[4]

Q. What was the impetus for the creation of a new cost-effectiveness test?

A. Evidence provided by Synapse on E1's 2023–2025 DSM Plan (M10473) recommended that the Board launch a process to develop a jurisdiction-specific cost-effectiveness test (JST) that reflects Nova Scotia's policy priorities using the NSPM.[5] This recommendation was based on concerns that the TRC test is unbalanced due to the inclusion of participant costs and exclusion of participant benefits.[6] In its rebuttal evidence, E1 stated that "a broad review of cost-effectiveness testing methodologies may be appropriate at the present time given recent legislative changes, as well as advancement in demand response and electrification initiatives."[7] EI further indicated that a thorough assessment of the PAC test and a JST are required to determine the optimal cost-effectiveness testing methodology for Nova Scotia and proposed that the DSM Advisory Group (DSMAG) explore this issue in advance of the 2026–2028 DSM Plan.[8]

[2] Evidence of EfficiencyOne (E1) in M12282, May 16, 2025, page 3, lines 11-13.
[3] Nova Scotia Utility Board, Decision in M10473, September 6, 2022, paragraph 66.
[4] *Public Utilities Act*, S 79H(1).
[5] Evidence of Alice Napoleon and Kenji Takahashi in M10473, May 20, 2022, page 17, lines 15-20.
[6] *Id*., at page 17, lines 6-12.
[7] Rebuttal Evidence of E1 in M10473, June 10, 2022, page 13, lines 12-14.
[8] *Id*., at page 13, lines 14-17.

In its Decision on the 2023–2025 DSM Plan, the Board directed EI "to work with the DSMAG before the 2026–2028 DSM Plan application to assess and develop an optimal DSM cost-effectiveness testing methodology."[9]

Q. Did E1 comply with the Board's directive to develop an optimal DSM cost-effectiveness test?

A. Yes. On May 16, 2025, E1 filed an application for approval of a new BCA test for evaluating DSM Plans, which was informed by the DSMAG.[10]

IV. SUMMARY OF PROPOSED BCA TEST

The DSMAG Process

Q. Please summarize the DSMAG process to develop a new BCA test.

A. E1 obtained an independent consultant, Energy Futures Group (EFG), to assist in the development of the optimal cost-effectiveness test. EFG utilized the NSPM to guide the facilitation of seven DSMAG meetings from December 2023 to April 2025 to inform the development of a new BCA test.[11]

The meetings addressed the NSPM process to develop a BCA framework, which included the following five steps:[12]

Step 1: Articulating Nova Scotia's applicable policy goals related to distributed energy resources (DER).

[9] Nova Scotia Utility Board, Decision in M10473, September 6, 2022, paragraph 73.
[10] Application of E1 in M12282, May 16, 2025.
[11] Evidence of E1 in M12282, May 16, 2025, pages 19-20.
[12] Evidence of E1 in M12282, May 16, 2025, Table 3, page 20, line 12.

Step 2: Identifying and including the full range of utility system impacts to include in the BCA test.

Step 3: Deciding which non-utility system impacts to include in the BCA test based on the applicable policy goals identified in Step 1.

Step 4: Ensuring that the benefits and costs associated with the utility and non-utility impacts identified in Steps 2 and 3 are treated symmetrically, are not double-counted, are treated consistently across DER types, and are included in the BCA test, even if they are hard to quantify so long as they are relevant and material.

Step 5: Establishing comprehensive, transparent documentation and reporting on the process used to develop the BCA test and for presenting assumptions and results.

In May 2025, EFG issued a report titled *Development of a Jurisdictional Benefit Cost Analysis Framework for Nova Scotia* (EFG Report), summarizing the DSMAG process and its recommendations for a Nova Scotia-BCA framework for screening E1's 2027-2031 DSM Plan.

Q. Are you familiar with the NSPM?

A. Yes, I am. I was contributing author of the NSPM for DERs and have assisted jurisdictions in the development of JSTs using the NSPM five-step process in Maryland, Minnesota, Puerto Rico, and Washington.

Q. Please describe the NSPM?

A. The NSPM was developed by the National Energy Screening Project (NESP), an organization working to improve cost-effectiveness screening practices for DERs,[13] to help guide the development of a jurisdiction's cost-effectiveness test. To date, the NESP has issued two guidance manuals on cost-effectiveness screening: *The National Standard Practice Manual for Evaluating the Cost-Effectiveness of Energy Efficiency Resources*[14] (NSPM for EE) in 2017 and the NSPM for DERs in 2020, which incorporates and expands upon the guidance contained in the NSPM for EE.

A driving force behind the development of the NSPM was a need to support more transparent documentation of cost-effectiveness practices. While most jurisdictions in the United States and Canada have historically used one of the five traditional cost-effectiveness tests[15] as outlined the *2001 California Standard Practice Manual,*[16] over time, many jurisdictions have deviated from these traditional tests and adopted modified versions. For example, Massachusetts modified its TRC test in 2021 in response to legislation requiring the social value of greenhouse gas emissions (GHG) to be included in cost-effectiveness calculations.[17] Similarly, the TRC test in Illinois does not meet the

[13] DERs are defined as energy efficiency, demand response, distributed generation, distributed storage, electric vehicles, and increased electrification of buildings including heating and cooling systems.

[14] NESP, *National Standard Practice Manual for Evaluating the Cost-Effectiveness of Energy Efficiency Resources* (NSPM for EE), Edition 1, May 2017. Available at: https://www.nationalenergyscreeningproject.org/wp-content/uploads/2017/05/NSPM_May-2017_final.pdf .

[15] The five traditional cost-effectiveness tests include: the Utility Cost Test (UCT) – also known as the Program Administrator Cost (PAC) test; the Total Resource Cost (TRC) test; the Participant Cost Test (PCT); the Societal Cost Test (SCT); and the Ratepayer Impact Measure (RIM) test.

[16] *California Standard Practice Manual: Economic Analysis of Demand-Side Programs and Projects*. 2001. Available at: www.cpuc.ca.gov/workarea/downloadasset.aspx?id=7741.

[17] Chapter 8 of the Acts of 2021, *An Act Creating a Next Generation Roadmap for Massachusetts Climate Policy* and Massachusetts Department of Public Utilities, Dockets 21-120 – 21-129, Three-Year Energy Efficiency Plan 2022-2024, November 1, 2021. Exhibit 1, page 6.

standard definition of the test as it includes societal impacts such as GHG emissions and public health impacts.[18]

The problem with this approach is that the traditional cost-effectiveness tests are conceptually static and not intended to be modified over time. Further, the traditional tests do not necessarily align with some energy policy goals (i.e., the TRC does not account for impacts on public health). When traditional cost-effectiveness tests are modified they no longer adhere to the standard definition, which creates confusion. In addition, the rationale for why tests were modified over time may not be fully transparent or documented. The NSPM seeks to address these issues by introducing a Jurisdictional-Cost Test (JST). The JST is based upon each jurisdiction's applicable policy goals and is therefore intended to vary across jurisdictions and enable modification over time.

Q. Why is it appropriate for Nova Scotia to use the NSPM process?

A. The NSPM provides a set of principles and steps to support jurisdictions with the review and modification of an existing cost-effectiveness test or the development of a new cost-effectiveness test, which was what the Board directed E1 to accomplish.[19]

In addition, there have been several recent policy developments in Nova Scotia that impact cost-effectiveness. These include amendments to the *Public Utilities Act* that expand the definition of demand-side management to include strategic electrification

[18] See the Database of State Efficiency Screening Practices by the American Counsel for an Energy-Efficient Economy (ACEEE), available at: https://public.tableau.com/app/profile/ac3e/viz/DatabaseofStateEfficiencyScreeningPractices_17377419994200/DatabaseofScreeningPractices.

[19] Nova Scotia Utility Board, Decision in M10473, September 6, 2022, paragraph 73.

programs,[20] and the *Energy Reform Act* that broadens what the Board should consider when it makes regulatory decisions and establishes the *Energy and Regulatory Boards Act* and the *More Access to Energy Act*.[21] A key principle of the NSPM is that the JST should align with a jurisdiction's policy goals, including evolving statutory goals, and describes the process for how those goals can be used to identify which non-utility benefits and costs to include in the test.

Q. Have other jurisdictions used the NSPM process?

A. Yes, as of January 2024, 12 states and the District of Columbia have used the NSPM to develop or modify an existing cost-effectiveness test for DERs across different regulatory contexts. Maine, Maryland, Michigan, Minnesota, New Hampshire, Puerto Rico, and Rhode Island have adopted jurisdiction-specific cost tests using the NSPM framework.[22]

Q. Have any Canadian provinces developed a BCA test based on the NSPM?

A. No. I am not aware of any.

Q. Do you see any reason why Canadian provinces should not use the NSPM to develop BCA tests?

A. No, I do not. The NSPM is an "objective, policy- and technology-neutral, and economically sound guidance" for developing a primary cost-effectiveness test (or modifying an existing primary test) and has been vetted by a cross-cutting advisory group

[20] *Public Utilities Act (amended),* SNS 2022, c 53, section 1.
[21] *The Energy Reform (2024) Act*, SNS 2024, c 2.
[22] See state application of the NSPM BCA framework in various states available at: https://www.nationalenergyscreeningproject.org/wp-content/uploads/2025/05/Summary_NSPM_State_Application__May2025-4.pdf.

consisting of regulators, U.S. state agencies, utilities, expert consultants, and representatives from the DER industry.

The fundamental BCA principles included in the NSPM, such as comparing DERs consistently with other energy resources; ensuring symmetry across costs and benefits; conducting forward-looking, long-term analyses; avoiding double-counting; and conducting rate analyses separate from BCAs are relevant regardless of whether the jurisdiction is located in the United States or in Canada.

Overview of Proposed Nova Scotia Test

Q. Please summarize the new BCA Test proposed by E1.

A. Table 1 below provides an overview of the impact categories, impact type, and impacts included in E1's proposed Nova Scotia Test.

Table 1. The Proposed Nova Scotia Test

Impact Category	Impact Type	Impacts
Utility System	Generation	Energy Generation
		Capacity
		Environmental Compliance
		Renewable Portfolio Standards/Clean Energy
		Ancillary Services
	Transmission	Transmission Capacity
		Transmission System Loses
	Distribution	Distribution Capacity
		Distribution System Losses
		Distribution O&M
		Distribution Voltage
	General	Financial Incentives
		Utility Direct Investment in DERs
		Program Administration
		Credit and Collection
		Risk

Impact Category	Impact Type	Impacts
		Reliability
		Resilience
	Other	Compliance with Regulatory Requirements
	Gas System Impacts	Commodity Costs
Non-Utility System Impacts	Other Fuels	Commodity
		Environmental Compliance
		Market Price Effects
		Other Utility System Impacts
	Host Customer Impacts	DER Measure Costs
		Transaction Costs
		Interconnection Fees
		Risk
		Reliability
		Resilience
		Tax Impacts
		Non-Energy Impacts: • Asset Value • Water cost impacts • O&M costs • Productivity • Economic well-being • Comfort • Amenity • Health & Safety • Empowerment • Pride
	Societal	Resilience
		GHGs
		Public Health

Sources: Compiled from Tables 6, 7, and 8 as included in the Evidence of E1 in M12282, May 16, 2025.

Q. Will each impact included in the Nova Scotia Test be applicable to every DER type?

A. Not necessarily. Not all impacts will be applicable to all types of DERs. For example, a host customer installing solar PV will incur the host customer impact of interconnection fees, however that impact will not be applicable to a host customer installing an energy efficiency measure.

In addition, some impacts may not be sufficiently material for certain DER types to warrant monetizing for inclusion in the Nova Scotia Test. For example, while energy efficiency affects total energy usage by reducing electric load, demand response and distributed storage shift electric loads and may not have a material impact on energy generation.

As part of the DSMAG process, EFG summarized the working group's review and discussion of the applicability and materiality of impacts to various DERs in Tables 2, 3, and 4 of its report.[23]

Q. If an impact is not applicable or not material, should it be excluded from the Nova Scotia Test?

A. No, it should not. It is important to distinguish between the definition of the BCA test and the application of the test. All utility system impacts and all non-utility system impacts that are relevant to a jurisdiction's policy goals should be included as part of the definition of the Nova Scotia Test. In some cases, like the interconnection example above, a benefit or cost may not be relevant to a certain DER and therefore would not need to be included in the application of the Nova Scotia Test. In this case, the impact is included in the definition of the BCA test but is not included in the application of it.

This is an important distinction and supports transparent documentation that will be important for those tasked with updating the test in the future. This also ensures that the cost-effectiveness test, i.e., the costs and benefits included, is consistent across all DER

[23] Application of E1 in M12282, May 16, 2025, E1 Application, Appendix B, Appendix B, *Development of a Jurisdictional Benefit Cost Analysis Framework for Nova Scotia* report prepared by Energy Futures Group (hereinafter, the "EFG Report"), Tables 2, 3, and 4.

types. The recommended way to address this is to include such impacts but indicate those that are "not applicable" or "not material."

Q. How will the Nova Scotia Test be used to determine cost-effectiveness?

A. As was done in the prior DSM Plans, E1 will conduct the BCA at the measure, program component, program, resource, and portfolio (i.e., Plan) levels and will make those results available.[24] However, as a result of the November 9, 2022, *Public Utilities Act* amendment, the level at which the Board will evaluate the cost-effectiveness of the DSM Plans will change from the program level to the portfolio (i.e., Plan) level.[25]

Q. Does E1 propose how the impacts will be quantified?

A. Except for host customer NEBs, which I will address later in my testimony, the quantification of impacts has not been determined. The quantification of each impact category will occur when E1 develops and completes the 2027–2031 DSM portfolio and plan.[26]

Q. How does the proposed Nova Scotia Test compare to the TRC?

A. Table 2 below provides a comparison between the proposed Nova Scotia Test and the TRC test as most recently applied in the 2023–2025 DSM Plan.

[24] Response to Nova Scotia Energy Board (NSEB) IR-01.
[25] *Public Utilities Act* (amended), SNS 2022, c 53 of the Acts of 2022, *An Act to Amend Chapter 380*, section 79H(2).
[26] Response to NSEB IR-07(c).

Table 2. Comparison of Proposed Nova Scotia Test to TRC Test

Impact Category	Sub-Category	Nova Scotia Test	Total Resource Cost Test (2023–2025)
Electric Utility System	Generation	✓	✓
	Transmission	✓	✓
	Distribution	✓	✓
	General	✓	✓
Gas Utility System	Gas	Only Commodity Costs*	
Non-Utility System	Other Fuels	✓	
	Host Customer	Costs and benefits	Costs Only
	Societal	Resilience**	
		GHG Emissions	No Societal Costs, only Avoided Cost of Carbon Included under Electric Utility System Benefits
		Other Environmental (air pollutants)	
		Public Health***	
*Commodity costs are embedded in the "Other Fuels" category.			
**Resilience is embedded in "Host Customer" category.			
***Public Health impacts embedded in "GHG Emissions" and "Other Environmental" categories.			

Source: Adapted from E1 Evidence in M12282, May 16, 2025, Table 5, page 26.

As shown in Table 2, the electric utility system impacts in the proposed Nova Scotia Test are the same as those currently included in E1's TRC test. The new non-utility impact categories proposed for inclusion in the test are other fuel impacts, host customer impacts, societal greenhouse gas impacts, and other environmental impacts, which include public health impacts from particulate matter, sulfur dioxide, and nitrogen oxides air pollutants.[27]

[27] EI Notice of Application in M12282, May 16, 2025, page 5.

Q. What is the justification for including the new non-utility impacts?

A. As part of the DSMAG process, EFG asked working group members to complete a homework assignment where they considered applicable policies and legislation and their relation to BCA impact categories. Table 3 summarizes the results of that mapping exercise.

Table 3. Justification for Inclusion of Non-Utility System Impacts in Nova Scotia Test

Non-Utility System Impact	Relevant Policy
Other Fuels	• *Environmental and Climate Change Reduction Act* • Nova Scotia's Climate Plan for Clean Growth • Nova Scotia's 2030 Clean Power Plan
Host Customer Impacts	• *Environmental and Climate Change Reduction Act* • Nova Scotia's Climate Plan for Clean Growth • Nova Scotia's 2030 Clean Power Plan • Nova Scotia Energy Board Mandate • *Public Utilities Act* • The Clean Energy Task Force Report
Resilience	• *Environmental and Climate Change Reduction Act* • Nova Scotia's Climate Plan for Clean Growth • Nova Scotia's 2030 Clean Power Plan
GHG emissions	• *Environmental and Climate Change Reduction Act* • Nova Scotia's Climate Plan for Clean Growth • Nova Scotia's 2030 Clean Power Plan • Nova Scotia Energy Board Mandate • *Public Utilities Act* • The Clean Energy Task Force Report • Social Cost of Carbon Interim Guidance from the Government of Canada
Health impacts from criteria air pollutants	• *Environmental and Climate Change Reduction Act* • Nova Scotia's Climate Plan for Clean Growth • Nova Scotia's 2030 Clean Power Plan

Sources: Response to NSEB IR-02(a) and Direct Testimony of David G. Hill in M12282, May 2025, Table 2, page 9.

In addition to the policies identified above, recent amendments to the *Public Utilities Act*, defines "demand-side management" to include strategic electrification of energy end uses currently powered by fossil fuels in a manner that reduces overall greenhouse gas

emissions and electricity costs,"[28] which points to the inclusion of other fuels and GHG emissions in the Nova Scotia Test.

Q. Does E1 propose to update the Nova Scotia Test over time?

A. Yes. E1 proposes that the Nova Scotia Test be subject to an 'evergreen' review to be conducted in advance of the development of a new DSM Plan. E1 indicates this process will ensure that the impacts and their quantification reflect accurate and current data, and incorporate any changes to Nova Scotia policy objectives.[29]

V. THE PROPOSED NOVA SCOTIA TEST IS AN IMPROVEMENT OVER THE TRC TEST

Q. Please describe the limitations with the TRC test as currently implemented in Nova Scotia.

A. There are two key limitations with the current TRC test. First, the test includes host customer costs but fails to include host customer impacts. This asymmetrical treatment of benefits and costs creates a risk of undervaluing DERs, which can lead to regulatory bias against DER investments.

Second, the current test fails to account for the recent legislative developments, such as the November 2022 amendments to the *Public Utilities Act*, which allow for the inclusion of strategic electrification of energy within "demand-side management."[30]

[28] *Public Utilities Act* (amended), SNS 2022, c 53, section 179A.
[29] Response to NSEB IR-35.
[30] *Public Utilities Act* (amended), SNS 2022, c 53, section 179A.

Q. What is your overall assessment of the proposed Nova Scotia Test?

A. I find that the proposed Nova Scotia Test is an improvement upon the current TRC test. Unlike the current TRC test, the Nova Scotia Test accounts for both host customer benefits and costs that will help to ensure DERs are properly valued and do not lead to biased BCA results. In addition, the test is more consistent with Nova Scotia's energy policy goals through the incorporation of non-energy impacts as directed by recent legislation, which I will expand upon further in this section.

As the utility system impacts remain unchanged from the current TRC test, my assessment of the Nova Scotia Test in the remainder of my testimony focuses on the proposed non-utility impacts.

Q. Should the Nova Scotia Test include other fuels?

A. Yes. There are several policies and energy goals that support the inclusion of other fuels, such as natural gas, fuel oil, propane, and gasoline and diesel for electric vehicles, in the Nova Scotia Test. For example, the Climate Change Plan for Clean Growth recommends actions to support the *Environmental Goals and Climate Change Reduction Act.* Specifically, the plan recommends helping Nova Scotians get off home heating oil and reduce home heating costs. The plan sets for a goal of reducing heating oil use by at least 20 percent by 2030.[31] In addition, the November 2022 amendments to the *Public Utilities Act* includes a new definition for "demand-side management" that includes strategic electrification of energy.[32] In order to assess the cost-effectiveness of strategic

[31] Nova Scotia Department of Environment and Climate Change (2022), *Our Climate, Our Future Nova Scotia's Climate Change Plan for Clean Growth*, page 20.
[32] *Public Utilities Act* (amended), SNS 2022, c 53, section 179A.

electrification programs, such as converting a customer from oil heat to an electric heat pump, other fuel impacts need to be included to account for the oil savings.

Q. Please explain E1's justification for including host customer impacts in the Nova Scotia Test.

A. E1 states that the *Energy Reform Act* provides "a substantial basis" for including host customer impacts in the Nova Scotia Test.[33] E1 indicates that the *Energy Reform Act* and the two new pieces of legislation it creates, the *Energy and Regulatory Boards Act* and the *More Access to Energy Act*, broaden the scope of factors that the Board must consider in its regulatory decision-making by requiring the consideration of "sustainable development" and "sustainable prosperity."[34] E1 further states that the definitions of "sustainable development" and "sustainable prosperity" within the *Environment Act* and the *Environmental Goals and Climate Change Reduction Act* point to the need to consider impacts of future generations, environmental stewardship, and social responsibility.[35]

Q. Do you agree with E1's justification for including host customer impacts in the Nova Scotia Test?

A. While I am not an attorney, I agree that the *Energy Reform Act* and the *Energy and Regulatory Boards Act* broaden what the Board should account for in regulatory decision-making and through the definitions of "sustainable development" and "sustainable prosperity" point to the need to consider the "well-being and quality of life for all Nova

[33] Evidence of E1in M12282, May 16, 2025, page 31, lines 10-11.
[34] *Id.*, at page 17, lines 21-23.
[35] *Id.*, at page 17, lines 25-27.

Scotians" and non-utility system impacts such as GHG emissions.[36] The language contained in these statutes implies a broader approach to evaluating cost-effectiveness, and including host customer impacts is consistent with that approach.

Based on my review, I find that it is reasonable to include host customer impacts as long as both costs and benefits are included in the Nova Scotia Test. I provide an assessment of the valuation of host customer NEBs in the next section of my testimony.

Q. Should the Nova Scotia Test include societal impacts?

A. Yes. As indicated in Table 3 earlier in my testimony, there are several policies that point to the inclusion of the societal impacts of resilience, GHG emissions, and other environmental (air impacts), and public health.[37]

For example, the *Environmental Goals and Climate Change Reduction Act* speaks to the need to build a climate-resilient province that includes retrofitting buildings for net-zero energy performance and sets forth greenhouse gas emissions targets. [38] In addition, Environment and Climate Change Canada recommends the social cost GHG emissions be included as part of cost-benefit analysis (CBA) of regulatory proposals.[39]

[36] *Environmental Goals and Climate Change Reduction Act*, SNS 2021, c 20, section 2(l).
[37] E1 assumes that resilience is embedded in the host customer impact category and public health is embedded in GHG emissions and other environmental categories.
[38] *Environmental Goals and Climate Change Reduction Act*, SNS 2021, c 20, sections 5-7.
[39] Social Cost of Greenhouse Gas Estimates – Interim Updated Guidance for the Government of Canada, available at: https://www.canada.ca/en/environment-climate-change/services/climate-change/science-research-data/social-cost-ghg.html.

VI. HOST CUSTOMER BENEFITS AND COSTS SHOULD BE INCLUDED IN THE NOVA SCOTIA TEST

Review of Policy Developments Impacting Host Customer NEBs

Q. Did the DSMAG previously investigate NEBs?

A. Yes. As part of the Settlement Agreement in the 2016–2018 DSM Plan, the parties to the settlement agreed to work with the DSMAG "to pursue the nature and quantification of estimates associated with participant non-energy benefits to improve the TRC test in future Applications".[40] As part of this process, E1 retained the Vermont Energy Investment Corporation (VEIC) to support the development of NEBs. VEIC reviewed NEB adders from several jurisdictions and ultimately mapped NEB values from Massachusetts to E1 DSM measures, adjusting for the exchange rates, differences in water costs and property values, and treatment of health care costs.[41] On September 18, 2018, E1 requested the Board to approve the use of the NEBs developed by VEIC in future cost-effectiveness testing.[42]

Q. How did the Board rule on E1's application for the use of NEBs in cost-effectiveness?

A. In April, 2020, the Board determined that it does not have the jurisdiction to take into account non-energy impacts in cost-effectiveness testing based on the authority delegated to it under the *Public Utilities Act*.[43] The Board stated that it was unable to square certain proposed NEBs, such as noise reduction, property value, reduction in labour costs, health

[40] E1 Application for Approval of the use of Non-Energy Benefits within Cost-Effectiveness Testing in M08888, September 19, 2018, page 3, lines 4-7.
[41] *Id*., pages 7-8.
[42] *Id*., page 13, lines 22-23.
[43] Nova Scotia Utility Board, Decision in M0888, April 15, 2020, paragraph 49.

benefits and an array of environmental benefits with the definition of electricity efficiency and conservation activities in the *Public Utilities Act*.[44] Specifically, the Board found that "cost-effective" means considering the "electricity efficiency and conservation activities" of EI as defined in the *Public Utilities Act*, to determine whether they are "affordable" and result in the lowest long-term cost of electricity.[45]

Q. Why is it appropriate for the Board to reconsider this prior decision on the inclusion of host customer NEBs for cost-effectiveness?

A. While I am not an attorney, changes to the *Energy Reform Act* and the *Energy and Regulatory Boards Act* broaden the scope of what the Board should consider when "fixing rates, tolls, charges, tariffs, capital applications and all other matters" to include:

a) support competition and innovation in the provision of energy resources in the Province;
b) support the development of a competitive electricity market;
c) ensure the provision of safe, secure, reliable, and economical energy supply in the Province;
d) support sustainable development and sustainable prosperity; and
e) support such other factors as prescribed by the regulations.[46]

As noted by E1, *the Energy Reform Act* indicates that the definition of "sustainable prosperity" has the same meaning as included in the *Environmental Goals and Climate Change Reduction Act*.[47] The *Environmental Goals and Climate Change Reduction Act*

[44] *Id*., paragraph 42
[45] *Id*., paragraph 47.
[46] The *Energy Reform (2024) Act*, SNS 2024, Schedule A, section 6(2).
[47] E1 Evidence in M12282, May 16, 2025, page 15, lines 25-24.

states that the long-term objective of the Government is to achieve sustainable prosperity, which includes supporting "the well-being and quality of life for all Nova Scotians" and working towards "continues improvement in measures of social, environmental and economic indicators of prosperity."[48] Many NEB categories pertain to DER outcomes that improve "well-being' and "quality of life," such as economic well-being, productivity, improved air quality, health, safety and comfort, and resilience. For these reasons, I recommend the Board reconsider whether it has the authority to consider NEBs in cost-effectiveness screening.

Assessment of the Proposed Methodology for Quantifying Host Customer NEBs

Q. What NEBs does E1 propose to include in the BCA and how will they be quantified?

A. E1 proposes to include the following host customer NEBs in the Nova Scotia Test: asset value, water cost impacts, O&M costs, productivity, economic well-being, comfort, amenity, health and safety, empowerment, and pride.[49]

E1 proposes to quantify these NEBs using proxy adders developed by EFG. EFG defines a proxy adder as "a percent of either estimated net energy benefits, or measure costs, that is deemed to represent the combined value of non-energy benefits."[50]

Table 4 below includes the proxy adders that EFG recommends for inclusion in the Nova Scotia Test. The proxy adder values are based on EFG's expert opinion and are meant to represent an average across projects in each category. The notes column in the table

[48] *Environmental Goals and Climate Change Reduction Act*, SNS 2021, c 20, section 5.
[49] E1 Evidence in M12282, May 16, 2025, Table 8, pages 32-33.
[50] EFG Report page 9.

describes the components contributing to the estimated proxy for each measure type and market segment.[51]

Table 4. EFG Host Customer NEB Proxy Recommendations

Host Customer Impact – by Measure Category and Customer Segment	Non-Income Qualified/Target Market Segment	Income Qualified Target Market Segment	Notes
Building Shell Measures (Air Sealing, Insulation)	20%	40%	Indoor air quality, health and safety, comfort, O&M
BNI Custom Measures	20%	40%	Enhancement of production processes and working environment
Other Equipment Energy Efficiency	10%	20%	Reduced O&M, economic well-being, amenity, priced, empowerment
Demand Response	NM	NM	Generally low value or negative impact on comfort
Distributed Generation (Onsite Solar)	5%	10%	Reduced risk, economic well-being, asset value, pride, empowerment
Distributed Storage (Onsite Battery)	10%	20%	Reduced risk, economic well-being, asset value, pride, empowerment, resilience, health and safety
Solar + Storage	15%	30%	Increased resilience and health and safety benefits
Beneficial Electrification	10%	20%	Reduced risk, asset value, comfort, amenity, improved air quality, pride, empowerment
Electric Vehicle (managed charging, VtG)	0%	0%	Zero for now until more research on reduced risk, asset value, O&M costs, amenity, pride, empowerment, and resilience

Source: EFG Report, Table 14, page 45.

[51] Response to NSEB IR-15(a).

Q. How would the NEBs be used within the Nova Scotia Test?

A. E1 proposes to apply the NEB proxy adders as a percentage of the net energy benefits, except for beneficial electrification measures, which will be calculated as a percentage of the non-incentivized measure costs.[52]

Q. Would all the Measure Categories be applied to both the residential customer segment and the business, non-profit, and institutional (BNI) customer segment?

A. Yes, EI would apply all the Measure Categories to both the residential customer segment and the BNI customer segments except for BNI Custom Measures category, which is only applicable to the BNI customer segment.[53]

Q. Do the Measure Categories of Building Shell Measures, BNI Custom Measures, and Other Equipment Energy Efficiency align with E1's existing measures and programs?

A. EFG did not assign specific E1 measures to the appropriate measure categories. However, as included in the NEB Notes column in Table 4, EFG identifies the NEBs commonly associated with each measure category. EFG creates three measure categories for DSM measures: building shell, BNI custom measures, and other equipment. EFG explains that (a) the building shell category includes air sealing, insulation and other measures that improve a building's thermal shell performance, (b) BNI custom includes a wide range of measures and services for BNI customers, and (c) the other equipment measures category is intended to capture the remaining measures that are not classified as building shell measures or custom BNI measures.[54]

[52] Response to Synapse IR-19 (a) and (b).
[53] Response to Synapse IR-18(a).
[54] Response to Synapse IR-18(c).

If the Board approves the use of NEB proxies, E1 will map each measure to the appropriate measure category as part of the implementation of cost-effectiveness screening using the Nova Scotia Test.[55]

Q. How were the NEB proxy values determined?

A. EFG states that it based its recommendations on the professional judgement of its team members.[56] While EFG indicates that the NEB proxy values are broadly consistent with the level of valuation adopted by other jurisdictions,[57] there are no workpapers, analysis, and sources that demonstrate how EFG developed the proxy adders.[58]

While the EFG Report does cite Vermont, Colorado, Nevada, and Massachusetts as examples of jurisdictions that use non-energy impacts (NEI) as a comparison point, there is no explanation for why EFG chose proxies above and below what is used in other jurisdictions. For example, Vermont, Colorado, and Nevada have NEI proxies ranging from 10 percent to 15 percent for non-income qualified programs but EFG does not explain why it chose a value of 20 percent for building shell measures and then only 10 percent for other equipment energy efficiency.[59] Similarly, the EFG Report compares NEI benefits in Massachusetts that range from 2.6 cents to 12.4 cents for non-income qualified residential customers whereas EFG recommend a range from 4.2 cents to 9.5 cents for Nova Scotia.[60]

[55] *Ibid.*
[56] Response to Synapse IR-16(a).
[57] EFG Report page 44.
[58] Response to Synapse IR-16(a).
[59] EFG Report page 46.
[60] EFG Report page 48.

The main justification provided by EFG are the notes summarized in Table 4 above and statements that custom projects, which often highlight productivity or process improvements, should have higher values than other measure categories, and that the income-qualified market segment should be twice as high than for other market segments due to the economic constraints on these customers that can lead to higher NEB values.[61]

Q. What is your overall assessment of EFG's approach to determine the NEB proxy values?

A. I have concerns related to the lack of documentation around the development of the proposed NEB proxy values. While I find that proxies are a reasonable approach to estimate NEBs, and are often based on professional judgement, they should not be arbitrarily chosen. For example, EFG should explain why it is appropriate to use a proxy adder of 20 percent for building shell measures and BNI Custom Measures when Vermont, Colorado, and Nevada have proxies ranging from 10 percent to 15 percent. There may be a valid reason to make this adjustment, but it should be explained and documented.

Q. Based on these concerns, what is your recommendation for the inclusion of host customer NEBs in the Nova Scotia Test.

A. I recommend that the Nova Scotia Test include host customer NEBs. I am confident that the value of host customer NEBs is not zero based on decades of literature and studies from other jurisdictions that quantify NEBs associated with DERs. For example, a report by Lawrence Berkely National Laboratory cites 27 studies across a range of 16 NEIs,

[61] Response to NSEB IR-15(a).

many of which are proposed by E1, including comfort, health and safety, and productivity.[62] In addition, Skumatz Economic Research Associates (SERA) recently conducted a study that reviewed data from quantitative NEB/NEI studies from 1998 to 2022 and identified ranges and typical results across NEB/NEI categories. SERA found that 26 states monetize NEIs or use percentage adders for NEBs. For states that use NEB proxy adders, the average adders for electric and gas programs are 11 and 12 percent, and the average additive factor for low-income programs is 14 percent.[63]

However, given my concerns related to the lack of documentation around how the NEB proxies were developed for the Nova Scotia Test, I recommend that the Board approve a lower maximum value for the NEB proxies for use in the 2027-2031 DSM Plan. Specifically, I recommend that the non-income-qualified NEB values for building shell measures and BNI Custom Measures as included in Table 4 above be reduced from 20 percent to 12 percent, to align with the middle range of what EFG cites from other jurisdictions and the average value reported in the SERA report. This in turn would also reduce the maximum income-qualified NEB values to 24 percent. The other NEB values as proposed in Table 4 are already within that range and can be approved without modification. Should E1 want to include the higher NEB values, it should provide justification in its upcoming 2027-2031 DSM Plan.

[62] Sutter, M., J. Mitchell-Jackson, S. Schiller, L. Schwartz, and I. Hoffmann (2020) *Applying Non-Energy Impacts from Other Jurisdictions in Cost-Benefit Analyses of Energy Efficiency Programs: Resources for States for Utility Customer-Funded Programs,* Lawrence Berkeley National Laboratory. Available at: https://emp.lbl.gov/publications/applying-non-energy-impacts-other.

[63] Skumatz, L., and A. Gibbs (2023) *Non-Energy Benefits/Non-Energy Impacts (NEBs/NEIs): Analysis of Alternative for Updates for the State of New Jersey*, Skumatz Economic Research Associates (SERA). Available at: https://www.njcleanenergy.com/files/file/BPU/2023/Energy%20Efficiency%20Triennium%202%20Non-Energy%20Benefits%20Memo%20(2023).pdf.

I further recommend that the Board direct E1 to launch a process for updating the NEB proxies in 2029 for use in the next DSM Plan.

Q. Should the Board choose not to adopt the use of host customer NEBs, is there an alternative approach to achieve symmetry in the Nova Scotia Test?

A. Yes. Excluding both host customer costs and benefits will result in treating host customer impacts symmetrically. This approach is not the same as using a PAC test, that only includes utility system impacts. The Board could approve a Nova Scotia Test that includes all utility system impact, other fuel impacts, and societal impacts, but excludes host customer impacts (both costs and NEBs).

Q. Are there potential issues with removing both host customer costs and benefits from a BCA?

A. Yes. While this is a reasonable approach for energy efficiency and demand response programs, where the host customer portion of costs is often relatively small, it can create unintended consequences when applied to other DERs such as solar PV and EVs.

Q. Please explain how BCAs for solar PV and EVs may create suboptimal results when host customer impacts are excluded.

A. Utility programs that promote customer adoption of distributed generation, such as distributed solar, typically require the host customer to pay the entire cost of installing and maintaining the solar system. In some cases, the costs are incurred by the solar developer and paid back by the host customer over time. Either way, the host customers pay all of the costs for the installation and operation of the technology, which is by far the largest cost of a program.

The same is true for utility programs that encourage customers to adopt EVs, either by installing more charging stations or providing a direct incentive for purchasing EVs. The host customer pays the full cost of the EV itself.

This means that a PAC or a JST that excludes host customer impacts will not include the vast majority of the cost of the resource. A BCA test that includes host customer impacts will provide a more complete picture of the cost of the resource and therefore the cost-effectiveness of the resource.

It is my understanding that E1 is exploring solar PV and building and industry electrification as part of its 2027–2031 DSM Plan development,[64] so this issue may arise in Nova Scotia in the near term.

For these reasons, I recommend that the Board adopt a cost-effectiveness test that includes host customer impacts (both costs and benefits) to provide a comprehensive view of the cost-effectiveness of DERs.

Q. Does this conclude your evidence?

A. Yes, it does.

[64] Response to NSEB IR-29 (a) and (d).

Appendix A: Resume of Courtney Lane

Courtney Lane, Senior Principal

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PROFESSIONAL EXPERIENCE

Synapse Energy Economics, Inc., Cambridge, MA. *Senior Principal*, August 2024 – Present, *Principal Associate*, September 2022 – August 2024, *Senior Associate,* November 2019 – September 2022.

Provides consulting and researching services on a wide range of issues related to the electric industry including performance-based regulation, benefit-cost assessment, rate and bill impacts, and assessment of distributed energy resource policies and programs. Develops expert witness testimony in public utility commission proceedings.

National Grid, Waltham, MA. *Growth Management Lead*, *New England,* May 2019 – November 2019, *Lead Analyst for Rhode Island Policy and Evaluation,* June 2013 – April 2019.

- Portfolio management of product verticals including energy efficiency, demand response, solar, storage, distributed gas resources, and electric transportation, to optimize growth and customer offerings.
- Strategy lead for the Performance Incentive Mechanism (PIM) working group.
- Worked with internal and external stakeholders and led the development of National Grid's Annual and Three-Year Energy Efficiency Plans and System Reliability Procurement Plans for the state of Rhode Island.
- Led the Rhode Island Energy Efficiency Collaborative; a group focused on reaching consensuses regarding energy efficiency plans and policy issues for demand-side resources in Rhode Island.
- Managed evaluations of National Grid's residential energy efficiency programs in Rhode Island, and benefit-cost models to screen energy efficiency measures.

Citizens for Pennsylvania's Future, Philadelphia, PA. *Senior Energy Policy Analyst*, 2005–2013.

- Supported the passage of legislation creating utility energy efficiency programs and important amendments to the Alternative Energy Portfolio Standards law.
- Performed market research and industry investigation on emerging energy resources including wind, solar, energy efficiency and demand response.
- Planned, facilitated and participated in wind energy advocates training meetings, annual partners retreat with members of wind and solar companies, and the PennFuture annual clean energy conference.

Northeast Energy Efficiency Partnerships, Inc., Lexington, MA. *Research and Policy Analyst,* 2004–2005.

- Drafted comments and testimony on various state regulatory and legislative actions pertaining to energy efficiency.

- Tracked energy efficiency initiatives set forth in various state climate change action plans, and federal and state energy regulatory developments and requirements.
- Participated in Regional Greenhouse Gas Initiative (RGGI) stakeholder meetings.
- Analyzed cost-effectiveness of various initiatives within the organization.

EnviroBusiness, Inc., Cambridge, MA. *Environmental Scientist,* July 2000 – May 2001

- Conducted pre-acquisition assessments/due diligence assignments for properties throughout New England. Environmental assessments included an analysis of historic properties, wetlands, endangered species habitat, floodplains, and other areas of environmental concern and the possible impacts of cellular installations on these sensitive areas.

EDUCATION

Tufts University, Medford, MA
Master of Arts; Environmental Policy and Planning, 2004.

Colgate University, Hamilton, NY
Bachelor of Arts; Environmental Geography, 2000.

PUBLICATIONS

Woolf, T., M. Whited, C. Lane. 2025. *Identifying and Accounting for Transfers in Benefit-Cost Analysis of Distributed Energy Resources*. Synapse Energy Economics for the National Energy Screening Project.

Fortman, N., J. Michals, T. Woolf, C. Lane. 2022. *Benefit-Cost Analysis: What it Can and Cannot Tell us About Distributional Equity of DERs*. E4TheFuture, Synapse Energy Economics. Presented at the 2022 ACEEE Summer Study of Energy Efficiency in Buildings.

National Energy Screening Project. 2022. *Methods, Tools and Resources: A Handbook for Quantifying Distributed Energy Resource Impacts for Benefit-Cost Analysis*. E4TheFuture, Synapse Energy Economics, Parmenter Consulting, Apex Analytics, Energy Futures Group.

Woolf, T., D Bhandari, C. Lane, J. Frost, B. Havumaki, S. Letendre, C. Odom. 2021. *Benefit-Cost Analysis of the Rhode Island Community Remote Net Metering Program*. Synapse Energy Economics for the Rhode Island Division of Public Utilities and Carriers.

Lane, C., S. Kwok, J. Hall, I. Addleton. 2021. *Macroeconomic Analysis of Clean Vehicle Policy Scenarios for Illinois*. Synapse Energy for the Natural Resources Defense Council.

National Energy Screening Project. 2020. *National Standard Practice Manual for Benefit-Cost Analysis of Distributed Energy Resources*. E4TheFuture, Synapse Energy Economics, Energy Futures Group, ICF, Pace Energy and Climate Center, Schiller Consulting, Smart Electric Power Alliance.

Lane, C., K. Takahashi. 2020. *Rate and Bill Impact Analysis of Rhode Island Natural Gas Energy Efficiency Programs.* Synapse Energy Economics for National Grid.

Chang, M., J. Frost, C. Lane, S. Letendre, PhD. 2020. *The Fixed Resource Requirement Alternative to PJM's Capacity Market: A Guide for State Decision-Making*. Synapse Energy Economics for the State Energy & Environmental Impact Center at the NYU School of Law.

TESTIMONY

Minnesota Public Utilities Commission (Docket Nos. E-015/PA-24-198,M-24-383): Direct and Surrebuttal Testimony of Courtney Lane regarding the Petition of Minnesota Power for Acquisition of ALLETE by Canada Pension Plan Investment Board and Global Infrastructure Partners. On behalf of the Sierra Club. February 4, 2025 and March 25, 2025.

Maryland Public Service Commission (Case No. 9741): Direct Testimony of Courtney Lane regarding the application of Potomac Edison Company for an Electric School Bus Pilot. On behalf of the Maryland Office of People's Counsel. August 23, 2024.

New Mexico Public Regulation Commission (Case No. 24-00120-UT): Direct Testimony of Courtney Lane regarding the Southwestern Public Service Company's 2025-2027 Transportation Electrification Plan. On behalf of the New Mexico Department of Justice. July 12, 2024

New Mexico Public Regulation Commission (Case No. 22-00113-UT): Direct Testimony of Courtney Lane regarding the Application of El Paso Electric Company for a Time-Varying Rate Pilot Program. On behalf of the New Mexico Department of Justice. July 12, 2024.

New Mexico Public Regulation Commission (Case No. 22-00058-UT): Supplemental Testimony of Courtney Lane regarding the Benefit Cost Analysis of Public Service Company of New Mexico's grid modernization application. On behalf of the New Mexico Office of Attorney General. March 1, 2024.

Public Service Commission of the District of Columbia (Formal Case No. 1176): Direct and Surrebuttal Testimony of Courtney Lane regarding the Application of Potomac Electric Power Company for Authority to Implement a Multiyear Rate Plan for Electric Distribution Service in the District of Columbia. On behalf of the District of Columbia Government. January 12, 2024 and April 22, 2024.

Maryland Public Service Commission (Case No. 9702): Direct and Surrebuttal Testimony of Courtney Lane regarding electric vehicle programs and cost recovery issues in the application of Potomac Electric Power Company for an Electric Multi-Year Plan. On behalf of the Maryland Office of People's Counsel. December 15, 2023 and February 23, 2024.

Public Utilities Commission of New Hampshire (Docket No. DE 23-039): Direct Testimony of Courtney Lane regarding Liberty Utilities Request for Change in Distribution Rates. On behalf of the Office of Consumer Advocate. December 13, 2023.

Maryland Public Service Commission (Case No. 9696): Direct Testimony of Courtney Lane regarding the application of Baltimore Gas and Electric Company for an Electric School Bus Pilot Program. On behalf of the Maryland Office of People's Counsel. July 25, 2023.

Maryland Public Service Commission (Case No. 9695): Direct and Surrebuttal Testimony of Courtney Lane regarding electric vehicle program benefit-cost analysis issues in the application of the Potomac Edison Company for Adjustments to its Electric Retail Rates. On behalf of the Maryland Office of People's Counsel. June 9, 2023 and July 14, 2023.

Maryland Public Service Commission (Case No. 9692): Direct and Surrebuttal Testimony of Courtney Lane regarding electric vehicle program benefit-cost analysis issues in the application of Baltimore Gas and Electric Company for an Electric and Gas Multi-Year Plan. On behalf of the Maryland Office of People's Counsel. June 20, 2023 and August 25, 2023.

California Public Utilities Commission (Application Nos. 22-05-015/22-05-01): Prepared Testimony of Eric Borden and Coutney Lane regarding Quantitative Risk Analysis Issues in Sempra's 2024 Test Year General Rate Case. On behalf of The Utility Reform Network. March 27, 2023.

New Mexico Public Regulation Commission (Case No. 22-00058-UT): Direct Testimony of Courtney Lane regarding the application of Public Service Company of New Mexico's for authorization to implement grid modernization. On behalf of the New Mexico Office of Attorney General. January 27, 2023.

Illinois Commerce Commission (Dockets 22-0432/22-0442 (Consol.): Direct and Rebuttal Testimony of Courtney Lane and Eric Borden regarding the petition of Commonwealth Edison Company for Approval of Beneficial Electrification Plan Under the Electric Vehicle Act. On behalf of the People of the State of Illinois. September 22, 2022 and November 16, 2022.

Illinois Commerce Commission (Docket No. 22-0431/22-0443): Direct and Rebuttal Testimony of Courtney Lane and Eric Borden regarding the petition of Ameren Illinois Company for Approval of Beneficial Electrification Pursuant to Section 45 of the Electric Vehicle Act. On behalf of the People of the State of Illinois. September 15, 2022 and November 7, 2022.

New Mexico Public Regulation Commission (Case No. 21-00178-UT): Direct Testimony of Courtney Lane regarding the application of Southwestern Public Service Company's for authorization to implement grid modernization. On behalf of the New Mexico Office of Attorney General. October 11, 2022.

Public Service Commission of Wisconsin (Docket 5-UR-110): Direct and Surrebuttal Testimony of Courtney Lane regarding the Joint Application of Wisconsin Electric Power Company and Wisconsin Gas, LLC for Authority to Adjust Electric, Natural Gas, and Steam Rates. On behalf of Clean Wisconsin. September 9, 2022 and October 3, 2022.

Maryland Public Service Commission (Case No. 9681): Direct Testimony of Courtney Lane regarding the application of Delmarva Power & Light Company for an Electric Multi-Year Plan. On behalf of the Maryland Office of People's Counsel. August 19, 2022.

New Mexico Public Regulation Commission (Case No. 21-00269-UT): Testimony of Courtney Lane in Support of Unopposed Comprehensive Stipulation regarding the Application of El Paso Electric Company for Approval of a Grid Modernization Project to Implement an Advanced Metering System. On behalf of the New Mexico Office of Attorney General. May 11, 2022.

Public Utilities Commission of New Hampshire (Docket No. DG 21-104): Direct Testimony of Courtney Lane and Ben Havumaki regarding Northern Utilities, Inc.'s request for change in rates. On behalf of the Office of Consumer Advocate. April 1, 2022.

Public Utilities Commission of New Hampshire (Docket No. DE 20-092): Direct Testimony of Courtney Lane and Danielle Goldberg regarding the 2021-2023 Triennial Energy Efficiency Plan. On behalf of the Office of Consumer Advocate. April 19, 2022.

Maryland Public Service Commission (Case No. 9655): Direct and Surrebuttal Testimony of Courtney Lane regarding the application of Potomac Electric Company for a Multi-Year Plan and Performance Incentive Mechanisms. On behalf of the Maryland Office of People's Counsel. March 3, 2021 and April 20, 2021.

Pennsylvania Public Utility Commission (Docket No. M-2020-3020830): Direct testimony of Alice Napoleon and Courtney Lane regarding PECO Energy Company's proposed Act 129 Phase IV Energy Efficiency and Conservation Plan. On behalf of the Natural Resources Defense Council. January 14, 2021.

Maryland Public Service Commission (Case No. 9645): Direct and Surrebuttal Testimony of Courtney Lane regarding the Application of Baltimore Gas and Electric Company for an Electric and Gas Multi-Year Plan. On behalf of the Maryland Office of People's Counsel. August 14, 2020 and October 7, 2020.

Maryland Public Service Commission (Case No. 9619): Comments of Maryland Office of People's Counsel Regarding Energy Storage Pilot Program Applications, attached Synapse Energy Economics Report. June 23, 2020.

Public Service Commission of the District of Columbia (Formal Case No. 1156): Direct, Rebuttal, Surrebuttal, and Supplemental Testimony of Courtney Lane regarding the Application of Potomac Electric Power Company for Authority to Implement a Multiyear Rate Plan for Electric Distribution Service in the District of Columbia. On behalf of the District of Columbia Government. March 6, 2020, April 8, 2020, June 1, 2020, and July 27, 2020.

Rhode Island Public Utilities Commission (Docket No. 4888): Oral testimony of Courtney Lane regarding the Narragansett Electric Co. d/b/a National Grid - 2019 Energy Efficiency Program (EEP). On behalf of National Grid. December 11, 2018.

Rhode Island Public Utilities Commission (Docket No. 4889): Oral testimony of Courtney Lane regarding the Narragansett Electric Co. d/b/a National Grid - 2019 System Reliability Procurement Report (SRP). On behalf of National Grid. December 10, 2018.

Rhode Island Public Utilities Commission (Docket No. 4755): Oral testimony of Courtney Lane regarding the Narragansett Electric Co. d/b/a National Grid - 2018 Energy Efficiency Program (EEP). On behalf of National Grid. December 13, 2017.

Rhode Island Public Utilities Commission (Docket No. 4684): Oral testimony of Courtney Lane regarding the RI Energy Efficiency and Resource Management Council (EERMC) Proposed Energy Efficiency Savings

Targets for National Grid's Energy Efficiency and System Reliability Procurement for the Period 2018-2020 Pursuant to §39-1-27.7. On behalf of National Grid. March 7, 2017.

Rhode Island Public Utilities Commission (Docket No. 4684): Oral testimony of Courtney Lane regarding National Grid's 2018-2020 Energy Efficiency and System Reliability Procurement Plan. On behalf of National Grid. October 25, 2017.

Rhode Island Public Utilities Commission (Docket No. 4654): Oral testimony of Courtney Lane regarding the Narragansett Electric Co. d/b/a National Grid - 2017 Energy Efficiency Program Plan (EEPP) for Electric & Gas. On behalf of National Grid. December 8, 2016.

Rhode Island Public Utilities Commission (Docket No. 4580): Oral testimony of Courtney Lane regarding the Narragansett Electric Co. d/b/a National Grid - 2016 Energy Efficiency Program Plan (EEPP) for Electric & Gas. On behalf of National Grid. December 2, 2015.

Pennsylvania Public Utility Commission (Docket No. P-2012-2320369): Direct testimony of Courtney Lane regarding the Petition of PPL Electric Utilities Corporation for an Evidentiary Hearing on the Energy Efficiency Benchmarks Established for the Period June 1, 2013 through May 31, 2016. On behalf of PennFuture. October 19, 2012.

Pennsylvania Public Utility Commission (Docket No. P-2012-2320334): Direct testimony of Courtney Lane regarding the Petition of PECO Energy for an Evidentiary Hearing on the Energy Efficiency Benchmarks Established for the Period June 1, 2013 through May 31, 2016. On behalf of PennFuture. September 20, 2012.

Pennsylvania Public Utility Commission (Docket No. I-2011-2237952): Oral testimony of Courtney Lane regarding the Commission's Investigation of Pennsylvania's Retail Electricity Markets. On behalf of PennFuture. March 21, 2012.

Committee on the Environment Council of the City of Philadelphia (Bill No. 110829): Oral testimony of Courtney Lane regarding building permitting fees for solar energy projects. On behalf of PennFuture. December 5, 2011.

Pennsylvania Public Utility Commission (Docket No. M-00061984): Oral testimony of Courtney Lane regarding the En Banc Hearing on Alternative Energy, Energy Conservation, and Demand Side Response. On behalf of PennFuture. November 19, 2008.

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Lane, C. 2019. "The RI Test." Presentation for AESP Webinar: Emerging Valuation Approaches in Cost-Effectiveness and IRPs, October 31, 2019.

Lane, C., A. Flanders. 2017. “National Grid Rhode Island: Piloting Wireless Alternatives: Forging a Successful Program in Difficult Circumstances.” Presentation at the 35th Annual Peak Load Management Association (PLMA) Conference, Nashville, TN, April 4, 2017.

Lane, C. 2013. “Regional Renewable Energy Policy Update.” Presentation at the Globalcon Conference, Philadelphia, PA, March 6, 2013.

Lane, C. 2012. “Act 129 and Beyond.” Presentation at the ACI Mid-Atlantic Home Performance Conference, October 1, 2012.

Lane, C. 2012. “Act 129: Taking Energy Efficiency to the Next Level.” Presentation at the Energypath Conference, June 28, 2012.

Lane, C. 2011. “Pennsylvania’s Model Wind Ordinance.” Presentation at Harvesting Wind Energy on the Delmarva Peninsula, September 14, 2011.

Lane, C. 2011. “Electric Retail Competition and the AEPS.” Presentation at the Villanova Law Forum, November 4, 2011.

Lane, C. 2009. “Act 129: Growing the Energy Conservation Market.” Presentation at the Western Chester County Chamber of Commerce, March 25, 2009.

Resume updated July 2025