

**THE STATE OF NEW HAMPSHIRE  
BEFORE THE  
NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION**

**JOINT TESTIMONY FOR THE 2022-2023 NEW HAMPSHIRE STATEWIDE ENERGY  
EFFICIENCY PLAN**

**KATHERINE PETERS, MARC LEMENAGER, JOHN JAMES BUTLER and MARISA  
PARUTA OF EVERSOURCE; ERIC STANLEY OF LIBERTY; MARY DOWNES and  
ELENA DEMERIS OF UNITIL, and CAROL WOODS OF NHEC**

**ELECTRIC AND NATURAL GAS UTILITIES**

**Docket No. DE 20-092**

**April 19, 2022**

---

## Table of Contents

I.	QUALIFICATIONS.....	3
II.	PURPOSE.....	10
III.	DISCUSSION OF 2022-2023 PLAN.....	10
IV.	CONCLUSION.....	40
V.	ATTACHMENTS.....	41

1   **I.       QUALIFICATIONS**

2   **Q.       Mr. Stanley, please state your name, business address and position.**

3   A.       My name is Eric M. Stanley. My business address is 15 Buttrick Road, Londonderry,  
4           New Hampshire. I am employed by Liberty Utilities Service Corp. (“Liberty”) which  
5           provides services to Liberty Utilities (Granite State Electric) Corp. (“Granite State” or the  
6           “Company”) and Liberty Utilities (EnergyNorth Natural Gas) Corp. (“EnergyNorth”). I  
7           am the Manager of Energy Efficiency & Customer Programs at Liberty.

8   **Q.       Have you previously testified before this Commission?**

9   A.       Yes. I have testified in numerous proceedings before the Commission.

10   **Q.       Please describe your educational and professional experience, including the**  
11           **responsibilities for your current role for your company.**

12   A.       I received an MBA from Southern New Hampshire University in 2015 and a Bachelor’s  
13           of Science degree in Business Administration from the University of New Hampshire in  
14           2000. Since 2012, I have worked as Liberty Utilities Manager of Energy Efficiency &  
15           Customer Programs in New Hampshire, responsible for program planning,  
16           implementation, marketing, reporting and analytics. Prior to this role, I worked at  
17           National Grid from 2001 to 2012 in a variety of capacities including most recently as the  
18           Manager, Marketing Strategy – Energy Efficiency from 2009 to 2012 where I was  
19           responsible for developing energy efficiency strategies across Massachusetts, New  
20           Hampshire, New York and Rhode Island. From 2007 to 2009, I was the Manager of Gas  
21           Residential Advertising, responsible for customer growth direct marketing activities.  
22           From 2004 to 2007, I was a Senior Marketing Analyst responsible for new product and  
23           growth marketing activities. From 2001 to 2003, I was an Energy Efficiency Analyst,

1 responsible for planning and evaluation activities related to the Company's  
2 Massachusetts natural gas energy efficiency programs. Prior to National Grid, from 1999  
3 to 2001, I worked as an Analyst at Ellacoya Networks responsible for data analytics and  
4 market intelligence research.

5 **Q. Ms. Downes, please state your name, business address, and position.**

6 A. My name is Mary A. Downes, and I work for Unitil Service Corporation. My business  
7 address is 325 West Road, Portsmouth, New Hampshire. I am the Manager of Strategy  
8 and Compliance and am responsible for overseeing the administrative and regulatory  
9 requirements associated with Unitil's energy efficiency programs in New Hampshire and  
10 Massachusetts.

11 **Q. Have you previously testified before this Commission?**

12 A. Yes, I have testified before the Commission on behalf of Unitil regarding energy  
13 efficiency matters. Most recently, I testified before the Commission on behalf of Unitil in  
14 support of the 2018 – 2020 Three Year Plan in docket DE 17-136, as well as the 2020  
15 Three Year Plan update.

16 **Q. Please describe your educational and professional experience, including the**  
17 **responsibilities for your current role for your company.**

18 A. Before starting my current position at Unitil in 2012, I worked for several years in New  
19 Hampshire's state energy office, helping to administer State Energy Program funding,  
20 including over \$100 million in federal Recovery Act funds. I earned a Master's degree in  
21 Resource Administration and Management from the University of New Hampshire. In  
22 my role at Unitil, I supervise a team of data analysts and project managers and work  
23 collaboratively with colleagues at the other utility companies, as well as with Unitil

1 implementation staff to plan for, report on, and evaluate energy efficiency program  
2 activities in both New Hampshire and Massachusetts.

3 **Q. Ms. Demeris, please state your name, business address, and position.**

4 A. My name is S. Elena Demeris. My business address is 6 Liberty Lane West, Hampton,  
5 New Hampshire. I am a Senior Regulatory Analyst for Unitil Service Corp. In this  
6 capacity I am responsible for preparing regulatory filings, pricing research, regulatory  
7 analysis, tariff administration, revenue requirements calculations, customer research, and  
8 other analytical services.

9 **Q. Have you previously testified before this Commission?**

10 A. Yes, I have testified before the Commission on behalf of Unitil in cost of gas rate  
11 proceedings. Most recently, I testified before the Commission on behalf of Unitil in  
12 docket DG 21-131.

13 **Q. Please describe your educational and professional experience, including the**  
14 **responsibilities for your current role for your company.**

15 A. In 1996, I graduated from the University of Massachusetts - Lowell with a Bachelor's of  
16 Science Degree in Civil Engineering. In 2005, I earned a Master's Degree in Business  
17 Administration and in 2006 a Master's Degree in Finance from Southern New Hampshire  
18 University. I joined Unitil in July 1998 in the regulatory/rate department.

19 **Q. Ms. Woods, please state your full name, business address, and position.**

20 A. My name is Carol M. Woods and my business address is 579 Tenney Mountain  
21 Highway Plymouth, New Hampshire. I am an Energy Solutions Executive for New  
22 Hampshire Electric Cooperative. My responsibilities include management of planning  
23 and regulatory support for the company's energy efficiency programs.

1   **Q.    Please describe your educational background and training.**

2    A.    I graduated from Plymouth State University in 1996 with a Bachelor of Science Degree  
3        in Accounting. I received a Master of Business Administration from Southern New  
4        Hampshire University in 2008.

5   **Q.    Please describe your professional experience.**

6    A.    I was hired by New Hampshire Electric Cooperative in 2001 to perform my current job  
7        responsibilities.

8   **Q.    Have you previously testified before the New Hampshire Public Utilities**  
9        **Commission?**

10   A.    Yes, I have testified on multiple occasions before the Commission.

11   **Q.    Ms. Peters, please state your name, business address and position.**

12   A.    My name is Katherine W. Peters. My business address is 73 West Brook Street,  
13        Manchester, NH 03105. My position is Director, Residential Programs and in that  
14        position, I oversee implementation and strategic direction for residential energy  
15        efficiency programs in New Hampshire and Massachusetts.

16   **Q.    Have you previously testified before the Commission?**

17   A.    Yes. I have testified before the Commission in Dockets No. DE 17-136 and DE 20-092.

18   **Q.    Please describe your educational background and professional experience.**

19   A.    I graduated from Cornell University in Ithaca, NY in 2002 with a Bachelor of Arts degree  
20        in Government. I've held multiple positions in implementation and planning for the New  
21        Hampshire energy efficiency programs at Eversource since 2013. My present  
22        responsibilities include oversight of residential program implementation, strategic  
23        planning, regulatory proceedings and stakeholder engagement related to the energy

1 efficiency programs. Prior to joining Eversource I managed the federally funded Better  
2 Buildings energy efficiency program at the New Hampshire Community Development  
3 Finance Authority and held several positions in the office of Governor John H. Lynch  
4 and the New Hampshire State Senate.

5 **Q. Mr. Lemenager, please state your name, business address and position.**

6 A. My name is Marc E. Leménager. My business address is 73 West Brook Street,  
7 Manchester, NH 03105. My position is Senior Analyst, Regulatory, Planning and  
8 Evaluation, and in that position, I provide service to the Energy Efficiency programs  
9 operated by Eversource Energy.

10 **Q. Have you previously testified before the Commission?**

11 A. Yes, I have testified on multiple occasions before the Commission.

12 **Q. Please describe your educational background and professional experience.**

13 A. I earned a B.S., magna cum laude, in Economics and Finance and an MBA with a  
14 concentration in Quantitative Analysis from Southern New Hampshire University. Prior  
15 to being hired by Eversource in 2015, I worked for Bowers & Wilkins, a high-end  
16 loudspeaker company, as a financial analyst. My responsibilities included preparing  
17 quarterly and annual financial reporting, reviewing contracts with our largest vendors,  
18 including Apple and Best Buy, managing the company's direct-to-consumer online  
19 storefront, and managing inventory levels across all warehouses within the United States.  
20 From 2015-2020, I worked for Eversource as an Analyst in the New Hampshire  
21 Regulatory and Revenue Requirements organization, and in that role I was responsible  
22 for assisting in the coordination and implementation of revenue requirements calculations  
23 for Eversource, as well as the filings associated with Eversource's default Energy Service

1 rate, System Benefits Charge, Stranded Cost Recovery Charge, and Transmission Cost  
2 Adjustment Mechanism. Since 2020, I have been employed in my current role within  
3 Eversource's Energy Efficiency organization, where my responsibilities include  
4 participating in and monitoring regulatory proceedings and stakeholder engagement  
5 related to the energy efficiency programs, as well as program planning, coordination and  
6 outreach. Additionally, from 2016-2019 I was employed as an Adjunct Instructor at  
7 Southern New Hampshire University where I taught Economics courses, and from 2020  
8 to present have been employed as an Adjunct Instructor at University of New Hampshire  
9 – Manchester, where I teach Business Statistics.

10 **Q. Mr. Butler, please state your name, business address and position.**

11 A. My name is J. James Butler. My business address is 73 West Brook Street, Manchester,  
12 NH 03105. My position is Senior Analyst for Regulatory, Planning and Evaluation, and  
13 in that position I provide service to the Energy Efficiency programs operated by  
14 Eversource Energy.

15 **Q. Have you previously testified before the Commission?**

16 A. No.

17 **Q. Please describe your educational background and professional experience.**

18 A. I graduated from The Ohio State University in Columbus, OH in 2011 with a Master of  
19 Public Administration, and I previously graduated from Baldwin-Wallace University in  
20 Berea, Ohio in 2007 with a Bachelor of Arts degree in Business Administration. I have  
21 held the role of Senior Analyst for Regulatory, Planning and Evaluation since joining  
22 Eversource in 2019. My current responsibilities include maintenance of the company and  
23 statewide energy efficiency benefit-cost models, regulatory and internal KPI reporting,



1 and program and measure planning and coordination. Prior to joining Eversource I led the  
2 Office of Performance Analytics at the RI Department of Human Services and served as  
3 Policy Advisor in the office of Governor Maggie Hassan.

4 **Q. Ms. Paruta, please state your name, business address, and position.**

5 A. My name is Marisa B. Paruta. I am employed by Eversource Energy Service Company  
6 as the Director of Revenue Requirements for Connecticut. My primary responsibilities  
7 are supporting the coordination and implementation of revenue requirements calculations  
8 for Eversource.

9 **Q. Have you previously testified before this Commission?**

10 A. Yes.

11 **Q. Please describe your educational and professional experience, including the**  
12 **responsibilities for your current role for your company.**

13 A. I received a Bachelor of Arts degree in accounting from the University of Connecticut  
14 School of Business. I started my career at Arthur Andersen in the client Audit and  
15 Assurance practice, continuing at Deloitte in the same practice. I joined Northeast  
16 Utilities in 2002, Eversource Energy's predecessor, and worked in the Accounting  
17 organization through multiple positions leading to the Director of Corporate Accounting  
18 and Financial Reporting in 2015. I moved to the Regulatory and Revenue Requirements  
19 organization in my current role in June 2021. As the Director of Revenue Requirements,  
20 I am responsible for the coordination and implementation of revenue requirements  
21 calculations and regulatory filings for Connecticut and New Hampshire electric and  
22 natural gas subsidiaries of Eversource Energy.

**II. PURPOSE**

**Q. What is the purpose of your testimony?**

A. The purpose of our testimony is to address the issues presented in the Commission's Supplemental Notice of Adjudicative Proceeding and Procedural Order dated March 16, 2022, and to provide additional support that illustrates how the 2022-2023 New Hampshire Statewide Energy Efficiency Plan ("the Plan") filed on March 1, 2022 complies with the requirements of applicable statutes, as well as prior Commission orders.

**III. DISCUSSION OF 2022-2023 PLAN**

**Q. Please explain the process undertaken to ensure the programming and the performance incentive ("PI") levels in the Plan optimize customer savings.**

A. The programming and PI levels have been optimized to deliver ratepayer savings given the funding available, balancing cost-effectiveness and continuing the performance incentive framework that provides each of the utilities the opportunity to earn compensation for exemplary program administration, and makes delivering successful energy efficiency programming relatively on par with other utility investments. This balance of program offerings and performance incentive levels is a reflection of years of consistent Commission precedent, and is discussed more fully below. The delivery of optimum savings is ensured by providing programming that is cost effective, pursuant to the Commission's directive in Order No. 25,932 establishing the Energy Efficiency Resource Standard ("EERS"). Consistent with the directive of HB 549, the primary cost-effectiveness test used in the 2022-2023 Plan is the Granite State Test ("GST"), and

1 the Total Resource Cost (“TRC”) Test is used as a secondary test. All programs within  
2 the plan meet or exceed cost effectiveness using both of these tests.

3  
4 Cost-effectiveness for each energy efficiency project under the GST is determined by  
5 dividing the calculated benefits resulting from each measure by the incentive associated  
6 with that measure. HB 549 directs that each of the utility’s energy-saving efficiency  
7 programs achieve cost-effectiveness using the GST as the primary test, so at the program  
8 level all costs associated with programs are included, including implementation costs,  
9 marketing, evaluation and administration. By exception only and with justifying  
10 circumstances, a specific customer project may be undertaken even if it is not cost-  
11 effective. Typically, this is restricted to income-eligible customers where 100% of the  
12 cost is covered by the utility, or for municipal or non-profit projects where there are  
13 unquantified benefits that induce the utility to proceed.

14  
15 Prescriptive measures, or those that use common assumptions statewide, are dropped  
16 from the programs when they are no longer cost-effective. This could be the result of one  
17 of the following scenarios:

- 18 • The energy efficiency of the standard equipment type increases to the point where  
19 there is little or no additional savings to be captured from a higher efficiency  
20 alternative
- 21 • The cost difference of the higher efficiency unit compared to the standard  
22 equipment is small enough that it no longer presents a market barrier

- An evaluation determines that the market share of a high efficiency measure is great enough that program intervention is no longer justified.

This cost-effective programming in turn is optimized by the NH Utilities through the provision of a PI that appropriately signals how to construct the energy efficiency programs in order to accomplish the metrics contained in the PI. The performance incentive framework included in this Plan has been in place since the PUC's Order No. 25,932 issued on August 2, 2016, which also established the Lost Base Revenue ("LBR") mechanism for the NH Utilities. The individual components of PI and the weightings included in this Plan have been in place since the PUC's Order No. 26,323 issued on December 31, 2019. The PI framework serves to prioritize achievement of the annual and lifetime kWh for electric utilities and annual and lifetime therms for gas utilities, as well as to maximize benefits delivered to customers while maximizing net benefits by delivering those benefits at least cost. The framework also incentivizes the electric utilities to maximize passive demand savings (kW) during ISO New England's summer and winter peak periods. This PI framework was the result of a thoughtful and comprehensive working group process that focuses the NH Utilities efforts on the most important program objectives.

**Q. Should the PI calculation in the Plan be adjusted?**

A. No, the PI calculation not only ensures optimization of customer savings, but is designed to signal the key objectives of the energy efficiency programs as determined by stakeholders and ordered by the Commission to encourage "exemplary performance" of program administration by the NH Utilities in achieving those objectives. For this 2022-

1 2023 Plan, the Utilities utilized the PI framework and calculation that has been in place  
2 since the 2020 Plan Update, referenced above, which included PI Working Group  
3 recommended calculations. Those recommendations were developed over the course of  
4 two years from 2018 to 2019, with consensus of the PI working group, and approved by  
5 the Commission as part of the 2020 Plan Update in Order No. 26,323 on December 31,  
6 2019. This calculation remained in effect and was utilized for calendar year 2021.

7 Per HB 549, the NH Utilities utilized the energy efficiency programming framework and  
8 components, including the utility performance incentive formulation, that were in effect  
9 on January 1, 2021. Due to the time and effort devoted to arrive at a consensus on the  
10 existing PI framework, the lack of programmatic changes from the 2020 Plan Update,  
11 and the success of the existing framework in driving program performance, the NH  
12 Utilities do not believe any changes to the PI structure and calculations are warranted.  
13 Any change to the PI structure should be the result of an informed and robust stakeholder  
14 process and would be most appropriate to be proposed as the result of a future triennial  
15 planning process where all relevant factors for the PI framework can be considered with  
16 due diligence.

17 **Q. Does the PI provide redundant or excessive compensation for the NH Utilities to**  
18 **administer the energy efficiency programs?**

19 A. No. The proposed PI mechanism has been left unchanged from the PI mechanism that  
20 was in place on January 1, 2021 and which HB 549 restored, and is the only form of  
21 compensation the NH Utilities can potentially earn for delivering on the program  
22 objectives. The PI framework as proposed serves to offer a return on investment for  
23 successful delivery of energy efficiency programming, similar to utilities being able to

1 earn a return on other utility investments. The PI framework is also based on achieving  
2 several distinct quantitative objectives, whereby actual outcomes must surpass the  
3 minimum threshold for a utility to earn any PI on that component. The PI mechanism as  
4 proposed is designed to allow each of the NH Utilities the opportunity to earn five and a  
5 half percent of the investment made in energy efficiency, should they meet 100% of the  
6 planned goals. Exceeding planned results within the same budget is further incentivized  
7 up to a capped amount for each component of PI in the event of exceptionally successful  
8 programming.

9  
10 According to the American Council for an Energy Efficient Economy (ACEEE), the  
11 nation's leading research organization on energy efficiency, there are typically three  
12 primary financial concerns regarding the deployment of energy efficiency programs:

- 13 • Program cost recovery
- 14 • Decreased energy sales leading to reduced utility profits
- 15 • A difference in earnings opportunities compared to other utility investments

16  
17 The concern for "program cost recovery" is addressed in New Hampshire's EERS  
18 framework through allowing the recovery of program expenses to be trued up and  
19 reconciled annually. The concern for "decreased energy sales leading to reduced profits"  
20 is addressed in New Hampshire's EERS framework through LBR and decoupling  
21 mechanisms. The concern for "a difference in earnings opportunities compared to other  
22 utility investments" is addressed in New Hampshire's EERS framework through the PI  
23 mechanism.

1 Studies consistently show that states with energy efficiency programs that contain a PI  
2 mechanism produce higher levels of savings than states without a PI mechanism or  
3 without an efficiency program altogether. While many states with energy efficiency  
4 programs have the programs operated by utilities, there are some instances where an  
5 unregulated entity or entities, including both for-profit and not-for-profit ones, administer  
6 the efficiency programs. In these cases, performance incentives are still offered and are  
7 utilized to ensure programs are designed and results delivered based on policy and  
8 regulatory priorities at desired levels.

9  
10 In contrast, LBR is intended to provide the NH Utilities with revenue recovery for  
11 distribution revenues that are otherwise lost due to the implementation of the efficiency  
12 measures and projects. This mechanism is a cost recovery mechanism that holds the  
13 utility harmless for sales reductions directly occurring from the efficiency measures  
14 installed through the NHSaves programs rather than an incentive mechanism, which  
15 compensates the NH Utilities for exceptional performance in program administration.  
16 Since the distribution revenue collected by the utility is intended to be equal between (1)  
17 no efficiency measures installed whatsoever and (2) efficiency measures installed with  
18 LBR in place, there is no gain or windfall to the utility. Similarly, those utilities that have  
19 decoupled are held harmless for variations in their sales from measures installed through  
20 the NHSaves programs, but are also held harmless on other variables. Each utility's LBR  
21 or decoupling mechanism is reset as part of a rate case.

22 **Q. Practically speaking, how do the NH Utilities document the savings and benefits**  
23 **resulting from energy efficiency programs that their efforts actually achieve?**

1 A. Underpinning cost-effective energy efficiency program design in both New Hampshire  
2 and other jurisdictions across the country is an Excel-based benefit-cost (“BC”) model.  
3 The BC models for both gas and electric programs contain multiple “tabs”, or  
4 worksheets, some of which contain planning inputs and some of which display  
5 summarized outputs. Inputs include a statewide list of measures offered to customers,  
6 organized by program. These measures include a) prescriptive measures with deemed  
7 (i.e. predetermined) savings b) prescriptive measures with estimated savings, and c)  
8 custom measures. Savings from these last two types of measures depend on specific site  
9 conditions. During planning, the incentive, cost and savings assumptions for these  
10 measures are based on each utility’s past experience and expected future activity. Actual  
11 costs and savings will differ from the Plan based on maximizing opportunities that  
12 develop over the course of the program implementation period.

13  
14 All measures in the BC models have a corresponding entry in the Technical Reference  
15 Manual (“TRM”), where support for each of the assumptions and algorithms determining  
16 cost-effectiveness is documented. The TRM is carefully reviewed and updated on an  
17 annual basis by the Evaluation, Measurement and Verification (“EM&V”) Working  
18 Group and matches what is in the BC models. This ensures consistency and predictability  
19 that programming will in fact achieve cost-effectiveness.

20  
21 Each measure row in the “Inputs Yr...” tab of the BC model has associated values for the  
22 following inputs relevant to determining cost-effectiveness:



- 1 • Quantity of units or projects the utility expects to provide incentives for during
- 2 the program year
- 3 • Total resource cost of each unit or project
- 4 • The total utility-provided incentive associated with each unit or project
- 5 • Measure life, or how many years annual savings will be multiplied by to get
- 6 lifetime savings
- 7 • Annual kWh savings as well as annual MMBtus savings related to oil, propane,
- 8 kerosene, natural gas and wood
- 9 • Passive demand savings (kW)
- 10 • Electric energy load shape, broken into four cost periods: summer peak, summer
- 11 off peak, winter peak and winter off peak
- 12 • Summer and winter peak coincidence factors, or the percent of the demand
- 13 savings that will occur during the ISO system peak periods
- 14 • Realization rates for kWh, kW, and MMBtu savings, which adjust claimed
- 15 savings based on evaluation results or other assumptions documented in the TRM
- 16 • Free-ridership rates, which adjust claimed savings so that the energy saved by
- 17 participating customers who would have adopted the measure without utility
- 18 intervention are excluded
- 19 • Spillover rates, which adjust claimed savings so that energy saved by customers
- 20 who adopted the measure as a result of the utility's activities but who did not
- 21 receive an incentive are included
- 22 • Associated water savings for energy saving and water-using equipment (e.g.,
- 23 faucet aerators, showerheads, washing machines, dishwashers)

- Non-energy impacts (“NEIs”), assigning a set benefit per low-income household weatherized through the Home Energy Assistance (“HEA”) program; non-low-income NEIs are applied in the secondary Total Resource Cost test only. Values for NEIs can be found on the “Lookups” tab of the BC model.

In the “Calculations Yr...” tab of the BC model, measure assumptions related to energy and non-energy savings are used to calculate net present value dollar benefits based on a schedule of values contained in the “Avoided Costs” tab. This accounts for all resource benefits associated the components of the approved benefit-cost tests (discussed in more detail in the question on GST and TRC tests), calculated for each measure, which accrue to both participants and non-participants. That schedule of values is specific to New Hampshire and utilizes as a source the triennial Avoided Energy Supply Components (“AESC”) Study, described in the Plan and included as Attachment L. For the NHSaves 2022-2023 plan, values from the most recent AESC study, which was completed in 2021, have been incorporated, consistent with the directive of HB 549. Avoided resource costs in the AESC study that fall outside of the components of the GST and TRC tests are not included in the Plan.

For those measures or custom projects that depend on cost-effectiveness calculations using site-specific conditions (hours of use, equipment being replaced or controlled, etc.), the NH utilities’ representatives and vendors are trained to estimate the lifecycle benefits based on calculated energy savings. Where benefits exceed the incentive, a project is likely to proceed, assuming the participating customer wants to move forward. In the vast

1 majority of cases, if the energy savings from a particular project result in benefits that are  
2 less than the cost of the incentive, the utility will decline to proceed with the project.  
3 Each utility undertakes its own annual review of project data to review calculations and  
4 ensure accuracy in the entering of actual project data into the BC model prior to reporting  
5 to the PUC. In addition, as an added layer of security to ensure savings calculations are  
6 appropriate and accurate, periodic third-party evaluation is undertaken to, among other  
7 things, review files, review meter sites to determine post-installation energy use, and  
8 undertake a billing analysis. These impact studies can result in recommended adjustments  
9 to implementation practice.

10 **Q. Please elaborate on what items are contained within the GST and the TRC test, and**  
11 **how these cost-effectiveness tests are utilized to determine the selection of products**  
12 **or measures within the programs?**

13 A. The below table from the October 14, 2019 New Hampshire Cost-Effectiveness Review  
14 (“NH Cost-Effectiveness Review”), performed within the EM&V Working Group,  
15 outlines the components contained within each the GST and the TRC, which are utilized  
16 as the primary and secondary tests in the March 1, 2022 filing in accordance with the  
17 directive in HB 549

18  
19 The column labeled ‘Current NH TRC Test’ was the primary cost test used by the  
20 Utilities through the 2020 program year. The TRC test in this filing, which now serves as  
21 a secondary test, uses this same framework.  
22

1 The column labeled ‘Granite State Test’ outlines the framework for the new primary test  
2 and was approved in Order 26,322 on December 30, 2019. This cost test was first applied  
3 to the 2021-2023 New Hampshire Statewide Energy Efficiency Plan. The elements of the  
4 GST listed below, and the suggested methodologies to account for their impact outlined  
5 in the NH Cost-Effectiveness Review, align with the elements used in the model to  
6 calculate the GST benefit-cost ratio, with one exception. The March 1, 2022 Plan filing  
7 excludes benefits related to increased reliability. The Utilities made the decision to not  
8 include these benefits after certain stakeholders expressed opposition during the 2021-  
9 2023 planning process.

10  
11 Order 26,322 also approved the adoption of the Utility Cost Test (UCT) and Secondary  
12 Granite State Test (GST-2) as secondary tests. These tests were not included in the  
13 attachments to the filing. For informational purposes, calculations for these two tests are  
14 available in the live Excel BC models filed by the Utilities.

15  
16 The Utilities use the primary GST to screen at the measure and project level, as well as  
17 the program and portfolio level, to ensure program cost-effectiveness. When screening  
18 projects, the individual NH Utilities do not consider the primary test in isolation, but  
19 review the secondary test to help enhance the overall understanding of efficiency  
20 resource impacts.

**Table 1. Current and recommended cost-effectiveness test impacts for New Hampshire**

Impact	Current NH TRC Test	Granite State Test	Secondary Test: Utility Cost Test	Secondary Test: Secondary Granite State Test
<b>Utility System Costs</b>				
Measure costs (utility portion)	✓	✓	✓	✓
Other financial or technical support costs	✓	✓	✓	✓
Other program and administrative costs	✓	✓	✓	✓
EM&V costs	✓	✓	✓	✓
Performance incentives	✓	✓	✓	✓
<b>Utility System Benefits</b>				
Avoided energy costs	✓	✓	✓	✓
Avoided generating capacity costs	✓	✓	✓	✓
Avoided reserves	✓	✓	✓	✓
Avoided transmission costs	✓	✓	✓	✓
Avoided distribution costs	✓	✓	✓	✓
Avoided T&D line losses	✓	✓	✓	✓
Avoided ancillary services		✓	✓	✓
Intrastate price suppression effects (DRIPE)	✓	✓	✓	✓
Interstate price suppression effects (DRIPE)				
Avoided compliance with RPS requirements	✓	✓	✓	✓
Avoided environmental compliance costs (embedded)	✓	✓	✓	✓
Avoided credit and collection costs		✓	✓	✓
Reduced risk	✓	✓	✓	✓
Increased reliability		✓	✓	✓
Market transformation		✓	✓	✓
<b>Non-Utility System Impacts</b>				
Other fuel	✓	✓		✓
Water resource	✓	✓		✓
Income eligible (participant)	✓	✓		✓
Income eligible (societal)				✓
Participant costs	✓			✓
Participant non-energy benefits	✓			✓
Environmental, NH fossil fuel proxy	✓	✓		✓
Environmental, other externalities				✓
Public health				
Energy security				

Source: 2019 B/C Working Group discussions.

Notes: The utilities partially account for participant non-energy benefits through a percentage adder in the current New Hampshire TRC Test.

**Q. Does the Plan provide equitable benefits to customers and avoid unfair cost shifting?**

**A.** Yes, though it is important to note that “equitable benefits” are not the same as “equal benefits”, and that a certain amount of cost shifting is, and in fact must be, allowed; it is only unfair cost shifting that should be avoided. Equitable outcomes are achieved by (1) reducing system costs that benefit all ratepayers, (2) providing access to all customers,

1 regardless of their rate class, size, location, or income level, and (3) applying relevant  
2 support based on income and other demographic factors. This three-pronged approach  
3 provides benefits to program participants and non-participants and gives all users of the  
4 electric and natural gas systems in the state access to program offerings. By designing a  
5 suite of programs that are deliberately targeted to reach customers of all income levels,  
6 with incentives for various kinds of energy-using equipment, and by providing technical  
7 support and vendor management services to those customers who need them, the  
8 NHSaves programs proposed in the Plan offer the greatest amount of access to the most  
9 customers possible within the constraints of the governing laws and policies. The  
10 accessibility of this design and the benefits experienced by all, regardless of program  
11 participation, create equitable benefits and avoid unfair cost shifting.

12  
13 Further ensuring equitable benefits, each customer sector (e.g., Residential and  
14 Commercial & Industrial (“C&I”)), after accounting for mandated contributions to the  
15 income-eligible programs, is funded by revenues collected from the relevant customer  
16 class, i.e., revenues collected from the Residential sector are utilized for Residential  
17 programs, and C&I revenues are utilized for C&I programs. C&I customers who supply  
18 a portion of their energy needs through means which by-pass their utility meter, and for  
19 which no System Benefits Charge (“SBC”) revenues are collected, are eligible for  
20 incentives based on the level of kilowatt-hours billed under the SBC in the most recent  
21 preceding twelve-month period.

1   **Q.    Beyond the direct electric and natural gas savings achieved through the NHSaves**  
2       **programs, can you please elaborate on the other savings and benefits created as a**  
3       **result of these programs operating and explain why these are relevant to assessing**  
4       **the benefits of the Plan?**

5    A.   While the savings targets identified for the suite of programs are based on electric and  
6       natural gas system reductions, there are numerous other savings and benefits that stem  
7       from the continued operation of the NHSaves programs by the Utilities, and these have  
8       concrete beneficial impacts on the residents and businesses of New Hampshire.

9  
10   Non-energy impacts (“NEIs”) have long been recognized as an important and  
11   quantifiable result of improvements to a building’s envelope in the form of improved  
12   indoor air quality, more consistent heating and cooling, reduced moisture, increased  
13   worker productivity, better health outcomes and reduced incidences of carbon monoxide  
14   exposure. Except for those NEIs related to the income-eligible programs, these are not  
15   counted in the Granite State Test but are included in the TRC (and secondary Granite  
16   State Test) as explained above.

17  
18   Environmental benefits related to improved outdoor air quality, reductions in nitrous  
19   oxides, sulfur oxides and carbon dioxide and other greenhouse gases also result from the  
20   reduction in energy use, particularly fossil fuel use from oil, kerosene, propane and  
21   natural gas. The NH Department of Environmental Services (“DES”) air quality division  
22   is dedicated to improving the State’s air quality and maintaining its compliance with  
23   federal air quality standards. DES reports that air quality improvements in New

1 Hampshire have outpaced improvements in other parts of the country and attributes that  
2 in part to energy efficiency.

3  
4 Positive macro-economic impacts also result from reducing energy use without  
5 sacrificing productivity, which is the ultimate objective of energy efficiency programs.  
6 New Hampshire's total energy consumption per real dollar of gross domestic product is a  
7 measure of energy use intensity. While New Hampshire compares favorably to much of  
8 the country, ranking 11th overall, our performance lags behind that of Massachusetts,  
9 Connecticut, Rhode Island, Maryland and New York, whose investments in energy  
10 efficiency have outpaced those of New Hampshire. Reducing energy use while  
11 maintaining economic output is a benefit of energy efficiency programs that is not  
12 directly captured by the NHSaves programs but has meaningful impact on the ability of  
13 businesses to spend less on energy and use those savings to invest in productive activity,  
14 which results in a healthier business sector, greater tax revenue and more dollars  
15 circulating within New Hampshire.

16  
17 While the impact of energy efficiency on the New Hampshire labor force has not been  
18 directly measured, a 2021 report from the US Department of Energy estimates that there  
19 are more than 10,000 jobs in the state tied to energy efficiency. Research by the Political  
20 Economy Research Institute (PERI) for the state of Colorado estimated that for every  
21 million dollars invested in building retrofits, there were 6.2 direct jobs created, 2.7  
22 indirect jobs and 3.3 induced jobs. Direct jobs are held by workers directly employed by  
23 auditing and weatherization companies, the Community Action Agencies, and incentive



1 fulfillment. Indirect jobs are those in industries and services supplying intermediate  
2 goods used in building retrofits, while induced jobs are those serving the direct and  
3 indirect industries, such as accounting, finance and insurance. When the NHSaves  
4 Programs experience interruption or uncertainty, it creates a ripple effect throughout the  
5 economy and impacts both customers and the companies who are engaged in delivering  
6 them goods and services.

7 **Q. Were market barriers appropriately identified and addressed in the Plan, and does**  
8 **the Plan sufficiently target cost-effective opportunities that would otherwise be lost**  
9 **to market barriers?**

10 A. Yes. As stated in the Executive Summary of the March 1, 2022 filing (at Bates page 8),  
11 overcoming market barriers is a primary objective of the Plan.

12 “The NHSaves Programs enable customers to pursue investments in efficiency of their  
13 homes and businesses that would otherwise not be pursued due to market barriers such as  
14 information and upfront cost. Through a combination of education, technical support,  
15 comprehensive installation services, attractive financing options, and reduced payback  
16 periods, the NHSaves suite of programs put efficient measures on a more level playing  
17 field with other investments available to customers. Please see Sections 1.2.2, 2.1.1, and  
18 3.1.1 for more information on Market Barriers.”

19  
20 Different types of customers face different market barriers, and each program is designed  
21 to address those barriers in order to reach a diversity of customers. The increased cost of  
22 high efficiency equipment and practices compared to standard measures is the most  
23 obvious barrier that the NHSaves programs seek to address, but this is not the only one.

1 Customers typically also face logistical and information barriers related to identifying  
2 what interventions are needed to better manage their energy use, finding appropriate  
3 vendors to install equipment or undertake an efficiency project, managing the work of  
4 that vendor, and understanding how to optimize their new equipment. The NH Utilities  
5 help customers to address all of these barriers, thereby giving confidence to customers  
6 who want to save energy and money. For residential, commercial, industrial, municipal  
7 and low-income customers who want to save money and be more energy efficient,  
8 NHSaves is the answer to the question “where do I begin?”

9 **Q. Can you please provide some examples of information barriers and how they are**  
10 **overcome via the NHSaves programs?**

11 A. Information barriers are generally encountered by customers who do not have all the  
12 appropriate information needed to make the best decision given their needs. Some  
13 examples of these barriers and how they are overcome in practice are as follows:

14  
15 a. Barrier: Lack of familiarity and confidence with a product or technology may prevent  
16 customers from taking action.

17 Solution: The familiar “NHSaves” brand, when associated with a product or technology  
18 offered by the NH Utilities’ Energy Efficiency programs, instills confidence in customers  
19 and encourages them to adopt the product or technology. In many instances, program  
20 offerings include access to qualified contractors and vendors who can provide  
21 information and education to the customer. Just having a reliable and reputable point of  
22 contact in their utility decreases the risk of the customer rejecting or avoiding the solution

1 since market research shows that customers rate their utility as their most trusted advisor  
2 when it comes to energy-efficiency decisions.

3  
4 b. Barrier: Misperception about the primary drivers of electrical or gas consumption  
5 may lead to lost opportunities or investments in less cost-effective energy saving  
6 improvements.

7 Solution: By deploying professional energy auditors utilizing diagnostics such as blower  
8 door tests and infrared imaging, NHSaves programs can accurately identify sources of  
9 energy leakage and present cost-effective energy saving options to customers. For  
10 example, a customer working with its utility through the Large and Small Business  
11 Energy Solutions Program recently learned that it did not need to replace or add an  
12 additional compressor, as they originally thought, because its building was using multiple  
13 compressors competing against each other. The NHSaves solution actually reduced the  
14 number of compressors the customer needed to operate successfully. By having a trained  
15 and knowledgeable advisor assess the business or residence, root causes can be more  
16 accurately identified, and a solution can be tailored to the needs of the customer.

17  
18 c. Barriers: Some customers face information overload or ‘analysis paralysis’ when  
19 attempting to weigh all the potential solutions to their energy needs.

20 Solution: By curating a list of high efficiency products eligible for incentives within the  
21 Residential Products Program or the C&I Midstream offerings, NHSaves ensures that  
22 customers can choose cost-effective, reliable options. By having a one-stop shop in  
23 NHSaves for financial and technical assistance, customers minimize the time and risk

1 involved in selecting a knowledgeable and reliable contractor. By working with  
2 NHSaves, they can be confident they are working with a trained professional. The NH  
3 Utilities also help projects move forward by normalizing and simplifying disparate  
4 analyses from contractor proposals that customers receive, where it can be difficult to  
5 properly evaluate which options are optimal.

6 **Q. Have the Electric Utilities complied with the requirement in HB 549 that they set**  
7 **aside up to \$400,000 of SBC funds annually for use by the New Hampshire**  
8 **Department of Energy (“NH DOE”) to promulgate benefits of energy efficiency?**

9 A. Yes. Attached to this testimony are the responses to Data Request DOE 1-016 and TS 1-  
10 002, which describe and illustrate the cost allocation among the four Electric Utilities of  
11 the \$400,000 of SBC revenues that will be provided to the NH DOE annually to comply  
12 with HB 549. These amounts are excluded from the program budgets illustrated in  
13 Attachments E3, F3, G3, and H3 in the Plan filing.

14 **Q. Does the Plan address how the \$400,000 SBC funds allocated to the NH DOE**  
15 **pursuant to HB 549 will be spent?**

16 A. No. These funds are not under the control of the NH Utilities nor are they part of the  
17 NHSaves program offerings. The NH DOE is responsible for how these monies will be  
18 expended. The NH Utilities will coordinate with the NH DOE, as well as any other  
19 parties the NH DOE may engage, such as the Energy Efficiency and Sustainable Energy  
20 (“EESSE”) Board, regarding how to most effectively deploy the \$400,000 to promulgate  
21 the benefits of energy efficiency and to ensure efforts are not duplicative or in conflict  
22 with existing NHSaves program marketing.

1 **Q. Does the Plan address how the energy efficiency programs relate to the statute RSA**  
2 **125-O:5-a I (c)?**

3 A. RSA 125-O:5-a I (c) refers to a duty of the Energy Efficiency and Sustainable Energy  
4 Board to develop a plan for development of high efficiency and clean energy resources  
5 that are renewable or have low net greenhouse gas emissions. The NH Utilities are not  
6 aware of a formal plan developed by the EESE Board on this topic. Furthermore, energy  
7 efficiency programs are not designed to create new sources of energy, they are designed  
8 to help customers make operational, behavioral and structural changes that reduce the  
9 amount of energy needed in their homes and buildings.

10 **Q. Does the Plan properly utilize funds as required by RSA 125-O:23?**

11 A. Yes. RSA 125-O:23 directs two portions of Regional Greenhouse Gas Initiative  
12 (“RGGI”) funding specifically to the utility administered NHSaves programs. 125-O:23  
13 III (a) directs that at least 15 percent of auction proceeds be dedicated to serving low-  
14 income customers. The NH Utilities receive calculations from the Department of Energy  
15 regarding the amount of RGGI funding to utilize in the low-income program. The  
16 breakdown of that funding by utility can be seen in Attachment D of the Plan on Bates  
17 516 (2022) and Bates 521 (2023).

18  
19 RSA 125-O:23 III (b) directs that up to \$2,000,000 annually go to utility core programs  
20 for municipal and local government energy efficiency projects. These dollars fund the  
21 Municipal program in the Plan. The breakdown of that funding by utility can be seen in  
22 Attachment D of the Plan on Bates 516 (2022) and Bates 521 (2023).

1 A third directive in the statute, RSA 125-O:23 III (c) assigns additional RGGI funds to an  
2 RFP program that is administered by the Department of Energy. From time to time, the  
3 Department issues RFPs, receives proposals on a competitive basis, determines which  
4 proposals to fund, and oversees execution and reporting on the grant awards. The NH  
5 Utilities have been recipients of such grant funding from the DOE (previously the PUC),  
6 however, because these projects are governed by different legislation and contracted with  
7 DOE through the Governor and Executive Council, neither funds resulting from the RFP  
8 program nor plans for their deployment are included in the 2022-2023 Plan filed with the  
9 Commission.

10 **Q. Are the Lost Base Revenue (LBR) rates in the Plan just and reasonable, and do they**  
11 **comply with existing laws?**

12 A. Yes, the LBR rates in the Plan are just and reasonable and comply with existing laws. In  
13 arriving at these rates, the Utilities used the LBR calculation that has been approved by  
14 the Commission and utilized since the 2019 Plan Update. This calculation was developed  
15 by the LBR Working Group over the course of 2018, agreed to by all parties, and  
16 approved by the Commission as part of the 2019 Plan Update in Order No. 26,207 on  
17 December 31, 2018. This calculation remained in effect and was utilized in the 2020  
18 Plan, which was also in effect for calendar year 2021. Per HB 549, the NH Utilities  
19 utilized the energy efficiency programming framework and components, including LBR  
20 calculations, that were in effect on January 1, 2021.

21 **Q. Was the estimated funding for the 2022-2023 Plan calculated according to the recent**  
22 **legislation?**

1 A. Yes. The SBC and LDAC rates implemented for 2022 were based on Order 26,579 issued  
2 on February 10, 2022. The 2023 SBC rate was calculated based on the percentage  
3 increase calculated by NH Department of Energy, as directed by HB 549. The RGGI  
4 revenue forecasts are calculated by the NH Department of Energy and were provided to  
5 the Utilities in advance of the filing. Each electric utility estimates the FCM revenue that  
6 will be received based on the capacity commitment it has previously bid into the FCM  
7 and the settling value per kW associated with the relevant commitment periods. The  
8 starting balance of funds by sector, and estimated interest on accrued balances, are  
9 estimated by each utility and incorporated into the total estimate of revenues available.

10 **Q. Does the proposed 2022-2023 Plan provide for cost-effective programming,**  
11 **consistent with HB 549?**

12 A. Yes. As explained above, all programs contained within the plan are cost-effective under  
13 the GST, the primary test prescribed by HB 549. Additionally, the Plan utilizes the most  
14 recent AESC study published in May 2021 to calculate avoided costs and benefits for all  
15 energy-saving measures offered by the programs and will continue to utilize the study for  
16 reporting purposes during 2022-2023.

17 **Q. Did each NH Electric Utility plan for at least 65 percent of its overall energy savings**  
18 **to be electric system savings, consistent with HB 549?**

19 A. Yes. Each Electric Utility planned for 65 percent of the overall annual energy savings to  
20 be electric savings.

21 **Q. Please describe any individual program modifications, including increases to**  
22 **incentive caps, and explain why they are reasonable.**

1 A. After careful review of actual costs of Home Energy Assistance projects implemented  
2 over the past two years, the NH Utilities plan to utilize a maximum incentive per project  
3 of \$15,000. This change is reasonable in order to cover the costs of recommended  
4 weatherization, appliances and heating systems as well as some costs associated with  
5 remediating barriers to weatherization. Inclusion of all energy efficiency improvements  
6 in the initial analysis is necessary in order to accurately estimate savings to be achieved,  
7 and thus incentive levels should be designed to include both recommended  
8 weatherization and heating system replacements. The maximum incentive of \$15,000 was  
9 determined based on review of actual average project costs in 2020 and 2021 and is set at  
10 a level that will allow comprehensive projects for income eligible customers while also  
11 accounting for labor and material cost increases.

12  
13 If, based on the Community Action Agency recommendation including review of any  
14 Weatherization Assistance Project funding, additional cost-effective work can be  
15 performed at a residence that would exceed the \$15,000 limit, then the project will be  
16 escalated to a utility supervisor on a case-by-case basis. This supervisor will review the  
17 overall program funding available, the work scope, cost, project needs, energy savings  
18 and cost-effectiveness of the proposed measures to determine if the exception is  
19 justifiable. The risk of setting a lower maximum incentive is that a participating income-  
20 eligible customer's home will either be insufficiently weatherized, leaving energy and  
21 cost saving opportunities unaddressed, postponed until a future program year, or not  
22 served at all. Because much of the cost of a weatherization job involves the mobilization  
23 of a contractor to travel to the home, there is an opportunity-cost to undertaking less than



1 comprehensive weatherization. Utilizing a maximum incentive per project of \$15,000,  
2 inclusive of appliance and heating system replacements, will ensure that income-eligible  
3 homes are addressed comprehensively and cost-effectively, and are therefore reasonable.

4  
5 Incentive caps for the Home Energy Assistance program have been adjusted in the past  
6 and, as with all measure incentive levels, may be subject to additional adjustment to  
7 ensure that the offering continues to meet the objectives of the program and reflect  
8 changing equipment costs or marketplace conditions. In 2014, the HEA project cap was  
9 raised from \$5,000 to \$8,000, excluding heating systems. The response to Data Request  
10 DOE 2-002, attached to this testimony, outlines the changes made since 2019. In  
11 addition to the cumulative inflation of 21% since 2014, more recent spikes in labor and  
12 construction costs, as well as materials such as copper and steel, have led to significant  
13 increases in the cost of both weatherizing and replacing a heating system. Yet, failure to  
14 install a high efficiency system in a low-income customer's home means locking in 20  
15 years or more of unnecessarily higher heating bills, inefficient deployment of Low-  
16 Income Heating Assistance Program ("LIHEAP") funds, maintaining the dwelling at an  
17 uncomfortably low temperature, or in the event of failed equipment, forcing a customer  
18 to potentially go without heat.

19 **Q. Please provide details on how the EM&V budget and proposed expenditures were**  
20 **determined, and whether those determinations comply with HB 549.**

21 A. HB 549 requires that the EM&V process and framework that was in effect January 1,  
22 2021 remain in effect and that spending on EM&V not exceed 5 percent of each utility's  
23 total program budget. In compliance with that mandate, each of the NH Utilities

1 developed the EM&V budget to consist of statewide costs, allocated among the utilities,  
2 and individual utility costs. The utilities each developed a budget comprised of costs  
3 related to staff salaries, data collection, tracking system maintenance, and activities  
4 related to compliance with the Forward Capacity Market (“FCM”) participation.

5 Separately, the EM&V Working Group updated the third-party evaluation plan that was  
6 included in the 2021-2023 Plan filed in 2020 to more closely align with revised program  
7 design. Studies that were no longer relevant were dropped and emerging areas of interest  
8 and sensitivity were added. Next, estimates of the likely cost of each study were  
9 developed based on the collective experience of the EM&V Working Group, and the total  
10 cost of those studies was then divided between expenses likely to occur in 2022 and  
11 2023, and next triennium. These total annual costs were then allocated among the  
12 utilities, along with the cost of the evaluation consultants under contract to DOE, and  
13 other non-research evaluation-related costs, such as the maintenance of the TRM.  
14 Each utility then added their company-specific EM&V costs to their share of statewide  
15 EM&V costs to arrive at a total EM&V budget for each year. Each utility reviewed this  
16 total to ensure that its total annual EM&V budget did not exceed the maximum amount of  
17 5 percent of its total annual portfolio program budget.

18 **Q. Please elaborate on how net savings have been calculated in the proposed plan and**  
19 **how the Plan addresses free-ridership.**

20 A. “Net savings” are those savings that can be attributed to the intervention of the NHSaves  
21 programs. They are the savings resulting after adjustments are made to account for  
22 realization rates established by evaluation, in-service rates to account for customers  
23 purchasing high efficiency products that were placed in storage, or which are found not to

1 be in use during an evaluation, and for free-ridership and spillover, described below. All  
2 of these factors are described in detail and documented for each measure in the TRM.

3 These factors are applied to all measures offered by the programs and included in the BC  
4 model. The reporting tabs of the model express savings goals on a net basis, which in turn  
5 forms the basis of calculating performance incentives.

6  
7 Free-ridership is designed to account for customers who participate in a program but  
8 whose energy efficient behavior is not attributable to the program incentive they  
9 received. For certain measures where the program design or state of market  
10 transformation is likely to include a significant percentage of such customers, an  
11 adjustment factor has been applied, effectively reducing the savings the utility can claim.

12 Spillover is the corollary of free-ridership and is applied to measures where customer  
13 behavior in adopting high efficiency measures can be attributed to the program activity  
14 but is not related to an incentive or otherwise captured in tracking data. For example,  
15 spillover would account for the savings realized by a customer or vendor overcoming  
16 market barriers and installing high efficiency equipment not due to an incentive but to  
17 other kinds of market intervention by the NHSaves programs, such as ensuring prominent  
18 stocking practices of high efficiency appliances at the point of sale, or training vendors to  
19 recommend the higher efficiency option to their customers even where incentives are not  
20 available.

21  
22 In the case of both free-ridership and spillover, third party evaluation is utilized to  
23 estimate impacts. Because free-ridership and spillover have been applied to the NHSaves

1 programs only since 2019, and largely to adjust downward the savings being claimed by  
2 the NHSaves programs as a result of the transformation of the lighting market, not all  
3 measures or pathways include these adjustments. The EM&V Working Group will  
4 continue to review all savings assumptions, third party evaluations from other  
5 jurisdictions, and make appropriate, prospective, consensus-based updates to the NH  
6 TRM on an annual basis, as described in the Plan.

7 **Q. How were the program budgets determined and what funding sources were**  
8 **utilized?**

9 A. The Utilities developed their budgets by utilizing each Electric Utility's forecasted FCM  
10 revenues, forecasted Regional Greenhouse Gas Initiative ("RGGI") revenues provided by  
11 NH DOE, and the forecasted SBC and Local Distribution Adjustment Charge ("LDAC")  
12 revenues based on the rates set by HB 549 in 2022 and as calculated by NH DOE in  
13 2023, multiplied by each company's sales forecast.

14  
15 The Utilities then undertook the following process for allocating funding:

- 16 1. The SBC funding that HB 549 mandated be directed to the NH DOE and the  
17 EESE Board were removed.
- 18 2. The forecasted RGGI dollars were allocated, per statute, to the electric utilities'  
19 Municipal and Income-Eligible programs.
- 20 3. Each utility's forecasted sales, the 2022 rates established by HB 549, and the  
21 2023 rates as determined by the NH DOE, were used to determine the sector  
22 funding for Residential and C&I as well as the income-eligible programs.

1           4. Each utility allocated the mandated portion of funding to be dedicated to its  
2           income-eligible programs.

3           5. Remaining dollars were allocated within each sector across the suite of  
4           programs in place in 2020 and 2021 such that:

- 5                   ○ Cost-effective programs will enable participating customers to overcome
- 6                   existing market barriers;
- 7                   ○ Portfolio-wide planned electric savings in the electric programs met the
- 8                   mandate in HB 549 that at least 65 percent of planned energy savings
- 9                   come from electric savings;
- 10                  ○ Measure mixes within programs reflected both a prospective look at
- 11                  market trends as well as a retrospective look at historic participation
- 12                  ○ Savings assumptions reflected the 2022 TRM (for prescriptive measures)
- 13                  and estimates of future performance (for custom measures or those based
- 14                  on algorithms)

15   **Q.    Were funding sources other than the SBC, LDAC, FCM and RGGI considered in**  
16   **the development of the Plan?**

17   A.    The 2022-2023 Plan leverages over \$62 million in private dollars, additional to the Plan  
18   budgets, as funds that participating customers contribute toward completion of their own  
19   energy efficiency projects. With the exception of income-eligible offerings, efficiency  
20   incentives are designed to cover only a portion of the full cost of the project.

21  
22   Customers utilize a variety of sources of capital to cover their projects, including direct  
23   payments, on-bill loans, bank loans with third party lenders, performance contracting,

1 financing and grants through NH Housing Finance Authority and the NH Community  
2 Development Finance Authority and municipal bonds. Specific details on some of the  
3 external resources available to customers as they consider their energy goals and the  
4 opportunity to access technical and financial resources to accomplish those goals include:

- 5 • USDA Rural Energy for America Program (REAP): Grants and guaranteed loans  
6 supporting small business energy efficiency and renewable energy projects.  
7 [https://www.rd.usda.gov/programs-services/energy-programs/rural-energy-america-](https://www.rd.usda.gov/programs-services/energy-programs/rural-energy-america-program-renewable-energy-systems-energy-efficiency-improvement-guaranteed-loans)  
8 [program-renewable-energy-systems-energy-efficiency-improvement-guaranteed-](https://www.rd.usda.gov/programs-services/energy-programs/rural-energy-america-program-renewable-energy-systems-energy-efficiency-improvement-guaranteed-loans)  
9 [loans](https://www.rd.usda.gov/programs-services/energy-programs/rural-energy-america-program-renewable-energy-systems-energy-efficiency-improvement-guaranteed-loans)
- 10 • NH Department of Energy: Renewable energy rebates.  
11 <https://www.energy.nh.gov/renewable-energy/renewable-energy-rebates>
- 12 • NH Rural Renewables: No-cost energy technical assistance to rural small businesses  
13 and agricultural producers throughout New Hampshire.  
14 <https://www.lrcc.edu/programs-training/nh-rural-renewables/>
- 15 • NH Small Business Development Center: Professional business advisors that deliver  
16 highly individualized, confidential advising at no charge to enterprises across New  
17 Hampshire. <https://www.nhsbdc.org/>
- 18 • CDFA Clean Energy Fund: CDFA provides low-interest financing and technical  
19 assistance for renewable energy and energy efficiency projects serving businesses,  
20 municipalities and non-profits. [https://resources.nhcdfa.org/programs/clean-energy-](https://resources.nhcdfa.org/programs/clean-energy-fund/)  
21 [fund/](https://resources.nhcdfa.org/programs/clean-energy-fund/)

- 1 • CDFA Small Business Energy Audit Program: Grants for Small Business grants  
2 covering 75% of the cost of a comprehensive energy audit.  
3 <https://resources.nhcdfa.org/programs/small-business-energy-audit-fund/>
- 4 • CDFA Community Facilities Energy Assessment Grants: Grants for Non-Profits and  
5 Municipalities covering 75% of the cost for an energy-related study.  
6 [https://resources.nhcdfa.org/programs/community-facilities-energy-assessment-](https://resources.nhcdfa.org/programs/community-facilities-energy-assessment-program/)  
7 [program/](https://resources.nhcdfa.org/programs/community-facilities-energy-assessment-program/)

8

9 During the course of the Funding and Financing Working Group in 2018-2020, the NH  
10 Utilities undertook a review of potential additional funding sources to bring into the  
11 NHSaves programs. To that end, the NH Utilities competitively procured an expert to  
12 assist with that review. The resulting report, “NHSaves External Funding and Partnership  
13 Assessment,” included in the Plan as Attachment O, did not identify any additional  
14 significant funding sources available to the NH energy efficiency programs. The NH  
15 Utilities will continue monitoring and, where relevant, pursuing relevant funding  
16 opportunities either for the programs directly or to assist customers engaging in specific  
17 grant-eligible activities that are consistent with NHSaves objectives and activities, such  
18 as education and training, weatherization or new construction. The NH Utilities will also  
19 continue to collaborate and coordinate with NH DOE, which is New Hampshire’s State  
20 Energy Program (“SEP”) agency and designated conduit of anticipated Infrastructure Act  
21 funding opportunities to be issued by the federal Department of Energy, including  
22 Weatherization Assistance Program (“WAP”) block grants.

23

1    **IV.    CONCLUSION**

2    **Q.    Does this conclude your testimony?**

3    **A.    Yes, it does.**



## **ATTACHMENTS**

**Public Service Company of New Hampshire d/b/a Eversource Energy**  
**Docket No. DE 20-092**

**Date Request Received: March 11, 2022**  
**Data Request No. DOE 1-016**

**Date of Response: March 25, 2022**  
**Page 1 of 1**

**Request from: Department of Energy**

---

**Request:**

All: Refer to Bates pp. 554 and 555, line 6, RSA 125-O:5-a Funding. Please explain the total funding for all of the utilities combined for this funding and where all the utilities have accounted for this funding. Please show how the revenues for this funding will be collected including the SBC rate or other funding source and any applicable calculations, including the live spreadsheets.

**Response:**

As specified in HB 549, "Up to \$400,000 of system benefits charge funds collected annually shall be used to promulgate the benefits of energy efficiency according to guidelines developed as specified in RSA 125-O:5-a, I(c) as determined by the department of energy." \$400,000 was set aside in both 2022 and 2023 from the SBC revenue forecast for this purpose. Each Electric Utility's sales forecast was used to determine the allocations. Please refer to Attachment DOE 1-016 for an Excel calculation of the annual amount.

Docket No. DE 20-092  
Attachment DOE 1-016  
Page 1 of 1

Utility	Share of Forecast Statewide Sales		Utility Allocation	
	2022	2023	2022	2023
Eversource Electric	72.6%	72.7%	\$ 290,311.93	\$ 290,745.70
Liberty Electric	8.7%	8.8%	\$ 34,978.18	\$ 35,398.83
NH Electric Cooperative	7.5%	7.4%	\$ 29,995.79	\$ 29,522.22
Unitil Energy Systems	11.2%	11.1%	\$ 44,714.10	\$ 44,333.25
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>\$ 400,000.00</b>	<b>\$ 400,000.00</b>

**Public Service Company of New Hampshire d/b/a Eversource Energy**  
**Docket No. DE 20-092**

**Date Request Received: March 25, 2022**  
**Data Request No. DOE 2-002**

**Date of Response: April 04, 2022**  
**Page 1 of 2**

**Request from: Department of Energy**

---

**Request:**

Reference EE Plan at Bates 65 where, in Section 3.4.2 it states that NH Utilities plan to utilize a maximum HEA Program rebate per project of \$15,000. Please respond to the following:

- a) What is the current maximum project rebate level and that for each of the prior 3 program years 2019, 2020, 2021?
- b) What specific decision criteria will be used by an “implementation supervisor” to make a determination about exceeding the \$15,000 project limit?
- c) Is the “implementation supervisor” an employee of one of the NHSaves sponsoring utilities? An employee of a program implementation contractor? Please clarify.

**Response:**

- a. In November 2021, in response to PUC Order 26,553, the project cap was adjusted to \$8,000, which remains in effect today. The cost of replacing heating systems is included within the cap.

In program year 2019, the maximum project rebate level was \$8,000. If additional cost-effective weatherization work was identified for the residence, it would often need to be deferred to the next program year if the limited amount of available federal Weatherization Assistance Program (“WAP”) funding could not cover it. At that time, heating systems were excluded from the project cap calculation. If a heating system replacement was recommended as part of the project, the cost of the replacement was considered separately from the weatherization project cost. Each utility allowed for up to 25% of the HEA budget to be used for heating systems. Heating system spending could be approved above the project cap after reviewing the work scope, cost, project needs, energy savings, and taking into account portfolio cost-effectiveness.

Program year 2020 began under the same framework as 2019, but in May of 2020 the project cap was adjusted to \$20,000. With the adjustment to the higher rebate limit, the cost of heating system replacements moved to be included within the project cap rather than being assessed separately. This approach was less administratively burdensome and allowed for the interactive effects of the weatherization and heating system to be included, providing more

**Public Service Company of New Hampshire d/b/a Eversource Energy**  
**Docket No. DE 20-092**

**Date Request Received: March 25, 2022**  
**Data Request No. DOE 2-002**

**Date of Response: April 04, 2022**  
**Page 2 of 2**

accurate energy savings. It also provided a more consistent and clear policy for both Community Action Agencies (“CAAs”) and utility staff.

The \$20,000 cap helped to account for, and was responsive to, increases in material and labor costs and was consistent with a program approach that focuses on serving an income-eligible customer fully with a comprehensive set of measures during a single project. It also minimized the need to break projects up and go back for additional cost-effective work in a subsequent program year, or the potential to leave some measures undone altogether. The increased \$20,000 cap also ensured that the opportunity to provide cost-effective insulation or a heating system was not lost due to a conservative spending cap.

In addition, a utility supervisor could, on a case-by-case basis, approve work above the \$20,000 project cap after reviewing the work scope, cost, project needs, energy savings, and taking into account portfolio cost-effectiveness.

For program year 2021, the cap remained at \$20,000 until November 2021, when the project cap was adjusted to \$8,000 in response to PUC Order 26,553. Heating systems continue to be included within the cap, which creates a limiting effect on the amount of weatherization available to income-eligible customers that are in need of a heating system.

- b. If additional cost-effective work can be performed within a given residence that would exceed the \$15,000 limit, based on the CAA recommendation including review of any Weatherization Assistance Project (“WAP”) funding, then the project will be escalated to a utility supervisor on a case-by-case basis to review the work scope, cost, project needs, energy savings and cost-effectiveness of the proposed measures to determine if the exception is justifiable in the event that there is available budget.
- c. The implementation supervisor is always an employee of one of the NHSaves Utilities.

**Public Service Company of New Hampshire d/b/a Eversource Energy**  
**Docket No. DE 20-092**

**Date Request Received: April 07, 2022**  
**Data Request No. TS 1-002**

**Date of Response: April 12, 2022**  
**Page 1 of 1**

**Request from: Department of Energy**

---

**Request:**

Please refer to data response to DOE 1-016. Please explain how each electric utility accounted for its share of the \$400,000, of systems benefit charges identified in HB-549 to “promulgate the benefits of energy efficiency” including an explanation of whether the funding was included in the total program budgets, whether the funding was included in the performance incentive calculation, and how it is accounted for in the SBC calculations. If helpful, please provide updated tables or spreadsheets that explicitly show how each utility’s share of the \$400,000 was accounted for.

**Response:**

The Electric Utilities accounted for their share of the \$400,000 of systems benefit charges identified in HB-549 to “promulgate the benefits of energy efficiency” by reducing the amount of funding available for their total program budgets. Since this share of the \$400,000 is excluded from the total program budgets, it is not included in the performance incentive calculation.

For a demonstration of how this accounted for in the SBC calculations, please refer to the following for each Electric Utility.

- Eversource: Please refer to Attachment E3 in the March 1, 2022 Plan Filing. In the Energy Efficiency Expense & SBC Revenue Reconciliation attachments, the company’s share of the \$400,000 (\$290,311.93 for 2022 and \$290,745.70 for 2023) is delineated in line 6 as RSA 125-O:5-a Funding. The amount for Program Expenses in line 7 is the remainder of what is used in the planned program budgets.
- Liberty: Please refer to Page 3 in Attachment DOE 1-007.
- NHEC: Please refer to Line 7 on Pages 2 and 3 in NHEC Attachment TS 1-002. The amounts shown on Line 7 represent the amounts NHEC set aside from the 2022 and 2023 funding for the Company’s allocation of the \$400,000. The actual amounts NHEC anticipates allocating are \$29,995.79 in 2022 and \$29,522.22 in 2023, as depicted in Attachment DOE 1-016.
- Unitil: Please refer to DOE 1-012 Attachment 1-UES. In UES’ Energy Efficiency Expense & SBC Revenue Reconciliation attachments, its share of the \$400,000 is delineated in line 2 as RSA 125-O:5-a Funding. The amount for Program Expenses in line 3 is the remainder of what is used in the planned program budgets. Line 3 includes program costs as well as projected performance incentives.

New Hampshire Electric Cooperative, Inc.  
NHSaves Energy Efficiency Programs  
NHPUC Docket No. DE 20-092  
Attachment G3 (2022-2023)  
Page 1 of 4  
TS1-002

New Hampshire Electric Cooperative, Inc.  
2022-2023 System Benefits Charge ("SBC") Calculation  
(\$ in 000's)

Year	EE Total Budget	RGGI Revenues	FCM Revenues	Carryforward with Interest	SBC Requirement	Forecasted Distribution (MWh)	Jan-Feb EE Portion (cents/kWh)	Mar-Dec SBC Rate EE Portion (cents/kWh)	Jan-Dec SBC Rate EE Portion (cents/kWh)	SBC Rate EAP Portion (cents/kWh)	2022 Jan-Feb Total SBC Rate (cents/kWh)	2022 Mar-Dec Total SBC Rate (cents/kWh)	2023 Jan-Dec Total SBC Rate (cents/kWh)
Col. A	Col. B	Col. C	Col. D	Col. E	Col. F	Col. G	Col. H	Col. I	Col. J	Col. K	Col. L	Col. M	Col. N
2022	\$ 5,713	\$ 207	\$ 100	\$ 1,532	\$ 3,873	786,599	\$ 0.373	\$ 0.528	\$	\$ 0.150	\$ 0.523	\$ 0.678	\$
2023	\$ 4,507	\$ 207	\$ 100	\$ -	\$ 4,199	777,382			\$	\$ 0.150			\$ 0.693
Col. A:	Effective year												
Col. B:	Budget Projections												
Col. C:	Budget Projections												
Col. D:	Budget Projections												
Col. E:	Budget Projections												
Col. F:	Col. B - Col. C - Col. D - Col. E												
Col. G:	Company Forecast												
Col. H:	(Col. H / Col. I) x 100												
Col. K:	EAP Portion of SBC Rate												
Col. M:	Col. J + Col. K												

New Hampshire Electric Cooperative, Inc.  
NHSaves Energy Efficiency Programs  
NHPUC Docket No. DE 20-092  
Attachment G3 (2022-2023)  
Page 2 of 4  
TS1-002

New Hampshire Electric Cooperative, Inc.  
Energy Efficiency Expense & SBC Revenue Reconciliation  
January 1, 2022 to December 31, 2022  
(\$ in 000's)

Line	Description	Carryover 12/31/21	Forecast Jan 2022	Forecast Feb 2022	Forecast Mar 2022	Forecast Apr 2022	Forecast May 2022	Forecast June 2022	Forecast Jul 2022	Forecast Aug 2022	Forecast Sep 2022	Forecast Oct 2022	Forecast Nov 2022	Forecast Dec 2022	2022 Total
		Col. B	Col. C	Col. D	Col. E	Col. F	Col. G	Col. H	Col. I	Col. J	Col. K	Col. L	Col. M	Col. N	Col. O
1	kWh Sales	1,532	324	295	357	345	272	282	358	352	363	287	285	378	3,886
2	RGGI Revenues		17	17	17	17	17	17	17	17	17	17	17	17	207
3	FCM Revenues		8	8	8	8	8	8	8	8	8	8	8	8	100
4	Total Revenues		349	320	383	370	297	308	383	377	388	312	311	403	4,203
5	Program Expenses		476	476	476	476	476	476	476	476	476	476	476	476	5,713
6	Total Program Expenses		476	476	476	476	476	476	476	476	476	476	476	476	5,713
7	HB 549 EE Education Allocation		2	2	2	2	2	2	2	2	2	2	2	2	23
8	Current Month Over/(Under) Recovery		(128)	(157)	(95)	(108)	(181)	(170)	(94)	(101)	(90)	(166)	(167)	(75)	
9	Cumulative Over/(Under) Recovery		1,404	1,246	1,151	1,043	863	692	598	497	407	242	75	(0)	
12	Interest @ Prime Rate	1,532	0.27%	0.27%	0.27%	0.27%	0.27%	0.27%	0.27%	0.27%	0.27%	0.27%	0.27%	0.27%	0.27%
13	Interest		4	4	3	3	3	2	2	1	1	1	0	0	24
14	Monthly Sales (MWh)		86,829	79,055	67,616	65,290	51,453	53,394	67,784	66,601	68,721	54,318	54,018	71,520	786,599
15	EE SBC Rate		0.373	0.373	0.528	0.528	0.528	0.528	0.528	0.528	0.528	0.528	0.528	0.528	

Line 1: (Line 14 x Line 15) / 100  
Line 2: Page 1, Col. C  
Line 3: Page 1, Col. D  
Line 4: Sum of Lines 1 through Lines 3  
Line 5: Page 1, Col. B  
Line 6: Sum of Line 5  
Line 7: HB 549 EE Education Allocation  
Line 8: Line 4 - Line 6 - Line 7  
Line 9: Prior month Line 8 + Current month Line 9  
Line 12: Prime Rate / 12  
Line 13: (Prior Month Line 8 + Current Month Line 8) / 2 x Line 11  
Line 14: Company Forecast  
Line 15: Page 1, Col. J/K



New Hampshire Electric Cooperative, Inc.  
NHSaves Energy Efficiency Programs  
NHPUC Docket No. DE 20-092  
Attachment G3 (2022-2023)  
Page 3 of 4  
TS1-002

New Hampshire Electric Cooperative, Inc.  
Energy Efficiency Expense & SBC Revenue Reconciliation  
January 1, 2023 to December 31, 2023  
(\$ in 000's)

Line	Description	Carryover 12/31/22	Forecast Jan 2023	Forecast Feb 2023	Forecast Mar 2023	Forecast Apr 2023	Forecast May 2023	Forecast June 2023	Forecast Jul 2023	Forecast Aug 2023	Forecast Sep 2023	Forecast Oct 2023	Forecast Nov 2023	Forecast Dec 2023	2023 Total
		Col. B	Col. C	Col. D	Col. E	Col. F	Col. G	Col. H	Col. I	Col. J	Col. K	Col. L	Col. M	Col. N	Col. O
1	kWh Sales	-	466	424	363	350	276	287	364	357	369	291	290	384	4,221
2	RGGI Revenues	-	17	17	17	17	17	17	17	17	17	17	17	17	207
3	FCM Revenues	-	8	8	8	8	8	8	8	8	8	8	8	8	100
4	Total Revenues	-	492	450	388	376	302	312	389	383	394	317	316	409	4,529
5	Program Expenses	-	376	376	376	376	376	376	376	376	376	376	376	376	4,507
6	Total Program Expenses	-	376	376	376	376	376	376	376	376	376	376	376	376	4,507
7	HB 549 EE Education Allocation	-	2	2	2	2	2	2	2	2	2	2	2	2	22
8	Current Month Over/(Under) Recovery	-	114	72	11	(1)	(76)	(65)	12	6	17	(60)	(62)	32	
9	Cummulative Over/(Under) Recovery	-	114	187	198	196	121	55	67	73	90	30	(32)	(0)	
12	Interest @ Prime Rate	-	0.27%	0.27%	0.27%	0.27%	0.27%	0.27%	0.27%	0.27%	0.27%	0.27%	0.27%	0.27%	0.27%
13	Interest	-	0	0	1	1	0	0	0	0	0	0	0	(0)	3
14	Monthly Sales (MWh)	-	85,812	78,129	66,824	64,525	50,851	52,768	66,990	65,820	67,916	53,682	53,385	70,682	777,382
15	EE SBC Rate	-	0.543	0.543	0.543	0.543	0.543	0.543	0.543	0.543	0.543	0.543	0.543	0.543	

Line 1: (Line 14 x Line 15) / 100  
Line 2: Page 1, Col. C  
Line 3: Page 1, Col. D  
Line 4: Sum of Lines 1 through Lines 3  
Line 5: Page 1, Col. B  
Line 6: Sum of Line 6  
Line 7: HB 549 EE Education Allocation  
Line 8: Line 4 - Line 6 - Line 7  
Line 11: Line 9 - Line 10  
Line 12: Prime Rate / 12  
Line 13: (Prior Month Line 8 + Current Month Line 8) / 2 x Line 11  
Line 14: Company Forecast  
Line 15: Page 1, Col. J/K

**Bill Impacts of Changes in System Benefits Charge - New Hampshire Electric Cooperative, Inc.**

	2021	Jan-Feb 2022	Mar-Dec 2022	2023
System Benefits Charge (\$/kWh)	\$ 0.00678	\$ 0.00523	0.00678	0.00693
<u>Bill per month, including NHEC default energy service</u>				
Residential Rate B (625 kWh/month)	\$ 124.33	\$ 123.36	\$ 124.33	\$ 124.42
Commercial B3, three-phase service ( <50 kW, 10,000 kWh/month)	\$ 1,766.24	\$ 1,750.74	\$ 1,766.24	\$ 1,767.74
<u>Change from previous rate level - \$ per month</u>				
Residential Rate B (625 kWh/month)		\$ (0.97)	\$ 0.97	\$ 0.09
General Service Rate G, three-phase service (40 kW, 10,000 kWh/month)		\$ (15.50)	\$ 15.50	\$ 1.50
<u>Change from previous rate level - %</u>				
Residential Rate B (625 kWh/month)		-0.8%	0.8%	0.1%
General Service Rate G, three-phase service (40 kW, 10,000 kWh/month)		-0.9%	0.9%	0.1%