

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

Docket No. DE 20-092

2021-2023 Triennial Energy Efficiency Plan  
System Benefits Charge Testimony

**DIRECT TESTIMONY  
OF  
CHRISTOPHER J. GOULDING,  
ERICA L. MENARD,  
HEATHER M. TEBBETTS,  
AND  
CAROL M. WOODS**

September 1, 2020

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**I. INTRODUCTION AND BACKGROUND**

**Q. Mr. Goulding, please state your full name, business address, and position.**

A. My name is Christopher J. Goulding. My business address is 6 Liberty Lane West, Hampton, New Hampshire 03842. I am the Director of Rates and Revenue Requirements for Unitil Service Corp. (“Unitil Service”), a subsidiary of Unitil Corporation that provides managerial, financial, regulatory and engineering services to Unitil Corporation’s utility subsidiaries including Fitchburg Gas and Electric Light Company d/b/a Unitil (hereinafter referred to as “Unitil”, the “Company”, or “FG&E”, as appropriate). My responsibilities include all rate and regulatory filings related to the financial requirements of FG&E and Unitil’s other subsidiaries.

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

A. I earned a Bachelor of Science degree in Business Administration with a concentration in Accounting from Northeastern University in 2000 and a Master’s in Business Administration from Boston College in 2009.

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

A. In 2000 I was hired by NSTAR Electric & Gas Company (“NSTAR,” now Eversource Energy) and held various positions with increasing responsibilities in Accounting, Corporate Finance and Regulatory. I was hired by Unitil Service Corp. in early 2019 to perform my current job responsibilities.

1 **Q. Have you previously testified before the New Hampshire Public Utilities**  
2 **Commission?**

3 A. Yes, I have testified on multiple occasions before the New Hampshire Public Utilities  
4 Commission (“Commission”).

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

6 A. My name is Erica L. Menard. My business address is 780 North Commercial Street,  
7 Manchester, NH. I am employed by Eversource Energy Service Company as the Manager  
8 of New Hampshire Revenue Requirements and in that position, I provide rate  
9 calculations and regulatory services to Public Service Company of New Hampshire d/b/a  
10 Eversource Energy (“Eversource” or the “Company”).

11 **Q. Please state your educational background and training.**

12 A. I graduated from the University of Maine in 1997 with a Bachelor of Arts degree in  
13 Economics and Business Administration with a concentration in Finance and from the  
14 University of New Hampshire in 2007 with a Master’s in Business Administration.

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

16 A. I was hired by Public Service Company of New Hampshire (now Eversource) in 2003  
17 and have held various positions in the Company with increasing levels of responsibility. I  
18 was appointed to my current position of Manager, Revenue Requirements –NH in April  
19 2019. Prior to my current role, I held positions in the Financial Planning & Analysis,  
20 Business Planning, Economic Development and Load Forecasting areas. Prior to joining  
21 Eversource, I held various positions at ICF Consulting in Fairfax, Virginia with

responsibilities for implementing load profiling and load settlement software at various utilities around the world.

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

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

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

A. My name is Heather M. Tebbetts and my business address is 15 Buttrick Road, Londonderry, New Hampshire. I am Manager of Rates and Regulatory Affairs for Liberty and am responsible for providing rate-related services for EnergyNorth and Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty Utilities (“Granite State”).

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

A. I graduated from Franklin Pierce University in 2004 with a Bachelor of Science degree in Finance. I received a Master of Business Administration from Southern New Hampshire University in 2007.

**Q. Please describe your professional background.**

A. I joined Liberty in October 2014. Prior to my employment at Liberty, I was employed by Public Service Company of New Hampshire (“PSNH”) as a Senior Analyst in NH Revenue Requirements from 2010 to 2014. Prior to my position in NH Revenue Requirements, I was a Staff Accountant in PSNH’s Property Tax group from 2007 to 2010 and a Customer Service Representative III in PSNH’s Customer Service Department from 2004 to 2007.

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

2    A.    Yes, I have testified on numerous occasions before the Commission, most recently in  
3       Docket No. DE 19-064, which was Granite State's most recent distribution rate case.

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

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

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

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

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

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

16   **Q.    Have you previously testified before the New Hampshire Public Utilities**  
17       **Commission?**

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

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

2 A. The purpose of our testimony is: (1) to present and support the calculation of the annual  
3 rates for the Energy Efficiency (“EE”) component of the System Benefits Charge  
4 (“SBC”) proposed for effect on January 1, 2021, January 1, 2022, and January 1, 2023;  
5 and (2) to present and support the calculation of the annual rates for the lost base revenue  
6 (“LBR”) component of the SBC proposed for effect January 1, 2021, January 1, 2022,  
7 and January 1, 2023. Our testimony explains what is contained in Attachments E3, F3,  
8 G3, and H3, which provide the calculations of the EE and LBR rate components for each  
9 electric distribution utility. In addition, the testimony will also present the Energy  
10 Efficiency Charge (“EEC”) and Lost Revenue Rate (“LRR”) for Northern. These rate  
11 calculations are presented in Attachments J3 (EEC) and J5 (LRR) and are being provided  
12 for informational purposes. The proposed EEC and LRR will be filed in Northern’s  
13 upcoming annual Cost of Gas filing that will be submitted to the Commission on or  
14 before September 15, 2020.

15 EnergyNorth is providing a reconciliation of lost revenues in Attachment I4 as the  
16 Company’s decoupling mechanism approved in Order No. 26,122 in Docket No. DG 17-  
17 048, thus the lost revenue mechanism is no longer effective outside of the reconciliation  
18 of previous periods.

**II. EE COMPONENT OF THE SBC**

**Q. Please explain the changes to the EE component of the SBC rate for the 2021-2023 plan.**

A. The 2021-2023 plan will now provide an EE component separated by sector, residential and commercial, rather than continue with a single rate for all sectors. The utilities are also filing separate EE component rates, contrary to the filings of the past. Table 1 provides a snapshot of EE component rates by utility:

Table 1. Energy Efficiency Component Rates (\$/kWh)

2021	Eversource	NHEC	Liberty	Unitil
Residential	\$0.00651	\$0.00838	\$0.00568	\$0.00615
Commercial	\$0.01029	\$0.00906	\$0.00561	\$0.00867
2022	Eversource	NHEC	Liberty	Unitil
Residential	\$0.00646	\$0.00873	\$0.00864	\$0.00773
Commercial	\$0.01498	\$0.01036	\$0.00843	\$0.01070
2023	Eversource	NHEC	Liberty	Unitil
Residential	\$0.00673	\$0.08530	\$0.00922	\$0.00767
Commercial	\$0.02062	\$0.01004	\$0.01061	\$0.01333

**Q. How was the EE rate calculated?**

A. With a statewide savings target of 5% of 2019 sales to be achieved over the course of the 2021-2023 triennium, translating to 525,333 MWh in expected annual savings across the term and 6.7 billion lifetime kWh, the total required funding is \$369.787 million. Please see the table below providing a breakdown of funding mechanisms for each utility. These calculations are further broken down by each utility on page 1 of Attachments E3 (Eversource), F3 (Liberty), G3 (NHEC), and H3 (Unitil).



Table 2. Funding by Program

HEA							
2021	Sector	Carryover	Carryover	RGGI	FCM	SBC Funds	Total
Eversource	Residential	\$0	\$0	\$377,341	\$1,557,889	\$20,673,489	\$22,608,719
	C&I	\$0	\$0	\$1,531,542	\$3,635,073	\$46,577,169	\$51,743,785
NHEC	Residential	\$407,827	\$0	\$34,612	\$30,000	\$3,934,561	\$4,407,000
	C&I	\$28,157	\$0	\$172,873	\$70,000	\$2,710,970	\$2,982,000
Liberty	Residential	\$598,262	\$19,796	\$44,153	\$263,079	\$1,636,452	\$2,561,742
	C&I	\$755,404	\$0	\$177,584	\$348,732	\$3,571,782	\$4,853,502
Unitil	Residential	\$480,100	\$0	\$56,687	\$168,524	\$3,972,213	\$4,677,524
	C&I	(\$111,241)	\$0	\$228,000	\$393,222	\$4,382,004	\$4,891,985
HEA							
2022	Sector	Carryover	Carryover	RGGI	FCM	SBC Funds	Total
Eversource	Residential	\$0	\$0	\$362,535	\$1,433,201	\$20,620,060	\$22,415,796
	C&I	\$0	\$0	\$1,531,542	\$3,344,136	\$67,090,791	\$71,966,469
NHEC	Residential	\$0	\$0	\$34,612	\$30,000	\$4,100,388	\$4,165,000
	C&I	\$0	\$0	\$172,873	\$70,000	\$3,100,127	\$3,343,000
Liberty	Residential	\$0	\$0	\$42,420	\$233,584	\$2,496,480	\$2,772,483
	C&I	\$0	\$0	\$177,584	\$309,634	\$5,398,895	\$5,886,113
Unitil	Residential	(\$879)	\$0	\$54,463	\$140,137	\$4,964,828	\$5,158,548
	C&I	(\$852)	\$0	\$228,000	\$326,985	\$5,633,809	\$6,187,942
HEA							
2023	Sector	Carryover	Carryover	RGGI	FCM	SBC Funds	Total
Eversource	Residential	\$0	\$0	\$347,726	\$1,198,252	\$21,735,949	\$23,281,927
	C&I	\$0	\$0	\$1,531,542	\$2,795,920	\$91,149,205	\$95,476,667
NHEC	Residential	\$0	\$0	\$34,612	\$30,000	\$4,006,388	\$4,071,000
	C&I	\$0	\$0	\$172,873	\$70,000	\$3,005,127	\$3,248,000
Liberty	Residential	\$0	\$0	\$40,687	\$150,966	\$2,651,629	\$2,843,282
	C&I	\$0	\$0	\$177,584	\$200,117	\$6,770,979	\$7,148,680
Unitil	Residential	\$0	\$0	\$52,238	\$133,129	\$5,159,285	\$5,344,652
	C&I	\$0	\$0	\$228,000	\$310,634	\$7,212,807	\$7,751,441

Page 2 of Attachments E3 (Eversource) and H3 (Unitil) provides actual and forecasted monthly revenues and expenses for the 2020 program year. The forecasted monthly revenue and expenses for the 2021 through 2023 program years are provided on pages 3 through 8 of Attachment E3 (Eversource), pages 2 through 4 of Attachment F3 (Liberty),

pages 2 through 7 of Attachment G3 (NHEC). Page 3 of Attachment H3 (Unitil) provides forecasted monthly revenue and expenses for 2021.

**Q. Please explain why the utilities are filing a three-year plan with set EE component SBC rates for each year.**

A. In previous plans, the utilities filed an Annual Update to the triennial plan each year which included updated and reconciled SBC rate components. In this three-year plan, the structure of the EERS is moving further toward the cumulative achievement of goals over the course of the 36 month triennium, without the start and stop of an annual plan update filing. Therefor the utilities are proposing the EE component of SBC rates for each of the three years for approval in this 2021-2023 Energy Efficiency Plan filing.

**Q. Why are there differences in EE component rates between sectors and between utilities?**

A. The primary goal of the EERS and the 2021-2023 Plan is a three-year statewide energy savings goal, measured as a percentage of the 2019 Annual kWh sales for the electric programs and as a percentage of the 2019 Annual Therm sales for the natural gas programs. Different utility territories and sectors have a varying ability to contribute toward the statewide energy savings targets. The utilities have targeted their plans and budgets to accomplish the joint goal based on analysis of where the savings can be achieved.

**Q. Is there precedent for setting different EE rates between sectors and utilities?**

A. Yes. The Natural Gas programs have used this approach for many years.

1   **Q.    How will the utilities maintain receiving enough funding each year for their**  
2       **programs if the EE component of the SBC rate was set too low?**

3    A.    The utilities are proposing an annual “trigger mechanism” to allow the EE component of  
4       the SBC rate to be increased or decreased by no greater than ten percent over the  
5       approved rate for a given year if needed based on reconciliation of actual sales and  
6       revenues compared to forecast, or if the budget is increased for the upcoming year to  
7       accommodate increased program costs.

8   **Q.    Is this trigger mechanism a new concept?**

9    A.    No. EnergyNorth Natural Gas utilizes this same type of mechanism during the winter  
10       months for when the cost of gas rate is projected to be over or under collection for the  
11       period no greater than 25 percent and has since 1998.

12   **Q.    How does the annual update filing using the trigger mechanism work?**

13   A.    In Docket No. DR 98-015, the Commission approved in Order No. 22,890, a monthly  
14       adjustment to the cost of gas that does not require a filing for rate approval. It provides  
15       the ability to adjust the approved cost of gas rate upward or downward monthly based on  
16       the Company’s calculation of the projected over or under collection for the period and  
17       applied on a bills rendered basis. The adjusted cost of gas rate would not increase or  
18       decrease more than plus or minus ten percent of the approved unit cost of gas. In 2000,  
19       Order No. 23,580 increased that maximum allowed to 20 percent. In 2009, Order No.  
20       24,963 increased that maximum to 25 percent.

1 Utilizing this same structure for the EE component of the SBC rate would provide  
2 flexibility for the utilities to increase or decrease the rate by no more than ten percent of  
3 the approved rate without the need for a formal procedure and hearing. It also provides  
4 the opportunity to avoid a high over or under collection after the three year plan is  
5 completed. The trigger mechanism is not a requirement, meaning if the EE component of  
6 the SBC rate is sufficient to continue approved funding requirements for the following  
7 year, the rate does not need to be changed. In addition, Puc 1203.02(f) affords rates to be  
8 adjusted as frequently as determined by the Commission. While the practice has been for  
9 a full adjudicated process annually for the SBC rate, given that the utilities are filing a  
10 rate up to three years in advance, this potential yearly adjustment is consistent with the  
11 Commission's statutory obligations and administrative rules.

12 If there is reason to change the rate and the rate is within the ten percent threshold, the  
13 requirement would be the utility requesting the change will file a technical statement with  
14 the projected over or under calculation, along with the resulting EE portion of the SBC  
15 rate by December 10 each year as the SBC rate goes in to effect January 1 of the  
16 following year. The utility will also file a revised tariff page reflecting the change.

17 At the end of the three-year period, a final reconciliation will be filed to reconcile the  
18 final three-year program budget and expenses.

**Q. What if the budget requirements are such that the ten percent increase to the rate is not sufficient?**

**A.** If there is reason to change the rate and the rate is outside of the ten percent threshold, the utility will need to make a full reconciliation filing, similar to how it was filed in the annual reconciliations in Docket No. 17-136, by October 10. A formal adjudicative process will be conducted to receive approval of the EE portion of the SBC rate.

### **III. LBR COMPONENT OF THE SBC**

**Q. What is the proposed LBR Component of the SBC?**

**A.** The proposed LBR rates differ by utility as shown in the table below. Eversource and Unitil are both proposing a separate LBR rate for Residential and C&I sectors for all three years, similar to the EE portion of the SBC rate and aligns the LBR rate with the sector where the savings are being achieved. Lost revenues do not apply to NHEC; therefore, an LBR rate is not utilized by NHEC.

Table 3. Total Lost Base Revenue (LBR) Charge (\$/kWh)				
2021	Eversource	NHEC	Liberty	Unitil
Residential	\$0.00065	N/A	\$0.00068	\$0.00120
C&I	\$0.00091	N/A	\$0.00068	\$0.00129
2022	Eversource	NHEC	Liberty	Unitil
Residential	\$0.00102	N/A	N/A	\$0.00145
C&I	\$0.00159	N/A	N/A	\$0.00121
2023	Eversource	NHEC	Liberty	Unitil
Residential	\$0.00118	N/A	N/A	\$0.00186
C&I	\$0.00220	N/A	N/A	\$0.00130

1 **Q. Has Liberty included an LBR rate in this filing?**

2 A. Yes, but only to collect an under recovery for 2019 and recover LBR for 2020. In Docket  
3 No. DE 17-136, Liberty's 2020 LBR rate was not approved. Subsequently in the  
4 Company's rate case, Docket No. DE 19-064, the Settlement Agreement provided that

5 In return for Liberty agreeing to a later date to implement  
6 decoupling, the parties agree that Liberty shall be permitted  
7 to continue the Lost Revenue Adjustment Mechanism  
8 (LRAM) for calendar years 2019 and 2020. Final  
9 determination of the LRAM and SBC for billing will be  
10 made in DE 17-136, or subsequent energy efficiency  
11 dockets. The Settling Parties shall review and approve tariff  
12 language implementing the decoupling mechanism prior to  
13 Liberty's submission of the decoupling tariff to the  
14 Commission in sufficient time for the scheduled July 1,  
15 2021, implementation.

16 The Company is providing the calculation of LBR in compliance with the Agreement and  
17 the order approving it.

18 **Q. Please explain how the LBR rate was calculated?**

19 A. As shown on page 9 of Attachment E3 (Eversource) and page 4 of Attachment H3  
20 (Unitil), the sum of the forecast lost base revenue, plus the prior year balance, plus  
21 current year interest, is divided by the forecast deliveries to arrive at the proposed rate.  
22 Pages 10 through 13 of Attachment E3 (Eversource) and page 5 of Attachment H3  
23 (Unitil) provides the supporting savings calculations for the 2020 through 2023 projected  
24 lost revenues. Page 14 of Attachment E3 (Eversource) and page 6 of Attachment H3  
25 (Unitil) provides a reconciliation of the actual and forecasted monthly revenues collected  
26 from the LBR rate during 2020. Pages 15 and 16 of Attachment E3 (Eversource)  
27 provides a reconciliation of the actual and forecasted monthly revenues collected from

1 the LBR rate during 2021. Page 17 of Attachment E3 (Eversource) and page 8 of  
2 Attachment H3 (Unitil) provides a computation of the average sector distribution rates for  
3 use in the lost revenue calculation. Additional details supporting the average rate  
4 calculation starts on page 19 of Attachment E3 (Eversource) and page 10 of Attachment  
5 H3 (Unitil).

6 **Q. Are there changes in the way that lost base revenue is calculated in the 2020-2023**  
7 **time period?**

8 A. The 2021-2023 LBR is calculated consistent with the methodology used in the 2020 LBR  
9 calculation. However, Eversource and Unitil are proposing a separate LBR calculation  
10 for the Residential and C&I sectors to align the LBR rate with the sector producing the  
11 lost revenues. As demonstrated on pages 10 through 13 of Attachments E3 (Eversource)  
12 and page 5 of Attachment H3 (Unitil), measures installed after 2018 have their lost base  
13 revenue calculated by adding two “separate” calculations; the kWh savings are multiplied  
14 by the sector’s kWh LBR Average Distribution Rate, then the kW savings are multiplied  
15 by the sector’s kW LBR Average Distribution Rate. The addition of these two  
16 calculations results in the total lost base revenue for measures installed. For all measures  
17 installed on or after January 1, 2019, this method is used to calculate lost base revenue for  
18 the life of the measure. Further details are provided within the August 29, 2018 NH LBR  
19 Working Group Report<sup>1</sup>.

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<sup>1</sup> August 29, 2018 Working Group Report in Docket No. DE 17-136 EERS LBR Working Group  
[https://www.puc.nh.gov/EESE%20Board/EERS\\_WG/20180829-EERS-WG-LBR-Report-On-LBR.docx](https://www.puc.nh.gov/EESE%20Board/EERS_WG/20180829-EERS-WG-LBR-Report-On-LBR.docx)

1 **Q. Is a specific annual LBR rate being proposed for approval for the 2021-2023 period,**  
2 **consistent with the EE portion of the SBC rate?**

3 A. Yes, a specific rate for LBR by sector is being proposed for Eversource and Unitil. The  
4 LBR portion of the SBC rate would utilize an annual “trigger mechanism” approach,  
5 similar to the EE portion of the SBC rate. If the LBR rate increases or decreases by ten  
6 percent, the utility would file a technical statement on December 10 without an  
7 adjudicative process. If the LBR rate changes by more than plus or minus ten percent, the  
8 utility would make a formal filing by October 10 and an adjudicative process would be  
9 conducted to approve the increase or decrease in the rate for effect January 1 of the  
10 following year.

11 **IV. TOTAL SBC AND BILL IMPACTS**

12 **Q. What is the total proposed SBC?**

13 A. Table 4 below provides the total proposed SBC with Attachments E3 (Eversource), F3  
14 (Liberty), G3 (NHEC), and H3 (Unitil) providing the full calculation of the rates,  
15 including the EE, EAP and LBR components of the SBC rate.



Table 4. Total System Benefits Charge (\$/kWh)				
2021	Eversource	NHEC	Liberty	Unitil
Residential	\$0.00866	\$0.00988	\$0.00719	\$0.00885
Commercial	\$0.01270	\$0.01056	\$0.00712	\$0.01146
2022	Eversource	NHEC	Liberty	Unitil
Residential	\$0.00898	\$0.01023	\$0.01014	\$0.01068
Commercial	\$0.01807	\$0.01186	\$0.00993	\$0.01341
2023	Eversource	NHEC	Liberty	Unitil
Residential	\$0.00941	\$0.01003	\$0.01072	\$0.01103
Commercial	\$0.02432	\$0.01155	\$0.01211	\$0.01613

**Q. Have you provided bill impacts associated with the proposed SBC?**

A. Yes. The bill impact for a typical residential and C&I customer is provided on Page 18 of Attachment E3 (Eversource), Page 6 of Attachment F3 (Liberty), Page 8 of Attachment G3 (NHEC), and Page 9 of Attachment H3 (Unitil).

**Q. Do the utilities require Commission approval of the SBC billed to customers by a specific date?**

A. Yes, the utilities request approval of the SBC by December 28, 2020, in order to implement the new rate for service rendered on and after January 1, 2021.

**V. NORTHERN'S EEC AND LRR**

**Q. Turning to gas, what is Northern presenting for the EEC and LRR?**

A. Northern is presenting the EEC and LRR in Attachments J3 (EEC) and J5 (LRR). These attachments are being provided for informational purposes only at this time. The final proposed rates will be filed in Northern's upcoming Annual Cost of Gas filing due on or before September 15, 2020.

**Q. What is the purpose of the EEC?**

A. The purpose of the EEC is to recover from firm ratepayers Energy Efficiency program costs and performance incentives.

**Q. What are the changes to the EEC?**

A. The EEC for the residential classes is projected to increase from \$0.0499 per therm to \$0.0774 per therm, and the EEC is projected to increase from \$0.0247 per therm to \$0.0337 per therm for the commercial and industrial customer classes effective November 1, 2020. The rate calculation is provided on Attachment J3, Page 2 of 4.

**Q. Please describe the reason for these changes to and describe the derivation of the EEC.**

A. The changes to the EEC are necessitated by the implementation of Northern's calendar year 2020 energy efficiency program budget. That budget is provided in Attachment J3, Page 1 of 4. The EEC is provided on Page 2 of 4. As shown, the rate is derived by customer class and includes an annual reconciliation of the program costs and performance incentives with an adjustment for the low-income discount costs. The projected reconciliation of costs and revenues is provided on Pages 3 and 4 for the residential classes and commercial and industrial classes, respectively.

**Q. What is the LRR calculated for effect November 1, 2020?**

A. The calculated LRR for the residential classes is \$0.0220 per therm and the LRR for the Commercial classes is \$0.0030. This is an increase of \$0.0106 from the currently

1 effective rate of \$0.0114 for Residential Customers and an increase of \$0.0011 from the  
2 currently effective rate of \$0.0019 for C&I Customers.

3 **Q. Please explain the calculation of the proposed LRR?**

4 A. The calculation of the LRR is provided on Attachment J5. As shown on Page 1 of 6, the  
5 LRR for each sector (residential and commercial/industrial) is derived by dividing the  
6 projected annual lost revenue, plus the reconciliation balance, plus projected interest, by  
7 forecast firm annual throughput. Page 2 of 6 provides the projected reconciliation of costs  
8 and revenue for the period November 2019 through October 2020. Pages 2a through 2c  
9 provide forecast reconciliations of November through October, 2020 – 2021, 2021 – 2022  
10 and 2022 – 2023. Pages 3-3c provide the calculation of estimated lost distribution  
11 revenue based on estimated savings. Page 4 of 6 provides further detail for the estimated  
12 savings that are used in the calculation of lost revenue on Page 2 of 6. Page 5 of 6  
13 provides the calculation of the Company's average distribution rates by sector that is used  
14 in the calculation of estimated lost revenue beginning January 1, 2020 Page 6 of 6  
15 provides bill impacts for the 2021 – 2023 period.

16 **Q. Will Northern be updating the EEC and LRR?**

17 A. Yes. As previously indicated, Northern is providing the EEC and LRR schedules for  
18 informational purposes only and is not seeking approval the EEC and LLR through this  
19 docket. The EEC and LRR will be filed in the upcoming Annual 2020 Cost of Gas Filing  
20 that will be submitted to the Commission on, or before, September 15, 2020.

1    **VI.    CONCLUSION**

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

3    **A.    Yes, it does.**

Eversource Energy  
 NHPUC Docket No. DE 20-092  
 September 1, 2020  
 Attachment L1

Actual C&I kW Savings - New Component for Year 2021

Page 1 of 1

**PSNH d/b/a Eversource Energy**

**C&I Savings - New Component for Year 2021**

<b>Line</b>	<b>Description</b>	<b>Eversource</b>
1	Gross Annualized kWh Savings	93,121,456
2	Maximum Demand Factor (MDF)	Varies based on measure mix
3	Extended Max. Load Reduction kW	16,535.5
4	% kW Demand Reduction at Customer Peak	Varies based on measure mix
5	Sub-Total Customer Peak kW Reduction	11,141.1
6	% Net to Gross	Varies based on measure mix
7	Sub-Total Customer Peak kW Reduction	10,721.6
8	% In-Service Rate	Varies based on measure mix
9	Sub-Total Customer Peak kW Reduction	10,662.8
10	% kW Realization Rate	Varies based on measure mix
11	Sub-Total Customer Peak kW Reduction	10,637.5
12	% Billing Adjustment to Reflect Ratchets (1)	100.00%
13	Sub-Total Customer Peak kW Reduction	10,637.5
14	% Retirement Adjustment	100.00%
15	Total Customer Peak kW Reduction, Full Year	10,637.5
16	% Annual Savings Achieved in First Year	50.00%
17	Total Customer Peak Red. in First Year	10,194
18	Annualized (x12)	127,650
19	Average Distribution Rate (ADR)	\$ 6.46
20	Total C&I kW LBR	<u><u>\$ 412,233</u></u>

Comments:

Above schedule mirrors the Template recommended by the LBRWG Report (p.6)

**PSNH d/b/a Eversource Energy**

**C&I Savings - New Component for Year 2022**

<b>Line</b>	<b>Description</b>	<b>Eversource</b>
1	Gross Annualized kWh Savings	118,548,300
2	Maximum Demand Factor (MDF)	Varies based on measure mix
3	Extended Max. Load Reduction kW	20,447.4
4	% kW Demand Reduction at Customer Peak	Varies based on measure mix
5	Sub-Total Customer Peak kW Reduction	13,499.8
6	% Net to Gross	Varies based on measure mix
7	Sub-Total Customer Peak kW Reduction	13,017.8
8	% In-Service Rate	Varies based on measure mix
9	Sub-Total Customer Peak kW Reduction	12,976.3
10	% kW Realization Rate	Varies based on measure mix
11	Sub-Total Customer Peak kW Reduction	12,958.1
12	% Billing Adjustment to Reflect Ratchets (1)	100.00%
13	Sub-Total Customer Peak kW Reduction	12,958.1
14	% Retirement Adjustment	100.00%
15	Total Customer Peak kW Reduction, Full Year	12,958.1
16	% Annual Savings Achieved in First Year	50.00%
17	Total Customer Peak Red. in First Year	12,418
18	Annualized (x12)	155,497
19	Average Distribution Rate (ADR)	\$ 6.46
20	Total C&I kW LBR	<u><u>\$ 502,161</u></u>

Comments:

Above schedule mirrors the Template recommended by the LBRWG Report (p.6)

**PSNH d/b/a Eversource Energy**

**C&I Savings - New Component for Year 2023**

<b>Line</b>	<b>Description</b>	<b>Eversource</b>
1	Gross Annualized kWh Savings	149,242,141
2	Maximum Demand Factor (MDF)	Varies based on measure mix
3	Extended Max. Load Reduction kW	25,290.7
4	% kW Demand Reduction at Customer Peak	Varies based on measure mix
5	Sub-Total Customer Peak kW Reduction	16,408.9
6	% Net to Gross	Varies based on measure mix
7	Sub-Total Customer Peak kW Reduction	16,009.3
8	% In-Service Rate	Varies based on measure mix
9	Sub-Total Customer Peak kW Reduction	15,987.8
10	% kW Realization Rate	Varies based on measure mix
11	Sub-Total Customer Peak kW Reduction	15,822.3
12	% Billing Adjustment to Reflect Ratchets (1)	100.00%
13	Sub-Total Customer Peak kW Reduction	15,822.3
14	% Retirement Adjustment	100.00%
15	Total Customer Peak kW Reduction, Full Year	15,822.3
16	% Annual Savings Achieved in First Year	50.00%
17	Total Customer Peak Red. in First Year	15,163
18	Annualized (x12)	189,868
19	Average Distribution Rate (ADR)	\$ 6.46
20	Total C&I kW LBR	\$ 613,160

Comments:

Above schedule mirrors the Template recommended by the LBRWG Report (p.6)

## PSNH d/b/a Eversource Energy

## Calculation for LBR New Methodology for Year 2021

Line	Description	Residential kWh	Commercial kWh	C&I kW	Total	Reference
<b>Legacy (Measures Installed in 2017 and 2018): (1)</b>						
1	Program Year 2017 LBR Savings (2)	-	-	-	-	Company Records
2	Average Distribution Rate (ADR)	\$ 0.04400	\$ 0.02798	N/A		Attachment E3
3	Sub-Total LBR	\$ -	\$ -	\$ -	\$ -	Line 1 * Line 2
4	Program Year 2018 LBR Savings (2)	7,121,114	38,157,478	-		Company Records
5	Average Distribution Rate (ADR)	\$ 0.04400	\$ 0.02798	N/A		Attachment E3
6	Sub-Total LBR	\$ 313,354	\$ 1,067,675	\$ -	\$ 1,381,029	Line 4 * Line 5
7	Sub-Total Legacy Methodology LBR	\$ 313,354	\$ 1,067,675	\$ -	\$ 1,381,029	Line 3 + Line 6
<b>New Methodology (Measures Installed in 2019 and forward): (3)</b>						
8	Program Year 2019 LBR Savings	18,035,905	70,845,870	127,768		Company Records
9	Average Distribution Rate (ADR)	\$ 0.04400	\$ 0.01121	\$ 6.46		Attachment E3
10	Sub-Total LBR	\$ 793,642	\$ 794,264	\$ 825,226	\$ 2,413,132	Line 8 * Line 9
11	Program Year 2020 LBR Savings estimated	26,377,578	58,915,156	117,072		Company Forecast
12	Average Distribution Rate (ADR)	\$ 0.04400	\$ 0.01121	\$ 6.46		Attachment E3
13	Sub-Total LBR	\$ 1,160,705	\$ 660,507	\$ 756,144	\$ 2,577,356	Line 11 * Line 12
14	Program Year 2021 LBR Savings estimated (annualized)	18,910,761	91,761,370	127,650		Company Forecast
15	Program Year 2021 LBR Savings in 2021	9,455,380	45,880,685	63,825		Company Forecast
16	Average Distribution Rate (ADR)	\$ 0.04400	\$ 0.01121	\$ 6.46		Attachment E3
17	Sub-Total LBR	\$ 416,069	\$ 514,375	\$ 412,233	\$ 1,342,678	Line 15 * Line 16
18	Sub-Total New Methodology LBR	\$ 2,370,417	\$ 1,969,146	\$ 1,993,604	\$ 6,333,166	Line 10 + Line 13 + Line 17
19	Total LBR - Year 2021	\$ 2,683,770	\$ 3,036,821	\$ 1,993,604	\$ 7,714,195	Line 7 + Line 18

\*Numbers may not add due to rounding.

## Comments

- (1) Legacy portion utilizes old methodology for calculating LBR i.e. it utilizes a combined ADR for measures installed in 2017 and 2018.  
 (2) Actual LBR Savings reset as part of DE 19-057 Rate Case  
 (3) New methodology disaggregates kWh and kW components as specified in the Settlement Agreement in DE 17-36 (Order No. 26,095)



## PSNH d/b/a Eversource Energy

## Calculation for LBR New Methodology for Year 2022

Line	Description	Residential kWh	Commercial kWh	C&I kW	Total	Reference
<b>Legacy (Measures Installed in 2017 and 2018): (1)</b>						
1	Program Year 2017 LBR Savings (2)	-	-	-	-	Company Records
2	Average Distribution Rate (ADR)	\$ 0.04400	\$ 0.02798	N/A		Attachment E3
3	Sub-Total LBR	\$ -	\$ -	\$ -	\$ -	Line 1 * Line 2
4	Program Year 2018 LBR Savings (2)	6,795,031	38,157,478	-		Company Records
5	Average Distribution Rate (ADR)	\$ 0.04400	\$ 0.02798	N/A		Attachment E3
6	Sub-Total LBR	\$ 299,005	\$ 1,067,675	\$ -	\$ 1,366,680	Line 4 * Line 5
7	Sub-Total Legacy Methodology LBR	\$ 299,005	\$ 1,067,675	\$ -	\$ 1,366,680	Line 3 + Line 6
<b>New Methodology (Measures Installed in 2019 and forward): (3)</b>						
8	Program Year 2019 LBR Savings	14,909,999	70,845,870	127,768		Company Records
9	Average Distribution Rate (ADR)	\$ 0.04400	\$ 0.01121	\$ 6.46		Attachment E3
10	Sub-Total LBR	\$ 656,092	\$ 794,264	\$ 825,226	\$ 2,275,582	Line 8 * Line 9
11	Program Year 2020 LBR Savings estimated	26,377,578	58,915,156	117,072		Company Forecast
12	Average Distribution Rate (ADR)	\$ 0.04400	\$ 0.01121	\$ 6.46		Attachment E3
13	Sub-Total LBR	\$ 1,160,705	\$ 660,507	\$ 756,144	\$ 2,577,356	Line 11 * Line 12
14	Program Year 2021 LBR Savings estimated	18,910,761	91,761,370	127,650		Company Forecast
15	Average Distribution Rate (ADR)	\$ 0.04400	\$ 0.01121	\$ 6.46		Attachment E3
16	Sub-Total LBR	\$ 832,139	\$ 1,028,751	\$ 824,466	\$ 2,685,356	Line 14 * Line 15
17	Program Year 2022 LBR Savings estimated (annualized)	14,193,803	116,764,842	155,497		Company Forecast
18	Program Year 2022 LBR Savings in 2022	7,096,901	58,382,421	77,748		Company Forecast
19	Average Distribution Rate (ADR)	\$ 0.04400	\$ 0.01121	\$ 6.46		Attachment E3
20	Sub-Total LBR	\$ 312,288	\$ 654,534	\$ 502,161	\$ 1,468,984	Line 18 * Line 19
21	Sub-Total New Methodology LBR	\$ 2,961,224	\$ 3,138,055	\$ 2,907,998	\$ 9,007,277	Line 10 + Line 13 + Line 16 + Line 20
22	Total LBR - Year 2022	\$ 3,260,229	\$ 4,205,731	\$ 2,907,998	\$ 10,373,957	Line 7 + Line 21

\*Numbers may not add due to rounding.

## Comments

- (1) Legacy portion utilizes old methodology for calculating LBR i.e. it utilizes a combined ADR for measures installed in 2017 and 2018.  
 (2) Actual LBR Savings reset as part of DE 19-057 Rate Case  
 (3) New methodology disaggregates kWh and kW components as specified in the Settlement Agreement in DE 17-36 (Order No. 26,095)

## PSNH d/b/a Eversource Energy

## Calculation for LBR New Methodology for Year 2023

Line	Description	Residential kWh	Commercial kWh	C&I kW	Total	Reference
<b>Legacy (Measures Installed in 2017 and 2018): (1)</b>						
1	Program Year 2017 LBR Savings (2)	-	-	-		Company Records
2	Average Distribution Rate (ADR)	\$ 0.04400	\$ 0.02798	N/A		Attachment E3
3	Sub-Total LBR	\$ -	\$ -	\$ -	\$ -	Line 1 * Line 2
4	Program Year 2018 LBR Savings (2)	6,684,435	38,157,478	-		Company Records
5	Average Distribution Rate (ADR)	\$ 0.04400	\$ 0.02798	N/A		Attachment E3
6	Sub-Total LBR	\$ 294,138	\$ 1,067,675	\$ -	\$ 1,361,814	Line 4 * Line 5
7	Sub-Total Legacy Methodology LBR	\$ 294,138	\$ 1,067,675	\$ -	\$ 1,361,814	Line 3 + Line 6
<b>New Methodology (Measures Installed in 2019 and forward): (3)</b>						
8	Program Year 2019 LBR Savings	13,767,029	70,845,870	127,768		Company Records
9	Average Distribution Rate (ADR)	\$ 0.04400	\$ 0.01121	\$ 6.46		Attachment E3
10	Sub-Total LBR	\$ 605,797	\$ 794,264	\$ 825,226	\$ 2,225,287	Line 8 * Line 9
11	Program Year 2020 LBR Savings estimated	26,377,578	58,915,156	117,072		Company Forecast
12	Average Distribution Rate (ADR)	\$ 0.04400	\$ 0.01121	\$ 6.46		Attachment E3
13	Sub-Total LBR	\$ 1,160,705	\$ 660,507	\$ 756,144	\$ 2,577,356	Line 11 * Line 12
14	Program Year 2021 LBR Savings estimated	18,910,761	91,761,370	127,650		Company Forecast
15	Average Distribution Rate (ADR)	\$ 0.04400	\$ 0.01121	\$ 6.46		Attachment E3
16	Sub-Total LBR	\$ 832,139	\$ 1,028,751	\$ 824,466	\$ 2,685,356	Line 14 * Line 15
17	Program Year 2022 LBR Savings estimated	14,193,803	116,764,842	155,497		Company Forecast
18	Average Distribution Rate (ADR)	\$ 0.04400	\$ 0.01121	\$ 6.46		Attachment E3
19	Sub-Total LBR	\$ 624,576	\$ 1,309,068	\$1,004,323	\$ 2,937,968	Line 17 * Line 18
20	Program Year 2023 LBR Savings estimated (annualized)	13,211,175	147,526,270	189,868		Company Forecast
21	Program Year 2023 LBR Savings in 2023	6,605,587	73,763,135	94,934		Company Forecast
22	Average Distribution Rate (ADR)	\$ 0.04400	\$ 0.01121	\$ 6.46		Attachment E3
23	Sub-Total LBR	\$ 290,669	\$ 826,970	\$ 613,160	\$ 1,730,798	Line 21 * Line 22
24	Sub-Total New Methodology LBR	\$ 3,513,886	\$ 4,619,559	\$4,023,319	\$12,156,765	Line 10 + Line 13 + Line 16 + Line 19 + Line 23
25	Total LBR - Year 2023	\$ 3,808,024	\$ 5,687,235	\$4,023,319	\$13,518,578	Line 7 + Line 24

\*Numbers may not add due to rounding.

## Comments

- (1) Legacy portion utilizes old methodology for calculating LBR i.e. it utilizes a combined ADR for measures installed in 2017 and 2018.  
 (2) Actual LBR Savings reset as part of DE 19-057 Rate Case  
 (3) New methodology disaggregates kWh and kW components as specified in the Settlement Agreement in DE 17-36 (Order No. 26,095)

Unitil Energy Systems, Inc.  
 NHPUC Docket No. DE 20-092  
 September 1, 2020

Projected C&I kW Savings - New Component for Year 2023

Page 1 of 1

### Unitil Energy Systems, Inc.

### C&I Savings - New Component for Year 2021

Line	Description	Unitil
1	Gross Annualized kWh Savings	10,616,063
2	Maximum Demand Factor (MDF)	Varies based on measure mix
3	Extended Max. Load Reduction kW	1,440.2
4	% kW Demand Reduction at Customer Peak	Varies based on measure mix
5	Sub-Total Customer Peak kW Reduction	816.0
6	% Net to Gross	Varies based on measure mix
7	Sub-Total Customer Peak kW Reduction	766.5
8	% In-Service Rate	Varies based on measure mix
9	Sub-Total Customer Peak kW Reduction	766.5
10	% kW Realization Rate	Varies based on measure mix
11	Sub-Total Customer Peak kW Reduction	766.5
12	% Billing Adjustment to Reflect Ratchets (1)	100.00%
13	Sub-Total Customer Peak kW Reduction	766.5
14	% Retirement Adjustment	100.00%
15	Total Customer Peak kW Reduction, Full Year	766.5
16	% Annual Savings Achieved in First Year	51%
17	Total Customer Peak Red. in First Year	388.2
18	Annualized (x12)	4,659.0
19	Average Distribution Rate (ADR)	\$ 9.16
20	Total C&I kW LBR	\$ 42,676

Comments:

Above schedule mirrors the Template recommended by the LBRWG Report (p.6)

Unitil Energy Systems, Inc.  
 NHPUC Docket No. DE 20-092  
 September 1, 2020

Projected C&I kW Savings - New Component for Year 2023

Page 1 of 1

### Unitil Energy Systems, Inc.

### C&I Savings - New Component for Year 2022

Line	Description	Unitil
1	Gross Annualized kWh Savings	12,339,688
2	Maximum Demand Factor (MDF)	Varies based on measure mix
3	Extended Max. Load Reduction kW	1,166.2
4	% kW Demand Reduction at Customer Peak	Varies based on measure mix
5	Sub-Total Customer Peak kW Reduction	612.8
6	% Net to Gross	Varies based on measure mix
7	Sub-Total Customer Peak kW Reduction	571.7
8	% In-Service Rate	Varies based on measure mix
9	Sub-Total Customer Peak kW Reduction	571.7
10	% kW Realization Rate	Varies based on measure mix
11	Sub-Total Customer Peak kW Reduction	571.7
12	% Billing Adjustment to Reflect Ratchets (1)	100.00%
13	Sub-Total Customer Peak kW Reduction	571.7
14	% Retirement Adjustment	100.00%
15	Total Customer Peak kW Reduction, Full Year	571.7
16	% Annual Savings Achieved in First Year	50%
17	Total Customer Peak Red. in First Year	285.9
18	Annualized (x12)	3,430.4
19	Average Distribution Rate (ADR)	\$ 9.16
20	Total C&I kW LBR	\$ 31,423

Comments:

Above schedule mirrors the Template recommended by the LBRWG Report (p.6)

Unitil Energy Systems, Inc.  
 NHPUC Docket No. DE 20-092  
 September 1, 2020

Projected C&I kW Savings - New Component for Year 2023

Page 1 of 1

### Unitil Energy Systems, Inc.

### C&I Savings - New Component for Year 2023

Line	Description	Unitil
1	Gross Annualized kWh Savings	14,862,555
2	Maximum Demand Factor (MDF)	Varies based on measure mix
3	Extended Max. Load Reduction kW	1,236.5
4	% kW Demand Reduction at Customer Peak	Varies based on measure mix
5	Sub-Total Customer Peak kW Reduction	625.6
6	% Net to Gross	Varies based on measure mix
7	Sub-Total Customer Peak kW Reduction	588.6
8	% In-Service Rate	Varies based on measure mix
9	Sub-Total Customer Peak kW Reduction	588.6
10	% kW Realization Rate	Varies based on measure mix
11	Sub-Total Customer Peak kW Reduction	588.6
12	% Billing Adjustment to Reflect Ratchets (1)	100.00%
13	Sub-Total Customer Peak kW Reduction	588.6
14	% Retirement Adjustment	100.00%
15	Total Customer Peak kW Reduction, Full Year	588.6
16	% Annual Savings Achieved in First Year	50%
17	Total Customer Peak Red. in First Year	294.3
18	Annualized (x12)	3,531.6
19	Average Distribution Rate (ADR)	\$ 9.16
20	Total C&I kW LBR	\$ 32,349

Comments:

Above schedule mirrors the Template recommended by the LBRWG Report (p.6)

DE 20-092  
 Calculation of the Estimated LBR for 2021 (cumulative 2017-2021)  
 Unitil Energy Systems, Inc.

Unitil Energy Systems, Inc.  
 NHPUC Docket No. DE 20-092  
 Calculation of the Estimated LBR for 2022 (cumulative 2017-2021)  
 Page 1 of 1

Description	Residential kWh	Commercial kWh	C&I kW	Total	Reference
<b>Legacy (Measures Installed in 2017 and 2018):</b>	<b>(Note 1)</b>				
1. Program Year 2017 Actual LBR Savings	1,344,216	6,004,884	-	7,349,100	DE 14-216, 2017 Annual Report, P. 3
2. Average Distribution Rate (ADR)	<u>\$0.03558</u>	<u>\$0.03217</u>	-		DE 20-092, Attachment H3 Page 8
3. Sub-Total LBR	\$ 47,827	\$ 193,177	\$ -	\$ 241,004	Line 1 * Line 2
4. Program Year 2018 Actual LBR Savings	2,868,216	6,708,144	-	9,576,360	DE 17-136, 2018 Annual Report, P. 3
5. Program Year 2018 Actual Retired LBR Savings	(385,652)	-	-	(385,652)	DE 17-136, 2019 Annual Report, P. 3
6. Average Distribution Rate (ADR)	<u>\$0.03558</u>	<u>\$0.03217</u>	-		DE 20-092, Attachment H3 Page 8
7. Sub-Total LBR	\$ 88,330	\$ 215,801	\$ -	\$ 304,130	(Line 4 + Line 5) * Line 6
<b>8. Sub-Total Legacy Savings (Measures Installed in 2017 and 2018)</b>	<b>\$ 136,157</b>	<b>\$ 408,978</b>	<b>\$ -</b>	<b>\$ 545,135</b>	<b>Line 3 + Line 7</b>
<b>New Methodology (Measures Installed in 2019 and forward):</b>	<b>(Note 3)</b>				
9. Program Year 2019 Actual LBR Savings	4,692,054	6,410,154	13,686	11,115,894	DE 17-136, 2019 Annual Report, P. 3
10. Average Distribution Rate (ADR)	<u>\$0.03558</u>	<u>\$0.00024</u>	<u>\$9.16</u>		DE 20-092, Attachment H3 Page 8
11. Sub-Total LBR	\$ 166,943	\$ 1,538	\$ 125,362	\$ 293,843	Line 9 * Line 10
12. Program Year 2020 Estimated LBR Savings	3,214,309	10,734,644	13,216	13,962,169	DE 17-136, 2020 Planned Savings
13. Average Distribution Rate (ADR)	<u>\$0.03558</u>	<u>\$0.00024</u>	<u>\$9.16</u>		DE 20-092, Attachment H3 Page 8
14. Sub-Total LBR	\$ 114,365	\$ 2,576	\$ 121,061	\$ 238,003	Line 12 * Line 13
15. Program Year 2021 Estimated LBR Savings (annualized)	5,418,938	10,495,391	9,318	15,923,647	DE 20-092 Planned Savings
16. Program Year 2021 Estimated LBR Savings in 2021	2,745,144	5,316,790	4,659	8,066,593	DE 20-092 Attachment H3
17. Average Distribution Rate (ADR)	<u>\$0.03558</u>	<u>\$0.00024</u>	<u>\$9.16</u>		DE 20-092, Attachment H3 Page 8
18. Sub-Total LBR	\$ 97,672	\$ 1,276	\$ 42,676	\$ 141,624	Line 16 * Line 17
<b>19. Sub-Total "New Method" LBR - 2019 Forward</b>	<b>\$ 378,981</b>	<b>\$ 5,391</b>	<b>\$ 289,099</b>	<b>\$ 673,470</b>	<b>Line 11 + Line 14 + Line 18</b>
<b>20. Total 2021 Estimated LBR</b>	<b>\$ 515,137</b>	<b>\$ 414,369</b>	<b>\$ 289,099</b>	<b>\$ 1,218,605</b>	<b>Line 8 + Line 19</b>

#### Comments

1. Legacy portion utilizes old methodology for calculating LBR - i.e. it utilizes a combined ADR for measures installed in 2017 and 2018.
2. Actual LBR Savings differ from program savings as the 110% LBR cap was reached
3. New methodology disaggregates kWh and kW components as specified in the Settlement Agreement in DE 17-136 (Order No. 26,095).

DE 20-092  
 Calculation of the Estimated LBR for 2022 (cumulative 2017-2022)  
 Unitil Energy Systems, Inc.

Unitil Energy Systems, Inc.  
 NHPUC Docket No. DE 20-092  
 Calculation of the Estimated LBR for 2022 (cumulative 2017-2022)  
 Page 1 of 1

Description	Residential kWh		Commercial kWh		C&I kW		Total	Reference
<b>Legacy (Measures Installed in 2017 and 2018):</b>	(Note 1)							
1. Program Year 2017 Actual LBR Savings		1,344,216		6,004,884		-	7,349,100	DE 14-216, 2017 Annual Report, P. 3
2. Average Distribution Rate (ADR)		<u>\$0.03558</u>		<u>\$0.03217</u>		-		DE 20-092, Attachment H3 Page 8
3. Sub-Total LBR	\$	47,827	\$	193,177	\$	-	\$ 241,004	Line 1 * Line 2
4. Program Year 2018 Actual LBR Savings	(Note 2)			6,708,144		-	9,576,360	DE 17-136, 2018 Annual Report, P. 3
5. Program Year 2018 Actual Retired LBR Savings		(385,652)		-		-	(385,652)	DE 17-136, 2019 Annual Report, P. 3
6. Average Distribution Rate (ADR)		<u>\$0.03558</u>		<u>\$0.03217</u>		-		DE 20-092, Attachment H3 Page 8
7. Sub-Total LBR	\$	88,330	\$	215,801	\$	-	\$ 304,130	(Line 4 + Line 5) * Line 6
<b>8. Sub-Total Legacy Savings (Measures Installed in 2017 and 2018)</b>	\$	<b>136,157</b>	\$	<b>408,978</b>	\$	-	<b>\$ 545,135</b>	<b>Line 3 + Line 7</b>
<b>New Methodology (Measures Installed in 2019 and forward):</b>	(Note 3)							
9. Program Year 2019 Actual LBR Savings		4,692,054		6,410,154		13,686	11,115,894	DE 17-136, 2019 Annual Report, P. 3
10. Average Distribution Rate (ADR)		<u>\$0.03558</u>		<u>\$0.00024</u>		<u>\$9.16</u>		DE 20-092, Attachment H3 Page 8
11. Sub-Total LBR	\$	166,943	\$	1,538	\$	125,362	\$ 293,843	Line 9 * Line 10
12. Program Year 2020 Estimated LBR Savings		3,214,309		10,734,644		13,216	13,962,169	DE 17-136, 2020 Planned Savings
13. Average Distribution Rate (ADR)		<u>\$0.03558</u>		<u>\$0.00024</u>		<u>\$9.16</u>		DE 20-092, Attachment H3 Page 8
14. Sub-Total LBR	\$	114,365	\$	2,576	\$	121,061	\$ 238,003	Line 12 * Line 13
15. Program Year 2021 Estimated LBR Savings		5,418,938		10,495,391		9,318	15,923,647	DE 20-092 Planned Savings
16. Average Distribution Rate (ADR)		<u>\$0.03558</u>		<u>\$0.00024</u>		<u>\$9.16</u>		DE 20-092, Attachment H3 Page 8
17. Sub-Total LBR	\$	192,806	\$	2,519	\$	85,352	\$ 280,677	Line 15 * Line 16
18. Program Year 2022 Estimated LBR Savings (annualized)		4,986,468		12,163,006		6,861	17,156,334	DE 20-092 Planned Savings
19. Program Year 2022 Estimated LBR Savings in 2022		2,526,062		6,161,576		3,430	8,691,068	DE 20-092 Attachment H3
20. Average Distribution Rate (ADR)		<u>\$0.03558</u>		<u>\$0.00024</u>		<u>\$9.16</u>		DE 20-092, Attachment H3 Page 8
21. Sub-Total LBR	\$	89,877	\$	1,479	\$	31,423	\$ 122,779	Line 19 * Line 20
<b>22. Sub-Total "New Method" LBR - 2019 Forward</b>	\$	<b>563,991</b>	\$	<b>8,112</b>	\$	<b>363,198</b>	<b>\$ 935,302</b>	<b>Line 11 + Line 14 + Line 17 + Line 21</b>
<b>23. Total 2022 Estimated LBR</b>	\$	<b>700,148</b>	\$	<b>417,090</b>	\$	<b>363,198</b>	<b>\$ 1,480,436</b>	<b>Line 8 + Line 22</b>

#### Comments

1. Legacy portion utilizes old methodology for calculating LBR - i.e. it utilizes a combined ADR for measures installed in 2017 and 2018.
2. Actual LBR Savings differ from program savings as the 110% LBR cap was reached
3. New methodology disaggregates kWh and kW components as specified in the Settlement Agreement in DE 17-136 (Order No. 26,095).

DE 20-092  
 Calculation of the Estimated LBR for 2023 (cumulative 2017-2023)  
 Unitil Energy Systems, Inc.

Unitil Energy Systems, Inc.  
 NHPUC Docket No. DE 20-092  
 Calculation of the Estimated LBR for 2022 (cumulative 2017-2023)  
 Page 1 of 1

Description	Residential kWh	Commercial kWh	C&I kW	Total	Reference
<b>Legacy (Measures Installed in 2017 and 2018):</b>	(Note 1)				
1. Program Year 2017 Actual LBR Savings	1,344,216	6,004,884	-	7,349,100	DE 14-216, 2017 Annual Report, P. 3
2. Average Distribution Rate (ADR)	<u>\$0.03558</u>	<u>\$0.03217</u>	-		DE 20-092, Attachment H3 Page 8
3. Sub-Total LBR	\$ 47,827	\$ 193,177	\$ -	\$ 241,004	Line 1 * Line 2
4. Program Year 2018 Actual LBR Savings	2,868,216	6,708,144	-	9,576,360	DE 17-136, 2018 Annual Report, P. 3
5. Program Year 2018 Actual Retired LBR Savings	(385,652)	-	-	(385,652)	DE 17-136, 2019 Annual Report, P. 3
6. Average Distribution Rate (ADR)	<u>\$0.03558</u>	<u>\$0.03217</u>	-		DE 20-092, Attachment H3 Page 8
7. Sub-Total LBR	\$ 88,330	\$ 215,801	\$ -	\$ 304,130	(Line 4 + Line 5) * Line 6
<b>8. Sub-Total Legacy Savings (Measures Installed in 2017 and 2018)</b>	<b>\$ 136,157</b>	<b>\$ 408,978</b>	<b>\$ -</b>	<b>\$ 545,135</b>	<b>Line 3 + Line 7</b>
<b>New Methodology (Measures Installed in 2019 and forward):</b>	(Note 3)				
9. Program Year 2019 Actual LBR Savings	4,692,054	6,410,154	13,686	11,115,894	DE 17-136, 2019 Annual Report, P. 3
10. Average Distribution Rate (ADR)	<u>\$0.03558</u>	<u>\$0.00024</u>	<u>\$9.16</u>		DE 20-092, Attachment H3 Page 8
11. Sub-Total LBR	\$ 166,943	\$ 1,538	\$ 125,362	\$ 293,843	Line 9 * Line 10
12. Program Year 2020 Estimated LBR Savings	3,214,309	10,734,644	13,216	13,962,169	DE 17-136, 2020 Planned Savings
13. Average Distribution Rate (ADR)	<u>\$0.03558</u>	<u>\$0.00024</u>	<u>\$9.16</u>		DE 20-092, Attachment H3 Page 8
14. Sub-Total LBR	\$ 114,365	\$ 2,576	\$ 121,061	\$ 238,003	Line 12 * Line 13
15. Program Year 2021 Estimated LBR Savings	5,418,938	10,495,391	9,318	15,923,647	DE 20-092 Planned Savings
16. Average Distribution Rate (ADR)	<u>\$0.03558</u>	<u>\$0.00024</u>	<u>\$9.16</u>		DE 20-092, Attachment H3 Page 8
17. Sub-Total LBR	\$ 192,806	\$ 2,519	\$ 85,352	\$ 280,677	Line 15 * Line 16
18. Program Year 2022 Estimated LBR Savings	4,986,468	12,163,006	6,861	17,156,334	DE 20-092 Planned Savings
19. Average Distribution Rate (ADR)	<u>\$0.03558</u>	<u>\$0.00024</u>	<u>\$9.16</u>		DE 20-092, Attachment H3 Page 8
20. Sub-Total LBR	\$ 177,419	\$ 2,919	\$ 62,845	\$ 243,183	Line 18 * Line 19
21. Program Year 2023 Estimated LBR Savings (annualized)	5,690,806	14,624,676	7,063	20,322,545	DE 20-092 Planned Savings
22. Program Year 2023 Estimated LBR Savings in 2023	2,882,867	7,408,617	3,532	10,295,016	DE 20-092 Attachment H3
23. Average Distribution Rate (ADR)	<u>\$0.03558</u>	<u>\$0.00024</u>	<u>\$9.16</u>		DE 20-092, Attachment H3 Page 8
24. Sub-Total LBR	\$ 102,572	\$ 1,778	\$ 32,349	\$ 136,700	Line 22 * Line 23
<b>25. Sub-Total "New Method" LBR - 2019 Forward</b>	<b>\$ 754,105</b>	<b>\$ 11,331</b>	<b>\$ 426,969</b>	<b>\$ 1,192,405</b>	<b>Line 11 + Line 14 + Line 17 + Line 20</b>
<b>26. Total 2023 Estimated LBR</b>	<b>\$ 890,262</b>	<b>\$ 420,309</b>	<b>\$ 426,969</b>	<b>\$ 1,737,540</b>	<b>Line 8 + Line 25</b>

#### Comments

1. Legacy portion utilizes old methodology for calculating LBR - i.e. it utilizes a combined ADR for measures installed in 2017 and 2018.
2. Actual LBR Savings differ from program savings as the 110% LBR cap was reached
3. New methodology disaggregates kWh and kW components as specified in the Settlement Agreement in DE 17-136 (Order No. 26,095).



DE 20-092  
 Northern Utilities, Inc.  
 Calculation of Lost Base Revenue for Year 2021\* (cumulative 2017-2021)

Northern Utilities, Inc.  
 NHPUC Docket No. DE 20-092  
 Attachment L2 - (2021 - 2023 Plan)  
 Page 1 of 3

Description	Therm Savings			Ref.
	Residential	C&I	Total	
<b><u>Measures Installed in 2017:</u></b>				
1. Program Year 2017 Actual Therm Savings (Nov - Apr)	35,378	132,787	168,165	2017 Annual Report, P2, Annualized Savings/12*6
2. Average Distribution Rates (ADR) (Nov - Apr)	\$0.6916	\$0.1993		Attachment J5, P3
3. Sub-Total LBR	\$ 24,466	\$ 26,470	\$ 50,936	Ln 1 * Ln 2
4. Program Year 2017 Actual Therm Savings (May - Oct)	35,378	132,787	168,165	2017 Annual Report, P2, Annualized Savings/12*6
5. Average Distribution Rates (ADR) (May - Oct)	\$0.6108	\$0.1198		Attachment J5, P3
6. Sub-Total LBR	\$ 21,608	\$ 15,914	\$ 37,522	Ln 4 * Ln 5
7. <b>Total LBR (Measures Installed in 2017)</b>	\$ 46,074	\$ 42,383	\$ 88,458	Ln 3 + Ln 6
<b><u>Measures Installed in 2018:</u></b>				
8. Program Year 2018 Actual Therm Savings (Nov - Apr)	57,884	91,060	148,944	2018 Annual Reports, P2, Annualized Savings/12*6
9. Average Distribution Rates (ADR) (Nov - Apr)	\$0.6916	\$0.1993		Attachment J5, P3
10. Sub-Total LBR	\$ 40,031	\$ 18,152	\$ 58,182	Ln 8 * Ln 9
11. Program Year 2018 Actual Therm Savings (May - Oct)	57,884	91,060	148,944	2018 Annual Reports, P2, Annualized Savings/12*6
12. Average Distribution Rates (ADR) (May - Oct)	\$0.6108	\$0.1198		Attachment J5, P3
13. Sub-Total LBR	\$ 35,354	\$ 10,913	\$ 46,267	Ln 11 * Ln 12
14. <b>Total LBR (Measures Installed in 2018)</b>	\$ 75,385	\$ 29,065	\$ 104,450	Ln 10 + Ln 13
<b><u>Measures Installed in 2019:</u></b>				
15. Program Year 2019 Estimated Therm Savings (Nov - Apr)	81,308	120,580	201,888	2019 Annual Reports, P2, Annualized Savings/12*6
16. Average Distribution Rates (ADR) (Nov - Apr)	\$0.6916	\$0.1993		Attachment J5, P3
17. Sub-Total LBR	\$ 56,230	\$ 24,036	\$ 80,266	Ln 15 * Ln 16
18. Program Year 2019 Estimated Therm Savings (May - Oct)	81,308	120,580	201,888	2019 Update, Att J5, P4 & P5, Annualized Therms
19. Average Distribution Rates (ADR) (May - Oct)	\$0.6108	\$0.1198		Attachment J5, P3
20. Sub-Total LBR	\$ 49,661	\$ 14,451	\$ 64,112	Ln 18 * Ln 19
21. <b>Total LBR (Measures Installed in 2019)</b>	\$ 105,891	\$ 38,487	\$ 144,378	Ln 17 + Ln 20
<b><u>Measures Installed in 2020:</u></b>				
22. Program Year 2020 Estimated Therm Savings (Nov - Apr)	64,728	132,554	197,283	Attachment J5, P4
23. Average Distribution Rates (ADR) (Nov - Apr)	\$0.6916	\$0.1993		Attachment J5, P3
24. Sub-Total LBR	\$ 44,764	\$ 26,423	\$ 71,187	Ln 22 * Ln 23
25. Program Year 2020 Estimated Therm Savings (May - Oct)	65,603	135,953	201,556	Attachment J5, P4
26. Average Distribution Rates (ADR) (May - Oct)	\$0.6108	\$0.1198		Attachment J5, P3
27. Sub-Total LBR	\$ 40,069	\$ 16,293	\$ 56,362	Ln 25 * Ln 26
28. <b>Total LBR (Measures Installed in 2020)</b>	\$ 84,833	\$ 42,716	\$ 127,549	Ln 24 + Ln 27
<b><u>Measures Installed in 2021:</u></b>				
29. Program Year 2021 Estimated Therm Savings (Nov - Apr)	6,228	10,929	17,157	Attachment J5, P4
30. Average Distribution Rates (ADR) (Nov - Apr)	\$0.6916	\$0.1993		Attachment J5, P3
31. Sub-Total LBR	\$ 4,307	\$ 2,179	\$ 6,486	Ln 29 * Ln 30
32. Program Year 2021 Estimated Therm Savings (May - Oct)	45,898	63,479	109,378	Attachment J5, P4
33. Average Distribution Rates (ADR) (May - Oct)	\$0.6108	\$0.1198		Attachment J5, P3
34. Sub-Total LBR	\$ 28,034	\$ 7,608	\$ 35,641	Ln 32 * Ln 33
35. <b>Total LBR (Measures Installed in 2021)</b>	\$ 32,341	\$ 9,786	\$ 42,127	Ln 31 + Ln 34
<b>36. Grand Total Forecasted LBR (Nov 2020 to Oct 2021)</b>	<b>\$ 344,524</b>	<b>\$ 162,437</b>	<b>\$ 506,960</b>	<b>Ln 7 + Ln 14 + Ln 21 + Ln 28 + Ln 35</b>

\*November 2020 through October 2021

DE 20-092  
 Northern Utilities, Inc.  
 Calculation of Lost Base Revenue for Year 2022\* (cumulative 2017-2022)

Northern Utilities, Inc.  
 NHPUC Docket No. DE 20-092  
 Attachment L2 - (2021 - 2023 Plan)  
 Page 2 of 3

Description	Therm Savings			Ref.
	Residential	C&I	Total	
<b><u>Measures Installed in 2017:</u></b>				
1. Program Year 2017 Actual Therm Savings (Nov - Apr)	35,378	132,787	168,165	2017 Annual Report, P2, Annualized Savings/12*6
2. Average Distribution Rates (ADR) (Nov - Apr)	\$0.6916	\$0.1993		Attachment J5, P3
3. Sub-Total LBR	\$ 24,466	\$ 26,470	\$ 50,936	Ln 1 * Ln 2
4. Program Year 2017 Actual Therm Savings (May - Oct)	35,378	132,787	168,165	2017 Annual Report, P2, Annualized Savings/12*6
5. Average Distribution Rates (ADR) (May - Oct)	\$0.6108	\$0.1198		Attachment J5, P3
6. Sub-Total LBR	\$ 21,608	\$ 15,914	\$ 37,522	Ln 4 * Ln 5
7. <b>Total LBR (Measures Installed in 2017)</b>	\$ 46,074	\$ 42,383	\$ 88,458	Ln 3 + Ln 6
<b><u>Measures Installed in 2018:</u></b>				
8. Program Year 2018 Actual Therm Savings (Nov - Apr)	57,884	91,060	148,944	2018 Annual Reports, P2, Annualized Savings/12*6
9. Average Distribution Rates (ADR) (Nov - Apr)	\$0.6916	\$0.1993		Attachment J5, P3
10. Sub-Total LBR	\$ 40,031	\$ 18,152	\$ 58,182	Ln 8 * Ln 9
11. Program Year 2018 Actual Therm Savings (May - Oct)	57,884	91,060	148,944	2018 Annual Reports, P2, Annualized Savings/12*6
12. Average Distribution Rates (ADR) (May - Oct)	\$0.6108	\$0.1198		Attachment J5, P3
13. Sub-Total LBR	\$ 35,354	\$ 10,913	\$ 46,267	Ln 11 * Ln 12
14. <b>Total LBR (Measures Installed in 2018)</b>	\$ 75,385	\$ 29,065	\$ 104,450	Ln 10 + Ln 13
<b><u>Measures Installed in 2019</u></b>				
15. Program Year 2019 Estimated Therm Savings (Nov - Apr)	81,308	120,580	201,888	2019 Annual Reports, P2, Annualized Savings/12*6
16. Average Distribution Rates (ADR) (Nov - Apr)	\$0.6916	\$0.1993		Attachment J5, P3
17. Sub-Total LBR	\$ 56,230	\$ 24,036	\$ 80,266	Ln 15 * Ln 16
18. Program Year 2019 Estimated Therm Savings (May - Oct)	81,308	120,580	201,888	2019 Update, Att J5, P4 & P5, Annualized Therms
19. Average Distribution Rates (ADR) (May - Oct)	\$0.6108	\$0.1198		Attachment J5, P3
20. Sub-Total LBR	\$ 49,661	\$ 14,451	\$ 64,112	Ln 18 * Ln 19
21. <b>Total LBR (Measures Installed in 2019)</b>	\$ 105,891	\$ 38,487	\$ 144,378	Ln 17 + Ln 20
<b><u>Measures Installed in 2020</u></b>				
22. Program Year 2020 Estimated Therm Savings (Nov - Apr)	65,603	135,953	201,556	Attachment J5, P4
23. Average Distribution Rates (ADR) (Nov - Apr)	\$0.6916	\$0.1993		Attachment J5, P3
24. Sub-Total LBR	\$ 45,369	\$ 27,101	\$ 72,469	Ln 22 * Ln 23
25. Program Year 2020 Estimated Therm Savings (May - Oct)	65,603	135,953	201,556	Attachment J5, P4
26. Average Distribution Rates (ADR) (May - Oct)	\$0.6108	\$0.1198		Attachment J5, P3
27. Sub-Total LBR	\$ 40,069	\$ 16,293	\$ 56,362	Ln 25 * Ln 26
28. <b>Total LBR (Measures Installed in 2020)</b>	\$ 85,438	\$ 43,394	\$ 128,831	Ln 24 + Ln 27
<b><u>Measures Installed in 2021</u></b>				
29. Program Year 2021 Estimated Therm Savings (Nov - Apr)	80,152	136,027	216,180	Attachment J5, P4
30. Average Distribution Rates (ADR) (Nov - Apr)	\$0.6916	\$0.1993		Attachment J5, P3
31. Sub-Total LBR	\$ 55,431	\$ 27,115	\$ 82,546	Ln 29 * Ln 30
32. Program Year 2021 Estimated Therm Savings (May - Oct)	81,236	139,515	220,751	Attachment J5, P4
33. Average Distribution Rates (ADR) (May - Oct)	\$0.6108	\$0.1198		Attachment J5, P3
34. Sub-Total LBR	\$ 49,617	\$ 16,720	\$ 66,337	Ln 32 * Ln 33
35. <b>Total LBR (Measures Installed in 2021)</b>	\$ 105,048	\$ 43,835	\$ 148,883	Ln 31 + Ln 34
<b><u>Measures Installed in 2022</u></b>				
36. Program Year 2022 Estimated Therm Savings (Nov - Apr)	7,847	16,242	24,088	Attachment J5, P4
37. Average Distribution Rates (ADR) (Nov - Apr)	\$0.6916	\$0.1993		Attachment J5, P3
38. Sub-Total LBR	\$ 5,427	\$ 3,238	\$ 8,664	Ln 36 * Ln 37
39. Program Year 2022 Estimated Therm Savings (May - Oct)	57,827	94,340	152,167	Attachment J5, P4
40. Average Distribution Rates (ADR) (May - Oct)	\$0.6108	\$0.1198		Attachment J5, P3
41. Sub-Total LBR	\$ 35,320	\$ 11,306	\$ 46,626	Ln 39 * Ln 40
42. <b>Total LBR (Measures Installed in 2022)</b>	\$ 40,746	\$ 14,543	\$ 55,290	Ln 38 + Ln 41
43. <b>Grand Total Forecasted LBR (Nov 2021 to Oct 2022)</b>	<b>\$ 458,582</b>	<b>\$ 211,707</b>	<b>\$ 670,289</b>	<b>Ln 7 + Ln 14 + Ln 21 + Ln 28 + Ln 35 + Ln 42</b>

\*November 2021 through October 2022

DE 20-092  
Northern Utilities, Inc.  
Calculation of Lost Base Revenue for Year 2023\* (cumulative 2017-2023)

Northern Utilities, Inc.  
NHPUC Docket No. DE 20-092  
Attachment L2 - (2021 - 2023 Plan)  
Page 3 of 3

Description		Therm Savings			Ref.
		Residential	C&I	Total	
<b>Measures Installed in 2017:</b>					
1.	Program Year 2017 Actual Therm Savings (Nov - Apr)	35,378	132,787	168,165	2017 Annual Report, P2, Annualized Savings/12*6
2.	Average Distribution Rates (ADR) (Nov - Apr)	\$0.6916	\$0.1993		Attachment J5, P3
3.	Sub-Total LBR	\$ 24,466	\$ 26,470	\$ 50,936	Ln 1 * Ln 2
4.	Program Year 2017 Actual Therm Savings (May - Oct)	35,378	132,787	168,165	2017 Annual Report, P2, Annualized Savings/12*6
5.	Average Distribution Rates (ADR) (May - Oct)	\$0.6108	\$0.1198		Attachment J5, P3
6.	Sub-Total LBR	\$ 21,608	\$ 15,914	\$ 37,522	Ln 4 * Ln 5
7.	<b>Total LBR (Measures Installed in 2017)</b>	\$ 46,074	\$ 42,383	\$ 88,458	Ln 3 + Ln 6
<b>Measures Installed in 2018:</b>					
8.	Program Year 2018 Actual Therm Savings (Nov - Apr)	57,884	91,060	148,944	2018 Annual Reports, P2, Annualized Savings/12*6
9.	Average Distribution Rates (ADR) (Nov - Apr)	\$0.6916	\$0.1993		Attachment J5, P3
10.	Sub-Total LBR	\$ 40,031	\$ 18,152	\$ 58,182	Ln 8 * Ln 9
11.	Program Year 2018 Actual Therm Savings (May - Oct)	57,884	91,060	148,944	2018 Annual Reports, P2, Annualized Savings/12*6
12.	Average Distribution Rates (ADR) (May - Oct)	\$0.6108	\$0.1198		Attachment J5, P3
13.	Sub-Total LBR	\$ 35,354	\$ 10,913	\$ 46,267	Ln 11 * Ln 12
14.	<b>Total LBR (Measures Installed in 2018)</b>	\$ 75,385	\$ 29,065	\$ 104,450	Ln 10 + Ln 13
<b>Measures Installed in 2019:</b>					
15.	Program Year 2019 Estimated Therm Savings (Nov - Apr)	81,308	120,580	201,888	2019 Annual Reports, P2, Annualized Savings/12*6
16.	Average Distribution Rates (ADR) (Nov - Apr)	\$0.6916	\$0.1993		Attachment J5, P3
17.	Sub-Total LBR	\$ 56,230	\$ 24,036	\$ 80,266	Ln 15 * Ln 16
18.	Program Year 2019 Estimated Therm Savings (May - Oct)	81,308	120,580	201,888	2019 Update, Att J5, P4 & P5, Annualized Therms
19.	Average Distribution Rates (ADR) (May - Oct)	\$0.6108	\$0.1198		Attachment J5, P3
20.	Sub-Total LBR	\$ 49,661	\$ 14,451	\$ 64,112	Ln 18 * Ln 19
21.	<b>Total LBR (Measures Installed in 2019)</b>	\$ 105,891	\$ 38,487	\$ 144,378	Ln 17 + Ln 20
<b>Measures Installed in 2020:</b>					
22.	Program Year 2020 Estimated Therm Savings (Nov - Apr)	65,603	135,953	201,556	Attachment J5, P4
23.	Average Distribution Rates (ADR) (Nov - Apr)	\$0.6916	\$0.1993		Attachment J5, P3
24.	Sub-Total LBR	\$ 45,369	\$ 27,101	\$ 72,469	Ln 22 * Ln 23
25.	Program Year 2020 Estimated Therm Savings (May - Oct)	65,603	135,953	201,556	Attachment J5, P4
26.	Average Distribution Rates (ADR) (May - Oct)	\$0.6108	\$0.1198		Attachment J5, P3
27.	Sub-Total LBR	\$ 40,069	\$ 16,293	\$ 56,362	Ln 25 * Ln 26
28.	<b>Total LBR (Measures Installed in 2020)</b>	\$ 85,438	\$ 43,394	\$ 128,831	Ln 24 + Ln 27
<b>Measures Installed in 2021:</b>					
29.	Program Year 2021 Estimated Therm Savings (Nov - Apr)	81,236	139,515	220,751	Attachment J5, P4
30.	Average Distribution Rates (ADR) (Nov - Apr)	\$0.6916	\$0.1993		Attachment J5, P3
31.	Sub-Total LBR	\$ 56,180	\$ 27,811	\$ 83,991	Ln 29 * Ln 30
32.	Program Year 2021 Estimated Therm Savings (May - Oct)	81,236	139,515	220,751	Attachment J5, P4
33.	Average Distribution Rates (ADR) (May - Oct)	\$0.6108	\$0.1198		Attachment J5, P3
34.	Sub-Total LBR	\$ 49,617	\$ 16,720	\$ 66,337	Ln 32 * Ln 33
35.	<b>Total LBR (Measures Installed in 2021)</b>	\$ 105,797	\$ 44,531	\$ 150,327	Ln 31 + Ln 34
<b>Measures Installed in 2022:</b>					
36.	Program Year 2022 Estimated Therm Savings (Nov - Apr)	100,985	202,156	303,141	Attachment J5, P4
37.	Average Distribution Rates (ADR) (Nov - Apr)	\$0.6916	\$0.1993		Attachment J5, P3
38.	Sub-Total LBR	\$ 69,838	\$ 40,297	\$ 110,135	Ln 36 * Ln 37
39.	Program Year 2022 Estimated Therm Savings (May - Oct)	102,349	207,340	309,689	Attachment J5, P4
40.	Average Distribution Rates (ADR) (May - Oct)	\$0.6108	\$0.1198		Attachment J5, P3
41.	Sub-Total LBR	\$ 62,513	\$ 24,848	\$ 87,361	Ln 39 * Ln 40
42.	<b>Total LBR (Measures Installed in 2022)</b>	\$ 132,350	\$ 65,146	\$ 197,496	Ln 38 + Ln 41
<b>Measures Installed in 2023:</b>					
43.	Program Year 2023 Estimated Therm Savings (Nov - Apr)	10,256	21,761	32,017	Attachment J5, P4
44.	Average Distribution Rates (ADR) (Nov - Apr)	\$0.6916	\$0.1993		Attachment J5, P3
45.	Sub-Total LBR	\$ 7,093	\$ 4,338	\$ 11,430	Ln 43 * Ln 44
46.	Program Year 2023 Estimated Therm Savings (May - Oct)	75,581	126,399	201,979	Attachment J5, P4
47.	Average Distribution Rates (ADR) (May - Oct)	\$0.6108	\$0.1198		Attachment J5, P3
48.	Sub-Total LBR	\$ 46,163	\$ 15,148	\$ 61,311	Ln 46 * Ln 47
49.	<b>Total LBR (Measures Installed in 2023)</b>	\$ 53,256	\$ 19,486	\$ 72,741	Ln 45 + Ln 48
43.	<b>Grand Total Forecasted LBR (Nov 2022 to Oct 2023)</b>	<b>\$ 604,191</b>	<b>\$ 282,490</b>	<b>\$ 886,681</b>	<b>Ln 7 + Ln 14 + Ln 21 + Ln 28 + Ln 35 + Ln 42</b>
		\$ 604,191	\$ 282,490	\$ 886,681	

\*November 2022 through October 2023

## Attachment M: Bill and Rate Impacts of 2021-2023 Plan

The regulated utilities estimated the following bill and rate impacts of the 2021-2023 plan using Synapse Energy Economics' bill and rate impact model, which is still in the process of being finalized, and is meant to calculate the impacts of the proposed energy efficiency programs relative to a scenario with no energy efficiency programs. As proposed, the 2021- 2023 energy efficiency programs are expected to reduce the regulated electric utilities' revenue requirements by -1.36% on average, or -\$410.4M in total, over the life of the measures installed during the 2021-2023 term and across all programs. The regulated gas utilities' revenue requirements are expected to reduce by -2.24% on average, or -\$72.5M in total. Table 1 provides changes in revenue requirements by utility.

This rate and bill impact analysis reflects changes in electric and gas utility rates and bills and does not account for the significant fuel neutral savings to customers consuming oil, propane, or other unregulated fuels.

Table 1. Long-term Revenue Requirement Changes due to 2021-2023 Plan, by Utility

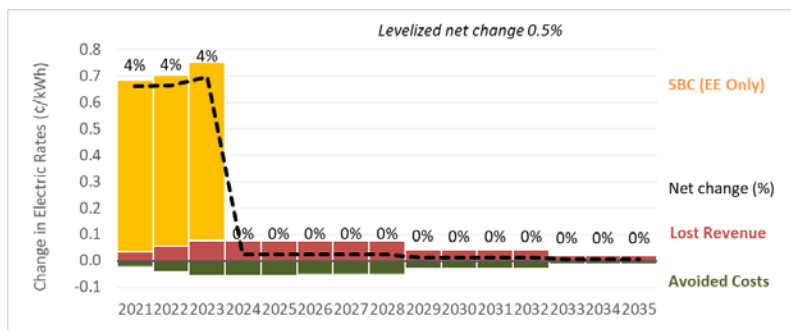
Utility	Percent Change	Dollar Change (millions)
Eversource	-1.5%	-\$348.4
Liberty Electric	-1.7%	-\$50.1
Unitil Electric	-0.3%	-\$11.9
<b>Electric Total</b>	<b>-1.36%</b>	<b>-\$410.4</b>
Liberty Gas	-2.3%	-\$51.5
Unitil Gas	-2.2%	-\$21.0
<b>Gas Total</b>	<b>-2.27%</b>	<b>-\$72.5</b>

The graphs below show long-term bill and rate impacts over the life of the installed measures for each of four customer segments: residential, low-income, small C&I, and large C&I. Bill impacts are shown separately for the following types of customers:

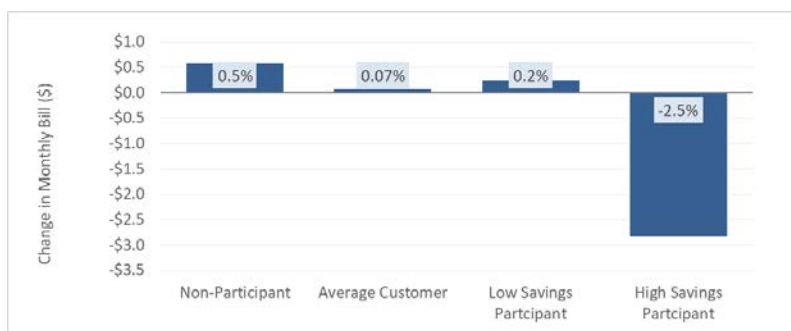
- non-participant—customers who do not participate in any year of the term
- low savings participant—For Electric – an illustrative residential participant (e.g. a customer swapping out their lighting for LEDs) who saves 1% of usage, or C&I participant (e.g. a customer performing a few off-the shelf offerings) who saves 5% of usage during year 1 of the plan; For Gas, an illustrative low savings residential participant would save 1% of their usage, and a low savings C&I participant would save 5% of their usage.
- high savings participant— For Electric – an illustrative residential participant (e.g. a customer performing a comprehensive HPwES project including weatherization and HVAC) who saves 10% of usage, or C&I participant (e.g. a customer performing a comprehensive custom project) who saves 20% of usage during year 1 of the plan; For Gas, an illustrative high savings residential participant would save 7% of their usage, and a high savings C&I participant would save 10% of their usage.
- average customer—a hypothetical blend between non-participants and participants, calculated based on the segment's program savings divided by the segment's total customers.

## Eversource Electric

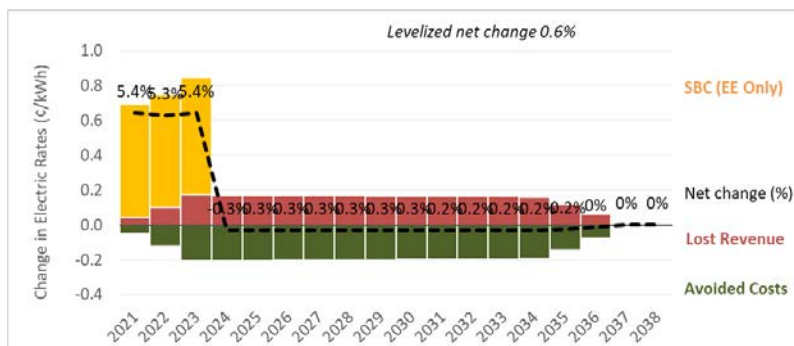
### Residential, Change in Rates Over the Life of the Measures



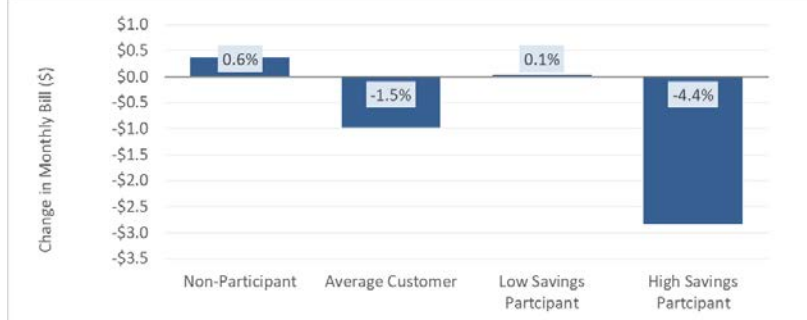
### Residential, Long-Term Average Change in Bills Over the Life of the Measures



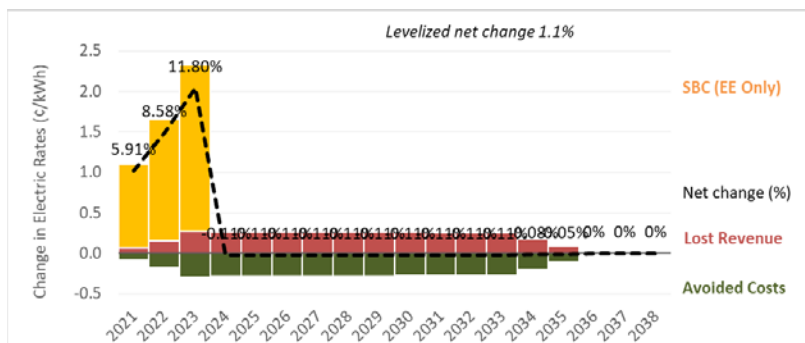
### Low-Income, Change in Rates Over the Life of the Measures



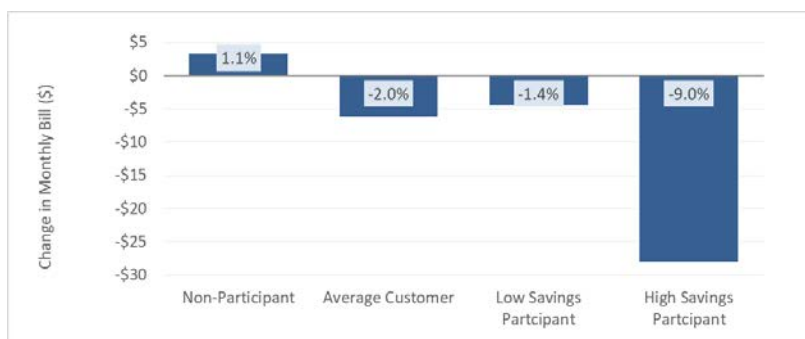
### Low-Income, Long-Term Average Change in Bills Over the Life of the Measures



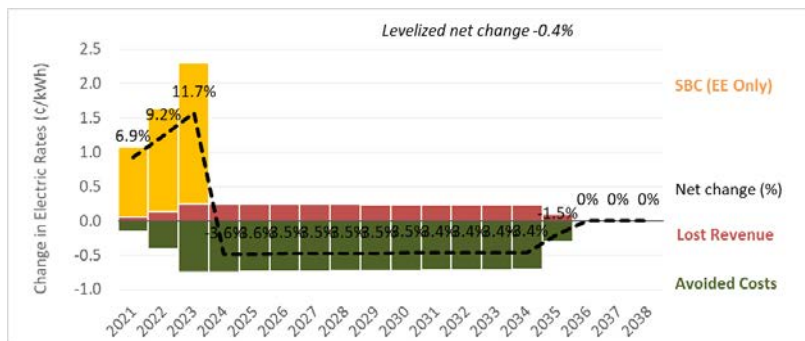
### Small C&I, Change in Rates Over the Life of the Measures



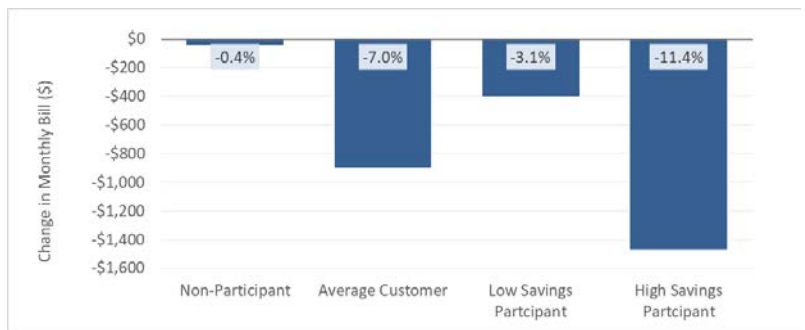
### Small C&I, Long-Term Average Change in Bills Over the Life of the Measures



### Large C&I, Change in Rates Over the Life of the Measures

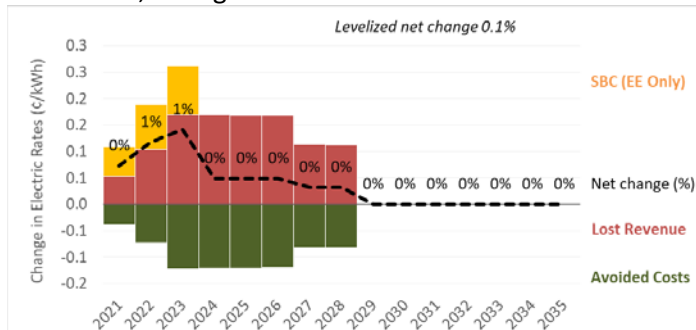


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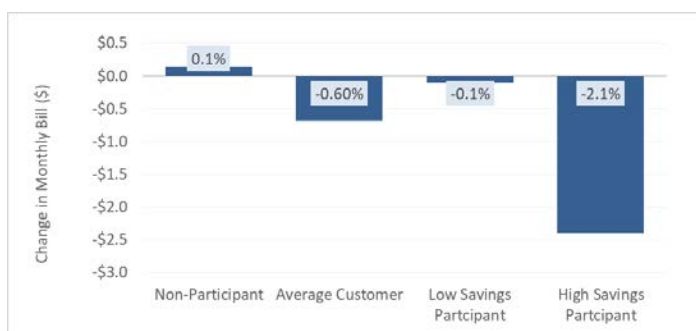


## Liberty Electric

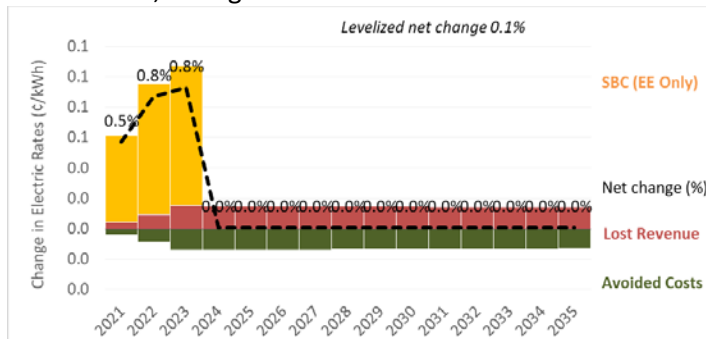
### Residential, Change in Rates Over the Life of the Measures



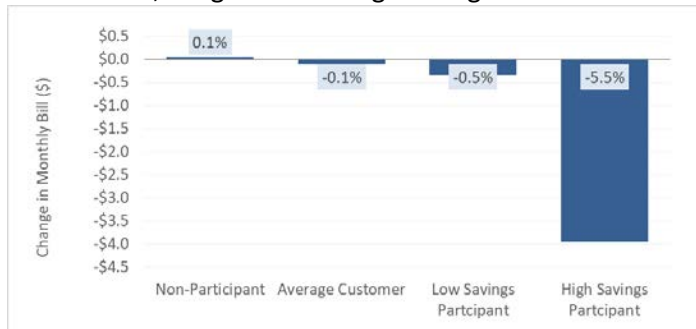
### Residential, Long-Term Average Change in Bills Over the Life of the Measures



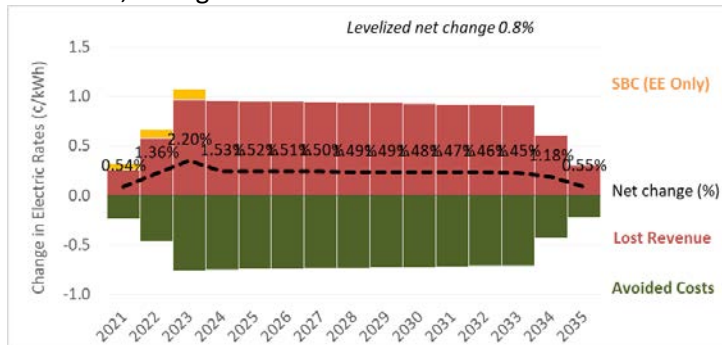
### Low-Income, Change in Rates Over the Life of the Measures



### Low-Income, Long-Term Average Change in Bills Over the Life of the Measures



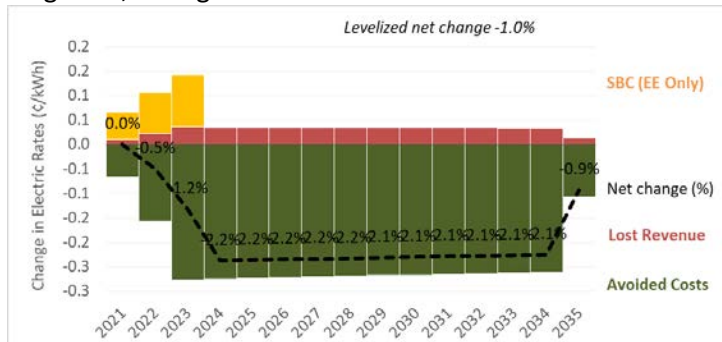
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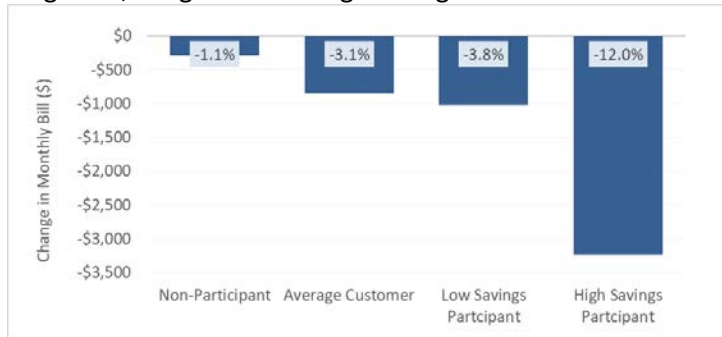
### Small C&I, Long-Term Average Change in Bills Over the Life of the Measures



### Large C&I, Change in Rates Over the Life of the Measures



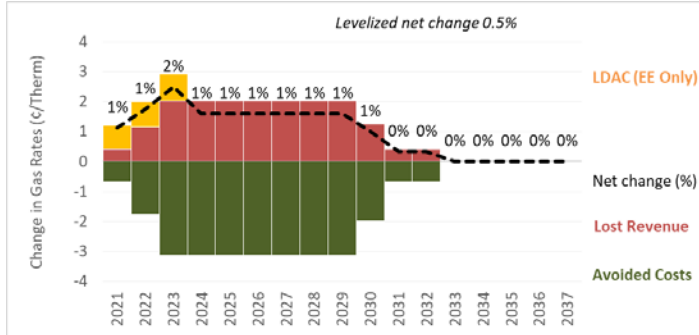
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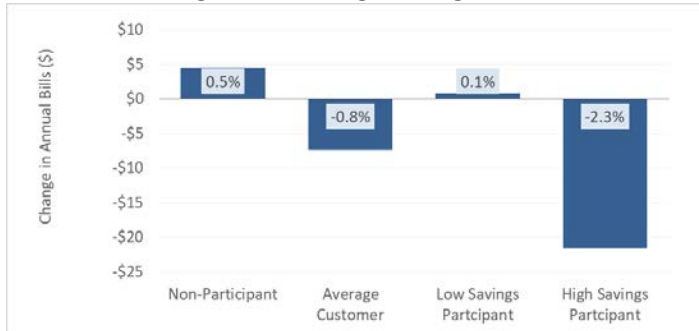


### Liberty Gas

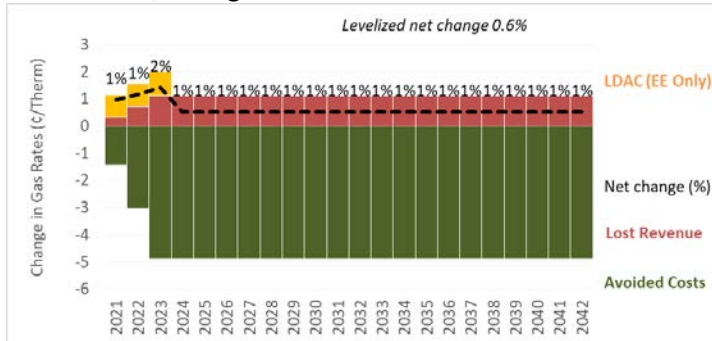
#### Residential, Change in Rates Over the Life of the Measures



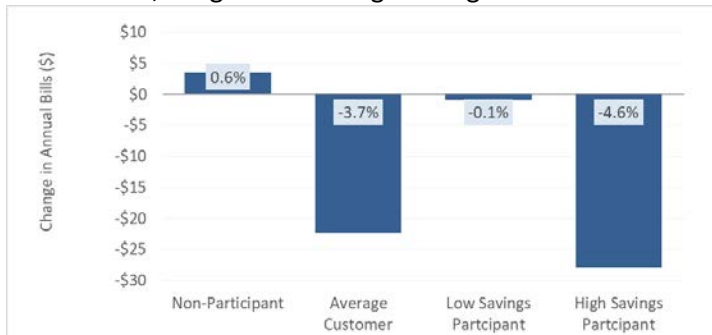
#### Residential, Long-Term Average Change in Bills Over the Life of the Measures



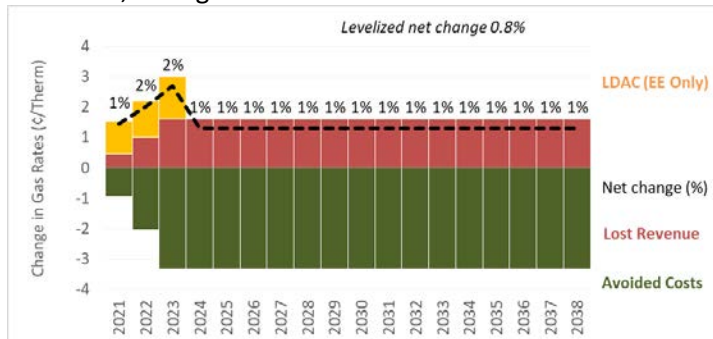
#### Low-Income, Change in Rates Over the Life of the Measures



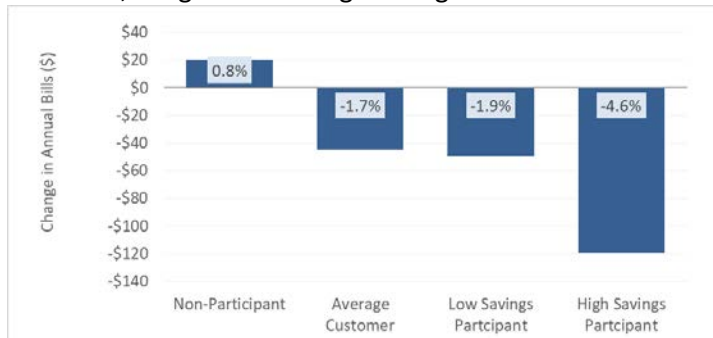
#### Low-Income, Long-Term Average Change in Bills Over the Life of the Measures



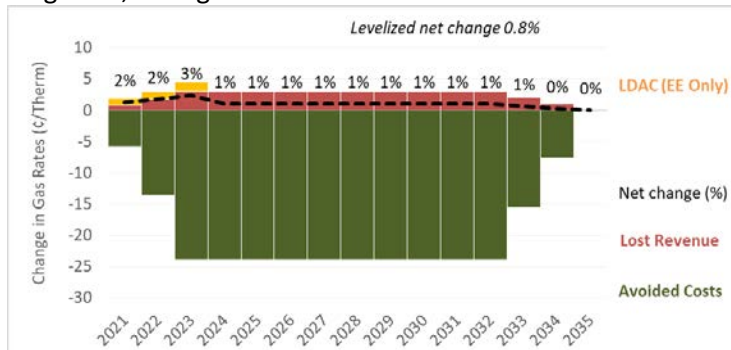
### Small C&I, Change in Rates Over the Life of the Measures



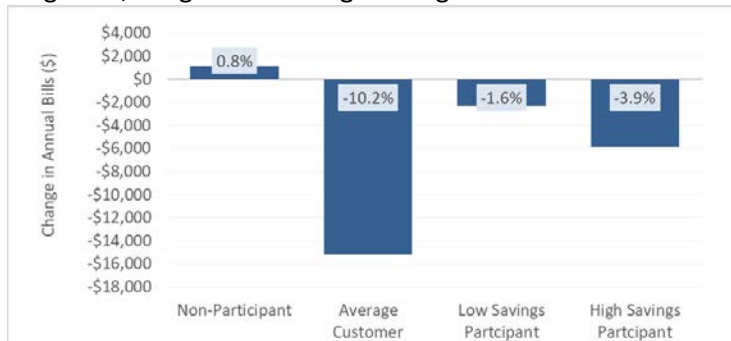
### Small C&I, Long-Term Average Change in Bills Over the Life of the Measures



### Large C&I, Change in Rates Over the Life of the Measures

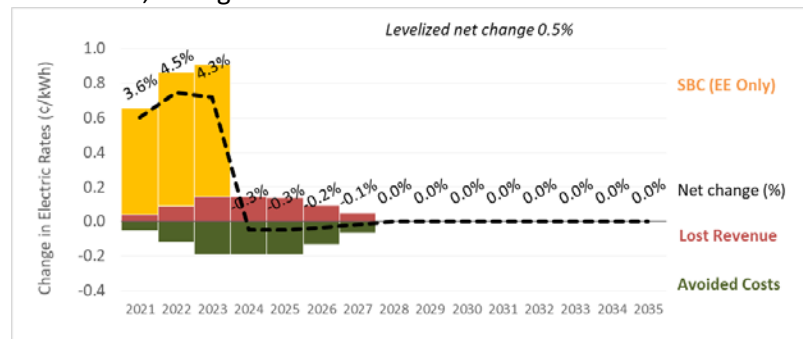


### Large C&I, Long-Term Average Change in Bills Over the Life of the Measures



### Unitil Energy Systems, Inc.

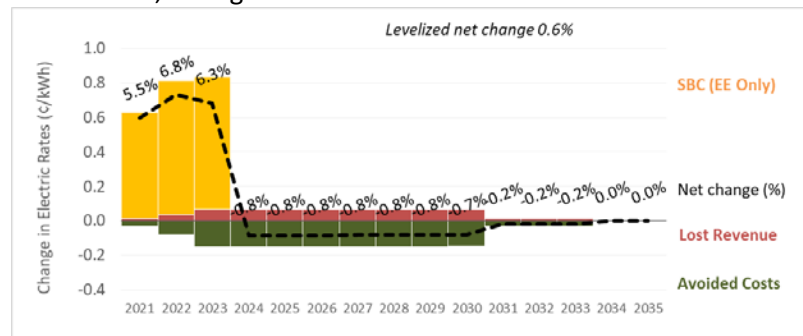
#### Residential, Change in Rates Over the Life of the Measures



#### Residential, Long-Term Average Change in Bills Over the Life of the Measures



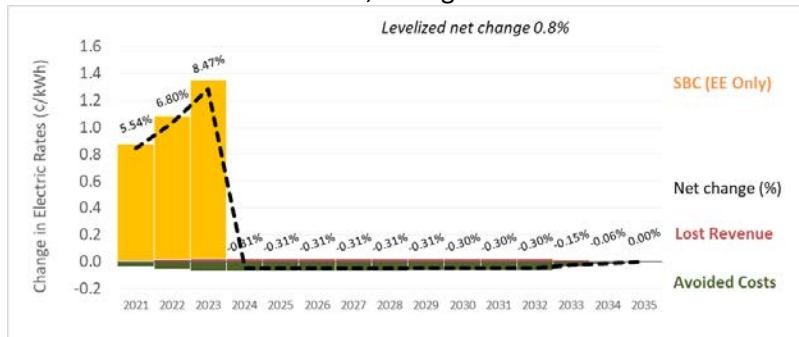
#### Low Income, Change in Rates Over the Life of the Measures



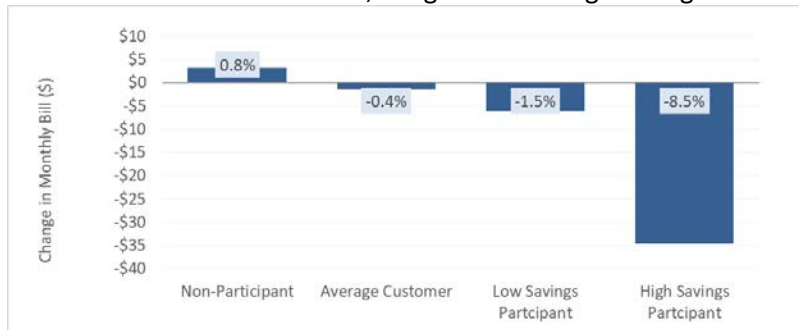
#### Low-Income, Long-Term Average Change in Bills Over the Life of the Measures



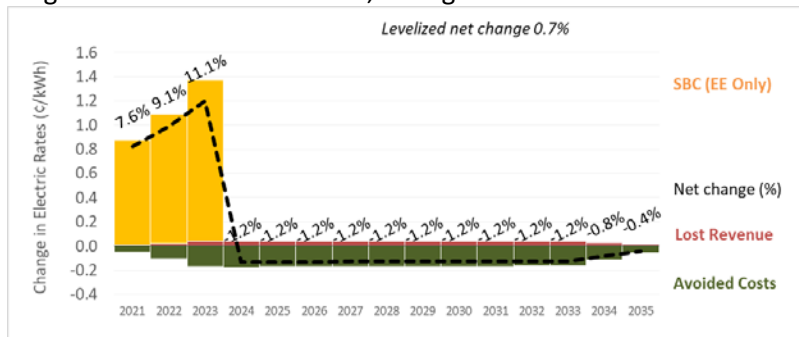
### Small Commercial & Industrial, Change in Rates Over the Life of the Measures



### Small Commercial & Industrial, Long-Term Average Change in Bills Over the Life of the Measures



### Large Commercial & Industrial, Change in Rates Over the Life of the Measures

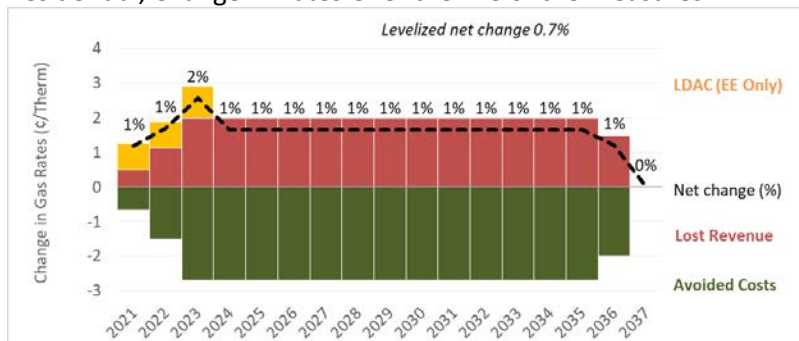


### Large Commercial & Industrial, Long-Term Average Change in Bills Over the Life of the Measures

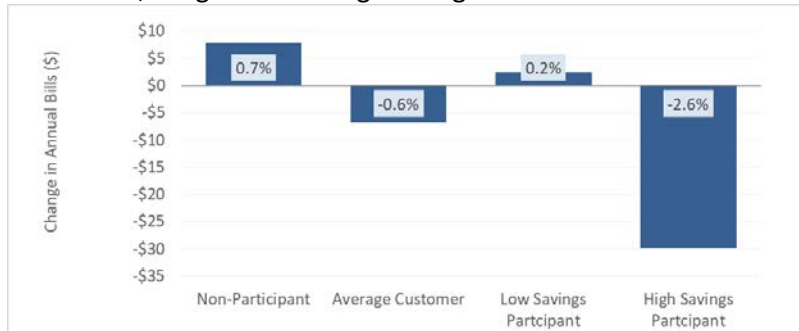


# **Northern Utilities, Inc.**

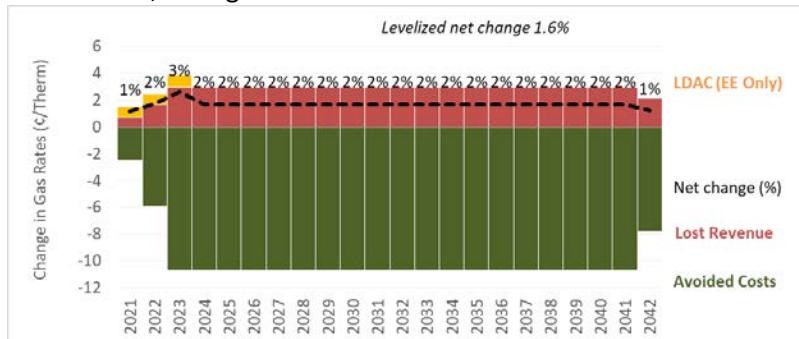
## Residential, Change in Rates Over the Life of the Measures



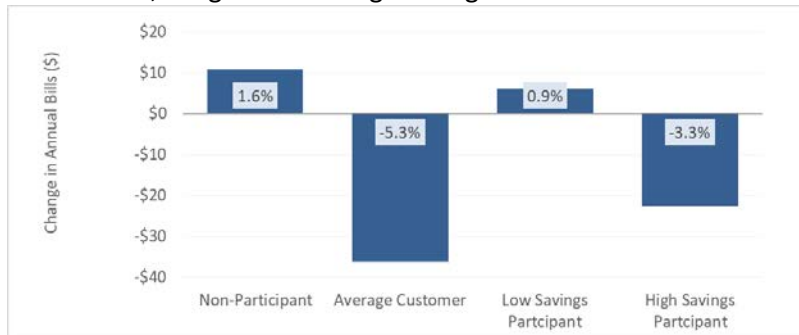
## Residential, Long-Term Average Change in Bills Over the Life of the Measures



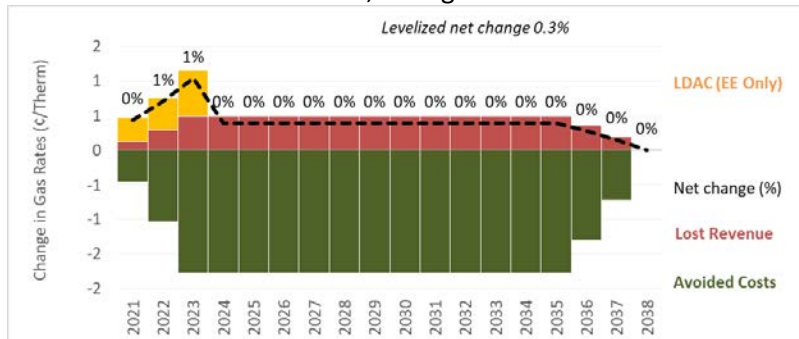
## Low Income, Change in Rates Over the Life of the Measures



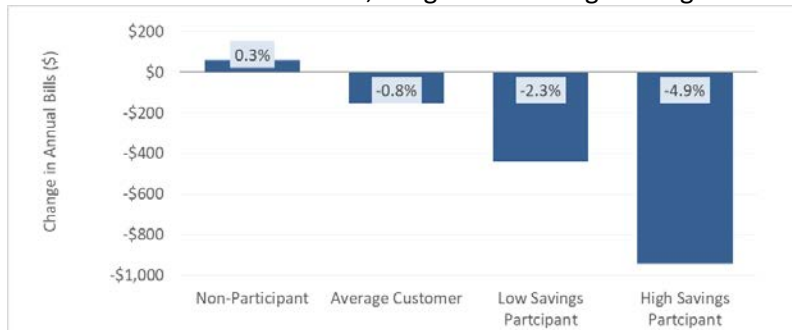
## Low Income, Long-Term Average Change in Bills Over the Life of the Measures



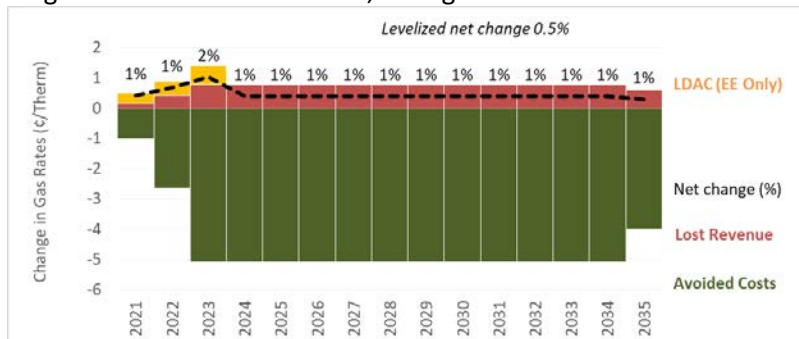
### Small Commercial & Industrial, Change in Rates Over the Life of the Measures



### Small Commercial & Industrial, Long-Term Average Change in Bills Over the Life of the Measures



### Large Commercial & Industrial, Change in Rates Over the Life of the Measures



### Large Commercial & Industrial, Long-Term Average Change in Bills Over the Life of the Measures

