



Cape Light Compact JPE

**Plan-Year Report on
Energy Efficiency Activities
for 2020**

**Submitted to the
Massachusetts Department of Public Utilities
and the Massachusetts Department of Energy Resources**

June 4, 2021

Cape Light Compact JPE

D.P.U. 21-70

2020 Energy Efficiency Plan-Year Report

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SECTION I INTRODUCTION AND OVERVIEW

Cape Light Compact JPE Overview

The Cape Light Compact JPE (“Compact” or “CLC”) is pleased with the results for the second year (“2020 Plan-Year”) of its 2019–2021 Three-Year Energy Efficiency Plan (“2019–2021 Three-Year Plan”), the fourth of such plans envisioned by the Green Communities Act and approved by the Department of Public Utilities (“Department” or “DPU”). The Compact and the other Massachusetts Energy Efficiency Program Administrators (“Program Administrators” or “PAs”) diligently implemented their respective plans over the past year, making significant progress toward their three-year goals. The 2020 Plan-Year built on the nationally acclaimed accomplishments of the 2016–2018 Three-Year Plan and the 2019 Plan-Year, showing remarkable success with respect to goal attainment and achievement of real benefits for the environment and the economy in the Commonwealth of Massachusetts.

The results of the second year of the 2019–2021 Three-Year Plan, presented in this 2020 annual report (“Plan-Year Report”), indicate that the Compact is on track to reach its three-year goals by the end of 2021. Including actual results from 2019 and 2020, the Compact achieved 73% of its three-year lifetime energy savings goal, achieved 47% of its three-year total benefit goal, and spent 61% of its planned three-year budget. Based on these results in combination with the 2021 planned values, over the three-year term, the Compact expects to achieve:

- robustly cost-effective programs with a benefit-cost ratio (“BCR”) of 2.16,
- net benefits of \$184 million,
- annual energy savings of 110 gigawatt hours (“GWh”),
- lifetime energy savings of 942 GWh,
- total benefits of \$344 million, and
- program costs of \$129 million.

Organization of Plan-Year Report

The Compact’s 2020 Plan-Year Report¹ is organized as follows:

¹ In previous annual reports, the Compact provided information on its financial reports. The Compact continues to provide its financial reports on its website at: www.capelightcompact.org/reports.

- Section I provides an overview of the 2020 Plan-Year.
- Section II provides Compact-specific data tables at the core initiative level, including planned, preliminary, and evaluated data, and comparisons across the three different types of data. The Compact is providing two sets of data tables related to shared costs and consumer advocacy matters as the Compact awaits Department direction on this matter.
- Appendix 1 provides explanations for (a) significant variances at the core initiative level and (b) any non-cost-effective core initiatives over the three-year term, consistent with the D.P.U. 11-120, Phase II, Energy Efficiency Plan-Year Report Template.
- Appendix 2 provides the Compact's evaluated BCR screening tool in Microsoft Excel format.
- Appendix 3 provides the 2020 Report Version of the statewide Technical Reference Manual.
- Appendix 4 provides detail on the year's evaluation efforts, including summaries for each statewide evaluation study and a complete copy of each evaluation study.
- Appendix 5 provides the statewide performance incentive model. Since the Compact is a public entity, it does not collect any performance incentives. As such, this section is not applicable to the Compact.
- Appendix 6 provides Compact-specific renter, income, and language data and a Compact-specific summary of shared costs and consumer advocacy matters.
- Appendix CLC-1 provides the Compact's town activity reports for the 2020 Plan-Year.
- Appendix CLC-2 provides the Compact's Energy Education Outreach activities for the 2020 Plan-Year.

SECTION II
CAPE LIGHT COMPACT JPE DATA TABLES

Part A: Shared Costs Allocated using DPU Factors

Energy Efficiency Data Tables

2020 Plan Year Report Overview

Cape Light Compact

June 4, 2021

DATA OVERVIEW

The following data tables provide a summary of the Program Administrator's benefits, costs, savings, and cost-effectiveness for 2019 through 2021. The planned values are consistent with each Program Administrator's 2019-2021 Three-Year Plan. The 2020 preliminary and evaluated values are presented here for the first time as part of each Program Administrator's 2020 Plan Year Report.

The data included in these tables is based on other supporting models. The primary supporting models used by the Program Administrators in the preparation of this 2020 Plan Year Report are the Benefit-Cost Screening model and the Performance Incentive model. These exhibits should be referenced when looking for more detailed analyses, such as measure-level savings. High-level summaries for each of these models are provided below.

USING THE DATA TABLES

These Plan Year Report data tables are in a pivot table format with set outputs based on the Department's direction in D.P.U. 11-120, Phase II. Users can manipulate the data by using either the raw data included on the Master Data tab, or the Slicers shown on the Selections tab. The Slicers will update the comparisons between the planned, preliminary, or evaluated results on the Plan Year Summary tables only.

BENEFIT-COST SCREENING MODEL

The Benefit-Cost Screening model provides measure-level savings and benefits. This model uses the avoided cost values from the 2018 Avoided Energy Supply Cost study prepared by Synapse Energy Economics, Inc.

PERFORMANCE INCENTIVE MODEL

The Performance Incentive model filed as part of the Joint Statewide Three-Year Plan provides support for the performance incentive dollars proposed for collection by the Program Administrator. Final performance incentive amounts will be based on the three-year term and will be subject to review and final approval in the three-year term report; the amounts shown in the Plan Year Report are based on the data available to date and will change as additional years of data are included. Note that performance incentives are not applicable to the Cape Light Compact.

EM&V ACTIVITIES

The Evaluation, Monitoring & Verification (EMV) Section of the Joint Statewide Three-Year Plan describes in detail the EM&V activities planned for 2019-2021. The EMV section of each Program Administrator's 2020 Plan Year Report summarizes the evaluation results completed in 2020 and their impact on the 2020 evaluated results. The Technical Reference Library (TRL) has been updated to account for recent evaluation results.

2020 Plan Year Report Data Tables

Template Version: June 4, 2021

PA-Specific Information

2020 Plan Year Report Filing Detail

Distribution Fuel	Electric
Program Administrator	Cape Light Compact
Date of Filing	June 4, 2021
Name of Filing	2020 Plan Year Report

PLAN FILINGS

Reporting Period	Filing Date	DPU Docket #
2019 Plan	February 19, 2019	D.P.U. 18-110 thru 18-119
2020 Plan	February 19, 2019	D.P.U. 18-110 thru 18-119
2021 Plan	February 19, 2019	D.P.U. 18-110 thru 18-119
2019 Preliminary and Evaluated	May 27, 2021	D.P.U. 20-50
2020 Preliminary and Evaluated	June 4, 2021	D.P.U. 21-70
2021 Preliminary and Evaluated	TBD	D.P.U. 22-###

RATES FOR ADJUSTMENTS

2020 Nominal Discount Rate	2.33%
2021 Nominal Discount Rate	2.33%
Effective Tax Rate	27.32% PA-specific

PLAN YEARS

Current Plan Year 1	2019
Current Plan Year 2	2020
Current Plan Year 3	2021

GHG EMISSIONS REDUCTION FACTORS (Short Tons)

GHG per:	NOX	SO2	CO2
Electricity (MWh)	0.00016	0.00004	0.49400
Gas (Therm)			0.00585
Oil (MMBTU)			0.08069
Propane (MMBTU)			0.06959
Source:	File named "3-year plan EFs 8-9-18.xlsx"		

Technical Reference Library

TRL Link	https://etrm.anbetrack.com/#/workarea/home?token=6d6c4576
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Selections for Data Displayed in Tables

2020 Plan Year Report

Cape Light Compact

June 4, 2021

Use the options in the boxes below to select the data shown and compared in the Term Report data tables.

Tables with Master Data source		
Select comparison Year Year 2019 2020 2021	Select comparison Reporting Periods First Comparison Evaluated Planned Preliminary Second Comparison Evaluated Planned Preliminary	
Select the PA and corresponding Distribution Company Program Administrator Cape Light Compact Eversource National Grid Statewide Electric Unitil Distribution Company Electric Gas (blank)		

Tables with Master ADR data source		
Select comparison Year Year 2019 2020 2021	Select comparison Reporting Periods First Comparison Evaluated Planned Preliminary Second Comparison Evaluated Planned Preliminary	
Select the PA and corresponding Distribution Company Program Administrator Cape Light Compact Eversource National Grid Statewide Electric Unitil (blank) Distribution Company Electric (blank)		

Notes

- To select more than one option, press the Control button while clicking on the options.
- If no data is included for a Program Administrator on the MasterData tabs, then the Program Administrator's name and distribution company may not appear in the above boxes. For example, if this a Program Administrator-specific filing, then the other Program Administrators names may not appear in the boxes for selection.

2020 Plan Year Report Variances

Variances Summary

Cape Light Compact

June 4, 2021

Variances Summary				
Program	Total Program Cost Variances	Lifetime Electric Savings (MWh) Variances	Total Benefits (2019\$) Variances	Total Resource Benefits (2019\$) Variances
A - Residential	19%	46%	4%	-9%
A1 - Residential New Buildings	11%	84%	-15%	-49%
A1a - Residential New Homes & Renovations	11%	84%	-15%	-49%
A2 - Residential Existing Buildings	19%	40%	6%	-4%
A2a - Residential Coordinated Delivery	36%	28%	14%	-1%
A2b - Residential Conservation Services (RCS)	-6%			
A2c - Residential Retail	6%	78%	-1%	-8%
A2d - Residential Behavior	-18%	-98%	-95%	0%
A2e - Residential Active Demand Reduction	-66%		-100%	
A3 - Residential Hard-to-Measure	16%			
B - Income Eligible	-29%	-38%	-42%	-3%
B1 - Income Eligible Existing Buildings	-30%	-38%	-42%	-3%
B1a - Income Eligible Coordinated Delivery	-30%	-38%	-42%	-3%
B1b - Income Eligible Active Demand Reduction				
B2 - Income Eligible Hard-to-Measure	-12%			
C - Commercial & Industrial	-42%	4%	-50%	-2%
C1 - C&I New Buildings	-51%	-12%	-3%	-2%
C1a - C&I New Buildings & Major Renovations	-51%	-12%	-3%	-2%
C2 - C&I Existing Buildings	-44%	5%	-51%	-2%
C2a - C&I Existing Building Retrofit	-47%	-48%	-65%	-7%
C2b - C&I New & Replacement Equipment	-3%	399%	132%	2%
C2c - C&I Active Demand Reduction	-74%		-93%	-19%
C3 - C&I Hard-to-Measure	22%			
Grand Total	-7%	15%	-22%	-7%

Notes

- Significant variances, which require explanation, are defined as:

- (1) variances between *planned and actual* core initiative budget of 15 percent or greater;
- (2) variances between *planned and preliminary* core initiative total lifetime savings showing a decrease of 15 percent or greater;
- (3) variances between *planned and preliminary* core initiative total benefits showing a decrease of 15 percent or greater; and
- (4) variances between *preliminary and evaluated* core initiative total resource benefits showing a decrease of 15 percent or greater.

- Variances are calculated as a percent of the three-year goal, meaning variance are calculated as the percentage difference between the percentage of the Three-Year Plan goals planned to be achieved through the Plan Year Report year compared to the percentage of the Three-Year Plan goals actually achieved through the Plan Year Report year.

- Cells highlighted in the above tables indicate that a variance is significant enough to require explanation. Refer to the Program Administrator's Plan Year Report for explanations of significant variances.

2020 Plan Year Report Variances

Total Program Cost Variances

Cape Light Compact

June 4, 2021

Total Program Cost Variances									
Program	Planned				Actual		Planned v. Actual (%)		
	2019	2020	2021	2019-2021	2019	2020	Planned 2019 - 2020 % Total Plan	Actual 2019 - 2020 % Total Plan	Planned v Actual (%)
A - Residential	24,849,635	24,097,012	23,574,299	72,520,946	29,492,091	28,535,201	67%	80%	19%
A1 - Residential New Buildings	925,744	975,692	1,030,425	2,931,861	955,270	1,146,604	65%	72%	11%
A1a - Residential New Homes & Renovations	925,744	975,692	1,030,425	2,931,861	955,270	1,146,604	65%	72%	11%
A2 - Residential Existing Buildings	20,990,223	20,071,681	19,403,931	60,465,835	25,392,947	23,617,671	68%	81%	19%
A2a - Residential Coordinated Delivery	11,165,815	10,966,175	11,219,816	33,351,806	16,054,699	14,074,325	66%	90%	36%
A2b - Residential Conservation Services (RCS)	1,914,195	1,921,625	1,937,560	5,773,380	2,025,832	1,580,394	66%	62%	-6%
A2c - Residential Retail	7,048,565	6,035,629	5,080,625	18,164,818	6,720,023	7,103,587	72%	76%	6%
A2d - Residential Behavior	861,648	730,438	678,351	2,270,438	592,392	715,235	70%	58%	-18%
A2e - Residential Active Demand Reduction	-	417,814	487,579	905,393	-	144,130	46%	16%	-66%
A3 - Residential Hard-to-Measure	2,933,668	3,049,639	3,139,942	9,123,250	3,143,874	3,770,926	66%	76%	16%
B - Income Eligible	4,177,118	4,514,047	5,000,459	13,691,624	3,746,160	2,451,480	63%	45%	-29%
B1 - Income Eligible Existing Buildings	3,952,489	4,285,614	4,766,155	13,004,258	3,592,241	2,205,760	63%	45%	-30%
B1a - Income Eligible Coordinated Delivery	3,952,489	4,285,614	4,766,155	13,004,258	3,592,241	2,205,760	63%	45%	-30%
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-			
B2 - Income Eligible Hard-to-Measure	224,629	228,433	234,304	687,366	153,919	245,721	66%	58%	-12%
C - Commercial & Industrial	14,888,929	16,628,489	17,507,342	49,024,760	9,163,143	9,261,930	64%	38%	-42%
C1 - C&I New Buildings	626,369	632,111	642,013	1,900,493	340,000	274,101	66%	32%	-51%
C1a - C&I New Buildings & Major Renovations	626,369	632,111	642,013	1,900,493	340,000	274,101	66%	32%	-51%
C2 - C&I Existing Buildings	13,565,911	15,281,781	16,137,757	44,985,448	8,109,032	7,984,396	64%	36%	-44%
C2a - C&I Existing Building Retrofit	12,165,537	12,631,085	13,070,025	37,866,647	7,308,274	5,734,190	65%	34%	-47%
C2b - C&I New & Replacement Equipment	1,400,374	1,433,032	1,255,209	4,088,614	800,758	1,936,150	69%	67%	-3%
C2c - C&I Active Demand Reduction	-	1,217,664	1,812,523	3,030,187	-	314,056	40%	10%	-74%
C3 - C&I Hard-to-Measure	696,649	714,597	727,572	2,138,818	714,111	1,003,433	66%	80%	22%
Grand Total	43,915,682	45,239,548	46,082,099	135,237,329	42,401,394	40,248,612	66%	61%	-7%

Notes

Plan year core initiative significant variance explanations are required for: (1) variances between planned and actual core initiative budget of 15 percent or greater.

2020 Plan Year Report Variances
Lifetime Electric Savings (MWh) Variances

Cape Light Compact
June 4, 2021

Lifetime Electric Savings (MWh) Variances									
Program	Planned				Preliminary		Planned v. Preliminary (%)		
	2019	2020	2021	2019-2021	2019	2020	Planned 2019 - 2020 % Total Plan	Preliminary 2019 - 2020 % Total Plan	Planned v Preliminary (%)
A - Residential	110,297	88,056	66,054	264,408	186,868	103,227	75%	110%	46%
A1 - Residential New Buildings	13,800	13,850	13,395	41,046	19,499	31,449	67%	124%	84%
A1a - Residential New Homes & Renovations	13,800	13,850	13,395	41,046	19,499	31,449	67%	124%	84%
A2 - Residential Existing Buildings	96,497	74,206	52,659	223,362	167,369	71,779	76%	107%	40%
A2a - Residential Coordinated Delivery	48,931	43,434	45,461	137,825	81,900	36,569	67%	86%	28%
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-			
A2c - Residential Retail	43,614	24,117	(290)	67,441	85,223	35,195	100%	179%	78%
A2d - Residential Behavior	3,952	6,656	7,488	18,096	246	15	59%	1%	-98%
A2e - Residential Active Demand Reduction	-	-	-	-	-	-			
A3 - Residential Hard-to-Measure	-	-	-	-	-	-			
B - Income Eligible	17,535	17,603	18,144	53,282	15,652	5,986	66%	41%	-38%
B1 - Income Eligible Existing Buildings	17,535	17,603	18,144	53,282	15,652	5,986	66%	41%	-38%
B1a - Income Eligible Coordinated Delivery	17,535	17,603	18,144	53,282	15,652	5,986	66%	41%	-38%
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-			
B2 - Income Eligible Hard-to-Measure	-	-	-	-	-	-			
C - Commercial & Industrial	195,060	202,036	196,715	593,812	136,666	275,508	67%	69%	4%
C1 - C&I New Buildings	14,033	17,434	18,260	49,727	15,294	12,446	63%	56%	-12%
C1a - C&I New Buildings & Major Renovations	14,033	17,434	18,260	49,727	15,294	12,446	63%	56%	-12%
C2 - C&I Existing Buildings	181,027	184,602	178,455	544,085	121,372	263,062	67%	71%	5%
C2a - C&I Existing Building Retrofit	157,637	164,470	160,532	482,639	96,112	71,354	67%	35%	-48%
C2b - C&I New & Replacement Equipment	23,390	20,133	17,924	61,446	25,261	191,709	71%	353%	399%
C2c - C&I Active Demand Reduction	-	-	-	-	-	-			
C3 - C&I Hard-to-Measure	-	-	-	-	-	-			
Grand Total	322,893	307,695	280,914	911,502	339,185	384,721.60	69%	79%	15%

Notes

- Plan year core initiative significant variance explanations are required for: (2) variances between planned and preliminary core initiative total lifetime savings showing a decrease of 15 percent or greater.
- Total lifetime savings are not calculated for active demand reduction (ADR) measures. Correspondingly, a variance for total lifetime savings is not calculated for the ADR core initiatives in each sector.

2020 Plan Year Report Variances

Total Benefits (2019\$) Variances

Cape Light Compact

June 4, 2021

Total Benefits (2019\$) Variances									
Program	Planned				Preliminary		Planned v. Preliminary (%)		
	2019	2020	2021	2019-2021	2019	2020	Planned 2019 - 2020 % Total Plan	Preliminary 2019 - 2020 % Total Plan	Planned v Preliminary (%)
A - Residential	73,921,750	69,517,588	67,062,991	210,502,329	81,845,679	67,493,420	68%	71%	4%
A1 - Residential New Buildings	6,534,859	6,779,002	6,959,008	20,272,869	4,500,953	6,775,875	66%	56%	-15%
A1a - Residential New Homes & Renovations	6,534,859	6,779,002	6,959,008	20,272,869	4,500,953	6,775,875	66%	56%	-15%
A2 - Residential Existing Buildings	67,386,891	62,738,586	60,103,983	190,229,460	77,344,726	60,717,544	68%	73%	6%
A2a - Residential Coordinated Delivery	40,120,102	38,373,686	39,062,472	117,556,259	53,996,866	35,234,862	67%	76%	14%
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-			
A2c - Residential Retail	26,522,831	22,521,775	18,722,333	67,766,939	23,270,652	25,461,595	72%	72%	-1%
A2d - Residential Behavior	743,958	1,264,581	1,425,325	3,433,865	77,208	21,087	58%	3%	-95%
A2e - Residential Active Demand Reduction	-	578,543	893,853	1,472,397	-	-	39%	0%	-100%
A3 - Residential Hard-to-Measure	-	-	-	-	-	-			
B - Income Eligible	9,378,213	9,809,568	10,155,851	29,343,632	6,976,915	4,101,833	65%	38%	-42%
B1 - Income Eligible Existing Buildings	9,378,213	9,809,568	10,155,851	29,343,632	6,976,915	4,101,833	65%	38%	-42%
B1a - Income Eligible Coordinated Delivery	9,378,213	9,809,568	10,155,851	29,343,632	6,976,915	4,101,833	65%	38%	-42%
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-			
B2 - Income Eligible Hard-to-Measure	-	-	-	-	-	-			
C - Commercial & Industrial	54,973,612	62,766,069	67,059,186	184,798,867	26,301,870	32,854,571	64%	32%	-50%
C1 - C&I New Buildings	1,854,264	2,225,554	2,321,632	6,401,450	2,164,523	1,774,438	64%	62%	-3%
C1a - C&I New Buildings & Major Renovations	1,854,264	2,225,554	2,321,632	6,401,450	2,164,523	1,774,438	64%	62%	-3%
C2 - C&I Existing Buildings	53,119,348	60,540,515	64,737,554	178,397,417	24,137,348	31,080,133	64%	31%	-51%
C2a - C&I Existing Building Retrofit	48,538,291	50,753,049	51,185,761	150,477,101	19,677,159	15,204,236	66%	23%	-65%
C2b - C&I New & Replacement Equipment	4,581,057	3,994,141	3,560,265	12,135,463	4,460,189	15,452,966	71%	164%	132%
C2c - C&I Active Demand Reduction	-	5,793,324	9,991,528	15,784,852	-	422,931	37%	3%	-93%
C3 - C&I Hard-to-Measure	-	-	-	-	-	-			
Grand Total	138,273,576	142,093,224	144,278,028	424,644,828	115,124,464	104,449,823	66%	52%	-22%

Notes

Plan year core initiative significant variance explanations are required for: (3) variances between planned and preliminary core initiative total benefits showing a decrease of 15 percent or greater.

2020 Plan Year Report Variances

Total Resource Benefits (2019\$) Variances

Cape Light Compact

June 4, 2021

Total Resource Benefits (2019\$) Variances			
Program	2020		
	Preliminary	Evaluated	Preliminary v Evaluated (%)
A - Residential	59,204,011	53,666,436	-9%
A1 - Residential New Buildings	6,540,055	3,361,605	-49%
A1a - Residential New Homes & Renovations	6,540,055	3,361,605	-49%
A2 - Residential Existing Buildings	52,663,957	50,304,831	-4%
A2a - Residential Coordinated Delivery	28,258,532	27,846,322	-1%
A2b - Residential Conservation Services (RCS)	-	-	
A2c - Residential Retail	24,384,337	22,437,380	-8%
A2d - Residential Behavior	21,087	21,130	0%
A2e - Residential Active Demand Reduction	-	-	
A3 - Residential Hard-to-Measure	-	-	
B - Income Eligible	2,350,448	2,286,221	-3%
B1 - Income Eligible Existing Buildings	2,350,448	2,286,221	-3%
B1a - Income Eligible Coordinated Delivery	2,350,448	2,286,221	-3%
B1b - Income Eligible Active Demand Reduction	-	-	
B2 - Income Eligible Hard-to-Measure	-	-	
C - Commercial & Industrial	30,120,058	29,401,803	-2%
C1 - C&I New Buildings	1,726,639	1,691,358	-2%
C1a - C&I New Buildings & Major Renovations	1,726,639	1,691,358	-2%
C2 - C&I Existing Buildings	28,393,419	27,710,445	-2%
C2a - C&I Existing Building Retrofit	12,606,065	11,766,368	-7%
C2b - C&I New & Replacement Equipment	15,364,423	15,600,271	2%
C2c - C&I Active Demand Reduction	422,931	343,806	-19%
C3 - C&I Hard-to-Measure	-	-	
Grand Total	91,674,518	85,354,461	-7%

Notes

Plan year core initiative significant variance explanations are required for: (4) variances between preliminary and evaluated core initiative total resource benefits showing a decrease of 15 percent or greater.

Program Administrator Budgets, Plan Year Summary

2020 Planned vs. Evaluated

Cape Light Compact

June 4, 2021

2020 Planned Program Administrator Budget										
Program	Program Costs						Performance Incentive	Total Program Administrator Budget	Program Cost per Participant	Resource Benefit per Program Cost
	Program Planning and Administration	Marketing and Advertising	Participant Incentive	Sales, Technical Assistance & Training	Evaluation and Market Research	Total Program Costs				
A - Residential	1,436,066	737,359	16,407,017	4,861,567	655,004	24,097,012	-	24,097,012	99	2.62
A1 - Residential New Buildings	52,861	25,566	694,050	203,215	-	975,692	-	975,692	1,887	6.64
A1a - Residential New Homes & Renovations	52,861	25,566	694,050	203,215	-	975,692	-	975,692	1,887	6.64
A2 - Residential Existing Buildings	1,094,024	454,630	14,091,739	4,431,288	-	20,071,681	-	20,071,681	83	2.82
A2a - Residential Coordinated Delivery	594,128	157,387	8,409,067	1,805,594	-	10,966,175	-	10,966,175	3,014	3.00
A2b - Residential Conservation Services (RCS)	104,110	46,793	-	1,770,722	-	1,921,625	-	1,921,625	-	-
A2c - Residential Retail	326,999	230,112	4,872,982	605,535	-	6,035,629	-	6,035,629	37	3.62
A2d - Residential Behavior	39,574	8,485	665,000	17,379	-	730,438	-	730,438	10	1.73
A2e - Residential Active Demand Reduction	29,213	11,853	144,690	232,058	-	417,814	-	417,814	-	1.38
A3 - Residential Hard-to-Measure	289,180	257,163	1,621,228	227,064	655,004	3,049,639	-	3,049,639	-	-
A3a - Residential Statewide Marketing	-	159,797	-	-	-	159,797	-	159,797	-	-
A3b - Residential Statewide Database	8,193	-	-	-	-	8,193	-	8,193	-	-
A3c - Residential DOER Assessment	145,089	-	-	-	-	145,089	-	145,089	-	-
A3d - Residential Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
A3e - Residential Workforce Development	-	-	-	37,590	-	37,590	-	37,590	-	-
A3f - Residential Evaluation and Market Research	-	-	-	-	655,004	655,004	-	655,004	-	-
A3g - Residential EEAC Consultants	40,912	-	-	-	-	40,912	-	40,912	-	-
A3h - Residential R&D and Demonstration	-	-	124,817	-	-	124,817	-	124,817	-	-
A3i - Residential HEAT Loan	94,987	22,366	1,496,411	139,474	-	1,753,238	-	1,753,238	-	-
A3j - Residential Education	-	75,000	-	50,000	-	125,000	-	125,000	-	-
B - Income Eligible	279,644	99,177	3,280,186	730,161	124,880	4,514,047	-	4,514,047	3,224	1.25
B1 - Income Eligible Existing Buildings	219,663	80,603	3,280,186	705,161	-	4,285,614	-	4,285,614	3,061	1.32
B1a - Income Eligible Coordinated Delivery	219,663	80,603	3,280,186	705,161	-	4,285,614	-	4,285,614	3,061	1.32
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	59,981	18,573	-	25,000	124,880	228,433	-	228,433	-	-
B2a - Income Eligible Statewide Marketing	-	18,573	-	-	-	18,573	-	18,573	-	-
B2b - Income Eligible Statewide Database	1,013	-	-	-	-	1,013	-	1,013	-	-
B2c - Income Eligible DOER Assessment	29,381	-	-	-	-	29,381	-	29,381	-	-
B2d - Income Eligible Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
B2e - Income Eligible Workforce Development	-	-	-	25,000	-	25,000	-	25,000	-	-
B2f - Income Eligible Evaluation and Market Research	-	-	-	-	124,880	124,880	-	124,880	-	-
B2g - Income Eligible Energy Affordability Network	29,587	-	-	-	-	29,587	-	29,587	-	-
C - Commercial & Industrial	1,129,025	380,401	12,736,906	1,872,797	509,360	16,628,489	-	16,628,489	8,314	2.41
C1 - C&I New Buildings	51,576	8,235	360,850	211,451	-	632,111	-	632,111	12,394	3.46
C1a - C&I New Buildings & Major Renovations	51,576	8,235	360,850	211,451	-	632,111	-	632,111	12,394	3.46
C2 - C&I Existing Buildings	972,328	337,905	12,338,556	1,632,992	-	15,281,781	-	15,281,781	7,841	2.48
C2a - C&I Existing Building Retrofit	797,981	273,067	10,426,875	1,133,163	-	12,631,085	-	12,631,085	16,173	2.23
C2b - C&I New & Replacement Equipment	88,947	48,902	925,601	369,582	-	1,433,032	-	1,433,032	1,230	2.75
C2c - C&I Active Demand Reduction	85,400	15,937	986,080	130,247	-	1,217,664	-	1,217,664	405,888	4.76
C3 - C&I Hard-to-Measure	105,122	34,261	37,500	28,354	509,360	714,597	-	714,597	-	-
C3a - C&I Statewide Marketing	-	29,261	-	-	-	29,261	-	29,261	-	-
C3b - C&I Statewide Database	1,394	-	-	-	-	1,394	-	1,394	-	-
C3c - C&I DOER Assessment	97,530	-	-	-	-	97,530	-	97,530	-	-
C3d - C&I Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
C3e - C&I Workforce Development	-	5,000	-	28,354	-	33,354	-	33,354	-	-
C3f - C&I Evaluation and Market Research	-	-	-	-	509,360	509,360	-	509,360	-	-
C3g - C&I EEAC Consultants	6,197	-	-	-	-	6,197	-	6,197	-	-
C3h - C&I R&D and Demonstration	-	-	37,500	-	-	37,500	-	37,500	-	-
Grand Total	2,844,734	1,216,937	32,424,108	7,464,525	1,289,244	45,239,548	-	45,239,548	184	2.41

Program Administrator Budgets, Plan Year Summary

2020 Planned vs. Evaluated

Cape Light Compact

June 4, 2021

2020 Evaluated Program Administrator Budget										
Program	Program Costs						Performance Incentive	Total Program Administrator Budget	Program Cost per Participant	Resource Benefit per Program Cost
	Program Planning and Administration	Marketing and Advertising	Participant Incentive	Sales, Technical Assistance & Training	Evaluation and Market Research	Total Program Costs				
A - Residential	1,428,051	491,643	20,801,818	5,050,886	762,803	28,535,201	-	28,535,201	145	1.88
A1 - Residential New Buildings	50,996	20,291	931,426	143,892	-	1,146,604	-	1,146,604	3,058	2.93
A1a - Residential New Homes & Renovations	50,996	20,291	931,426	143,892	-	1,146,604	-	1,146,604	3,058	2.93
A2 - Residential Existing Buildings	1,060,753	361,435	17,446,664	4,748,819	-	23,617,671	-	23,617,671	121	2.13
A2a - Residential Coordinated Delivery	573,159	135,906	11,487,618	1,877,641	-	14,074,325	-	14,074,325	1,849	1.98
A2b - Residential Conservation Services (RCS)	112,120	26,350	-	1,441,924	-	1,580,394	-	1,580,394	235	-
A2c - Residential Retail	315,459	186,760	5,926,115	675,254	-	7,103,587	-	7,103,587	39	3.16
A2d - Residential Behavior	38,177	7,900	2,931	666,227	-	715,235	-	715,235	715,235	0.03
A2e - Residential Active Demand Reduction	21,838	4,519	30,000	87,774	-	144,130	-	144,130	205	-
A3 - Residential Hard-to-Measure	316,303	109,918	2,423,728	158,175	762,803	3,770,926	-	3,770,926	2,152	-
A3a - Residential Statewide Marketing	-	55,370	-	-	-	55,370	-	55,370	-	-
A3b - Residential Statewide Database	865	-	-	-	-	865	-	865	-	-
A3c - Residential DOER Assessment	150,212	-	-	-	-	150,212	-	150,212	-	-
A3d - Residential Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
A3e - Residential Workforce Development	-	-	-	18,749	-	18,749	-	18,749	-	-
A3f - Residential Evaluation and Market Research	-	-	-	-	762,803	762,803	-	762,803	-	-
A3g - Residential EEAC Consultants	73,591	-	-	-	-	73,591	-	73,591	-	-
A3h - Residential R&D and Demonstration	-	-	-	-	-	-	-	-	-	-
A3i - Residential HEAT Loan	91,635	18,962	2,423,728	128,240	-	2,662,565	-	2,662,565	1,520	-
A3j - Residential Education	-	35,586	-	11,185	-	46,771	-	46,771	-	-
B - Income Eligible	282,157	63,518	1,530,795	416,432	158,579	2,451,480	-	2,451,480	1,428	0.93
B1 - Income Eligible Existing Buildings	210,533	51,262	1,530,795	413,170	-	2,205,760	-	2,205,760	1,285	1.04
B1a - Income Eligible Coordinated Delivery	210,533	51,262	1,530,795	413,170	-	2,205,760	-	2,205,760	1,285	1.04
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	71,625	12,255	-	3,262	158,579	245,721	-	245,721	-	-
B2a - Income Eligible Statewide Marketing	-	12,255	-	-	-	12,255	-	12,255	-	-
B2b - Income Eligible Statewide Database	149	-	-	-	-	149	-	149	-	-
B2c - Income Eligible DOER Assessment	43,698	-	-	-	-	43,698	-	43,698	-	-
B2d - Income Eligible Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
B2e - Income Eligible Workforce Development	-	-	-	3,262	-	3,262	-	3,262	-	-
B2f - Income Eligible Evaluation and Market Research	-	-	-	-	158,579	158,579	-	158,579	-	-
B2g - Income Eligible Energy Affordability Network	27,778	-	-	-	-	27,778	-	27,778	-	-
C - Commercial & Industrial	990,514	379,813	5,925,388	1,098,233	867,983	9,261,930	-	9,261,930	8,160	3.17
C1 - C&I New Buildings	35,822	6,877	136,618	94,784	-	274,101	-	274,101	11,917	6.17
C1a - C&I New Buildings & Major Renovations	35,822	6,877	136,618	94,784	-	274,101	-	274,101	11,917	6.17
C2 - C&I Existing Buildings	863,317	334,235	5,788,770	998,075	-	7,984,396	-	7,984,396	7,180	3.47
C2a - C&I Existing Building Retrofit	715,208	203,029	4,174,904	641,049	-	5,734,190	-	5,734,190	11,200	2.05
C2b - C&I New & Replacement Equipment	81,177	118,284	1,563,304	173,384	-	1,936,150	-	1,936,150	3,367	8.06
C2c - C&I Active Demand Reduction	66,932	12,922	50,561	183,641	-	314,056	-	314,056	12,562	1.09
C3 - C&I Hard-to-Measure	91,374	38,700	-	5,375	867,983	1,003,433	-	1,003,433	-	-
C3a - C&I Statewide Marketing	-	38,700	-	-	-	38,700	-	38,700	-	-
C3b - C&I Statewide Database	477	-	-	-	-	477	-	477	-	-
C3c - C&I DOER Assessment	79,202	-	-	-	-	79,202	-	79,202	-	-
C3d - C&I Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
C3e - C&I Workforce Development	-	-	-	5,375	-	5,375	-	5,375	-	-
C3f - C&I Evaluation and Market Research	-	-	-	-	867,983	867,983	-	867,983	-	-
C3g - C&I EEAC Consultants	11,695	-	-	-	-	11,695	-	11,695	-	-
C3h - C&I R&D and Demonstration	-	-	-	-	-	-	-	-	-	-
Grand Total	2,700,722	934,973	28,258,001	6,565,550	1,789,365	40,248,612	-	40,248,612	201	2.12

Program Administrator Budgets, Plan Year Summary

2020 Planned vs. Evaluated

Cape Light Compact

June 4, 2021

2020 Planned v. Evaluated Program Administrator Budget Variances (%)											
Program	Program Costs						Performance Incentive	Total Program Administrator Budget	Program Cost per Participant	Resource Benefit per Program Cost	
	Program Planning and Administration	Marketing and Advertising	Participant Incentive	Sales, Technical Assistance & Training	Evaluation and Market Research	Total Program Costs					
A - Residential	-1%	-33%	27%	4%	16%	18%		18%	46%	-28%	
A1 - Residential New Buildings	-4%	-21%	34%	-29%		18%		18%	62%	-56%	
A1a - Residential New Homes & Renovations	-4%	-21%	34%	-29%		18%		18%	62%	-56%	
A2 - Residential Existing Buildings	-3%	-20%	24%	7%		18%		18%	46%	-24%	
A2a - Residential Coordinated Delivery	-4%	-14%	37%	4%		28%		28%	-39%	-34%	
A2b - Residential Conservation Services (RCS)	8%	-44%		-19%		-18%		-18%			
A2c - Residential Retail	-4%	-19%	22%	12%		18%		18%	6%	-13%	
A2d - Residential Behavior	-4%	-7%	-100%	3733%		-2%		-2%	7441710%	-98%	
A2e - Residential Active Demand Reduction	-25%	-62%	-79%	-62%		-66%		-66%		-100%	
A3 - Residential Hard-to-Measure	9%	-57%	49%	-30%	16%	24%		24%			
A3a - Residential Statewide Marketing		-65%				-65%		-65%			
A3b - Residential Statewide Database	-89%					-89%		-89%			
A3c - Residential DOER Assessment	4%					4%		4%			
A3d - Residential Sponsorships & Subscriptions											
A3e - Residential Workforce Development				-50%		-50%		-50%			
A3f - Residential Evaluation and Market Research					16%	16%		16%			
A3g - Residential EEAC Consultants	80%					80%		80%			
A3h - Residential R&D and Demonstration			-100%			-100%		-100%			
A3i - Residential HEAT Loan	-4%	-15%	62%	-8%		52%		52%			
A3j - Residential Education		-53%		-78%		-63%		-63%			
B - Income Eligible	1%	-36%	-53%	-43%	27%	-46%		-46%	-56%	-25%	
B1 - Income Eligible Existing Buildings	-4%	-36%	-53%	-41%		-49%		-49%	-58%	-21%	
B1a - Income Eligible Coordinated Delivery	-4%	-36%	-53%	-41%		-49%		-49%	-58%	-21%	
B1b - Income Eligible Active Demand Reduction											
B2 - Income Eligible Hard-to-Measure	19%	-34%		-87%	27%	8%		8%			
B2a - Income Eligible Statewide Marketing		-34%				-34%		-34%			
B2b - Income Eligible Statewide Database	-85%					-85%		-85%			
B2c - Income Eligible DOER Assessment	49%					49%		49%			
B2d - Income Eligible Sponsorships & Subscriptions											
B2e - Income Eligible Workforce Development				-87%		-87%		-87%			
B2f - Income Eligible Evaluation and Market Research					27%	27%		27%			
B2g - Income Eligible Energy Affordability Network	-6%					-6%		-6%			
C - Commercial & Industrial	-12%	0%	-53%	-41%	70%	-44%		-44%	-2%	31%	
C1 - C&I New Buildings	-31%	-16%	-62%	-55%		-57%		-57%	-4%	78%	
C1a - C&I New Buildings & Major Renovations	-31%	-16%	-62%	-55%		-57%		-57%	-4%	78%	
C2 - C&I Existing Buildings	-11%	-1%	-53%	-39%		-48%		-48%	-8%	40%	
C2a - C&I Existing Building Retrofit	-10%	-26%	-60%	-43%		-55%		-55%	-31%	-8%	
C2b - C&I New & Replacement Equipment	-9%	142%	69%	-53%		35%		35%	174%	193%	
C2c - C&I Active Demand Reduction	-22%	-19%	-95%	41%		-74%		-74%	-97%	-77%	
C3 - C&I Hard-to-Measure	-13%	13%	-100%	-81%	70%	40%		40%			
C3a - C&I Statewide Marketing		32%				32%		32%			
C3b - C&I Statewide Database	-66%					-66%		-66%			
C3c - C&I DOER Assessment	-19%					-19%		-19%			
C3d - C&I Sponsorships & Subscriptions											
C3e - C&I Workforce Development		-100%		-81%		-84%		-84%			
C3f - C&I Evaluation and Market Research					70%	70%		70%			
C3g - C&I EEAC Consultants	89%					89%		89%			
C3h - C&I R&D and Demonstration			-100%			-100%		-100%			
Grand Total	-5%	-23%	-13%	-12%	39%	-11%		-11%	9%	-12%	

Notes

- Where not otherwise indicated, budgets for each year are represented in nominal dollars (2019\$, 2020\$, 2021\$).
- Refer to common definitions for allocation of costs.
- The plan year variances provided above are intended to indicate the Program Administrator's performance in the plan year only. The variances used to determine significant variances are provided separately. The variances above and the significant variances use different calculations to determine variances on an annual basis and over the three-year term, respectively.

Program Administrator Budgets, Three-Year Total
2019-2021 Program Administrator Budget
Cape Light Compact
June 4, 2021

2019 Evaluated Program Administrator Budget										
Program	Program Costs						Performance Incentive	Total Program Administrator Budget	Program Cost per Participant	Resource Benefit per Program Cost
	Program Planning and Administration	Marketing and Advertising	Participant Incentive	Sales, Technical Assistance & Training	Evaluation and Market Research	Total Program Costs				
A - Residential	1,448,851	578,992	21,425,751	5,557,219	481,278	29,492,091	-	29,492,091	104	2.04
A1 - Residential New Buildings	51,585	18,511	742,424	142,750	-	955,270	-	955,270	2,610	3.31
A1a - Residential New Homes & Renovations	51,585	18,511	742,424	142,750	-	955,270	-	955,270	2,610	3.31
A2 - Residential Existing Buildings	1,180,719	416,431	18,568,967	5,226,830	-	25,392,947	-	25,392,947	90	2.24
A2a - Residential Coordinated Delivery	622,188	150,070	13,092,573	2,189,868	-	16,054,699	-	16,054,699	1,552	2.49
A2b - Residential Conservation Services (RCS)	117,753	32,600	-	1,875,480	-	2,025,832	-	2,025,832	313	-
A2c - Residential Retail	392,764	224,063	5,467,358	635,838	-	6,720,023	-	6,720,023	25	2.50
A2d - Residential Behavior	48,013	9,698	9,036	525,645	-	592,392	-	592,392	296,196	0.12
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
A3 - Residential Hard-to-Measure	216,547	144,049	2,114,359	187,639	481,278	3,143,874	-	3,143,874	1,826	-
A3a - Residential Statewide Marketing	-	92,938	-	-	-	92,938	-	92,938	-	-
A3b - Residential Statewide Database	1,361	-	-	-	-	1,361	-	1,361	-	-
A3c - Residential DOER Assessment	124,577	-	-	-	-	124,577	-	124,577	-	-
A3d - Residential Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
A3e - Residential Workforce Development	-	-	-	12,663	-	12,663	-	12,663	-	-
A3f - Residential Evaluation and Market Research	-	-	-	-	481,278	481,278	-	481,278	-	-
A3g - Residential EEAC Consultants	-	-	-	-	-	-	-	-	-	-
A3h - Residential R&D and Demonstration	-	-	-	-	-	-	-	-	-	-
A3i - Residential HEAT Loan	90,609	18,530	2,114,359	166,149	-	2,389,648	-	2,389,648	1,388	-
A3j - Residential Education	-	32,581	-	8,827	-	41,409	-	41,409	-	-
B - Income Eligible	256,972	70,250	2,739,800	593,672	85,466	3,746,160	-	3,746,160	1,650	1.21
B1 - Income Eligible Existing Buildings	210,028	48,831	2,739,800	593,583	-	3,592,241	-	3,592,241	1,582	1.26
B1a - Income Eligible Coordinated Delivery	210,028	48,831	2,739,800	593,583	-	3,592,241	-	3,592,241	1,582	1.26
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	46,944	21,420	-	89	85,466	153,919	-	153,919	-	-
B2a - Income Eligible Statewide Marketing	-	21,420	-	-	-	21,420	-	21,420	-	-
B2b - Income Eligible Statewide Database	235	-	-	-	-	235	-	235	-	-
B2c - Income Eligible DOER Assessment	14,927	-	-	-	-	14,927	-	14,927	-	-
B2d - Income Eligible Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
B2e - Income Eligible Workforce Development	-	-	-	89	-	89	-	89	-	-
B2f - Income Eligible Evaluation and Market Research	-	-	-	-	85,466	85,466	-	85,466	-	-
B2g - Income Eligible Energy Affordability Network	31,782	-	-	-	-	31,782	-	31,782	-	-
C - Commercial & Industrial	939,627	295,077	6,334,595	1,032,419	561,425	9,163,143	-	9,163,143	6,753	2.47
C1 - C&I New Buildings	38,260	6,989	184,531	110,221	-	340,000	-	340,000	12,143	6.06
C1a - C&I New Buildings & Major Renovations	38,260	6,989	184,531	110,221	-	340,000	-	340,000	12,143	6.06
C2 - C&I Existing Buildings	828,750	223,633	6,150,064	906,586	-	8,109,032	-	8,109,032	6,102	2.54
C2a - C&I Existing Building Retrofit	743,212	192,788	5,636,214	736,060	-	7,308,274	-	7,308,274	9,823	2.23
C2b - C&I New & Replacement Equipment	85,538	30,845	513,850	170,526	-	800,758	-	800,758	1,369	5.33
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
C3 - C&I Hard-to-Measure	72,617	64,456	-	15,613	561,425	714,111	-	714,111	-	-
C3a - C&I Statewide Marketing	-	64,373	-	-	-	64,373	-	64,373	-	-
C3b - C&I Statewide Database	751	-	-	-	-	751	-	751	-	-
C3c - C&I DOER Assessment	71,866	-	-	-	-	71,866	-	71,866	-	-
C3d - C&I Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
C3e - C&I Workforce Development	-	83	-	15,613	-	15,696	-	15,696	-	-
C3f - C&I Evaluation and Market Research	-	-	-	-	561,425	561,425	-	561,425	-	-
C3g - C&I EEAC Consultants	-	-	-	-	-	-	-	-	-	-
C3h - C&I R&D and Demonstration	-	-	-	-	-	-	-	-	-	-
Grand Total	2,645,450	944,319	30,500,145	7,183,310	1,128,170	42,401,394	-	42,401,394	147	2.06

Program Administrator Budgets, Three-Year Total
2019-2021 Program Administrator Budget
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2020 Evaluated Program Administrator Budget										
Program	Program Costs						Performance Incentive	Total Program Administrator Budget	Program Cost per Participant	Resource Benefit per Program Cost
	Program Planning and Administration	Marketing and Advertising	Participant Incentive	Sales, Technical Assistance & Training	Evaluation and Market Research	Total Program Costs				
A - Residential	1,428,051	491,643	20,801,818	5,050,886	762,803	28,535,201	-	28,535,201	145	1.88
A1 - Residential New Buildings	50,996	20,291	931,426	143,892	-	1,146,604	-	1,146,604	3,058	2.93
A1a - Residential New Homes & Renovations	50,996	20,291	931,426	143,892	-	1,146,604	-	1,146,604	3,058	2.93
A2 - Residential Existing Buildings	1,060,753	361,435	17,446,664	4,748,819	-	23,617,671	-	23,617,671	121	2.13
A2a - Residential Coordinated Delivery	573,159	135,906	11,487,618	1,877,641	-	14,074,325	-	14,074,325	1,849	1.98
A2b - Residential Conservation Services (RCS)	112,120	26,350	-	1,441,924	-	1,580,394	-	1,580,394	235	-
A2c - Residential Retail	315,459	186,760	5,926,115	675,254	-	7,103,587	-	7,103,587	39	3.16
A2d - Residential Behavior	38,177	7,900	2,931	666,227	-	715,235	-	715,235	715,235	0.03
A2e - Residential Active Demand Reduction	21,838	4,519	30,000	87,774	-	144,130	-	144,130	205	-
A3 - Residential Hard-to-Measure	316,303	109,918	2,423,728	158,175	762,803	3,770,926	-	3,770,926	2,152	-
A3a - Residential Statewide Marketing	-	55,370	-	-	-	55,370	-	55,370	-	-
A3b - Residential Statewide Database	865	-	-	-	-	865	-	865	-	-
A3c - Residential DOER Assessment	150,212	-	-	-	-	150,212	-	150,212	-	-
A3d - Residential Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
A3e - Residential Workforce Development	-	-	-	18,749	-	18,749	-	18,749	-	-
A3f - Residential Evaluation and Market Research	-	-	-	-	762,803	762,803	-	762,803	-	-
A3g - Residential EEAC Consultants	73,591	-	-	-	-	73,591	-	73,591	-	-
A3h - Residential R&D and Demonstration	-	-	-	-	-	-	-	-	-	-
A3i - Residential HEAT Loan	91,635	18,962	2,423,728	128,240	-	2,662,565	-	2,662,565	1,520	-
A3j - Residential Education	-	35,586	-	11,185	-	46,771	-	46,771	-	-
B - Income Eligible	282,157	63,518	1,530,795	416,432	158,579	2,451,480	-	2,451,480	1,428	0.93
B1 - Income Eligible Existing Buildings	210,533	51,262	1,530,795	413,170	-	2,205,760	-	2,205,760	1,285	1.04
B1a - Income Eligible Coordinated Delivery	210,533	51,262	1,530,795	413,170	-	2,205,760	-	2,205,760	1,285	1.04
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	71,625	12,255	-	3,262	158,579	245,721	-	245,721	-	-
B2a - Income Eligible Statewide Marketing	-	12,255	-	-	-	12,255	-	12,255	-	-
B2b - Income Eligible Statewide Database	149	-	-	-	-	149	-	149	-	-
B2c - Income Eligible DOER Assessment	43,698	-	-	-	-	43,698	-	43,698	-	-
B2d - Income Eligible Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
B2e - Income Eligible Workforce Development	-	-	-	3,262	-	3,262	-	3,262	-	-
B2f - Income Eligible Evaluation and Market Research	-	-	-	-	158,579	158,579	-	158,579	-	-
B2g - Income Eligible Energy Affordability Network	27,778	-	-	-	-	27,778	-	27,778	-	-
C - Commercial & Industrial	990,514	379,813	5,925,388	1,098,233	867,983	9,261,930	-	9,261,930	8,160	3.17
C1 - C&I New Buildings	35,822	6,877	136,618	94,784	-	274,101	-	274,101	11,917	6.17
C1a - C&I New Buildings & Major Renovations	35,822	6,877	136,618	94,784	-	274,101	-	274,101	11,917	6.17
C2 - C&I Existing Buildings	863,317	334,235	5,788,770	998,075	-	7,984,396	-	7,984,396	7,180	3.47
C2a - C&I Existing Building Retrofit	715,208	203,029	4,174,904	641,049	-	5,734,190	-	5,734,190	11,200	2.05
C2b - C&I New & Replacement Equipment	81,177	118,284	1,563,304	173,384	-	1,936,150	-	1,936,150	3,367	8.06
C2c - C&I Active Demand Reduction	66,932	12,922	50,561	183,641	-	314,056	-	314,056	12,562	1.09
C3 - C&I Hard-to-Measure	91,374	38,700	-	5,375	867,983	1,003,433	-	1,003,433	-	-
C3a - C&I Statewide Marketing	-	38,700	-	-	-	38,700	-	38,700	-	-
C3b - C&I Statewide Database	477	-	-	-	-	477	-	477	-	-
C3c - C&I DOER Assessment	79,202	-	-	-	-	79,202	-	79,202	-	-
C3d - C&I Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
C3e - C&I Workforce Development	-	-	-	5,375	-	5,375	-	5,375	-	-
C3f - C&I Evaluation and Market Research	-	-	-	-	867,983	867,983	-	867,983	-	-
C3g - C&I EEAC Consultants	11,695	-	-	-	-	11,695	-	11,695	-	-
C3h - C&I R&D and Demonstration	-	-	-	-	-	-	-	-	-	-
Grand Total	2,700,722	934,973	28,258,001	6,565,550	1,789,365	40,248,612	-	40,248,612	201	2.12

Program Administrator Budgets, Three-Year Total
2019-2021 Program Administrator Budget
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2021 Planned Program Administrator Budget										
Program	Program Costs						Performance Incentive	Total Program Administrator Budget	Program Cost per Participant	Resource Benefit per Program Cost
	Program Planning and Administration	Marketing and Advertising	Participant Incentive	Sales, Technical Assistance & Training	Evaluation and Market Research	Total Program Costs				
A - Residential	1,509,802	770,291	15,610,097	5,026,354	657,754	23,574,299	-	23,574,299	140	2.58
A1 - Residential New Buildings	60,556	27,499	736,455	205,915	-	1,030,425	-	1,030,425	1,922	6.45
A1a - Residential New Homes & Renovations	60,556	27,499	736,455	205,915	-	1,030,425	-	1,030,425	1,922	6.45
A2 - Residential Existing Buildings	1,146,904	481,781	13,186,440	4,588,807	-	19,403,931	-	19,403,931	116	2.79
A2a - Residential Coordinated Delivery	659,364	177,626	8,443,972	1,938,853	-	11,219,816	-	11,219,816	3,067	2.99
A2b - Residential Conservation Services (RCS)	113,866	49,964	-	1,773,730	-	1,937,560	-	1,937,560	-	-
A2c - Residential Retail	298,577	231,849	3,947,049	603,149	-	5,080,625	-	5,080,625	54	3.60
A2d - Residential Behavior	39,865	8,926	612,500	17,061	-	678,351	-	678,351	10	2.10
A2e - Residential Active Demand Reduction	35,230	13,415	182,919	256,014	-	487,579	-	487,579	-	1.83
A3 - Residential Hard-to-Measure	302,343	261,011	1,687,202	231,632	657,754	3,139,942	-	3,139,942	-	-
A3a - Residential Statewide Marketing	-	159,797	-	-	-	159,797	-	159,797	-	-
A3b - Residential Statewide Database	8,193	-	-	-	-	8,193	-	8,193	-	-
A3c - Residential DOER Assessment	145,089	-	-	-	-	145,089	-	145,089	-	-
A3d - Residential Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
A3e - Residential Workforce Development	-	-	-	37,590	-	37,590	-	37,590	-	-
A3f - Residential Evaluation and Market Research	-	-	-	-	657,754	657,754	-	657,754	-	-
A3g - Residential EEAC Consultants	40,912	-	-	-	-	40,912	-	40,912	-	-
A3h - Residential R&D and Demonstration	-	-	125,322	-	-	125,322	-	125,322	-	-
A3i - Residential HEAT Loan	108,150	26,214	1,561,881	144,042	-	1,840,287	-	1,840,287	-	-
A3j - Residential Education	-	75,000	-	50,000	-	125,000	-	125,000	-	-
B - Income Eligible	324,765	112,245	3,626,278	806,421	130,750	5,000,459	-	5,000,459	3,449	1.17
B1 - Income Eligible Existing Buildings	264,784	93,672	3,626,278	781,421	-	4,766,155	-	4,766,155	3,287	1.23
B1a - Income Eligible Coordinated Delivery	264,784	93,672	3,626,278	781,421	-	4,766,155	-	4,766,155	3,287	1.23
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	59,981	18,573	-	25,000	130,750	234,304	-	234,304	-	-
B2a - Income Eligible Statewide Marketing	-	18,573	-	-	-	18,573	-	18,573	-	-
B2b - Income Eligible Statewide Database	1,013	-	-	-	-	1,013	-	1,013	-	-
B2c - Income Eligible DOER Assessment	29,381	-	-	-	-	29,381	-	29,381	-	-
B2d - Income Eligible Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
B2e - Income Eligible Workforce Development	-	-	-	25,000	-	25,000	-	25,000	-	-
B2f - Income Eligible Evaluation and Market Research	-	-	-	-	130,750	130,750	-	130,750	-	-
B2g - Income Eligible Energy Affordability Network	29,587	-	-	-	-	29,587	-	29,587	-	-
C - Commercial & Industrial	1,248,831	417,228	13,355,941	1,963,007	522,335	17,507,342	-	17,507,342	8,586	2.55
C1 - C&I New Buildings	54,787	9,321	360,850	217,056	-	642,013	-	642,013	12,346	3.56
C1a - C&I New Buildings & Major Renovations	54,787	9,321	360,850	217,056	-	642,013	-	642,013	12,346	3.56
C2 - C&I Existing Buildings	1,088,922	373,646	12,957,591	1,717,597	-	16,137,757	-	16,137,757	8,122	2.63
C2a - C&I Existing Building Retrofit	877,378	299,388	10,695,285	1,197,974	-	13,070,025	-	13,070,025	16,017	2.21
C2b - C&I New & Replacement Equipment	83,569	48,768	741,081	381,791	-	1,255,209	-	1,255,209	1,075	2.81
C2c - C&I Active Demand Reduction	127,975	25,490	1,521,225	137,832	-	1,812,523	-	1,812,523	604,174	5.51
C3 - C&I Hard-to-Measure	105,122	34,261	37,500	28,354	522,335	727,572	-	727,572	-	-
C3a - C&I Statewide Marketing	-	29,261	-	-	-	29,261	-	29,261	-	-
C3b - C&I Statewide Database	1,394	-	-	-	-	1,394	-	1,394	-	-
C3c - C&I DOER Assessment	97,530	-	-	-	-	97,530	-	97,530	-	-
C3d - C&I Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
C3e - C&I Workforce Development	-	5,000	-	28,354	-	33,354	-	33,354	-	-
C3f - C&I Evaluation and Market Research	-	-	-	-	522,335	522,335	-	522,335	-	-
C3g - C&I EEAC Consultants	6,197	-	-	-	-	6,197	-	6,197	-	-
C3h - C&I R&D and Demonstration	-	-	37,500	-	-	37,500	-	37,500	-	-
Grand Total	3,083,398	1,299,764	32,592,316	7,795,782	1,310,839	46,082,099	-	46,082,099	268	2.42

Program Administrator Budgets, Three-Year Total
2019-2021 Program Administrator Budget

Cape Light Compact
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2019-2021 Program Administrator Budget										
Program	Program Costs						Performance Incentive	Total Program Administrator Budget	Program Cost per Participant	Resource Benefit per Program Cost
	Program Planning and Administration	Marketing and Advertising	Participant Incentive	Sales, Technical Assistance & Training	Evaluation and Market Research	Total Program Costs				
A - Residential	4,386,705	1,840,926	57,837,666	15,634,459	1,901,835	81,601,591	-	81,601,591	126	2.14
A1 - Residential New Buildings	163,136	66,301	2,410,305	492,557	-	3,132,299	-	3,132,299	2,453	4.20
A1a - Residential New Homes & Renovations	163,136	66,301	2,410,305	492,557	-	3,132,299	-	3,132,299	2,453	4.20
A2 - Residential Existing Buildings	3,388,375	1,259,647	49,202,071	14,564,456	-	68,414,549	-	68,414,549	106	2.36
A2a - Residential Coordinated Delivery	1,854,712	463,603	33,024,163	6,006,362	-	41,348,840	-	41,348,840	1,913	2.45
A2b - Residential Conservation Services (RCS)	343,739	108,914	-	5,091,134	-	5,543,786	-	5,543,786	421	-
A2c - Residential Retail	1,006,801	642,672	15,340,522	1,914,241	-	18,904,236	-	18,904,236	35	3.04
A2d - Residential Behavior	126,056	26,524	624,467	1,208,932	-	1,985,978	-	1,985,978	28	0.77
A2e - Residential Active Demand Reduction	57,068	17,934	212,919	343,788	-	631,709	-	631,709	897	1.41
A3 - Residential Hard-to-Measure	835,193	514,978	6,225,290	577,446	1,901,835	10,054,743	-	10,054,743		
A3a - Residential Statewide Marketing	-	308,105	-	-	-	308,105	-	308,105		
A3b - Residential Statewide Database	10,418	-	-	-	-	10,418	-	10,418		
A3c - Residential DOER Assessment	419,878	-	-	-	-	419,878	-	419,878		
A3d - Residential Sponsorships & Subscriptions	-	-	-	-	-	-	-	-		
A3e - Residential Workforce Development	-	-	-	69,002	-	69,002	-	69,002		
A3f - Residential Evaluation and Market Research	-	-	-	-	1,901,835	1,901,835	-	1,901,835		
A3g - Residential EEAC Consultants	114,503	-	-	-	-	114,503	-	114,503		
A3h - Residential R&D and Demonstration	-	-	125,322	-	-	125,322	-	125,322		
A3i - Residential HEAT Loan	290,394	63,706	6,099,969	438,431	-	6,892,500	-	6,892,500		
A3j - Residential Education	-	143,167	-	70,012	-	213,179	-	213,179		
B - Income Eligible	863,894	246,013	7,896,872	1,816,525	374,795	11,198,099	-	11,198,099	2,060	1.13
B1 - Income Eligible Existing Buildings	685,345	193,765	7,896,872	1,788,174	-	10,564,156	-	10,564,156	1,943	1.20
B1a - Income Eligible Coordinated Delivery	685,345	193,765	7,896,872	1,788,174	-	10,564,156	-	10,564,156	1,943	1.20
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-		
B2 - Income Eligible Hard-to-Measure	178,549	52,248	-	28,351	374,795	633,943	-	633,943		
B2a - Income Eligible Statewide Marketing	-	52,248	-	-	-	52,248	-	52,248		
B2b - Income Eligible Statewide Database	1,396	-	-	-	-	1,396	-	1,396		
B2c - Income Eligible DOER Assessment	88,006	-	-	-	-	88,006	-	88,006		
B2d - Income Eligible Sponsorships & Subscriptions	-	-	-	-	-	-	-	-		
B2e - Income Eligible Workforce Development	-	-	-	28,351	-	28,351	-	28,351		
B2f - Income Eligible Evaluation and Market Research	-	-	-	-	374,795	374,795	-	374,795		
B2g - Income Eligible Energy Affordability Network	89,146	-	-	-	-	89,146	-	89,146		
C - Commercial & Industrial	3,178,971	1,092,117	25,615,924	4,093,659	1,951,744	35,932,416	-	35,932,416	7,930	2.69
C1 - C&I New Buildings	128,869	23,186	681,999	422,060	-	1,256,115	-	1,256,115	12,195	4.81
C1a - C&I New Buildings & Major Renovations	128,869	23,186	681,999	422,060	-	1,256,115	-	1,256,115	12,195	4.81
C2 - C&I Existing Buildings	2,780,989	931,514	24,896,425	3,622,258	-	32,231,185	-	32,231,185	7,279	2.81
C2a - C&I Existing Building Retrofit	2,335,798	695,204	20,506,403	2,575,084	-	26,112,489	-	26,112,489	12,603	2.18
C2b - C&I New & Replacement Equipment	250,284	197,897	2,818,235	725,701	-	3,992,117	-	3,992,117	1,715	5.86
C2c - C&I Active Demand Reduction	194,908	38,412	1,571,786	321,473	-	2,126,579	-	2,126,579	75,949	4.86
C3 - C&I Hard-to-Measure	269,113	137,417	37,500	49,341	1,951,744	2,445,115	-	2,445,115		
C3a - C&I Statewide Marketing	-	132,334	-	-	-	132,334	-	132,334		
C3b - C&I Statewide Database	2,622	-	-	-	-	2,622	-	2,622		
C3c - C&I DOER Assessment	248,599	-	-	-	-	248,599	-	248,599		
C3d - C&I Sponsorships & Subscriptions	-	-	-	-	-	-	-	-		
C3e - C&I Workforce Development	-	5,083	-	49,341	-	54,424	-	54,424		
C3f - C&I Evaluation and Market Research	-	-	-	-	1,951,744	1,951,744	-	1,951,744		
C3g - C&I EEAC Consultants	17,892	-	-	-	-	17,892	-	17,892		
C3h - C&I R&D and Demonstration	-	-	37,500	-	-	37,500	-	37,500		
Grand Total	8,429,570	3,179,056	91,350,462	21,544,643	4,228,374	128,732,105	-	128,732,105	196	2.21

Notes

- Where not otherwise indicated, budgets for each year are represented in nominal dollars (2019\$, 2020\$, 2021\$).
- Refer to common definitions for allocation of costs.

Program Savings, Plan Year Summary
2020 Planned vs. Evaluated
Cape Light Compact
June 4, 2021

2020 Planned Net Savings									
Program	# of Participants	Electric						Natural Gas	
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (MMBTU)		(Therms)	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	242,609	3,005	4,263	19,500	88,056	141,836	597,259	168,202	4,653,634
A1 - Residential New Buildings	517	112	210	1,008	13,850	7,332	89,945	-	-
A1a - Residential New Homes & Renovations	517	112	210	1,008	13,850	7,332	89,945	-	-
A2 - Residential Existing Buildings	242,092	2,892	4,052	18,492	74,206	134,504	507,314	168,202	4,653,634
A2a - Residential Coordinated Delivery	3,638	680	1,186	5,777	43,434	42,013	286,602	232,334	4,973,736
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	162,454	1,317	1,482	6,060	24,117	44,013	172,234	(64,132)	(320,102)
A2d - Residential Behavior	76,000	896	1,385	6,656	6,656	48,479	48,479	-	-
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-
B - Income Eligible	1,400	258	405	2,143	17,603	15,616	118,829	-	-
B1 - Income Eligible Existing Buildings	1,400	258	405	2,143	17,603	15,616	118,829	-	-
B1a - Income Eligible Coordinated Delivery	1,400	258	405	2,143	17,603	15,616	118,829	-	-
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	2,000	2,768	2,377	17,140	202,036	125,614	1,367,926	(62,747)	(688,026)
C1 - C&I New Buildings	51	71	61	985	17,434	7,236	115,742	(2,355)	(43,863)
C1a - C&I New Buildings & Major Renovations	51	71	61	985	17,434	7,236	115,742	(2,355)	(43,863)
C2 - C&I Existing Buildings	1,949	2,696	2,316	16,155	184,602	118,378	1,252,184	(60,393)	(644,163)
C2a - C&I Existing Building Retrofit	781	2,236	2,031	13,963	164,470	102,305	1,113,797	(59,152)	(634,531)
C2b - C&I New & Replacement Equipment	1,165	461	285	2,192	20,133	16,073	138,387	(1,240)	(9,632)
C2c - C&I Active Demand Reduction	3	-	-	-	-	-	-	-	-
Grand Total	246,009	6,030	7,045	38,783	307,695	283,067	2,084,013	105,455	3,965,608

2020 Evaluated Net Savings									
Program	# of Participants	Electric						Natural Gas	
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (MMBTU)		(Therms)	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	195,421	2,306	3,104	14,367	84,067	104,686	563,375	126,403	3,976,008
A1 - Residential New Buildings	375	64	186	887	15,888	6,421	101,167	-	-
A1a - Residential New Homes & Renovations	375	64	186	887	15,888	6,421	101,167	-	-
A2 - Residential Existing Buildings	195,046	2,242	2,918	13,480	68,179	98,265	462,208	126,403	3,976,008
A2a - Residential Coordinated Delivery	7,612	640	1,166	5,378	34,342	39,110	227,335	195,463	4,099,354
A2b - Residential Conservation Services (RCS)	6,715	-	-	-	-	-	-	-	-
A2c - Residential Retail	180,014	1,602	1,752	8,088	33,823	59,050	234,767	(69,060)	(123,347)
A2d - Residential Behavior	1	-	-	15	15	105	105	-	-
A2e - Residential Active Demand Reduction	704	-	-	-	-	-	-	-	-
B - Income Eligible	1,717	168	193	1,112	5,773	8,107	39,822	-	-
B1 - Income Eligible Existing Buildings	1,717	168	193	1,112	5,773	8,107	39,822	-	-
B1a - Income Eligible Coordinated Delivery	1,717	168	193	1,112	5,773	8,107	39,822	-	-
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	1,135	3,152	3,047	21,178	270,382	155,093	1,818,586	(743,798)	(11,019,917)
C1 - C&I New Buildings	23	88	41	739	12,239	5,426	81,448	(1,611)	(30,208)
C1a - C&I New Buildings & Major Renovations	23	88	41	739	12,239	5,426	81,448	(1,611)	(30,208)
C2 - C&I Existing Buildings	1,112	3,065	3,007	20,439	258,143	149,667	1,737,138	(742,187)	(10,989,709)
C2a - C&I Existing Building Retrofit	512	1,326	1,206	6,170	62,813	45,265	430,890	(25,688)	(254,485)
C2b - C&I New & Replacement Equipment	575	1,738	1,801	14,269	195,330	104,402	1,306,248	(716,500)	(10,735,224)
C2c - C&I Active Demand Reduction	25	-	-	-	-	-	-	-	-
Grand Total	198,273	5,627	6,344	36,657	360,222	267,886	2,421,784	(617,395)	(7,043,909)

Program Savings, Plan Year Summary

2020 Planned vs. Evaluated

Cape Light Compact

June 4, 2021

2020 Planned v. Evaluated Net Savings Variances (%)										
Program	# of Participants	Electric							Natural Gas	
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (MMBTU)			(Therms)	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime		Annual	Lifetime
A - Residential	-19%	-23%	-27%	-26%	-5%	-26%	-6%		-25%	-15%
A1 - Residential New Buildings	-27%	-43%	-12%	-12%	15%	-12%	12%			
A1a - Residential New Homes & Renovations	-27%	-43%	-12%	-12%	15%	-12%	12%			
A2 - Residential Existing Buildings	-19%	-22%	-28%	-27%	-8%	-27%	-9%		-25%	-15%
A2a - Residential Coordinated Delivery	109%	-6%	-2%	-7%	-21%	-7%	-21%		-16%	-18%
A2b - Residential Conservation Services (RCS)										
A2c - Residential Retail	11%	22%	18%	33%	40%	34%	36%		8%	-61%
A2d - Residential Behavior	-100%	-100%	-100%	-100%	-100%	-100%	-100%			
A2e - Residential Active Demand Reduction										
B - Income Eligible	23%	-35%	-52%	-48%	-67%	-48%	-66%			
B1 - Income Eligible Existing Buildings	23%	-35%	-52%	-48%	-67%	-48%	-66%			
B1a - Income Eligible Coordinated Delivery	23%	-35%	-52%	-48%	-67%	-48%	-66%			
B1b - Income Eligible Active Demand Reduction										
C - Commercial & Industrial	-43%	14%	28%	24%	34%	23%	33%		1085%	1502%
C1 - C&I New Buildings	-55%	23%	-34%	-25%	-30%	-25%	-30%		-32%	-31%
C1a - C&I New Buildings & Major Renovations	-55%	23%	-34%	-25%	-30%	-25%	-30%		-32%	-31%
C2 - C&I Existing Buildings	-43%	14%	30%	27%	40%	26%	39%		1129%	1606%
C2a - C&I Existing Building Retrofit	-34%	-41%	-41%	-56%	-62%	-56%	-61%		-57%	-60%
C2b - C&I New & Replacement Equipment	-51%	277%	532%	551%	870%	550%	844%		57669%	111353%
C2c - C&I Active Demand Reduction	733%									
Grand Total	-19%	-7%	-10%	-5%	17%	-5%	16%		-685%	-278%

Notes

- The plan year variances provided above are intended to indicate the Program Administrator's performance in the plan year only. The variances used to determine significant variances are provided separately. The variances above and the significant variances use different calculations to determine variances on an annual basis and over the three-year term, respectively.
- MMBtu savings are calculated consistent with the findings in the Study to Propose a More Refined Method to Account for the Conversion of Electric Savings to MMBtu Savings (2019 Energy Efficiency Plan-Year Reports, D.P.U. 20-50, Appendix 7).

Program Savings, Plan Year Summary**2020 Planned vs. Evaluated**

Cape Light Compact

June 4, 2021

2020 Planned Net Savings												
Program	Deliverable Fuels				Other				Total Savings		Electric Energy, no Fuel Switching or ADR (MWh)	
	Oil (MMBTU)		Propane (MMBTU)		Wood (MMBTU)		Water (Gallons)		MMBTU			
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	43,708	888,726	17,163	355,139	-	-	2,701,602	19,586,572	219,527	2,306,488	21,555	124,409
A1 - Residential New Buildings	19	453	4,820	118,992	-	-	-	-	12,171	209,390	1,008	13,850
A1a - Residential New Homes & Renovations	19	453	4,820	118,992	-	-	-	-	12,171	209,390	1,008	13,850
A2 - Residential Existing Buildings	43,689	888,273	12,343	236,148	-	-	2,701,602	19,586,572	207,356	2,097,099	20,548	110,559
A2a - Residential Coordinated Delivery	25,238	517,736	5,646	106,032	-	-	2,433,883	17,712,542	96,131	1,407,743	5,777	43,434
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	18,451	370,538	6,697	130,116	-	-	267,719	1,874,030	62,747	640,878	8,115	60,469
A2d - Residential Behavior	-	-	-	-	-	-	-	-	48,479	48,479	6,656	6,656
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	4,351	81,389	904	15,230	-	-	-	-	20,871	215,447	2,143	17,603
B1 - Income Eligible Existing Buildings	4,351	81,389	904	15,230	-	-	-	-	20,871	215,447	2,143	17,603
B1a - Income Eligible Coordinated Delivery	4,351	81,389	904	15,230	-	-	-	-	20,871	215,447	2,143	17,603
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	(4,760)	(53,915)	35	778	-	-	245,770	2,059,439	114,614	1,245,987	17,140	202,036
C1 - C&I New Buildings	(97)	(1,290)	-	-	-	-	5,249	41,991	6,903	110,066	985	17,434
C1a - C&I New Buildings & Major Renovations	(97)	(1,290)	-	-	-	-	5,249	41,991	6,903	110,066	985	17,434
C2 - C&I Existing Buildings	(4,663)	(52,625)	35	778	-	-	240,521	2,017,448	107,711	1,135,921	16,155	184,602
C2a - C&I Existing Building Retrofit	(4,444)	(50,681)	35	778	-	-	218,021	1,809,588	91,981	1,000,441	13,963	164,470
C2b - C&I New & Replacement Equipment	(218)	(1,944)	-	-	-	-	22,500	207,860	15,731	135,480	2,192	20,133
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	43,299	916,200	18,102	371,148	-	-	2,947,372	21,646,011	355,013	3,767,922	40,838	344,048

2020 Evaluated Net Savings												
Program	Deliverable Fuels				Other				Total Savings		Electric Energy, no Fuel Switching or ADR (MWh)	
	Oil (MMBTU)		Propane (MMBTU)		Wood (MMBTU)		Water (Gallons)		MMBTU			
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	35,158	726,621	16,157	311,527	-	-	3,043,019	40,195,076	168,641	1,999,124	16,163	115,805
A1 - Residential New Buildings	25	603	1,326	33,233	-	-	-	-	7,771	135,003	887	15,888
A1a - Residential New Homes & Renovations	25	603	1,326	33,233	-	-	-	-	7,771	135,003	887	15,888
A2 - Residential Existing Buildings	35,133	726,018	14,831	278,294	-	-	3,043,019	40,195,076	160,870	1,864,120	15,276	99,918
A2a - Residential Coordinated Delivery	23,060	464,103	3,799	76,625	-	-	3,015,637	39,784,348	85,515	1,177,999	5,410	34,928
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	11,499	261,340	10,846	201,482	-	-	27,382	410,729	74,488	685,255	9,851	64,975
A2d - Residential Behavior	574	574	187	187	-	-	-	-	866	866	15	15
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	1,621	31,679	331	6,587	-	-	460,448	5,646,747	10,059	78,088	1,121	5,915
B1 - Income Eligible Existing Buildings	1,621	31,679	331	6,587	-	-	460,448	5,646,747	10,059	78,088	1,121	5,915
B1a - Income Eligible Coordinated Delivery	1,621	31,679	331	6,587	-	-	460,448	5,646,747	10,059	78,088	1,121	5,915
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	(1,851)	(17,854)	24	290	-	-	476,315	4,837,725	78,887	699,031	21,178	270,382
C1 - C&I New Buildings	(58)	(760)	-	-	-	-	3,499	27,994	5,207	77,667	739	12,239
C1a - C&I New Buildings & Major Renovations	(58)	(760)	-	-	-	-	3,499	27,994	5,207	77,667	739	12,239
C2 - C&I Existing Buildings	(1,792)	(17,093)	24	290	-	-	472,816	4,809,731	73,680	621,364	20,439	258,143
C2a - C&I Existing Building Retrofit	(1,549)	(14,811)	24	290	-	-	333,775	3,156,303	41,171	390,921	6,170	62,813
C2b - C&I New & Replacement Equipment	(243)	(2,283)	-	-	-	-	139,041	1,653,428	32,509	230,443	14,269	195,330
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	34,928	740,446	16,513	318,403	-	-	3,979,782	50,679,549	257,587	2,776,242	38,463	392,103

Program Savings, Plan Year Summary
2020 Planned vs. Evaluated
Cape Light Compact
June 4, 2021

2020 Planned v. Evaluated Net Savings Variances (%)													
Program	Deliverable Fuels				Other				Total Savings		Electric Energy, no Fuel Switching or ADR (MWh)		
	Oil (MMBTU)		Propane (MMBTU)		Wood (MMBTU)		Water (Gallons)		MMBTU				
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	
A - Residential	-20%	-18%	-6%	-12%				13%	105%	-23%	-13%	-25%	-7%
A1 - Residential New Buildings	32%	33%	-72%	-72%						-36%	-36%	-12%	15%
A1a - Residential New Homes & Renovations	32%	33%	-72%	-72%						-36%	-36%	-12%	15%
A2 - Residential Existing Buildings	-20%	-18%	20%	18%				13%	105%	-22%	-11%	-26%	-10%
A2a - Residential Coordinated Delivery	-9%	-10%	-33%	-28%				24%	125%	-11%	-16%	-6%	-20%
A2b - Residential Conservation Services (RCS)													
A2c - Residential Retail	-38%	-29%	62%	55%				-90%	-78%	19%	7%	21%	7%
A2d - Residential Behavior										-98%	-98%	-100%	-100%
A2e - Residential Active Demand Reduction													
B - Income Eligible	-63%	-61%	-63%	-57%						-52%	-64%	-48%	-66%
B1 - Income Eligible Existing Buildings	-63%	-61%	-63%	-57%						-52%	-64%	-48%	-66%
B1a - Income Eligible Coordinated Delivery	-63%	-61%	-63%	-57%						-52%	-64%	-48%	-66%
B1b - Income Eligible Active Demand Reduction													
C - Commercial & Industrial	-61%	-67%	-30%	-63%				94%	135%	-31%	-44%	24%	34%
C1 - C&I New Buildings	-40%	-41%						-33%	-33%	-25%	-29%	-25%	-30%
C1a - C&I New Buildings & Major Renovations	-40%	-41%						-33%	-33%	-25%	-29%	-25%	-30%
C2 - C&I Existing Buildings	-62%	-68%	-30%	-63%				97%	138%	-32%	-45%	27%	40%
C2a - C&I Existing Building Retrofit	-65%	-71%	-30%	-63%				53%	74%	-55%	-61%	-56%	-62%
C2b - C&I New & Replacement Equipment	11%	17%						518%	695%	107%	70%	551%	870%
C2c - C&I Active Demand Reduction													
Grand Total	-19%	-19%	-9%	-14%				35%	134%	-27%	-26%	-6%	14%

Notes

- The plan year variances provided above are intended to indicate the Program Administrator's performance in the plan year only. The variances used to determine significant variances are provided separately. The variances above and the significant variances use different calculations to determine variances on an annual basis and over the three-year term, respectively.
- MMBtu savings are calculated consistent with the findings in the Study to Propose a More Refined Method to Account for the Conversion of Electric Savings to MMBtu Savings (2019 Energy Efficiency Plan-Year Reports, D.P.U. 20-50, Appendix 7).

Program Savings, Three-Year Total

2019-2021 Net Savings

Cape Light Compact

June 4, 2021

2019 Evaluated Net Savings									
Program	# of Participants	Electric						Natural Gas	
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (MMBTU)		(Therms)	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	282,965	3,714	5,022	24,892	152,794	181,161	1,039,504	116,076	4,612,976
A1 - Residential New Buildings	366	76	179	1,006	17,639	7,306	114,158	-	-
A1a - Residential New Homes & Renovations	366	76	179	1,006	17,639	7,306	114,158	-	-
A2 - Residential Existing Buildings	282,599	3,639	4,843	23,886	135,156	173,855	925,346	116,076	4,612,976
A2a - Residential Coordinated Delivery	10,344	1,334	2,236	10,560	80,086	76,805	538,516	240,801	4,961,384
A2b - Residential Conservation Services (RCS)	6,468	-	-	-	-	-	-	-	-
A2c - Residential Retail	265,785	2,260	2,562	13,073	54,817	95,203	384,983	(124,725)	(348,408)
A2d - Residential Behavior	2	44	45	253	253	1,846	1,846	-	-
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-
B - Income Eligible	2,270	299	350	2,075	15,200	15,135	105,236	-	-
B1 - Income Eligible Existing Buildings	2,270	299	350	2,075	15,200	15,135	105,236	-	-
B1a - Income Eligible Coordinated Delivery	2,270	299	350	2,075	15,200	15,135	105,236	-	-
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	1,357	2,152	2,019	11,669	132,875	82,659	879,506	(34,709)	(377,839)
C1 - C&I New Buildings	28	120	48	859	14,917	5,819	93,164	(2,205)	(39,619)
C1a - C&I New Buildings & Major Renovations	28	120	48	859	14,917	5,819	93,164	(2,205)	(39,619)
C2 - C&I Existing Buildings	1,329	2,032	1,971	10,810	117,958	76,840	786,342	(32,504)	(338,221)
C2a - C&I Existing Building Retrofit	744	1,646	1,655	8,378	92,771	59,137	614,278	(30,909)	(324,168)
C2b - C&I New & Replacement Equipment	585	386	316	2,432	25,187	17,703	172,064	(1,595)	(14,053)
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-
Grand Total	286,592	6,165	7,391	38,636	300,870	278,955	2,024,246	81,367	4,235,137

2020 Evaluated Net Savings									
Program	# of Participants	Electric						Natural Gas	
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (MMBTU)		(Therms)	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	195,421	2,306	3,104	14,367	84,067	104,686	563,375	126,403	3,976,008
A1 - Residential New Buildings	375	64	186	887	15,888	6,421	101,167	-	-
A1a - Residential New Homes & Renovations	375	64	186	887	15,888	6,421	101,167	-	-
A2 - Residential Existing Buildings	195,046	2,242	2,918	13,480	68,179	98,265	462,208	126,403	3,976,008
A2a - Residential Coordinated Delivery	7,612	640	1,166	5,378	34,342	39,110	227,335	195,463	4,099,354
A2b - Residential Conservation Services (RCS)	6,715	-	-	-	-	-	-	-	-
A2c - Residential Retail	180,014	1,602	1,752	8,088	33,823	59,050	234,767	(69,060)	(123,347)
A2d - Residential Behavior	1	-	-	15	15	105	105	-	-
A2e - Residential Active Demand Reduction	704	-	-	-	-	-	-	-	-
B - Income Eligible	1,717	168	193	1,112	5,773	8,107	39,822	-	-
B1 - Income Eligible Existing Buildings	1,717	168	193	1,112	5,773	8,107	39,822	-	-
B1a - Income Eligible Coordinated Delivery	1,717	168	193	1,112	5,773	8,107	39,822	-	-
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	1,135	3,152	3,047	21,178	270,382	155,093	1,818,586	(743,798)	(11,019,917)
C1 - C&I New Buildings	23	88	41	739	12,239	5,426	81,448	(1,611)	(30,208)
C1a - C&I New Buildings & Major Renovations	23	88	41	739	12,239	5,426	81,448	(1,611)	(30,208)
C2 - C&I Existing Buildings	1,112	3,065	3,007	20,439	258,143	149,667	1,737,138	(742,187)	(10,989,709)
C2a - C&I Existing Building Retrofit	512	1,326	1,206	6,170	62,813	45,265	430,890	(25,688)	(254,485)
C2b - C&I New & Replacement Equipment	575	1,738	1,801	14,269	195,330	104,402	1,306,248	(716,500)	(10,735,224)
C2c - C&I Active Demand Reduction	25	-	-	-	-	-	-	-	-
Grand Total	198,273	5,627	6,344	36,657	360,222	267,886	2,421,784	(617,395)	(7,043,909)

Program Savings, Three-Year Total

2019-2021 Net Savings

Cape Light Compact

June 4, 2021

2021 Planned Net Savings									
Program	# of Participants	Electric						Natural Gas	
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (MMBTU)		(Therms)	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	168,200	2,340	3,464	15,546	66,054	112,301	436,798	203,213	4,845,655
A1 - Residential New Buildings	536	99	202	935	13,395	6,754	85,640	-	-
A1a - Residential New Homes & Renovations	536	99	202	935	13,395	6,754	85,640	-	-
A2 - Residential Existing Buildings	167,664	2,241	3,262	14,611	52,659	105,547	351,158	203,213	4,845,655
A2a - Residential Coordinated Delivery	3,658	490	959	4,671	45,461	33,706	294,323	231,181	4,956,447
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	94,006	743	744	2,452	(290)	17,634	2,628	(27,968)	(110,793)
A2d - Residential Behavior	70,000	1,008	1,558	7,488	7,488	54,207	54,207	-	-
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-
B - Income Eligible	1,450	236	390	2,056	18,144	14,884	120,604	-	-
B1 - Income Eligible Existing Buildings	1,450	236	390	2,056	18,144	14,884	120,604	-	-
B1a - Income Eligible Coordinated Delivery	1,450	236	390	2,056	18,144	14,884	120,604	-	-
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	2,039	2,854	2,496	17,087	196,715	124,576	1,316,050	(63,580)	(655,101)
C1 - C&I New Buildings	52	71	61	1,026	18,260	7,505	120,099	(2,471)	(46,191)
C1a - C&I New Buildings & Major Renovations	52	71	61	1,026	18,260	7,505	120,099	(2,471)	(46,191)
C2 - C&I Existing Buildings	1,987	2,783	2,435	16,061	178,455	117,071	1,195,951	(61,109)	(608,910)
C2a - C&I Existing Building Retrofit	816	2,366	2,178	14,082	160,532	102,633	1,074,455	(60,067)	(601,289)
C2b - C&I New & Replacement Equipment	1,168	417	256	1,979	17,924	14,437	121,496	(1,043)	(7,621)
C2c - C&I Active Demand Reduction	3	-	-	-	-	-	-	-	-
Grand Total	171,689	5,430	6,350	34,689	280,914	251,761	1,873,453	139,633	4,190,554

2019-2021 Net Savings									
Program	# of Participants	Electric						Natural Gas	
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (MMBTU)		(Therms)	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	646,586	8,361	11,590	54,805	302,916	398,147	2,039,677	445,692	13,434,638
A1 - Residential New Buildings	1,277	239	567	2,828	46,922	20,481	300,965	-	-
A1a - Residential New Homes & Renovations	1,277	239	567	2,828	46,922	20,481	300,965	-	-
A2 - Residential Existing Buildings	645,309	8,122	11,023	51,977	255,994	377,667	1,738,712	445,692	13,434,638
A2a - Residential Coordinated Delivery	21,614	2,464	4,362	20,609	159,888	149,622	1,060,175	667,445	14,017,186
A2b - Residential Conservation Services (RCS)	13,183	-	-	-	-	-	-	-	-
A2c - Residential Retail	539,805	4,605	5,058	23,613	88,350	171,886	622,378	(221,753)	(582,548)
A2d - Residential Behavior	70,003	1,052	1,603	7,756	7,756	56,159	56,159	-	-
A2e - Residential Active Demand Reduction	704	-	-	-	-	-	-	-	-
B - Income Eligible	5,437	704	934	5,242	39,117	38,127	265,663	-	-
B1 - Income Eligible Existing Buildings	5,437	704	934	5,242	39,117	38,127	265,663	-	-
B1a - Income Eligible Coordinated Delivery	5,437	704	934	5,242	39,117	38,127	265,663	-	-
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	4,531	8,158	7,562	49,934	599,973	362,328	4,014,142	(842,088)	(12,052,857)
C1 - C&I New Buildings	103	279	150	2,625	45,417	18,750	294,711	(6,287)	(116,018)
C1a - C&I New Buildings & Major Renovations	103	279	150	2,625	45,417	18,750	294,711	(6,287)	(116,018)
C2 - C&I Existing Buildings	4,428	7,879	7,413	47,309	554,556	343,578	3,719,432	(835,801)	(11,936,839)
C2a - C&I Existing Building Retrofit	2,072	5,337	5,040	28,630	316,115	207,036	2,119,623	(116,663)	(1,179,942)
C2b - C&I New & Replacement Equipment	2,328	2,542	2,373	18,679	238,441	136,542	1,599,808	(719,138)	(10,756,897)
C2c - C&I Active Demand Reduction	28	-	-	-	-	-	-	-	-
Grand Total	656,554	17,223	20,086	109,982	942,006	798,602	6,319,483	(396,396)	1,381,781

Notes

- MMBtu savings are calculated consistent with the findings in the Study to Propose a More Refined Method to Account for the Conversion of Electric Savings to MMBtu Savings (2019 Energy Efficiency Plan-Year Reports, D.P.U. 20-50, Appendix 7).

Program Savings, Three-Year Total
2019-2021 Net Savings
Cape Light Compact
June 4, 2021

2019 Evaluated Net Savings												
Program	Deliverable Fuels				Other				Total Savings		Electric Energy, no Fuel	
	Oil (MMBTU)		Propane (MMBTU)		Wood (MMBTU)		Water (Gallons)		MMBTU		Switching or ADR (MWh)	
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	28,868	672,821	10,076	221,642	-	-	3,876,723	27,863,522	231,711	2,395,264	25,642	166,199
A1 - Residential New Buildings	80	1,997	744	20,520	-	-	-	-	8,130	136,675	1,006	17,639
A1a - Residential New Homes & Renovations	80	1,997	744	20,520	-	-	-	-	8,130	136,675	1,006	17,639
A2 - Residential Existing Buildings	28,788	670,824	9,332	201,122	-	-	3,876,723	27,863,522	223,582	2,258,589	24,636	148,560
A2a - Residential Coordinated Delivery	27,292	551,465	5,667	115,659	-	-	3,872,009	27,830,522	133,845	1,701,778	10,678	82,189
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	939	118,803	3,358	85,156	-	-	4,714	33,000	87,028	554,102	13,706	66,118
A2d - Residential Behavior	556	556	307	307	-	-	-	-	2,709	2,709	253	253
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	2,460	48,005	494	9,510	-	-	1,328,006	15,936,072	18,089	162,751	2,075	15,200
B1 - Income Eligible Existing Buildings	2,460	48,005	494	9,510	-	-	1,328,006	15,936,072	18,089	162,751	2,075	15,200
B1a - Income Eligible Coordinated Delivery	2,460	48,005	494	9,510	-	-	1,328,006	15,936,072	18,089	162,751	2,075	15,200
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	(2,052)	(22,765)	53	474	-	-	1,413,457	11,794,732	77,189	819,431	11,669	132,875
C1 - C&I New Buildings	(179)	(2,670)	-	-	-	-	-	-	5,419	86,531	859	14,917
C1a - C&I New Buildings & Major Renovations	(179)	(2,670)	-	-	-	-	-	-	5,419	86,531	859	14,917
C2 - C&I Existing Buildings	(1,873)	(20,094)	53	474	-	-	1,413,457	11,794,732	71,769	732,900	10,810	117,958
C2a - C&I Existing Building Retrofit	(1,685)	(18,324)	53	474	-	-	1,314,945	10,519,557	54,414	564,011	8,378	92,771
C2b - C&I New & Replacement Equipment	(188)	(1,770)	-	-	-	-	98,512	1,275,175	17,355	168,889	2,432	25,187
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	29,275	698,061	10,623	231,626	-	-	6,618,186	55,594,326	326,989	3,377,446	39,386	314,274

Program	2020 Evaluated Net Savings											
	Deliverable Fuels				Other				Total Savings		Electric Energy, no Fuel	
	Oil (MMBTU)		Propane (MMBTU)		Wood (MMBTU)		Water (Gallons)		MMBTU		Switching or ADR (MWh)	
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	35,158	726,621	16,157	311,527	-	-	3,043,019	40,195,076	168,641	1,999,124	16,163	115,805
A1 - Residential New Buildings	25	603	1,326	33,233	-	-	-	-	7,771	135,003	887	15,888
A1a - Residential New Homes & Renovations	25	603	1,326	33,233	-	-	-	-	7,771	135,003	887	15,888
A2 - Residential Existing Buildings	35,133	726,018	14,831	278,294	-	-	3,043,019	40,195,076	160,870	1,864,120	15,276	99,918
A2a - Residential Coordinated Delivery	23,060	464,103	3,799	76,625	-	-	3,015,637	39,784,348	85,515	1,177,999	5,410	34,928
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	11,499	261,340	10,846	201,482	-	-	27,382	410,729	74,488	685,255	9,851	64,975
A2d - Residential Behavior	574	574	187	187	-	-	-	-	866	866	15	15
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	1,621	31,679	331	6,587	-	-	460,448	5,646,747	10,059	78,088	1,121	5,915
B1 - Income Eligible Existing Buildings	1,621	31,679	331	6,587	-	-	460,448	5,646,747	10,059	78,088	1,121	5,915
B1a - Income Eligible Coordinated Delivery	1,621	31,679	331	6,587	-	-	460,448	5,646,747	10,059	78,088	1,121	5,915
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	(1,851)	(17,854)	24	290	-	-	476,315	4,837,725	78,887	699,031	21,178	270,382
C1 - C&I New Buildings	(58)	(760)	-	-	-	-	3,499	27,994	5,207	77,667	739	12,239
C1a - C&I New Buildings & Major Renovations	(58)	(760)	-	-	-	-	3,499	27,994	5,207	77,667	739	12,239
C2 - C&I Existing Buildings	(1,792)	(17,093)	24	290	-	-	472,816	4,809,731	73,680	621,364	20,439	258,143
C2a - C&I Existing Building Retrofit	(1,549)	(14,811)	24	290	-	-	333,775	3,156,303	41,171	390,921	6,170	62,813
C2b - C&I New & Replacement Equipment	(243)	(2,283)	-	-	-	-	139,041	1,653,428	32,509	230,443	14,269	195,330
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	34,928	740,446	16,513	318,403	-	-	3,979,782	50,679,549	257,587	2,776,242	38,463	392,103

Program Savings, Three-Year Total
2019-2021 Net Savings
Cape Light Compact
June 4, 2021

2021 Planned Net Savings												
Program	Deliverable Fuels				Other				Total Savings		Electric Energy, no Fuel Switching or ADR (MWh)	
	Oil (MMBTU)		Propane (MMBTU)		Wood (MMBTU)		Water (Gallons)		MMBTU			
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	45,686	897,031	18,291	368,676	-	-	2,701,602	19,586,572	196,599	2,187,071	17,564	101,745
A1 - Residential New Buildings	20	473	5,036	124,323	-	-	-	-	11,810	210,437	935	13,395
A1a - Residential New Homes & Renovations	20	473	5,036	124,323	-	-	-	-	11,810	210,437	935	13,395
A2 - Residential Existing Buildings	45,666	896,558	13,254	244,353	-	-	2,701,602	19,586,572	184,789	1,976,634	16,629	88,349
A2a - Residential Coordinated Delivery	25,460	521,086	6,072	112,422	-	-	2,433,883	17,712,542	88,356	1,423,476	4,671	45,461
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	20,206	375,471	7,182	131,931	-	-	267,719	1,874,030	42,226	498,951	4,470	35,401
A2d - Residential Behavior	-	-	-	-	-	-	-	-	54,207	54,207	7,488	7,488
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	4,512	84,607	930	15,756	-	-	-	-	20,326	220,967	2,056	18,144
B1 - Income Eligible Existing Buildings	4,512	84,607	930	15,756	-	-	-	-	20,326	220,967	2,056	18,144
B1a - Income Eligible Coordinated Delivery	4,512	84,607	930	15,756	-	-	-	-	20,326	220,967	2,056	18,144
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	(4,763)	(51,450)	35	778	-	-	262,875	2,205,561	113,489	1,199,869	17,087	196,715
C1 - C&I New Buildings	(115)	(1,648)	-	-	-	-	5,249	41,991	7,143	113,832	1,026	18,260
C1a - C&I New Buildings & Major Renovations	(115)	(1,648)	-	-	-	-	5,249	41,991	7,143	113,832	1,026	18,260
C2 - C&I Existing Buildings	(4,648)	(49,801)	35	778	-	-	257,626	2,163,571	106,347	1,086,037	16,061	178,455
C2a - C&I Existing Building Retrofit	(4,454)	(48,118)	35	778	-	-	227,626	1,886,424	92,207	966,986	14,082	160,532
C2b - C&I New & Replacement Equipment	(194)	(1,683)	-	-	-	-	30,000	277,147	14,140	119,051	1,979	17,924
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	45,435	930,188	19,256	385,211	-	-	2,964,476	21,792,133	330,415	3,607,907	36,706	316,604

2019-2021 Net Savings												
Program	Deliverable Fuels				Other				Total Savings		Electric Energy, no Fuel Switching or ADR (MWh)	
	Oil (MMBTU)		Propane (MMBTU)		Wood (MMBTU)		Water (Gallons)		MMBTU			
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	109,711	2,296,473	44,523	901,845	-	-	9,621,343	87,645,170	596,951	6,581,459	59,369	383,749
A1 - Residential New Buildings	124	3,074	7,106	178,077	-	-	-	-	27,711	482,116	2,828	46,922
A1a - Residential New Homes & Renovations	124	3,074	7,106	178,077	-	-	-	-	27,711	482,116	2,828	46,922
A2 - Residential Existing Buildings	109,587	2,293,399	37,417	723,768	-	-	9,621,343	87,645,170	569,240	6,099,343	56,540	336,827
A2a - Residential Coordinated Delivery	75,812	1,536,654	15,538	304,705	-	-	9,321,528	85,327,411	307,716	4,303,253	20,759	162,578
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	32,645	755,615	21,386	418,569	-	-	299,815	2,317,759	203,741	1,738,308	28,026	166,494
A2d - Residential Behavior	1,130	1,130	494	494	-	-	-	-	57,782	57,782	7,756	7,756
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	8,592	164,290	1,756	31,853	-	-	1,788,454	21,582,819	48,475	461,806	5,252	39,260
B1 - Income Eligible Existing Buildings	8,592	164,290	1,756	31,853	-	-	1,788,454	21,582,819	48,475	461,806	5,252	39,260
B1a - Income Eligible Coordinated Delivery	8,592	164,290	1,756	31,853	-	-	1,788,454	21,582,819	48,475	461,806	5,252	39,260
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	(8,666)	(92,068)	112	1,542	-	-	2,152,647	18,838,019	269,565	2,718,330	49,934	599,973
C1 - C&I New Buildings	(352)	(5,079)	-	-	-	-	8,748	69,985	17,769	278,030	2,625	45,417
C1a - C&I New Buildings & Major Renovations	(352)	(5,079)	-	-	-	-	8,748	69,985	17,769	278,030	2,625	45,417
C2 - C&I Existing Buildings	(8,314)	(86,989)	112	1,542	-	-	2,143,898	18,768,034	251,796	2,440,301	47,309	554,556
C2a - C&I Existing Building Retrofit	(7,689)	(81,253)	112	1,542	-	-	1,876,346	15,562,284	187,792	1,921,918	28,630	316,115
C2b - C&I New & Replacement Equipment	(625)	(5,736)	-	-	-	-	267,553	3,205,751	64,004	518,383	18,679	238,441
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	109,638	2,368,695	46,391	935,239	-	-	13,562,444	128,066,008	914,991	9,761,595	114,555	1,022,981

Notes

- MMBtu savings are calculated consistent with the findings in the Study to Propose a More Refined Method to Account for the Conversion of Electric Savings to MMBtu Savings (2019 Energy Efficiency Plan-Year Reports, D.P.U. 20-50, Appendix 7).

Demand Response Savings, Plan Year Summary

2020 Planned vs. Evaluated

Cape Light Compact

June 4, 2021

2020 Planned Net Savings									
Program	# of Participants	Electric						Total Savings	
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (MMBTU)		MMBTU	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	1,764	1,455	120	(1)	(1)	(8)	(8)	(8)	(8)
A2 - Residential Existing Buildings	1,764	1,455	120	(1)	(1)	(8)	(8)	(8)	(8)
A2e - Residential Active Demand Reduction	1,764	1,455	120	(1)	(1)	(8)	(8)	(8)	(8)
B - Income Eligible	-	-	-	-	-	-	-	-	-
B1 - Income Eligible Existing Buildings	-	-	-	-	-	-	-	-	-
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	40	14,563	5,125	(16)	(16)	(136)	(136)	(136)	(136)
C2 - C&I Existing Buildings	40	14,563	5,125	(16)	(16)	(136)	(136)	(136)	(136)
C2c - C&I Active Demand Reduction	40	14,563	5,125	(16)	(16)	(136)	(136)	(136)	(136)
Grand Total	1,804	16,018	5,245	(17)	(17)	(145)	(145)	(145)	(145)

2020 Evaluated Net Savings									
Program	# of Participants	Electric						Total Savings	
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (MMBTU)		MMBTU	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	704	-	-	-	-	-	-	-	-
A2 - Residential Existing Buildings	704	-	-	-	-	-	-	-	-
A2e - Residential Active Demand Reduction	704	-	-	-	-	-	-	-	-
B - Income Eligible	-	-	-	-	-	-	-	-	-
B1 - Income Eligible Existing Buildings	-	-	-	-	-	-	-	-	-
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	25	962	-	(0)	(0)	(1)	(1)	(1)	(1)
C2 - C&I Existing Buildings	25	962	-	(0)	(0)	(1)	(1)	(1)	(1)
C2c - C&I Active Demand Reduction	25	962	-	(0)	(0)	(1)	(1)	(1)	(1)
Grand Total	729	962	-	(0)	(0)	(1)	(1)	(1)	(1)

2020 Planned v. Evaluated Net Savings Variances (%)									
Program	# of Participants	Electric						Total Savings	
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (MMBTU)		MMBTU	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	-60%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%
A2 - Residential Existing Buildings	-60%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%
A2e - Residential Active Demand Reduction	-60%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%
B - Income Eligible	-	-	-	-	-	-	-	-	-
B1 - Income Eligible Existing Buildings	-	-	-	-	-	-	-	-	-
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	-38%	-93%	-100%	-98%	-98%	-99%	-99%	-99%	-99%
C2 - C&I Existing Buildings	-38%	-93%	-100%	-98%	-98%	-99%	-99%	-99%	-99%
C2c - C&I Active Demand Reduction	-38%	-93%	-100%	-98%	-98%	-99%	-99%	-99%	-99%
Grand Total	-60%	-94%	-100%	-98%	-98%	-99%	-99%	-99%	-99%

Notes

- The above tables reflect only demand response measures in the active demand reduction core initiatives. These savings cannot be summed across years, so are shown here for each individual year.
- The active demand reduction core initiatives may include other, non-demand response measures such as storage. If applicable, those measures are included in the previous savings tables.

Demand Response Savings, Three-Year Total

2019-2021 Net Savings

Cape Light Compact
June 4, 2021

2019 Evaluated Net Savings									
Program	# of Participants	Electric						Total Savings	
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (MMBTU)		MMBTU	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential									
A2 - Residential Existing Buildings									
A2e - Residential Active Demand Reduction									
B - Income Eligible									
B1 - Income Eligible Existing Buildings									
B1b - Income Eligible Active Demand Reduction									
C - Commercial & Industrial									
C2 - C&I Existing Buildings									
C2c - C&I Active Demand Reduction									
Grand Total									

2020 Evaluated Net Savings									
Program	# of Participants	Electric						Total Savings	
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (MMBTU)		MMBTU	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	704	-	-	-	-	-	-	-	-
A2 - Residential Existing Buildings	704	-	-	-	-	-	-	-	-
A2e - Residential Active Demand Reduction	704	-	-	-	-	-	-	-	-
B - Income Eligible	-	-	-	-	-	-	-	-	-
B1 - Income Eligible Existing Buildings	-	-	-	-	-	-	-	-	-
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	25	962	-	(0)	(0)	(1)	(1)	(1)	(1)
C2 - C&I Existing Buildings	25	962	-	(0)	(0)	(1)	(1)	(1)	(1)
C2c - C&I Active Demand Reduction	25	962	-	(0)	(0)	(1)	(1)	(1)	(1)
Grand Total	729	962	-	(0)	(0)	(1)	(1)	(1)	(1)

2021 Planned Net Savings									
Program	# of Participants	Electric						Total Savings	
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (MMBTU)		MMBTU	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	2,709	2,247	200	(2)	(2)	(14)	(14)	(14)	(14)
A2 - Residential Existing Buildings	2,709	2,247	200	(2)	(2)	(14)	(14)	(14)	(14)
A2e - Residential Active Demand Reduction	2,709	2,247	200	(2)	(2)	(14)	(14)	(14)	(14)
B - Income Eligible	-	-	-	-	-	-	-	-	-
B1 - Income Eligible Existing Buildings	-	-	-	-	-	-	-	-	-
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	54	25,120	7,750	(16)	(16)	(135)	(135)	(135)	(135)
C2 - C&I Existing Buildings	54	25,120	7,750	(16)	(16)	(135)	(135)	(135)	(135)
C2c - C&I Active Demand Reduction	54	25,120	7,750	(16)	(16)	(135)	(135)	(135)	(135)
Grand Total	2,763	27,367	7,950	(17)	(17)	(149)	(149)	(149)	(149)

Notes

- The above tables reflect only demand response measures in the active demand reduction core initiatives. These savings cannot be summed across years, so are shown here for each individual year.
- The active demand reduction core initiatives may include other, non-demand response measures such as storage. If applicable, those measures are included in the previous savings tables.

Program Benefits, Plan Year Summary
2020 Planned vs. Evaluated
Cape Light Compact
June 4, 2021

2020 Planned Benefits										
Program	Electric Benefits									
	Capacity						Electric Energy			
	Summer Generation	Capacity DRIPE	Transmission	Distribution	Reliability	Total Capacity Benefits	Electric Energy	Electric Energy DRIPE	Electric Energy Environmental Compliance	Total Electric Energy Benefits
A - Residential	1,068,013	368,639	1,542,006	3,248,054	48,156	6,274,868	5,804,851	1,955,351	3,156,490	10,916,692
A1 - Residential New Buildings	80,898	1,392	98,714	207,928	1,503	390,434	921,914	191,856	485,888	1,599,658
A1a - Residential New Homes & Renovations	80,898	1,392	98,714	207,928	1,503	390,434	921,914	191,856	485,888	1,599,658
A2 - Residential Existing Buildings	987,116	367,248	1,443,292	3,040,126	46,653	5,884,435	4,882,937	1,763,495	2,670,602	9,317,035
A2a - Residential Coordinated Delivery	292,507	90,420	356,781	751,518	6,538	1,497,764	2,866,517	644,914	1,535,145	5,046,577
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	619,165	35,901	861,926	1,815,546	17,353	3,349,891	1,592,037	979,104	892,970	3,464,112
A2d - Residential Behavior	61,738	126,860	85,602	180,311	4,031	458,543	424,264	139,251	242,523	806,039
A2e - Residential Active Demand Reduction	13,706	114,067	138,982	292,750	18,731	578,236	119	226	(37)	307
B - Income Eligible	123,618	23,169	160,496	338,067	3,114	648,464	1,106,868	343,132	627,513	2,077,513
B1 - Income Eligible Existing Buildings	123,618	23,169	160,496	338,067	3,114	648,464	1,106,868	343,132	627,513	2,077,513
B1a - Income Eligible Coordinated Delivery	123,618	23,169	160,496	338,067	3,114	648,464	1,106,868	343,132	627,513	2,077,513
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	2,869,252	1,313,430	4,674,263	9,845,788	240,529	18,943,262	12,247,414	4,079,084	7,116,311	23,442,809
C1 - C&I New Buildings	77,154	1,112	92,457	194,750	1,464	366,936	1,063,604	242,845	605,765	1,912,215
C1a - C&I New Buildings & Major Renovations	77,154	1,112	92,457	194,750	1,464	366,936	1,063,604	242,845	605,765	1,912,215
C2 - C&I Existing Buildings	2,792,098	1,312,318	4,581,806	9,651,039	239,065	18,576,326	11,183,810	3,836,239	6,510,546	21,530,594
C2a - C&I Existing Building Retrofit	2,347,511	133,941	2,789,473	5,875,699	43,731	11,190,356	9,974,111	3,350,058	5,797,694	19,121,864
C2b - C&I New & Replacement Equipment	307,390	36,556	401,106	844,883	7,831	1,597,767	1,207,723	482,421	713,465	2,403,609
C2c - C&I Active Demand Reduction	137,197	1,141,820	1,391,227	2,930,456	187,503	5,788,202	1,975	3,760	(613)	5,122
Grand Total	4,060,883	1,705,237	6,376,765	13,431,910	291,799	25,866,594	19,159,134	6,377,566	10,900,315	36,437,015

2020 Evaluated Benefits										
Program	Electric Benefits									
	Capacity						Electric Energy			
	Summer Generation	Capacity DRIPE	Transmission	Distribution	Reliability	Total Capacity Benefits	Electric Energy	Electric Energy DRIPE	Electric Energy Environmental Compliance	Total Electric Energy Benefits
A - Residential	967,156	263,336	1,206,415	2,541,172	23,090	5,001,170	5,393,937	1,407,283	2,973,609	9,774,829
A1 - Residential New Buildings	68,190	5,602	74,380	156,672	881	305,725	1,078,195	153,139	555,699	1,787,033
A1a - Residential New Homes & Renovations	68,190	5,602	74,380	156,672	881	305,725	1,078,195	153,139	555,699	1,787,033
A2 - Residential Existing Buildings	898,966	257,734	1,132,035	2,384,500	22,209	4,695,444	4,315,742	1,254,144	2,417,910	7,987,796
A2a - Residential Coordinated Delivery	191,046	85,668	246,138	518,461	5,320	1,046,632	2,263,128	529,346	1,216,829	4,009,303
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	707,920	172,066	885,897	1,866,039	16,889	3,648,812	2,051,607	724,528	1,200,541	3,976,676
A2d - Residential Behavior	-	-	-	-	-	-	1,006	270	540	1,816
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	60,001	18,868	80,541	169,649	1,750	330,810	357,378	135,642	205,983	699,004
B1 - Income Eligible Existing Buildings	60,001	18,868	80,541	169,649	1,750	330,810	357,378	135,642	205,983	699,004
B1a - Income Eligible Coordinated Delivery	60,001	18,868	80,541	169,649	1,750	330,810	357,378	135,642	205,983	699,004
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	2,839,758	189,961	3,598,934	7,580,733	72,011	14,281,397	16,353,482	4,813,239	9,540,047	30,706,769
C1 - C&I New Buildings	79,452	4,423	98,663	207,822	1,762	392,121	750,309	181,591	426,283	1,358,183
C1a - C&I New Buildings & Major Renovations	79,452	4,423	98,663	207,822	1,762	392,121	750,309	181,591	426,283	1,358,183
C2 - C&I Existing Buildings	2,760,306	185,538	3,500,271	7,372,911	70,250	13,889,276	15,603,173	4,631,649	9,113,764	29,348,586
C2a - C&I Existing Building Retrofit	959,666	124,125	1,251,130	2,635,360	24,171	4,994,452	3,750,857	1,457,855	2,226,340	7,435,052
C2b - C&I New & Replacement Equipment	1,795,729	20,544	2,157,227	4,543,947	33,691	8,551,139	11,852,266	3,173,710	6,887,437	21,913,413
C2c - C&I Active Demand Reduction	4,911	40,869	91,913	193,605	12,388	343,685	51	84	(13)	121
Grand Total	3,866,915	472,165	4,885,889	10,291,554	96,852	19,613,376	22,104,797	6,356,165	12,719,639	41,180,602

Program Benefits, Plan Year Summary
2020 Planned vs. Evaluated
Cape Light Compact
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2020 Planned v. Evaluated Total Benefits Variances (%)										
Program	Electric Benefits									
	Capacity					Electric Energy				
	Summer Generation	Capacity DRIPE	Transmission	Distribution	Reliability	Total Capacity Benefits	Electric Energy	Electric Energy DRIPE	Electric Energy Environmental Compliance	Total Electric Energy Benefits
A - Residential	-9%	-29%	-22%	-22%	-52%	-20%	-7%	-28%	-6%	-10%
A1 - Residential New Buildings	-16%	303%	-25%	-25%	-41%	-22%	17%	-20%	14%	12%
A1a - Residential New Homes & Renovations	-16%	303%	-25%	-25%	-41%	-22%	17%	-20%	14%	12%
A2 - Residential Existing Buildings	-9%	-30%	-22%	-22%	-52%	-20%	-12%	-29%	-9%	-14%
A2a - Residential Coordinated Delivery	-35%	-5%	-31%	-31%	-19%	-30%	-21%	-18%	-21%	-21%
A2b - Residential Conservation Services (RCS)										
A2c - Residential Retail	14%	379%	3%	3%	-3%	9%	29%	-26%	34%	15%
A2d - Residential Behavior	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%
A2e - Residential Active Demand Reduction	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%
B - Income Eligible	-51%	-19%	-50%	-50%	-44%	-49%	-68%	-60%	-67%	-66%
B1 - Income Eligible Existing Buildings	-51%	-19%	-50%	-50%	-44%	-49%	-68%	-60%	-67%	-66%
B1a - Income Eligible Coordinated Delivery	-51%	-19%	-50%	-50%	-44%	-49%	-68%	-60%	-67%	-66%
B1b - Income Eligible Active Demand Reduction										
C - Commercial & Industrial	-1%	-86%	-23%	-23%	-70%	-25%	34%	18%	34%	31%
C1 - C&I New Buildings	3%	298%	7%	7%	20%	7%	-29%	-25%	-30%	-29%
C1a - C&I New Buildings & Major Renovations	3%	298%	7%	7%	20%	7%	-29%	-25%	-30%	-29%
C2 - C&I Existing Buildings	-1%	-86%	-24%	-24%	-71%	-25%	40%	21%	40%	36%
C2a - C&I Existing Building Retrofit	-59%	-7%	-55%	-55%	-45%	-55%	-62%	-56%	-62%	-61%
C2b - C&I New & Replacement Equipment	484%	-44%	438%	438%	330%	435%	881%	558%	865%	812%
C2c - C&I Active Demand Reduction	-96%	-96%	-93%	-93%	-93%	-94%	-97%	-98%	-98%	-98%
Grand Total	-5%	-72%	-23%	-23%	-67%	-24%	15%	0%	17%	13%

Notes

- Benefits for each year are presented in real dollars (2019\$).
- Total Energy Benefits are the sum of electric benefits, natural gas benefits, and other resource benefits.

Program Benefits, Plan Year Summary**2020 Planned vs. Evaluated**

Cape Light Compact

June 4, 2021

Program	2020 Planned Benefits										
	Natural Gas Benefits				Oil Benefits				Propane Benefits		
	Natural Gas	Natural Gas DRIPE	Natural Gas Environmental Compliance	Total Natural Gas Benefits	Oil	Oil DRIPE	Oil Environmental Compliance	Total Oil Benefits	Propane	Propane Environmental Compliance	Total Propane Benefits
A - Residential	4,302,391	383,995	1,786,563	6,472,949	21,050,939	61,875	4,731,703	25,844,518	11,599,904	1,630,219	13,230,124
A1 - Residential New Buildings	-	-	-	-	10,880	35	2,389	13,304	3,935,558	541,417	4,476,976
A1a - Residential New Homes & Renovations	-	-	-	-	10,880	35	2,389	13,304	3,935,558	541,417	4,476,976
A2 - Residential Existing Buildings	4,302,391	383,995	1,786,563	6,472,949	21,040,059	61,841	4,729,314	25,831,214	7,664,346	1,088,802	8,753,148
A2a - Residential Coordinated Delivery	4,595,635	496,289	1,914,792	7,006,715	12,305,544	37,027	2,747,358	15,089,929	3,451,529	487,744	3,939,272
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	(293,244)	(112,294)	(128,229)	(533,766)	8,734,515	24,813	1,981,956	10,741,285	4,212,817	601,058	4,813,876
A2d - Residential Behavior	-	-	-	-	-	-	-	-	-	-	-
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	-	-	-	-	1,919,210	5,563	434,638	2,359,412	491,207	70,501	561,708
B1 - Income Eligible Existing Buildings	-	-	-	-	1,919,210	5,563	434,638	2,359,412	491,207	70,501	561,708
B1a - Income Eligible Coordinated Delivery	-	-	-	-	1,919,210	5,563	434,638	2,359,412	491,207	70,501	561,708
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	(580,928)	(131,986)	(271,698)	(984,612)	(1,013,256)	(2,368)	(293,598)	(1,309,222)	25,611	3,554	29,165
C1 - C&I New Buildings	(37,157)	(5,030)	(17,019)	(59,206)	(24,640)	(69)	(6,990)	(31,699)	-	-	-
C1a - C&I New Buildings & Major Renovations	(37,157)	(5,030)	(17,019)	(59,206)	(24,640)	(69)	(6,990)	(31,699)	-	-	-
C2 - C&I Existing Buildings	(543,770)	(126,956)	(254,679)	(925,406)	(988,615)	(2,299)	(286,608)	(1,277,523)	25,611	3,554	29,165
C2a - C&I Existing Building Retrofit	(535,539)	(124,544)	(250,857)	(910,940)	(952,736)	(2,217)	(275,984)	(1,230,938)	25,611	3,554	29,165
C2b - C&I New & Replacement Equipment	(8,231)	(2,412)	(3,822)	(14,465)	(35,879)	(82)	(10,624)	(46,585)	-	-	-
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-
Grand Total	3,721,463	252,009	1,514,865	5,488,337	21,956,894	65,070	4,872,744	26,894,708	12,116,723	1,704,274	13,820,996

Program	2020 Evaluated Benefits										
	Natural Gas Benefits				Oil Benefits				Propane Benefits		
	Natural Gas	Natural Gas DRIPE	Natural Gas Environmental Compliance	Total Natural Gas Benefits	Oil	Oil DRIPE	Oil Environmental Compliance	Total Oil Benefits	Propane	Propane Environmental Compliance	Total Propane Benefits
A - Residential	3,676,618	369,799	1,530,200	5,576,617	17,191,606	50,079	3,871,242	21,112,926	10,119,288	1,435,489	11,554,777
A1 - Residential New Buildings	-	-	-	-	14,497	46	3,180	17,723	1,099,991	151,132	1,251,124
A1a - Residential New Homes & Renovations	-	-	-	-	14,497	46	3,180	17,723	1,099,991	151,132	1,251,124
A2 - Residential Existing Buildings	3,676,618	369,799	1,530,200	5,576,617	17,177,110	50,032	3,868,061	21,095,203	9,019,297	1,284,356	10,303,654
A2a - Residential Coordinated Delivery	3,786,324	416,584	1,579,937	5,782,845	11,012,670	32,870	2,465,735	13,511,275	2,505,332	351,407	2,856,739
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	(109,705)	(46,786)	(49,737)	(206,227)	6,154,108	17,140	1,399,133	7,570,381	6,509,097	932,051	7,441,149
A2d - Residential Behavior	-	-	-	-	10,332	22	3,193	13,547	4,868	898	5,766
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	-	-	-	-	749,479	2,217	168,873	920,569	214,394	30,304	244,697
B1 - Income Eligible Existing Buildings	-	-	-	-	749,479	2,217	168,873	920,569	214,394	30,304	244,697
B1a - Income Eligible Coordinated Delivery	-	-	-	-	749,479	2,217	168,873	920,569	214,394	30,304	244,697
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	(9,351,674)	(1,577,883)	(4,316,189)	(15,245,746)	(331,242)	(760)	(97,548)	(429,549)	9,192	1,354	10,547
C1 - C&I New Buildings	(25,589)	(3,442)	(11,718)	(40,749)	(14,489)	(39)	(4,124)	(18,652)	-	-	-
C1a - C&I New Buildings & Major Renovations	(25,589)	(3,442)	(11,718)	(40,749)	(14,489)	(39)	(4,124)	(18,652)	-	-	-
C2 - C&I Existing Buildings	(9,326,085)	(1,574,441)	(4,304,471)	(15,204,997)	(316,753)	(721)	(93,423)	(410,897)	9,192	1,354	10,547
C2a - C&I Existing Building Retrofit	(214,386)	(53,969)	(100,800)	(369,155)	(274,198)	(611)	(80,985)	(355,795)	9,192	1,354	10,547
C2b - C&I New & Replacement Equipment	(9,111,699)	(1,520,472)	(4,203,671)	(14,835,842)	(42,555)	(110)	(12,438)	(55,102)	-	-	-
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-
Grand Total	(5,675,056)	(1,208,084)	(2,785,989)	(9,669,129)	17,609,843	51,536	3,942,567	21,603,946	10,342,874	1,467,147	11,810,021

Program Benefits, Plan Year Summary
2020 Planned vs. Evaluated
Cape Light Compact
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Program	2020 Planned v. Evaluated Total Benefits Variances (%)										
	Natural Gas Benefits				Oil Benefits				Propane Benefits		
	Natural Gas	Natural Gas DRIPE	Natural Gas Environmental Compliance	Total Natural Gas Benefits	Oil	Oil DRIPE	Oil Environmental Compliance	Total Oil Benefits	Propane	Propane Environmental Compliance	Total Propane Benefits
A - Residential	-15%	-4%	-14%	-14%	-18%	-19%	-18%	-18%	-13%	-12%	-13%
A1 - Residential New Buildings					33%	34%	33%	33%	-72%	-72%	-72%
A1a - Residential New Homes & Renovations					33%	34%	33%	33%	-72%	-72%	-72%
A2 - Residential Existing Buildings	-15%	-4%	-14%	-14%	-18%	-19%	-18%	-18%	18%	18%	18%
A2a - Residential Coordinated Delivery	-18%	-16%	-17%	-17%	-11%	-11%	-10%	-10%	-27%	-28%	-27%
A2b - Residential Conservation Services (RCS)											
A2c - Residential Retail	-63%	-58%	-61%	-61%	-30%	-31%	-29%	-30%	55%	55%	55%
A2d - Residential Behavior											
A2e - Residential Active Demand Reduction											
B - Income Eligible					-61%	-60%	-61%	-61%	-56%	-57%	-56%
B1 - Income Eligible Existing Buildings					-61%	-60%	-61%	-61%	-56%	-57%	-56%
B1a - Income Eligible Coordinated Delivery					-61%	-60%	-61%	-61%	-56%	-57%	-56%
B1b - Income Eligible Active Demand Reduction											
C - Commercial & Industrial	1510%	1095%	1489%	1448%	-67%	-68%	-67%	-67%	-64%	-62%	-64%
C1 - C&I New Buildings	-31%	-32%	-31%	-31%	-41%	-43%	-41%	-41%			
C1a - C&I New Buildings & Major Renovations	-31%	-32%	-31%	-31%	-41%	-43%	-41%	-41%			
C2 - C&I Existing Buildings	1615%	1140%	1590%	1543%	-68%	-69%	-67%	-68%	-64%	-62%	-64%
C2a - C&I Existing Building Retrofit	-60%	-57%	-60%	-59%	-71%	-72%	-71%	-71%	-64%	-62%	-64%
C2b - C&I New & Replacement Equipment	110595%	62938%	109884%	102460%	19%	34%	17%	18%			
C2c - C&I Active Demand Reduction											
Grand Total	-252%	-579%	-284%	-276%	-20%	-21%	-19%	-20%	-15%	-14%	-15%

Notes

- Benefits for each year are presented in real dollars (2019\$).
- Total Energy Benefits are the sum of electric benefits, natural gas benefits, and other resource benefits.

Program Benefits, Plan Year Summary

2020 Planned vs. Evaluated

Cape Light Compact

June 4, 2021

Program	2020 Planned Benefits						
	Wood	Water	Total Energy Benefits	Total Environmental Compliance Benefits	Non-Energy Impacts	Total TRC Test Benefits	Total Resource Benefits per Participant
A - Residential	-	319,395	63,058,546	11,304,976	6,459,042	69,517,588	260
A1 - Residential New Buildings	-	-	6,480,371	1,029,695	298,632	6,779,002	12,535
A1a - Residential New Homes & Renovations	-	-	6,480,371	1,029,695	298,632	6,779,002	12,535
A2 - Residential Existing Buildings	-	319,395	56,578,175	10,275,281	6,160,411	62,738,586	234
A2a - Residential Coordinated Delivery	-	288,778	32,869,036	6,685,039	5,504,650	38,373,686	9,035
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-
A2c - Residential Retail	-	30,617	21,866,014	3,347,756	655,761	22,521,775	135
A2d - Residential Behavior	-	-	1,264,581	242,523	-	1,264,581	17
A2e - Residential Active Demand Reduction	-	-	578,543	(37)	-	578,543	-
B - Income Eligible	-	-	5,647,097	1,132,652	4,162,470	9,809,568	4,034
B1 - Income Eligible Existing Buildings	-	-	5,647,097	1,132,652	4,162,470	9,809,568	4,034
B1a - Income Eligible Coordinated Delivery	-	-	5,647,097	1,132,652	4,162,470	9,809,568	4,034
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-
C - Commercial & Industrial	-	33,520	40,154,922	6,554,569	22,611,147	62,766,069	20,077
C1 - C&I New Buildings	-	684	2,188,930	581,757	36,624	2,225,554	42,920
C1a - C&I New Buildings & Major Renovations	-	684	2,188,930	581,757	36,624	2,225,554	42,920
C2 - C&I Existing Buildings	-	32,836	37,965,992	5,972,813	22,574,523	60,540,515	19,480
C2a - C&I Existing Building Retrofit	-	29,458	28,228,965	5,274,407	22,524,085	50,753,049	36,145
C2b - C&I New & Replacement Equipment	-	3,378	3,943,703	699,019	50,438	3,994,141	3,385
C2c - C&I Active Demand Reduction	-	-	5,793,324	(613)	-	5,793,324	1,931,108
Grand Total	-	352,915	108,860,565	18,992,198	33,232,659	142,093,224	443

Program	2020 Evaluated Benefits						
	Wood	Water	Total Energy Benefits	Total Environmental Compliance Benefits	Non-Energy Impacts	Total TRC Test Benefits	Total Resource Benefits per Participant
A - Residential	-	646,117	53,666,436	9,810,539	8,237,667	61,904,103	275
A1 - Residential New Buildings	-	-	3,361,605	710,011	235,821	3,597,426	8,964
A1a - Residential New Homes & Renovations	-	-	3,361,605	710,011	235,821	3,597,426	8,964
A2 - Residential Existing Buildings	-	646,117	50,304,831	9,100,528	8,001,846	58,306,677	258
A2a - Residential Coordinated Delivery	-	639,528	27,846,322	5,613,908	6,961,304	34,807,626	3,658
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-
A2c - Residential Retail	-	6,589	22,437,380	3,481,988	1,040,541	23,477,921	125
A2d - Residential Behavior	-	-	21,130	4,631	-	21,130	21,130
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-
B - Income Eligible	-	91,142	2,286,221	405,160	1,287,939	3,574,160	1,332
B1 - Income Eligible Existing Buildings	-	91,142	2,286,221	405,160	1,287,939	3,574,160	1,332
B1a - Income Eligible Coordinated Delivery	-	91,142	2,286,221	405,160	1,287,939	3,574,160	1,332
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-
C - Commercial & Industrial	-	78,386	29,401,803	5,127,665	2,363,031	31,764,834	25,905
C1 - C&I New Buildings	-	456	1,691,358	410,441	47,280	1,738,638	73,537
C1a - C&I New Buildings & Major Renovations	-	456	1,691,358	410,441	47,280	1,738,638	73,537
C2 - C&I Existing Buildings	-	77,930	27,710,445	4,717,225	2,315,751	30,026,196	24,919
C2a - C&I Existing Building Retrofit	-	51,268	11,766,368	2,045,909	2,184,763	13,951,131	22,981
C2b - C&I New & Replacement Equipment	-	26,663	15,600,271	2,671,329	130,988	15,731,259	27,131
C2c - C&I Active Demand Reduction	-	-	343,806	(13)	-	343,806	13,752
Grand Total	-	815,645	85,354,461	15,343,365	11,888,636	97,243,097	430

Program Benefits, Plan Year Summary
2020 Planned vs. Evaluated
Cape Light Compact
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Program	2020 Planned v. Evaluated Total Benefits Variances (%)						
	Wood	Water	Total Energy Benefits	Total Environmental Compliance Benefits	Non-Energy Impacts	Total TRC Test Benefits	Total Resource Benefits per Participant
A - Residential		102%	-15%	-13%	28%	-11%	6%
A1 - Residential New Buildings			-48%	-31%	-21%	-47%	-28%
A1a - Residential New Homes & Renovations			-48%	-31%	-21%	-47%	-28%
A2 - Residential Existing Buildings		102%	-11%	-11%	30%	-7%	10%
A2a - Residential Coordinated Delivery		121%	-15%	-16%	26%	-9%	-60%
A2b - Residential Conservation Services (RCS)							
A2c - Residential Retail		-78%	3%	4%	59%	4%	-7%
A2d - Residential Behavior			-98%	-98%		-98%	126888%
A2e - Residential Active Demand Reduction			-100%	-100%		-100%	
B - Income Eligible			-60%	-64%	-69%	-64%	-67%
B1 - Income Eligible Existing Buildings			-60%	-64%	-69%	-64%	-67%
B1a - Income Eligible Coordinated Delivery			-60%	-64%	-69%	-64%	-67%
B1b - Income Eligible Active Demand Reduction							
C - Commercial & Industrial		134%	-27%	-22%	-90%	-49%	29%
C1 - C&I New Buildings		-33%	-23%	-29%	29%	-22%	71%
C1a - C&I New Buildings & Major Renovations		-33%	-23%	-29%	29%	-22%	71%
C2 - C&I Existing Buildings		137%	-27%	-21%	-90%	-50%	28%
C2a - C&I Existing Building Retrofit		74%	-58%	-61%	-90%	-73%	-36%
C2b - C&I New & Replacement Equipment		689%	296%	282%	160%	294%	701%
C2c - C&I Active Demand Reduction			-94%	-98%		-94%	-99%
Grand Total		131%	-22%	-19%	-64%	-32%	-3%

Notes

- Benefits for each year are presented in real dollars (2019\$).
- Total Energy Benefits are the sum of electric benefits, natural gas benefits, and other resource benefits.

Program Benefits, Three-Year Total
2019-2021 Benefits
Cape Light Compact
June 4, 2021

2019 Evaluated Benefits										
Program	Electric Benefits									
	Capacity					Electric Energy				
	Summer Generation	Capacity DRIPE	Transmission	Distribution	Reliability	Total Capacity Benefits	Electric Energy	Electric Energy DRIPE	Electric Energy Environmental Compliance	Total Electric Energy Benefits
A - Residential	1,527,659	210,706	1,862,046	3,922,183	37,546	7,560,140	9,811,859	2,976,100	5,436,742	18,224,702
A1 - Residential New Buildings	84,669	1,241	92,060	193,913	1,075	372,959	1,167,825	182,293	615,341	1,965,460
A1a - Residential New Homes & Renovations	84,669	1,241	92,060	193,913	1,075	372,959	1,167,825	182,293	615,341	1,965,460
A2 - Residential Existing Buildings	1,442,990	209,465	1,769,986	3,728,269	36,470	7,187,181	8,644,034	2,793,807	4,821,401	16,259,242
A2a - Residential Coordinated Delivery	667,325	37,434	791,832	1,667,901	14,236	3,178,727	5,191,542	1,391,177	2,838,342	9,421,060
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	771,559	165,800	973,950	2,051,512	22,037	3,984,858	3,437,996	1,397,313	1,973,871	6,809,180
A2d - Residential Behavior	4,106	6,231	4,204	8,856	198	23,596	14,495	5,318	9,189	29,002
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	149,361	8,854	190,611	401,500	3,816	754,143	933,460	340,179	542,379	1,816,018
B1 - Income Eligible Existing Buildings	149,361	8,854	190,611	401,500	3,816	754,143	933,460	340,179	542,379	1,816,018
B1a - Income Eligible Coordinated Delivery	149,361	8,854	190,611	401,500	3,816	754,143	933,460	340,179	542,379	1,816,018
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	1,745,789	136,782	2,210,210	4,655,550	40,608	8,788,939	7,559,080	2,634,624	4,511,780	14,705,484
C1 - C&I New Buildings	140,371	350	166,199	350,078	2,478	659,476	840,314	192,543	485,060	1,517,917
C1a - C&I New Buildings & Major Renovations	140,371	350	166,199	350,078	2,478	659,476	840,314	192,543	485,060	1,517,917
C2 - C&I Existing Buildings	1,605,418	136,432	2,044,012	4,305,471	38,130	8,129,463	6,718,766	2,442,081	4,026,720	13,187,567
C2a - C&I Existing Building Retrofit	1,322,510	121,770	1,686,809	3,553,066	31,591	6,715,746	5,239,886	1,904,489	3,146,012	10,290,386
C2b - C&I New & Replacement Equipment	282,908	14,662	357,203	752,405	6,539	1,413,716	1,478,881	537,592	880,708	2,897,180
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
Grand Total	3,422,810	356,342	4,262,868	8,979,233	81,970	17,103,222	18,304,400	5,950,903	10,490,901	34,746,204

2020 Evaluated Benefits										
Program	Electric Benefits									
	Capacity					Electric Energy				
	Summer Generation	Capacity DRIPE	Transmission	Distribution	Reliability	Total Capacity Benefits	Electric Energy	Electric Energy DRIPE	Electric Energy Environmental Compliance	Total Electric Energy Benefits
A - Residential	967,156	263,336	1,206,415	2,541,172	23,090	5,001,170	5,393,937	1,407,283	2,973,609	9,774,829
A1 - Residential New Buildings	68,190	5,602	74,380	156,672	881	305,725	1,078,195	153,139	555,699	1,787,033
A1a - Residential New Homes & Renovations	68,190	5,602	74,380	156,672	881	305,725	1,078,195	153,139	555,699	1,787,033
A2 - Residential Existing Buildings	898,966	257,734	1,132,035	2,384,500	22,209	4,695,444	4,315,742	1,254,144	2,417,910	7,987,796
A2a - Residential Coordinated Delivery	191,046	85,668	246,138	518,461	5,320	1,046,632	2,263,128	529,346	1,216,829	4,009,303
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	707,920	172,066	885,897	1,866,039	16,889	3,648,812	2,051,607	724,528	1,200,541	3,976,676
A2d - Residential Behavior	-	-	-	-	-	-	1,006	270	540	1,816
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	60,001	18,868	80,541	169,649	1,750	330,810	357,378	135,642	205,983	699,004
B1 - Income Eligible Existing Buildings	60,001	18,868	80,541	169,649	1,750	330,810	357,378	135,642	205,983	699,004
B1a - Income Eligible Coordinated Delivery	60,001	18,868	80,541	169,649	1,750	330,810	357,378	135,642	205,983	699,004
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	2,839,758	189,961	3,598,934	7,580,733	72,011	14,281,397	16,353,482	4,813,239	9,540,047	30,706,769
C1 - C&I New Buildings	79,452	4,423	98,663	207,822	1,762	392,121	750,309	181,591	426,283	1,358,183
C1a - C&I New Buildings & Major Renovations	79,452	4,423	98,663	207,822	1,762	392,121	750,309	181,591	426,283	1,358,183
C2 - C&I Existing Buildings	2,760,306	185,538	3,500,271	7,372,911	70,250	13,889,276	15,603,173	4,631,649	9,113,764	29,348,586
C2a - C&I Existing Building Retrofit	959,666	124,125	1,251,130	2,635,360	24,171	4,994,452	3,750,857	1,457,855	2,226,340	7,435,052
C2b - C&I New & Replacement Equipment	1,795,729	20,544	2,157,227	4,543,947	33,691	8,551,139	11,852,266	3,173,710	6,887,437	21,913,413
C2c - C&I Active Demand Reduction	4,911	40,869	91,913	193,605	12,388	343,685	51	84	(13)	121
Grand Total	3,866,915	472,165	4,885,889	10,291,554	96,852	19,613,376	22,104,797	6,356,165	12,719,639	41,180,602

Program Benefits, Three-Year Total
2019-2021 Benefits
Cape Light Compact
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2021 Planned Benefits										
Program	Electric Benefits									
	Capacity					Electric Energy				
	Summer Generation	Capacity DRIPE	Transmission	Distribution	Reliability	Total Capacity Benefits	Electric Energy	Electric Energy DRIPE	Electric Energy Environmental Compliance	Total Electric Energy Benefits
A - Residential	836,922	405,762	1,255,139	2,643,804	50,135	5,191,763	4,459,414	1,243,819	2,362,483	8,065,716
A1 - Residential New Buildings	75,064	1,746	87,377	184,049	1,249	349,486	907,401	165,856	469,206	1,542,462
A1a - Residential New Homes & Renovations	75,064	1,746	87,377	184,049	1,249	349,486	907,401	165,856	469,206	1,542,462
A2 - Residential Existing Buildings	761,858	404,016	1,167,763	2,459,755	48,885	4,842,277	3,552,013	1,077,963	1,893,277	6,523,253
A2a - Residential Coordinated Delivery	272,124	56,493	323,364	681,129	5,368	1,338,477	3,023,584	623,313	1,604,857	5,251,754
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	412,200	28,618	533,426	1,123,600	10,051	2,107,895	34,980	297,611	15,634	348,225
A2d - Residential Behavior	56,365	142,722	96,306	202,857	4,535	502,786	493,028	156,663	272,848	922,539
A2e - Residential Active Demand Reduction	21,170	176,183	214,666	452,169	28,932	893,119	420	376	(61)	734
B - Income Eligible	125,518	18,845	159,239	335,419	3,002	642,023	1,143,709	345,975	646,583	2,136,267
B1 - Income Eligible Existing Buildings	125,518	18,845	159,239	335,419	3,002	642,023	1,143,709	345,975	646,583	2,136,267
B1a - Income Eligible Coordinated Delivery	125,518	18,845	159,239	335,419	3,002	642,023	1,143,709	345,975	646,583	2,136,267
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	3,195,219	2,153,695	5,830,048	12,280,313	377,030	23,836,304	12,041,885	4,041,065	6,928,344	23,011,294
C1 - C&I New Buildings	79,171	1,112	92,457	194,750	1,464	368,953	1,132,308	252,940	634,425	2,019,674
C1a - C&I New Buildings & Major Renovations	79,171	1,112	92,457	194,750	1,464	368,953	1,132,308	252,940	634,425	2,019,674
C2 - C&I Existing Buildings	3,116,048	2,152,583	5,737,591	12,085,563	375,566	23,467,350	10,909,577	3,788,124	6,293,919	20,991,620
C2a - C&I Existing Building Retrofit	2,595,082	148,676	2,979,298	6,275,542	45,117	12,043,715	9,824,265	3,362,938	5,659,526	18,846,730
C2b - C&I New & Replacement Equipment	284,311	34,359	358,539	755,220	7,022	1,439,451	1,081,114	421,427	635,006	2,137,547
C2c - C&I Active Demand Reduction	236,654	1,969,548	2,399,754	5,054,801	323,427	9,984,184	4,197	3,760	(613)	7,343
Grand Total	4,157,658	2,578,302	7,244,426	15,259,536	430,167	29,670,090	17,645,008	5,630,858	9,937,411	33,213,277

2019-2021 Benefits										
Program	Electric Benefits									
	Capacity					Electric Energy				
	Summer Generation	Capacity DRIPE	Transmission	Distribution	Reliability	Total Capacity Benefits	Electric Energy	Electric Energy DRIPE	Electric Energy Environmental Compliance	Total Electric Energy Benefits
A - Residential	3,331,737	879,804	4,323,601	9,107,159	110,770	17,753,072	19,665,210	5,627,202	10,772,834	36,065,246
A1 - Residential New Buildings	227,923	8,590	253,817	534,635	3,205	1,028,169	3,153,421	501,288	1,640,245	5,294,955
A1a - Residential New Homes & Renovations	227,923	8,590	253,817	534,635	3,205	1,028,169	3,153,421	501,288	1,640,245	5,294,955
A2 - Residential Existing Buildings	3,103,815	871,215	4,069,784	8,572,524	107,565	16,724,903	16,511,788	5,125,914	9,132,588	30,770,291
A2a - Residential Coordinated Delivery	1,130,494	179,595	1,361,334	2,867,490	24,924	5,563,837	10,478,255	2,543,836	5,660,027	18,682,118
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	1,891,679	366,484	2,393,274	5,041,151	48,976	9,741,565	5,524,584	2,419,451	3,190,046	11,134,081
A2d - Residential Behavior	60,472	148,953	100,510	211,713	4,733	526,382	508,530	162,251	282,576	953,357
A2e - Residential Active Demand Reduction	21,170	176,183	214,666	452,169	28,932	893,119	420	376	(61)	734
B - Income Eligible	334,880	46,567	430,391	906,568	8,569	1,726,976	2,434,548	821,796	1,394,946	4,651,289
B1 - Income Eligible Existing Buildings	334,880	46,567	430,391	906,568	8,569	1,726,976	2,434,548	821,796	1,394,946	4,651,289
B1a - Income Eligible Coordinated Delivery	334,880	46,567	430,391	906,568	8,569	1,726,976	2,434,548	821,796	1,394,946	4,651,289
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	7,780,766	2,480,437	11,639,192	24,516,596	489,650	46,906,640	35,954,447	11,488,928	20,980,171	68,423,547
C1 - C&I New Buildings	298,994	5,885	357,318	752,650	5,704	1,420,551	2,722,931	627,074	1,545,769	4,895,774
C1a - C&I New Buildings & Major Renovations	298,994	5,885	357,318	752,650	5,704	1,420,551	2,722,931	627,074	1,545,769	4,895,774
C2 - C&I Existing Buildings	7,481,772	2,474,552	11,281,873	23,763,946	483,946	45,486,089	33,231,516	10,861,854	19,434,403	63,527,773
C2a - C&I Existing Building Retrofit	4,877,258	394,571	5,917,237	12,463,967	100,880	23,753,913	18,815,008	6,725,282	11,031,878	36,572,168
C2b - C&I New & Replacement Equipment	2,362,948	69,565	2,872,969	6,051,573	47,252	11,404,307	14,412,261	4,132,729	8,403,150	26,948,140
C2c - C&I Active Demand Reduction	241,565	2,010,417	2,491,667	5,248,406	335,814	10,327,869	4,247	3,843	(626)	7,464
Grand Total	11,447,383	3,406,809	16,393,184	34,530,323	608,989	66,386,688	58,054,205	17,937,926	33,147,951	109,140,082

Notes

- Benefits for each year are presented in real dollars (2019\$).
- Total Energy Benefits are the sum of electric benefits, natural gas benefits, and other resource benefits.

Program Benefits, Three-Year Total
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Program	2019 Evaluated Benefits									
	Natural Gas Benefits				Oil Benefits				Propane Benefits	
	Natural Gas	Natural Gas DRIPE	Natural Gas Environmental Compliance	Total Natural Gas Benefits	Oil	Oil DRIPE	Oil Environmental Compliance	Total Oil Benefits	Propane	Total Propane Benefits
A - Residential	4,236,301	376,811	1,772,649	6,385,760	15,658,085	44,819	3,575,580	19,278,483	7,107,459	8,125,294
A1 - Residential New Buildings	-	-	-	-	47,132	149	10,520	57,800	670,780	763,808
A1a - Residential New Homes & Renovations	-	-	-	-	47,132	149	10,520	57,800	670,780	763,808
A2 - Residential Existing Buildings	4,236,301	376,811	1,772,649	6,385,760	15,610,953	44,670	3,565,060	19,220,683	6,436,679	7,361,485
A2a - Residential Coordinated Delivery	4,532,314	511,776	1,912,872	6,956,962	12,801,131	37,212	2,928,069	15,766,412	3,711,936	4,241,958
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	(296,013)	(134,965)	(140,224)	(571,201)	2,800,635	7,437	633,898	3,441,970	2,717,225	3,110,536
A2d - Residential Behavior	-	-	-	-	9,188	21	3,093	12,301	7,518	8,992
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	-	-	-	-	1,108,472	3,173	255,962	1,367,607	302,638	346,444
B1 - Income Eligible Existing Buildings	-	-	-	-	1,108,472	3,173	255,962	1,367,607	302,638	346,444
B1a - Income Eligible Coordinated Delivery	-	-	-	-	1,108,472	3,173	255,962	1,367,607	302,638	346,444
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	(311,735)	(72,870)	(149,186)	(533,791)	(400,739)	(872)	(124,221)	(525,831)	14,341	16,568
C1 - C&I New Buildings	(33,105)	(4,706)	(15,398)	(53,208)	(49,955)	(144)	(14,426)	(64,525)	-	-
C1a - C&I New Buildings & Major Renovations	(33,105)	(4,706)	(15,398)	(53,208)	(49,955)	(144)	(14,426)	(64,525)	-	-
C2 - C&I Existing Buildings	(278,630)	(68,164)	(133,789)	(480,583)	(350,783)	(728)	(109,795)	(461,306)	14,341	16,568
C2a - C&I Existing Building Retrofit	(267,098)	(65,032)	(128,223)	(460,354)	(319,267)	(654)	(100,137)	(420,059)	14,341	16,568
C2b - C&I New & Replacement Equipment	(11,532)	(3,131)	(5,565)	(20,229)	(31,516)	(74)	(9,657)	(41,248)	-	-
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
Grand Total	3,924,566	303,941	1,623,462	5,851,969	16,365,818	47,121	3,707,321	20,120,259	7,424,438	8,488,305

Program	2020 Evaluated Benefits									
	Natural Gas Benefits				Oil Benefits				Propane Benefits	
	Natural Gas	Natural Gas DRIPE	Natural Gas Environmental Compliance	Total Natural Gas Benefits	Oil	Oil DRIPE	Oil Environmental Compliance	Total Oil Benefits	Propane	Total Propane Benefits
A - Residential	3,676,618	369,799	1,530,200	5,576,617	17,191,606	50,079	3,871,242	21,112,926	10,119,288	11,554,777
A1 - Residential New Buildings	-	-	-	-	14,497	46	3,180	17,723	1,099,991	1,251,124
A1a - Residential New Homes & Renovations	-	-	-	-	14,497	46	3,180	17,723	1,099,991	1,251,124
A2 - Residential Existing Buildings	3,676,618	369,799	1,530,200	5,576,617	17,177,110	50,032	3,868,061	21,095,203	9,019,297	10,303,654
A2a - Residential Coordinated Delivery	3,786,324	416,584	1,579,937	5,782,845	11,012,670	32,870	2,465,735	13,511,275	2,505,332	2,856,739
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	(109,705)	(46,786)	(49,737)	(206,227)	6,154,108	17,140	1,399,133	7,570,381	6,509,097	7,441,149
A2d - Residential Behavior	-	-	-	-	10,332	22	3,193	13,547	4,868	5,766
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	-	-	-	-	749,479	2,217	168,873	920,569	214,394	244,697
B1 - Income Eligible Existing Buildings	-	-	-	-	749,479	2,217	168,873	920,569	214,394	244,697
B1a - Income Eligible Coordinated Delivery	-	-	-	-	749,479	2,217	168,873	920,569	214,394	244,697
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	(9,351,674)	(1,577,883)	(4,316,189)	(15,245,746)	(331,242)	(760)	(97,548)	(429,549)	9,192	10,547
C1 - C&I New Buildings	(25,589)	(3,442)	(11,718)	(40,749)	(14,489)	(39)	(4,124)	(18,652)	-	-
C1a - C&I New Buildings & Major Renovations	(25,589)	(3,442)	(11,718)	(40,749)	(14,489)	(39)	(4,124)	(18,652)	-	-
C2 - C&I Existing Buildings	(9,326,085)	(1,574,441)	(4,304,471)	(15,204,997)	(316,753)	(721)	(93,423)	(410,897)	9,192	10,547
C2a - C&I Existing Building Retrofit	(214,386)	(53,969)	(100,800)	(369,155)	(274,198)	(611)	(80,985)	(355,795)	9,192	10,547
C2b - C&I New & Replacement Equipment	(9,111,699)	(1,520,472)	(4,203,671)	(14,835,842)	(42,555)	(110)	(12,438)	(55,102)	-	-
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
Grand Total	(5,675,056)	(1,208,084)	(2,785,989)	(9,669,129)	17,609,843	51,536	3,942,567	21,603,946	10,342,874	11,810,021

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Program	2021 Planned Benefits										
	Natural Gas Benefits				Oil Benefits				Propane Benefits		
	Natural Gas	Natural Gas DRIPE	Natural Gas Environmental Compliance	Total Natural Gas Benefits	Oil	Oil DRIPE	Oil Environmental Compliance	Total Oil Benefits	Propane	Propane Environmental Compliance	Total Propane Benefits
A - Residential	4,510,371	451,253	1,863,537	6,825,161	21,652,130	65,508	4,778,192	26,495,829	12,246,353	1,693,029	13,939,381
A1 - Residential New Buildings	-	-	-	-	11,566	38	2,497	14,100	4,177,787	565,678	4,743,465
A1a - Residential New Homes & Renovations	-	-	-	-	11,566	38	2,497	14,100	4,177,787	565,678	4,743,465
A2 - Residential Existing Buildings	4,510,371	451,253	1,863,537	6,825,161	21,640,564	65,470	4,775,695	26,481,729	8,068,566	1,127,350	9,195,917
A2a - Residential Coordinated Delivery	4,613,808	493,842	1,908,022	7,015,672	12,624,714	39,064	2,765,413	15,429,192	3,723,438	517,471	4,240,908
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	(103,437)	(42,589)	(44,485)	(190,511)	9,015,850	26,406	2,010,282	11,052,538	4,345,129	609,880	4,955,008
A2d - Residential Behavior	-	-	-	-	-	-	-	-	-	-	-
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	-	-	-	-	2,038,652	6,120	451,783	2,496,555	518,283	72,920	591,203
B1 - Income Eligible Existing Buildings	-	-	-	-	2,038,652	6,120	451,783	2,496,555	518,283	72,920	591,203
B1a - Income Eligible Coordinated Delivery	-	-	-	-	2,038,652	6,120	451,783	2,496,555	518,283	72,920	591,203
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	(561,004)	(133,437)	(259,021)	(953,462)	(994,904)	(2,419)	(280,500)	(1,277,822)	26,039	3,554	29,593
C1 - C&I New Buildings	(39,489)	(5,279)	(17,920)	(62,688)	(32,607)	(102)	(8,906)	(41,615)	-	-	-
C1a - C&I New Buildings & Major Renovations	(39,489)	(5,279)	(17,920)	(62,688)	(32,607)	(102)	(8,906)	(41,615)	-	-	-
C2 - C&I Existing Buildings	(521,515)	(128,157)	(241,101)	(890,774)	(962,297)	(2,316)	(271,594)	(1,236,207)	26,039	3,554	29,593
C2a - C&I Existing Building Retrofit	(514,815)	(126,240)	(238,077)	(879,133)	(930,075)	(2,245)	(262,395)	(1,194,714)	26,039	3,554	29,593
C2b - C&I New & Replacement Equipment	(6,700)	(1,917)	(3,024)	(11,641)	(32,222)	(72)	(9,199)	(41,493)	-	-	-
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-
Grand Total	3,949,367	317,817	1,604,515	5,871,699	22,695,878	69,209	4,949,475	27,714,562	12,790,675	1,769,502	14,560,177

Program	2019-2021 Benefits										
	Natural Gas Benefits				Oil Benefits				Propane Benefits		
	Natural Gas	Natural Gas DRIPE	Natural Gas Environmental Compliance	Total Natural Gas Benefits	Oil	Oil DRIPE	Oil Environmental Compliance	Total Oil Benefits	Propane	Propane Environmental Compliance	Total Propane Benefits
A - Residential	12,423,291	1,197,863	5,166,385	18,787,539	54,501,821	160,405	12,225,013	66,887,239	29,473,101	4,146,352	33,619,453
A1 - Residential New Buildings	-	-	-	-	73,194	233	16,197	89,624	5,948,558	809,838	6,758,397
A1a - Residential New Homes & Renovations	-	-	-	-	73,194	233	16,197	89,624	5,948,558	809,838	6,758,397
A2 - Residential Existing Buildings	12,423,291	1,197,863	5,166,385	18,787,539	54,428,627	160,172	12,208,816	66,797,615	23,524,542	3,336,514	26,861,056
A2a - Residential Coordinated Delivery	12,932,445	1,422,202	5,400,831	19,755,478	36,438,515	109,146	8,159,218	44,706,879	9,940,705	1,398,900	11,339,605
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	(509,155)	(224,339)	(234,446)	(967,939)	17,970,593	50,983	4,043,312	22,064,888	13,571,451	1,935,243	15,506,693
A2d - Residential Behavior	-	-	-	-	19,519	43	6,286	25,849	12,386	2,371	14,757
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	-	-	-	-	3,896,603	11,510	876,618	4,784,731	1,035,315	147,029	1,182,344
B1 - Income Eligible Existing Buildings	-	-	-	-	3,896,603	11,510	876,618	4,784,731	1,035,315	147,029	1,182,344
B1a - Income Eligible Coordinated Delivery	-	-	-	-	3,896,603	11,510	876,618	4,784,731	1,035,315	147,029	1,182,344
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	(10,224,414)	(1,784,189)	(4,724,397)	(16,733,000)	(1,726,885)	(4,050)	(502,268)	(2,233,203)	49,572	7,135	56,708
C1 - C&I New Buildings	(98,183)	(13,427)	(45,036)	(156,646)	(97,051)	(285)	(27,456)	(124,792)	-	-	-
C1a - C&I New Buildings & Major Renovations	(98,183)	(13,427)	(45,036)	(156,646)	(97,051)	(285)	(27,456)	(124,792)	-	-	-
C2 - C&I Existing Buildings	(10,126,231)	(1,770,762)	(4,679,361)	(16,576,354)	(1,629,834)	(3,765)	(474,812)	(2,108,411)	49,572	7,135	56,708
C2a - C&I Existing Building Retrofit	(996,300)	(245,242)	(467,101)	(1,708,642)	(1,523,541)	(3,510)	(443,517)	(1,970,568)	49,572	7,135	56,708
C2b - C&I New & Replacement Equipment	(9,129,932)	(1,525,520)	(4,212,260)	(14,867,712)	(106,293)	(256)	(31,294)	(137,843)	-	-	-
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-
Grand Total	2,198,877	(586,327)	441,989	2,054,539	56,671,540	167,865	12,599,363	69,438,768	30,557,987	4,300,516	34,858,504

Notes

- Benefits for each year are presented in real dollars (2019\$).
- Total Energy Benefits are the sum of electric benefits, natural gas benefits, and other resource benefits.

Program Benefits, Three-Year Total
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Program	2019 Evaluated Benefits						Total Resource Benefits per Participant
	Wood	Water	Total Energy Benefits	Total Environmental Compliance Benefits	Non-Energy Impacts	Total TRC Test Benefits	
A - Residential	-	454,685	60,029,064	11,802,805	9,895,755	69,924,819	212
A1 - Residential New Buildings	-	-	3,160,027	718,889	245,036	3,405,064	8,634
A1a - Residential New Homes & Renovations	-	-	3,160,027	718,889	245,036	3,405,064	8,634
A2 - Residential Existing Buildings	-	454,685	56,869,036	11,083,916	9,650,719	66,519,755	201
A2a - Residential Coordinated Delivery	-	454,146	40,019,265	8,209,305	8,332,688	48,351,952	3,869
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-
A2c - Residential Retail	-	539	16,775,882	2,860,856	1,318,031	18,093,913	63
A2d - Residential Behavior	-	-	73,890	13,755	-	73,890	36,945
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-
B - Income Eligible	-	257,405	4,541,617	842,146	2,344,210	6,885,827	2,001
B1 - Income Eligible Existing Buildings	-	257,405	4,541,617	842,146	2,344,210	6,885,827	2,001
B1a - Income Eligible Coordinated Delivery	-	257,405	4,541,617	842,146	2,344,210	6,885,827	2,001
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-
C - Commercial & Industrial	-	191,999	22,643,367	4,240,600	2,859,630	25,502,997	16,686
C1 - C&I New Buildings	-	-	2,059,661	455,237	47,727	2,107,388	73,559
C1a - C&I New Buildings & Major Renovations	-	-	2,059,661	455,237	47,727	2,107,388	73,559
C2 - C&I Existing Buildings	-	191,999	20,583,706	3,785,363	2,811,903	23,395,609	15,488
C2a - C&I Existing Building Retrofit	-	171,470	16,313,758	2,919,878	2,727,601	19,041,360	21,927
C2b - C&I New & Replacement Equipment	-	20,529	4,269,948	865,485	84,301	4,354,249	7,299
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-
Grand Total	-	904,088	87,214,047	16,885,551	15,099,595	102,313,642	304

Program	2020 Evaluated Benefits						Total Resource Benefits per Participant
	Wood	Water	Total Energy Benefits	Total Environmental Compliance Benefits	Non-Energy Impacts	Total TRC Test Benefits	
A - Residential	-	646,117	53,666,436	9,810,539	8,237,667	61,904,103	275
A1 - Residential New Buildings	-	-	3,361,605	710,011	235,821	3,597,426	8,964
A1a - Residential New Homes & Renovations	-	-	3,361,605	710,011	235,821	3,597,426	8,964
A2 - Residential Existing Buildings	-	646,117	50,304,831	9,100,528	8,001,846	58,306,677	258
A2a - Residential Coordinated Delivery	-	639,528	27,846,322	5,613,908	6,961,304	34,807,626	3,658
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-
A2c - Residential Retail	-	6,589	22,437,380	3,481,988	1,040,541	23,477,921	125
A2d - Residential Behavior	-	-	21,130	4,631	-	21,130	21,130
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-
B - Income Eligible	-	91,142	2,286,221	405,160	1,287,939	3,574,160	1,332
B1 - Income Eligible Existing Buildings	-	91,142	2,286,221	405,160	1,287,939	3,574,160	1,332
B1a - Income Eligible Coordinated Delivery	-	91,142	2,286,221	405,160	1,287,939	3,574,160	1,332
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-
C - Commercial & Industrial	-	78,386	29,401,803	5,127,665	2,363,031	31,764,834	25,905
C1 - C&I New Buildings	-	456	1,691,358	410,441	47,280	1,738,638	73,537
C1a - C&I New Buildings & Major Renovations	-	456	1,691,358	410,441	47,280	1,738,638	73,537
C2 - C&I Existing Buildings	-	77,930	27,710,445	4,717,225	2,315,751	30,026,196	24,919
C2a - C&I Existing Building Retrofit	-	51,268	11,766,368	2,045,909	2,184,763	13,951,131	22,981
C2b - C&I New & Replacement Equipment	-	26,663	15,600,271	2,671,329	130,988	15,731,259	27,131
C2c - C&I Active Demand Reduction	-	-	343,806	(13)	-	343,806	13,752
Grand Total	-	815,645	85,354,461	15,343,365	11,888,636	97,243,097	430

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Program	2021 Planned Benefits						Total Resource Benefits per Participant
	Wood	Water	Total Energy Benefits	Total Environmental Compliance Benefits	Non-Energy Impacts	Total TRC Test Benefits	
A - Residential	-	319,395	60,837,245	10,697,240	6,225,746	67,062,991	362
A1 - Residential New Buildings	-	-	6,649,513	1,037,380	309,495	6,959,008	12,406
A1a - Residential New Homes & Renovations	-	-	6,649,513	1,037,380	309,495	6,959,008	12,406
A2 - Residential Existing Buildings	-	319,395	54,187,732	9,659,860	5,916,251	60,103,983	323
A2a - Residential Coordinated Delivery	-	288,778	33,564,782	6,795,763	5,497,690	39,062,472	9,176
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-
A2c - Residential Retail	-	30,617	18,303,772	2,591,310	418,561	18,722,333	195
A2d - Residential Behavior	-	-	1,425,325	272,848	-	1,425,325	20
A2e - Residential Active Demand Reduction	-	-	893,853	(61)	-	893,853	-
B - Income Eligible	-	-	5,866,048	1,171,286	4,289,803	10,155,851	4,046
B1 - Income Eligible Existing Buildings	-	-	5,866,048	1,171,286	4,289,803	10,155,851	4,046
B1a - Income Eligible Coordinated Delivery	-	-	5,866,048	1,171,286	4,289,803	10,155,851	4,046
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-
C - Commercial & Industrial	-	35,899	44,681,805	6,392,377	22,377,381	67,059,186	21,914
C1 - C&I New Buildings	-	684	2,285,008	607,599	36,624	2,321,632	43,942
C1a - C&I New Buildings & Major Renovations	-	684	2,285,008	607,599	36,624	2,321,632	43,942
C2 - C&I Existing Buildings	-	35,214	42,396,797	5,784,778	22,340,757	64,737,554	21,337
C2a - C&I Existing Building Retrofit	-	30,710	28,876,901	5,162,608	22,308,860	51,185,761	35,388
C2b - C&I New & Replacement Equipment	-	4,504	3,528,368	622,783	31,897	3,560,265	3,021
C2c - C&I Active Demand Reduction	-	-	9,991,528	(613)	-	9,991,528	3,330,509
Grand Total	-	355,294	111,385,098	18,260,903	32,892,929	144,278,028	649

Program	2019-2021 Benefits						Total Resource Benefits per Participant
	Wood	Water	Total Energy Benefits	Total Environmental Compliance Benefits	Non-Energy Impacts	Total TRC Test Benefits	
A - Residential	-	1,420,196	174,532,745	32,310,584	24,359,167	198,891,912	270
A1 - Residential New Buildings	-	-	13,171,145	2,466,281	790,352	13,961,497	10,314
A1a - Residential New Homes & Renovations	-	-	13,171,145	2,466,281	790,352	13,961,497	10,314
A2 - Residential Existing Buildings	-	1,420,196	161,361,600	29,844,303	23,568,815	184,930,415	250
A2a - Residential Coordinated Delivery	-	1,382,451	101,430,369	20,618,976	20,791,681	122,222,050	4,693
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-
A2c - Residential Retail	-	37,745	57,517,033	8,934,155	2,777,134	60,294,167	107
A2d - Residential Behavior	-	-	1,520,345	291,234	-	1,520,345	22
A2e - Residential Active Demand Reduction	-	-	893,853	(61)	-	893,853	1,270
B - Income Eligible	-	348,546	12,693,886	2,418,593	7,921,951	20,615,838	2,335
B1 - Income Eligible Existing Buildings	-	348,546	12,693,886	2,418,593	7,921,951	20,615,838	2,335
B1a - Income Eligible Coordinated Delivery	-	348,546	12,693,886	2,418,593	7,921,951	20,615,838	2,335
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-
C - Commercial & Industrial	-	306,284	96,726,975	15,760,642	27,600,042	124,327,017	21,348
C1 - C&I New Buildings	-	1,141	6,036,027	1,473,276	131,631	6,167,658	58,602
C1a - C&I New Buildings & Major Renovations	-	1,141	6,036,027	1,473,276	131,631	6,167,658	58,602
C2 - C&I Existing Buildings	-	305,143	90,690,948	14,287,366	27,468,411	118,159,359	20,481
C2a - C&I Existing Building Retrofit	-	253,448	56,957,027	10,128,396	27,221,225	84,178,252	27,489
C2b - C&I New & Replacement Equipment	-	51,695	23,398,587	4,159,596	247,186	23,645,774	10,051
C2c - C&I Active Demand Reduction	-	-	10,335,334	(626)	-	10,335,334	369,119
Grand Total	-	2,075,026	283,953,607	50,489,819	59,881,161	343,834,767	432

Notes

- Benefits for each year are presented in real dollars (2019\$).
- Total Energy Benefits are the sum of electric benefits, natural gas benefits, and other resource benefits.

Cost-Effectiveness, Plan Year Summary

2020 Planned vs. Evaluated

Cape Light Compact

June 4, 2021

2020 Planned Total Resource Cost Test (2019\$)							
Program	Benefit-Cost Ratio	Net Benefits	Total TRC Test Benefits	Costs			
				Total Program Costs	Performance Incentive	Participant Costs	Total TRC Test Costs
A - Residential	2.27	38,826,541	69,517,588	23,548,336	-	7,142,712	30,691,047
A1 - Residential New Buildings	4.92	5,402,084	6,779,002	953,476	-	423,442	1,376,918
A1a - Residential New Homes & Renovations	4.92	5,402,084	6,779,002	953,476	-	423,442	1,376,918
A2 - Residential Existing Buildings	2.38	36,404,657	62,738,586	19,614,659	-	6,719,269	26,333,928
A2a - Residential Coordinated Delivery	2.68	24,063,341	38,373,686	10,716,481	-	3,593,864	14,310,345
A2b - Residential Conservation Services (RCS)	0.00	(1,877,870)	-	1,877,870	-	-	1,877,870
A2c - Residential Retail	2.50	13,498,169	22,521,775	5,898,201	-	3,125,405	9,023,606
A2d - Residential Behavior	1.77	550,775	1,264,581	713,807	-	-	713,807
A2e - Residential Active Demand Reduction	1.42	170,243	578,543	408,301	-	-	408,301
A3 - Residential Hard-to-Measure	0.00	(2,980,201)	-	2,980,201	-	-	2,980,201
B - Income Eligible	2.22	5,398,303	9,809,568	4,411,265	-	-	4,411,265
B1 - Income Eligible Existing Buildings	2.34	5,621,535	9,809,568	4,188,032	-	-	4,188,032
B1a - Income Eligible Coordinated Delivery	2.34	5,621,535	9,809,568	4,188,032	-	-	4,188,032
B1b - Income Eligible Active Demand Reduction		-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	0.00	(223,232)	-	223,232	-	-	223,232
C - Commercial & Industrial	3.56	45,127,792	62,766,069	16,249,867	-	1,388,409	17,638,276
C1 - C&I New Buildings	3.28	1,546,106	2,225,554	617,719	-	61,729	679,448
C1a - C&I New Buildings & Major Renovations	3.28	1,546,106	2,225,554	617,719	-	61,729	679,448
C2 - C&I Existing Buildings	3.72	44,280,013	60,540,515	14,933,823	-	1,326,679	16,260,502
C2a - C&I Existing Building Retrofit	3.79	37,349,395	50,753,049	12,343,482	-	1,060,173	13,403,655
C2b - C&I New & Replacement Equipment	2.40	2,327,232	3,994,141	1,400,402	-	266,507	1,666,909
C2c - C&I Active Demand Reduction	4.87	4,603,386	5,793,324	1,189,939	-	-	1,189,939
C3 - C&I Hard-to-Measure	0.00	(698,326)	-	698,326	-	-	698,326
Grand Total	2.69	89,352,636	142,093,224	44,209,468	-	8,531,120	52,740,588

Cost-Effectiveness, Plan Year Summary

2020 Planned vs. Evaluated

Cape Light Compact

June 4, 2021

2020 Evaluated Total Resource Cost Test (2019\$)							
Program	Benefit-Cost Ratio	Net Benefits	Total TRC Test Benefits	Costs			
				Total Program Costs	Performance Incentive	Participant Costs	Total TRC Test Costs
A - Residential	1.42	18,446,892	61,904,103	27,885,470	-	15,571,741	43,457,211
A1 - Residential New Buildings	2.30	2,031,658	3,597,426	1,120,497	-	445,272	1,565,768
A1a - Residential New Homes & Renovations	2.30	2,031,658	3,597,426	1,120,497	-	445,272	1,565,768
A2 - Residential Existing Buildings	1.53	20,100,299	58,306,677	23,079,909	-	15,126,470	38,206,378
A2a - Residential Coordinated Delivery	2.06	17,893,175	34,807,626	13,753,860	-	3,160,591	16,914,451
A2b - Residential Conservation Services (RCS)	0.00	(1,544,409)	-	1,544,409	-	-	1,544,409
A2c - Residential Retail	1.24	4,570,200	23,477,921	6,941,842	-	11,965,879	18,907,721
A2d - Residential Behavior	0.03	(677,819)	21,130	698,949	-	-	698,949
A2e - Residential Active Demand Reduction	0.00	(140,848)	-	140,848	-	-	140,848
A3 - Residential Hard-to-Measure	0.00	(3,685,064)	-	3,685,064	-	-	3,685,064
B - Income Eligible	1.49	1,178,499	3,574,160	2,395,661	-	-	2,395,661
B1 - Income Eligible Existing Buildings	1.66	1,418,624	3,574,160	2,155,536	-	-	2,155,536
B1a - Income Eligible Coordinated Delivery	1.66	1,418,624	3,574,160	2,155,536	-	-	2,155,536
B1b - Income Eligible Active Demand Reduction		-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	0.00	(240,126)	-	240,126	-	-	240,126
C - Commercial & Industrial	3.03	21,268,373	31,764,834	9,051,041	-	1,445,420	10,496,461
C1 - C&I New Buildings	1.72	727,179	1,738,638	267,860	-	743,599	1,011,459
C1a - C&I New Buildings & Major Renovations	1.72	727,179	1,738,638	267,860	-	743,599	1,011,459
C2 - C&I Existing Buildings	3.53	21,521,780	30,026,196	7,802,596	-	701,821	8,504,417
C2a - C&I Existing Building Retrofit	2.15	7,465,615	13,951,131	5,603,626	-	881,890	6,485,516
C2b - C&I New & Replacement Equipment	9.19	14,019,264	15,731,259	1,892,065	-	(180,069)	1,711,995
C2c - C&I Active Demand Reduction	1.12	36,900	343,806	306,906	-	-	306,906
C3 - C&I Hard-to-Measure	0.00	(980,585)	-	980,585	-	-	980,585
Grand Total	1.73	40,893,764	97,243,097	39,332,172	-	17,017,161	56,349,333

Cost-Effectiveness, Plan Year Summary

2020 Planned vs. Evaluated

Cape Light Compact

June 4, 2021

2020 Planned v. Evaluated Total Resource Cost Test (2019\$) Variances (%)							
Program	Benefit-Cost Ratio	Net Benefits	Total TRC Test Benefits	Costs			
				Total Program Costs	Performance Incentive	Participant Costs	Total TRC Test Costs
A - Residential	-37%	-52%	-11%	18%		118%	42%
A1 - Residential New Buildings	-53%	-62%	-47%	18%		5%	14%
A1a - Residential New Homes & Renovations	-53%	-62%	-47%	18%		5%	14%
A2 - Residential Existing Buildings	-36%	-45%	-7%	18%		125%	45%
A2a - Residential Coordinated Delivery	-23%	-26%	-9%	28%		-12%	18%
A2b - Residential Conservation Services (RCS)		-18%		-18%			-18%
A2c - Residential Retail	-50%	-66%	4%	18%		283%	110%
A2d - Residential Behavior	-98%	-223%	-98%	-2%			-2%
A2e - Residential Active Demand Reduction	-100%	-183%	-100%	-66%			-66%
A3 - Residential Hard-to-Measure		24%		24%			24%
B - Income Eligible	-33%	-78%	-64%	-46%			-46%
B1 - Income Eligible Existing Buildings	-29%	-75%	-64%	-49%			-49%
B1a - Income Eligible Coordinated Delivery	-29%	-75%	-64%	-49%			-49%
B1b - Income Eligible Active Demand Reduction							
B2 - Income Eligible Hard-to-Measure		8%		8%			8%
C - Commercial & Industrial	-15%	-53%	-49%	-44%		4%	-40%
C1 - C&I New Buildings	-48%	-53%	-22%	-57%		1105%	49%
C1a - C&I New Buildings & Major Renovations	-48%	-53%	-22%	-57%		1105%	49%
C2 - C&I Existing Buildings	-5%	-51%	-50%	-48%		-47%	-48%
C2a - C&I Existing Building Retrofit	-43%	-80%	-73%	-55%		-17%	-52%
C2b - C&I New & Replacement Equipment	283%	502%	294%	35%		-168%	3%
C2c - C&I Active Demand Reduction	-77%	-99%	-94%	-74%			-74%
C3 - C&I Hard-to-Measure		40%		40%			40%
Grand Total	-36%	-54%	-32%	-11%		99%	7%

Notes

- Costs and benefits for each year are presented in real dollars (2019\$).
- The Total TRC Costs are the sum of the Total Program Costs, Performance Incentives, and Participant Costs.
- The plan year variances provided above are intended to indicate the Program Administrator's performance in the plan year only. The variances used to determine significant variances are provided separately. The variances above and the significant variances use different calculations to determine variances on an annual basis and over the three-year term, respectively.

**Cost-Effectiveness, Three-Year Total
2019-2021 Total Resource Cost Test (2019\$)**

Cape Light Compact
June 4, 2021

2019 Evaluated Total Resource Cost Test (2019\$)							
Program	Benefit-Cost Ratio	Net Benefits	Total TRC Test Benefits	Costs			
				Total Program Costs	Performance Incentive	Participant Costs	Total TRC Test Costs
A - Residential	1.90	33,187,408	69,924,819	29,492,091	-	7,245,320	36,737,411
A1 - Residential New Buildings	2.29	1,920,462	3,405,064	955,270	-	529,332	1,484,602
A1a - Residential New Homes & Renovations	2.29	1,920,462	3,405,064	955,270	-	529,332	1,484,602
A2 - Residential Existing Buildings	2.07	34,410,821	66,519,755	25,392,947	-	6,715,987	32,108,934
A2a - Residential Coordinated Delivery	2.32	27,494,125	48,351,952	16,054,699	-	4,803,128	20,857,828
A2b - Residential Conservation Services (RCS)	0.00	(2,025,832)	-	2,025,832	-	-	2,025,832
A2c - Residential Retail	2.10	9,461,030	18,093,913	6,720,023	-	1,912,859	8,632,882
A2d - Residential Behavior	0.12	(518,502)	73,890	592,392	-	-	592,392
A2e - Residential Active Demand Reduction		-	-	-	-	-	-
A3 - Residential Hard-to-Measure	0.00	(3,143,874)	-	3,143,874	-	-	3,143,874
B - Income Eligible	1.84	3,139,667	6,885,827	3,746,160	-	-	3,746,160
B1 - Income Eligible Existing Buildings	1.92	3,293,586	6,885,827	3,592,241	-	-	3,592,241
B1a - Income Eligible Coordinated Delivery	1.92	3,293,586	6,885,827	3,592,241	-	-	3,592,241
B1b - Income Eligible Active Demand Reduction		-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	0.00	(153,919)	-	153,919	-	-	153,919
C - Commercial & Industrial	2.51	15,357,606	25,502,997	9,163,143	-	982,248	10,145,391
C1 - C&I New Buildings	4.67	1,655,979	2,107,388	340,000	-	111,408	451,409
C1a - C&I New Buildings & Major Renovations	4.67	1,655,979	2,107,388	340,000	-	111,408	451,409
C2 - C&I Existing Buildings	2.61	14,415,737	23,395,609	8,109,032	-	870,839	8,979,872
C2a - C&I Existing Building Retrofit	2.32	10,838,295	19,041,360	7,308,274	-	894,790	8,203,064
C2b - C&I New & Replacement Equipment	5.61	3,577,442	4,354,249	800,758	-	(23,951)	776,808
C2c - C&I Active Demand Reduction		-	-	-	-	-	-
C3 - C&I Hard-to-Measure	0.00	(714,111)	-	714,111	-	-	714,111
Grand Total	2.02	51,684,681	102,313,642	42,401,394	-	8,227,567	50,628,962

**Cost-Effectiveness, Three-Year Total
2019-2021 Total Resource Cost Test (2019\$)**

Cape Light Compact
June 4, 2021

2020 Evaluated Total Resource Cost Test (2019\$)							
Program	Benefit-Cost Ratio	Net Benefits	Total TRC Test Benefits	Costs			
				Total Program Costs	Performance Incentive	Participant Costs	Total TRC Test Costs
A - Residential	1.42	18,446,892	61,904,103	27,885,470	-	15,571,741	43,457,211
A1 - Residential New Buildings	2.30	2,031,658	3,597,426	1,120,497	-	445,272	1,565,768
A1a - Residential New Homes & Renovations	2.30	2,031,658	3,597,426	1,120,497	-	445,272	1,565,768
A2 - Residential Existing Buildings	1.53	20,100,299	58,306,677	23,079,909	-	15,126,470	38,206,378
A2a - Residential Coordinated Delivery	2.06	17,893,175	34,807,626	13,753,860	-	3,160,591	16,914,451
A2b - Residential Conservation Services (RCS)	0.00	(1,544,409)	-	1,544,409	-	-	1,544,409
A2c - Residential Retail	1.24	4,570,200	23,477,921	6,941,842	-	11,965,879	18,907,721
A2d - Residential Behavior	0.03	(677,819)	21,130	698,949	-	-	698,949
A2e - Residential Active Demand Reduction	0.00	(140,848)	-	140,848	-	-	140,848
A3 - Residential Hard-to-Measure	0.00	(3,685,064)	-	3,685,064	-	-	3,685,064
B - Income Eligible	1.49	1,178,499	3,574,160	2,395,661	-	-	2,395,661
B1 - Income Eligible Existing Buildings	1.66	1,418,624	3,574,160	2,155,536	-	-	2,155,536
B1a - Income Eligible Coordinated Delivery	1.66	1,418,624	3,574,160	2,155,536	-	-	2,155,536
B1b - Income Eligible Active Demand Reduction		-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	0.00	(240,126)	-	240,126	-	-	240,126
C - Commercial & Industrial	3.03	21,268,373	31,764,834	9,051,041	-	1,445,420	10,496,461
C1 - C&I New Buildings	1.72	727,179	1,738,638	267,860	-	743,599	1,011,459
C1a - C&I New Buildings & Major Renovations	1.72	727,179	1,738,638	267,860	-	743,599	1,011,459
C2 - C&I Existing Buildings	3.53	21,521,780	30,026,196	7,802,596	-	701,821	8,504,417
C2a - C&I Existing Building Retrofit	2.15	7,465,615	13,951,131	5,603,626	-	881,890	6,485,516
C2b - C&I New & Replacement Equipment	9.19	14,019,264	15,731,259	1,892,065	-	(180,069)	1,711,995
C2c - C&I Active Demand Reduction	1.12	36,900	343,806	306,906	-	-	306,906
C3 - C&I Hard-to-Measure	0.00	(980,585)	-	980,585	-	-	980,585
Grand Total	1.73	40,893,764	97,243,097	39,332,172	-	17,017,161	56,349,333

**Cost-Effectiveness, Three-Year Total
2019-2021 Total Resource Cost Test (2019\$)**

Cape Light Compact
June 4, 2021

2021 Planned Total Resource Cost Test (2019\$)							
Program	Benefit-Cost Ratio	Net Benefits	Total TRC Test Benefits	Costs			
				Total Program Costs	Performance Incentive	Participant Costs	Total TRC Test Costs
A - Residential	2.28	37,603,524	67,062,991	22,512,972	-	6,946,495	29,459,467
A1 - Residential New Buildings	5.02	5,573,137	6,959,008	984,035	-	401,836	1,385,871
A1a - Residential New Homes & Renovations	5.02	5,573,137	6,959,008	984,035	-	401,836	1,385,871
A2 - Residential Existing Buildings	2.40	35,028,968	60,103,983	18,530,357	-	6,544,659	25,075,015
A2a - Residential Coordinated Delivery	2.71	24,622,206	39,062,472	10,714,694	-	3,725,572	14,440,266
A2b - Residential Conservation Services (RCS)	0.00	(1,850,330)	-	1,850,330	-	-	1,850,330
A2c - Residential Retail	2.44	11,051,353	18,722,333	4,851,893	-	2,819,087	7,670,980
A2d - Residential Behavior	2.20	777,514	1,425,325	647,812	-	-	647,812
A2e - Residential Active Demand Reduction	1.92	428,226	893,853	465,628	-	-	465,628
A3 - Residential Hard-to-Measure	0.00	(2,998,581)	-	2,998,581	-	-	2,998,581
B - Income Eligible	2.13	5,380,515	10,155,851	4,775,336	-	-	4,775,336
B1 - Income Eligible Existing Buildings	2.23	5,604,271	10,155,851	4,551,580	-	-	4,551,580
B1a - Income Eligible Coordinated Delivery	2.23	5,604,271	10,155,851	4,551,580	-	-	4,551,580
B1b - Income Eligible Active Demand Reduction		-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	0.00	(223,755)	-	223,755	-	-	223,755
C - Commercial & Industrial	3.68	48,854,526	67,059,186	16,719,153	-	1,485,508	18,204,660
C1 - C&I New Buildings	3.45	1,648,199	2,321,632	613,109	-	60,324	673,433
C1a - C&I New Buildings & Major Renovations	3.45	1,648,199	2,321,632	613,109	-	60,324	673,433
C2 - C&I Existing Buildings	3.85	47,901,143	64,737,554	15,411,227	-	1,425,184	16,836,411
C2a - C&I Existing Building Retrofit	3.75	37,533,324	51,185,761	12,481,606	-	1,170,831	13,652,437
C2b - C&I New & Replacement Equipment	2.45	2,107,213	3,560,265	1,198,699	-	254,353	1,453,051
C2c - C&I Active Demand Reduction	5.77	8,260,606	9,991,528	1,730,922	-	-	1,730,922
C3 - C&I Hard-to-Measure	0.00	(694,816)	-	694,816	-	-	694,816
Grand Total	2.75	91,838,565	144,278,028	44,007,460	-	8,432,002	52,439,463

**Cost-Effectiveness, Three-Year Total
2019-2021 Total Resource Cost Test (2019\$)**

Cape Light Compact
June 4, 2021

2019-2021 Total Resource Cost Test (2019\$)							
Program	Benefit-Cost Ratio	Net Benefits	Total TRC Test Benefits	Costs			
				Total Program Costs	Performance Incentive	Participant Costs	Total TRC Test Costs
A - Residential	1.81	89,237,824	198,891,912	79,890,533	-	29,763,556	109,654,088
A1 - Residential New Buildings	3.15	9,525,256	13,961,497	3,059,801	-	1,376,440	4,436,241
A1a - Residential New Homes & Renovations	3.15	9,525,256	13,961,497	3,059,801	-	1,376,440	4,436,241
A2 - Residential Existing Buildings	1.94	89,540,087	184,930,415	67,003,212	-	28,387,116	95,390,328
A2a - Residential Coordinated Delivery	2.34	70,009,506	122,222,050	40,523,253	-	11,689,291	52,212,544
A2b - Residential Conservation Services (RCS)	0.00	(5,420,572)	-	5,420,572	-	-	5,420,572
A2c - Residential Retail	1.71	25,082,583	60,294,167	18,513,758	-	16,697,825	35,211,583
A2d - Residential Behavior	0.78	(418,808)	1,520,345	1,939,153	-	-	1,939,153
A2e - Residential Active Demand Reduction	1.47	287,377	893,853	606,476	-	-	606,476
A3 - Residential Hard-to-Measure	0.00	(9,827,519)	-	9,827,519	-	-	9,827,519
B - Income Eligible	1.89	9,698,681	20,615,838	10,917,157	-	-	10,917,157
B1 - Income Eligible Existing Buildings	2.00	10,316,480	20,615,838	10,299,357	-	-	10,299,357
B1a - Income Eligible Coordinated Delivery	2.00	10,316,480	20,615,838	10,299,357	-	-	10,299,357
B1b - Income Eligible Active Demand Reduction		-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	0.00	(617,800)	-	617,800	-	-	617,800
C - Commercial & Industrial	3.20	85,480,505	124,327,017	34,933,337	-	3,913,175	38,846,512
C1 - C&I New Buildings	2.89	4,031,357	6,167,658	1,220,970	-	915,331	2,136,301
C1a - C&I New Buildings & Major Renovations	2.89	4,031,357	6,167,658	1,220,970	-	915,331	2,136,301
C2 - C&I Existing Buildings	3.44	83,838,660	118,159,359	31,322,855	-	2,997,844	34,320,699
C2a - C&I Existing Building Retrofit	2.97	55,837,235	84,178,252	25,393,506	-	2,947,511	28,341,017
C2b - C&I New & Replacement Equipment	6.00	19,703,919	23,645,774	3,891,522	-	50,333	3,941,854
C2c - C&I Active Demand Reduction	5.07	8,297,506	10,335,334	2,037,828	-	-	2,037,828
C3 - C&I Hard-to-Measure	0.00	(2,389,512)	-	2,389,512	-	-	2,389,512
Grand Total	2.16	184,417,010	343,834,767	125,741,027	-	33,676,731	159,417,758

Notes

- Costs and benefits for each year are presented in real dollars (2019\$).
- The Total TRC Costs are the sum of the Total Program Costs, Performance Incentives, and Participant Costs.

Core Initiatives, Plan Year Summary

Residential Programs

Cape Light Compact

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A1 - Residential New Buildings, 2019 Summary							
A1a - Residential New Homes & Renovations							
Metric	Units	Planned	Preliminary	Evaluated	Plan v Preliminary	Plan v Evaluated	Preliminary v Evaluated
Annual Energy	MWh	1,008	1,472	887	46%	-12%	-40%
Lifetime Energy	MWh	13,850	31,449	15,888	127%	15%	-49%
Annual Natural Gas	Therms	-	-	-			
Lifetime Natural Gas	Therms	-	-	-			
Total Benefits	2019\$	6,779,002	6,775,875	3,597,426	0%	-47%	-47%
Total Program Costs	nominal\$	975,692	1,146,604	1,146,604	18%	18%	0%
Total Resource Costs	2019\$	1,409,001	1,602,251	1,602,251	14%	14%	0%
Benefit Cost Ratio	B/C	4.92	4.33	2.30	-12%	-53%	-47%

A2 - Residential Existing Buildings, 2019 Summary							
A2a - Residential Coordinated Delivery							
Metric	Units	Planned	Preliminary	Evaluated	Plan v Preliminary	Plan v Evaluated	Preliminary v Evaluated
Annual Energy	MWh	5,777	6,150	5,378	6%	-7%	-13%
Lifetime Energy	MWh	43,434	36,569	34,342	-16%	-21%	-6%
Annual Natural Gas	Therms	232,334	200,634	195,463	-14%	-16%	-3%
Lifetime Natural Gas	Therms	4,973,736	4,102,613	4,099,354	-18%	-18%	0%
Total Benefits	2019\$	38,373,686	35,234,862	34,807,626	-8%	-9%	-1%
Total Program Costs	nominal\$	10,966,175	14,074,325	14,074,325	28%	28%	0%
Total Resource Costs	2019\$	14,643,776	17,308,558	17,308,558	18%	18%	0%
Benefit Cost Ratio	B/C	2.68	2.08	2.06	-22%	-23%	-1%

A2c - Residential Retail							
Metric	Units	Planned	Preliminary	Evaluated	Plan v Preliminary	Plan v Evaluated	Preliminary v Evaluated
Annual Energy	MWh	6,060	7,982	8,088	32%	33%	1%
Lifetime Energy	MWh	24,117	35,195	33,823	46%	40%	-4%
Annual Natural Gas	Therms	(64,132)	(69,060)	(69,060)	8%	8%	0%
Lifetime Natural Gas	Therms	(320,102)	(150,300)	(123,347)	-53%	-61%	-18%
Total Benefits	2019\$	22,521,775	25,461,595	23,477,921	13%	4%	-8%
Total Program Costs	nominal\$	6,035,629	7,103,587	7,103,587	18%	18%	0%
Total Resource Costs	2019\$	9,233,856	19,348,271	19,348,271	110%	110%	0%
Benefit Cost Ratio	B/C	2.50	1.35	1.24	-46%	-50%	-8%

A2d - Residential Behavior							
Metric	Units	Planned	Preliminary	Evaluated	Plan v Preliminary	Plan v Evaluated	Preliminary v Evaluated
Annual Energy	MWh	6,656	15	15	-100%	-100%	0%
Lifetime Energy	MWh	6,656	15	15	-100%	-100%	0%
Annual Natural Gas	Therms	-	-	-			
Lifetime Natural Gas	Therms	-	-	-			
Total Benefits	2019\$	1,264,581	21,087	21,130	-98%	-98%	0%
Total Program Costs	nominal\$	730,438	715,235	715,235	-2%	-2%	0%
Total Resource Costs	2019\$	730,438	715,235	715,235	-2%	-2%	0%
Benefit Cost Ratio	B/C	1.77	0.03	0.03	-98%	-98%	0%

A2e - Residential Active Demand Reduction							
Metric	Units	Planned	Preliminary	Evaluated	Plan v Preliminary	Plan v Evaluated	Preliminary v Evaluated
Annual Energy	MWh	-	-	-			
Lifetime Energy	MWh	-	-	-			
Annual Natural Gas	Therms	-	-	-			
Lifetime Natural Gas	Therms	-	-	-			
Total Benefits	2019\$	578,543	-	-	-100%	-100%	
Total Program Costs	nominal\$	417,814	144,130	144,130	-66%	-66%	0%
Total Resource Costs	2019\$	417,814	144,130	144,130	-66%	-66%	0%
Benefit Cost Ratio	B/C	1.42	-	-	-100%	-100%	

Core Initiatives, Plan Year Summary

Income Eligible Programs

Cape Light Compact

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B1 - Income Eligible Existing Buildings, 2019 Summary							
B1a - Income Eligible Coordinated Delivery							
Metric	Units	Planned	Preliminary	Evaluated	Plan v Preliminary	Plan v Evaluated	Preliminary v Evaluated
Annual Energy	MWh	2,143	1,072	1,112	-50%	-48%	4%
Lifetime Energy	MWh	17,603	5,986	5,773	-66%	-67%	-4%
Annual Natural Gas	Therms	-	-	-			
Lifetime Natural Gas	Therms	-	-	-			
Total Benefits	2019\$	9,809,568	4,101,833	3,574,160	-58%	-64%	-13%
Total Program Costs	nominal\$	4,285,614	2,205,760	2,205,760	-49%	-49%	0%
Total Resource Costs	2019\$	4,285,614	2,205,760	2,205,760	-49%	-49%	0%
Benefit Cost Ratio	B/C	2.34	1.90	1.66	-19%	-29%	-13%

B1b - Income Eligible Active Demand Reduction							
Metric	Units	Planned	Preliminary	Evaluated	Plan v Preliminary	Plan v Evaluated	Preliminary v Evaluated
Annual Energy	MWh	-	-	-			
Lifetime Energy	MWh	-	-	-			
Annual Natural Gas	Therms	-	-	-			
Lifetime Natural Gas	Therms	-	-	-			
Total Benefits	2019\$	-	-	-			
Total Program Costs	nominal\$	-	-	-			
Total Resource Costs	2019\$	-	-	-			
Benefit Cost Ratio	B/C						

Core Initiatives, Plan Year Summary

C&I Programs

Cape Light Compact

June 4, 2021

C1 - C&I New Buildings, 2019 Summary							
C1a - C&I New Buildings & Major Renovations							
Metric	Units	Planned	Preliminary	Evaluated	Plan v Preliminary	Plan v Evaluated	Preliminary v Evaluated
Annual Energy	MWh	985	741	739	-25%	-25%	0%
Lifetime Energy	MWh	17,434	12,446	12,239	-29%	-30%	-2%
Annual Natural Gas	Therms	(2,355)	(1,617)	(1,611)	-31%	-32%	0%
Lifetime Natural Gas	Therms	(43,863)	(30,632)	(30,208)	-30%	-31%	-1%
Total Benefits	2019\$	2,225,554	1,774,438	1,738,638	-20%	-22%	-2%
Total Program Costs	nominal\$	632,111	274,101	274,101	-57%	-57%	0%
Total Resource Costs	2019\$	695,279	1,035,026	1,035,026	49%	49%	0%
Benefit Cost Ratio	B/C	3.28	1.75	1.72	-46%	-48%	-2%

C2 - C&I Existing Buildings, 2019 Summary							
C2a - C&I Existing Building Retrofit							
Metric	Units	Planned	Preliminary	Evaluated	Plan v Preliminary	Plan v Evaluated	Preliminary v Evaluated
Annual Energy	MWh	13,963	6,408	6,170	-54%	-56%	-4%
Lifetime Energy	MWh	164,470	71,354	62,813	-57%	-62%	-12%
Annual Natural Gas	Therms	(59,152)	(26,937)	(25,688)	-54%	-57%	-5%
Lifetime Natural Gas	Therms	(634,531)	(282,818)	(254,485)	-55%	-60%	-10%
Total Benefits	2019\$	50,753,049	15,204,236	13,951,131	-70%	-73%	-8%
Total Program Costs	nominal\$	12,631,085	5,734,190	5,734,190	-55%	-55%	0%
Total Resource Costs	2019\$	13,715,960	6,636,628	6,636,628	-52%	-52%	0%
Benefit Cost Ratio	B/C	3.79	2.34	2.15	-38%	-43%	-8%

C2b - C&I New & Replacement Equipment							
Metric	Units	Planned	Preliminary	Evaluated	Plan v Preliminary	Plan v Evaluated	Preliminary v Evaluated
Annual Energy	MWh	2,192	13,749	14,269	527%	551%	4%
Lifetime Energy	MWh	20,133	191,709	195,330	852%	870%	2%
Annual Natural Gas	Therms	(1,240)	(716,500)	(716,500)	57669%	57669%	0%
Lifetime Natural Gas	Therms	(9,632)	(10,735,224)	(10,735,224)	111353%	111353%	0%
Total Benefits	2019\$	3,994,141	15,452,966	15,731,259	287%	294%	2%
Total Program Costs	nominal\$	1,433,032	1,936,150	1,936,150	35%	35%	0%
Total Resource Costs	2019\$	1,705,748	1,751,885	1,751,885	3%	3%	0%
Benefit Cost Ratio	B/C	2.40	9.03	9.19	277%	283%	2%

C2c - C&I Active Demand Reduction							
Metric	Units	Planned	Preliminary	Evaluated	Plan v Preliminary	Plan v Evaluated	Preliminary v Evaluated
Annual Energy	MWh	-	-	-			
Lifetime Energy	MWh	-	-	-			
Annual Natural Gas	Therms	-	-	-			
Lifetime Natural Gas	Therms	-	-	-			
Total Benefits	2019\$	5,793,324	422,931	343,806	-93%	-94%	-19%
Total Program Costs	nominal\$	1,217,664	314,056	314,056	-74%	-74%	0%
Total Resource Costs	2019\$	1,217,664	314,056	314,056	-74%	-74%	0%
Benefit Cost Ratio	B/C	4.87	1.38	1.12	-72%	-77%	-19%

Core Initiatives, Three-Year Total

Residential Programs

Cape Light Compact

June 4, 2021

A1 - Residential New Buildings, 2019-2021 Summary					
A1a - Residential New Homes & Renovations					
Metric	Units	2019 Evaluated	2020 Evaluated	2021 Planned	2019-2021 Total
Annual Energy	MWh	1,006	887	935	2,828
Lifetime Energy	MWh	17,639	15,888	13,395	46,922
Annual Natural Gas	Therms	-	-	-	-
Lifetime Natural Gas	Therms	-	-	-	-
Total Benefits	2019\$	3,405,064	3,597,426	6,959,008	13,961,497
Total Program Costs	nominal\$	955,270	1,146,604	1,030,425	3,132,299
Total Resource Costs	2019\$	1,484,602	1,602,251	1,451,205	4,538,057
Benefit Cost Ratio	B/C	2.29	2.30	5.02	3.08

A2 - Residential Existing Buildings, 2019-2021 Summary					
A2a - Residential Coordinated Delivery					
Metric	Units	2019 Evaluated	2020 Evaluated	2021 Planned	2019-2021 Total
Annual Energy	MWh	10,560	5,378	4,671	20,609
Lifetime Energy	MWh	80,086	34,342	45,461	159,888
Annual Natural Gas	Therms	240,801	195,463	231,181	667,445
Lifetime Natural Gas	Therms	4,961,384	4,099,354	4,956,447	14,017,186
Total Benefits	2019\$	48,351,952	34,807,626	39,062,472	122,222,050
Total Program Costs	nominal\$	16,054,699	14,074,325	11,219,816	41,348,840
Total Resource Costs	2019\$	20,857,828	17,308,558	15,121,022	53,287,407
Benefit Cost Ratio	B/C	2.32	2.06	2.71	2.29

A2c - Residential Retail					
Metric	Units	2019 Evaluated	2020 Evaluated	2021 Planned	2019-2021 Total
Annual Energy	MWh	13,073	8,088	2,452	23,613
Lifetime Energy	MWh	54,817	33,823	(290)	88,350
Annual Natural Gas	Therms	(124,725)	(69,060)	(27,968)	(221,753)
Lifetime Natural Gas	Therms	(348,408)	(123,347)	(110,793)	(582,548)
Total Benefits	2019\$	18,093,913	23,477,921	18,722,333	60,294,167
Total Program Costs	nominal\$	6,720,023	7,103,587	5,080,625	18,904,236
Total Resource Costs	2019\$	8,632,882	19,348,271	8,032,612	36,013,765
Benefit Cost Ratio	B/C	2.10	1.24	2.44	1.67

A2d - Residential Behavior					
Metric	Units	2019 Evaluated	2020 Evaluated	2021 Planned	2019-2021 Total
Annual Energy	MWh	253	15	7,488	7,756
Lifetime Energy	MWh	253	15	7,488	7,756
Annual Natural Gas	Therms	-	-	-	-
Lifetime Natural Gas	Therms	-	-	-	-
Total Benefits	2019\$	73,890	21,130	1,425,325	1,520,345
Total Program Costs	nominal\$	592,392	715,235	678,351	1,985,978
Total Resource Costs	2019\$	592,392	715,235	678,351	1,985,978
Benefit Cost Ratio	B/C	0.12	0.03	2.20	0.77

A2e - Residential Active Demand Reduction					
Metric	Units	2019 Evaluated	2020 Evaluated	2021 Planned	2019-2021 Total
Annual Energy	MWh	-	-	(2)	(2)
Lifetime Energy	MWh	-	-	(2)	(2)
Annual Natural Gas	Therms	-	-	-	-
Lifetime Natural Gas	Therms	-	-	-	-
Total Benefits	2019\$	-	-	893,853	893,853
Total Program Costs	nominal\$	-	144,130	487,579	631,709
Total Resource Costs	2019\$	-	144,130	487,579	631,709
Benefit Cost Ratio	B/C	-	-	1.92	1.41

Core Initiatives, Three-Year Total

Income Eligible Programs

Cape Light Compact

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B1 - Income Eligible Existing Buildings, 2019-2021 Summary					
B1a - Income Eligible Coordinated Delivery					
Metric	Units	2019 Evaluated	2020 Evaluated	2021 Planned	2019-2021 Total
Annual Energy	MWh	2,075	1,112	2,056	5,242
Lifetime Energy	MWh	15,200	5,773	18,144	39,117
Annual Natural Gas	Therms	-	-	-	-
Lifetime Natural Gas	Therms	-	-	-	-
Total Benefits	2019\$	6,885,827	3,574,160	10,155,851	20,615,838
Total Program Costs	nominal\$	3,592,241	2,205,760	4,766,155	10,564,156
Total Resource Costs	2019\$	3,592,241	2,205,760	4,766,155	10,564,156
Benefit Cost Ratio	B/C	1.92	1.66	2.23	1.95

B1b - Income Eligible Active Demand Reduction					
Metric	Units	2019 Evaluated	2020 Evaluated	2021 Planned	2019-2021 Total
Annual Energy	MWh		-	-	-
Lifetime Energy	MWh		-	-	-
Annual Natural Gas	Therms				-
Lifetime Natural Gas	Therms				-
Total Benefits	2019\$	-	-	-	-
Total Program Costs	nominal\$	-	-	-	-
Total Resource Costs	2019\$	-	-	-	-
Benefit Cost Ratio	B/C				#DIV/0!

Core Initiatives, Three-Year Total

C&I Programs

Cape Light Compact

June 4, 2021

C1 - C&I New Buildings, 2019-2021 Summary					
C1a - C&I New Buildings & Major Renovations					
Metric	Units	2019 Evaluated	2020 Evaluated	2021 Planned	2019-2021 Total
Annual Energy	MWh	859	739	1,026	2,625
Lifetime Energy	MWh	14,917	12,239	18,260	45,417
Annual Natural Gas	Therms	(2,205)	(1,611)	(2,471)	(6,287)
Lifetime Natural Gas	Therms	(39,619)	(30,208)	(46,191)	(116,018)
Total Benefits	2019\$	2,107,388	1,738,638	2,321,632	6,167,658
Total Program Costs	nominal\$	340,000	274,101	642,013	1,256,115
Total Resource Costs	2019\$	451,409	1,035,026	705,181	2,191,616
Benefit Cost Ratio	B/C	4.67	1.72	3.45	2.81

C2 - C&I Existing Buildings, 2019-2021 Summary					
C2a - C&I Existing Building Retrofit					
Metric	Units	2019 Evaluated	2020 Evaluated	2021 Planned	2019-2021 Total
Annual Energy	MWh	8,378	6,170	14,082	28,630
Lifetime Energy	MWh	92,771	62,813	160,532	316,115
Annual Natural Gas	Therms	(30,909)	(25,688)	(60,067)	(116,663)
Lifetime Natural Gas	Therms	(324,168)	(254,485)	(601,289)	(1,179,942)
Total Benefits	2019\$	19,041,360	13,951,131	51,185,761	84,178,252
Total Program Costs	nominal\$	7,308,274	5,734,190	13,070,025	26,112,489
Total Resource Costs	2019\$	8,203,064	6,636,628	14,296,053	29,135,745
Benefit Cost Ratio	B/C	2.32	2.15	3.75	2.89

C2b - C&I New & Replacement Equipment					
Metric	Units	2019 Evaluated	2020 Evaluated	2021 Planned	2019-2021 Total
Annual Energy	MWh	2,432	14,269	1,979	18,679
Lifetime Energy	MWh	25,187	195,330	17,924	238,441
Annual Natural Gas	Therms	(1,595)	(716,500)	(1,043)	(719,138)
Lifetime Natural Gas	Therms	(14,053)	(10,735,224)	(7,621)	(10,756,897)
Total Benefits	2019\$	4,354,249	15,731,259	3,560,265	23,645,774
Total Program Costs	nominal\$	800,758	1,936,150	1,255,209	3,992,117
Total Resource Costs	2019\$	776,808	1,751,885	1,521,553	4,050,245
Benefit Cost Ratio	B/C	5.61	9.19	2.45	5.84

C2c - C&I Active Demand Reduction					
Metric	Units	2019 Evaluated	2020 Evaluated	2021 Planned	2019-2021 Total
Annual Energy	MWh		(0)	(16)	(16)
Lifetime Energy	MWh		(0)	(16)	(16)
Annual Natural Gas	Therms				-
Lifetime Natural Gas	Therms				-
Total Benefits	2019\$	-	343,806	9,991,528	10,335,334
Total Program Costs	nominal\$	-	314,056	1,812,523	2,126,579
Total Resource Costs	2019\$	-	314,056	1,812,523	2,126,579
Benefit Cost Ratio	B/C		1.12	5.77	4.86

Greenhouse Gas Reductions, Plan Year Summary

GHG reductions are provided for information purposes only. They are not included in the TRC test.

Cape Light Compact

June 4, 2021

2020 Planned Greenhouse Gas Reductions							
Sector	Adjusted Gross Annual Savings				Annual Emissions Reductions (Short Tons)		
	Electric Energy (MWh)	Natural Gas (Therm)	Oil (MMBTU)	Propane (MMBTU)	NOX	SO2	CO2
A - Residential	33,127	5,701	35,199	16,165	5.45	1.41	20,363
B - Income Eligible	2,143	-	4,351	904	0.35	0.09	1,473
C - Commercial & Industrial	19,385	(68,847)	(5,294)	32	3.19	0.82	8,749
Grand Total	54,655	(63,146)	34,256	17,101	8.98	2.32	30,584

2020 Evaluated Greenhouse Gas Reductions							
Sector	Adjusted Gross Annual Savings				Annual Emissions Reductions (Short Tons)		
	Electric Energy (MWh)	Natural Gas (Therm)	Oil (MMBTU)	Propane (MMBTU)	NOX	SO2	CO2
A - Residential	28,389	(31,373)	26,288	15,475	4.67	1.20	17,039
B - Income Eligible	1,112	-	1,621	331	0.18	0.05	703
C - Commercial & Industrial	24,675	(826,236)	(2,152)	26	4.06	1.05	7,184
Grand Total	54,176	(857,609)	25,756	15,833	8.90	2.30	24,926

2020 Planned v. Evaluated Greenhouse Gas Reductions Variances (%)							
Sector	Adjusted Gross Annual Savings				Annual Emissions Reductions (Short Tons)		
	Electric Energy (MWh)	Natural Gas (Therm)	Oil (MMBTU)	Propane (MMBTU)	NOX	SO2	CO2
A - Residential	-14%	-650%	-25%	-4%	-14%	-14%	-16%
B - Income Eligible	-48%		-63%	-63%	-48%	-48%	-52%
C - Commercial & Industrial	27%	1100%	-59%	-19%	27%	27%	-18%
Grand Total	-1%	1258%	-25%	-7%	-1%	-1%	-18%

Notes

The Program Administrators have worked with the Department of Environmental Protection ("DEP") to properly capture the full impact of energy efficiency measures on GHG emissions. These reductions are calculated using factors prepared by DEP, which are based on adjusted gross annual electric energy, natural gas, oil, and propane savings. For projected emissions reductions in future years for the electric sector, Program Administrators are using values that are consistent with the values used in the Massachusetts Clean Energy and Climate Plan for 2020, as provided by DEP.

Greenhouse Gas Reductions, Three-Year Total

GHG reductions are provided for information purposes only. They are not included in the TRC test.

Cape Light Compact

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2019 Evaluated Greenhouse Gas Reductions							
Sector	Adjusted Gross Annual Savings				Annual Emissions Reductions (Short Tons)		
	Electric Energy (MWh)	Natural Gas (Therm)	Oil (MMBTU)	Propane (MMBTU)	NOX	SO2	CO2
A - Residential	43,922	(113,204)	14,554	7,201	7.22	1.86	22,711
B - Income Eligible	2,075	-	2,460	494	0.34	0.09	1,258
C - Commercial & Industrial	13,199	(37,722)	(2,317)	50	2.17	0.56	6,116
Grand Total	59,196	(150,926)	14,697	7,745	9.73	2.51	30,085

2020 Evaluated Greenhouse Gas Reductions							
Sector	Adjusted Gross Annual Savings				Annual Emissions Reductions (Short Tons)		
	Electric Energy (MWh)	Natural Gas (Therm)	Oil (MMBTU)	Propane (MMBTU)	NOX	SO2	CO2
A - Residential	28,389	(31,373)	26,288	15,475	4.67	1.20	17,039
B - Income Eligible	1,112	-	1,621	331	0.18	0.05	703
C - Commercial & Industrial	24,675	(826,236)	(2,152)	26	4.06	1.05	7,184
Grand Total	54,176	(857,609)	25,756	15,833	8.90	2.30	24,926

2021 Planned Greenhouse Gas Reductions							
Sector	Adjusted Gross Annual Savings				Annual Emissions Reductions (Short Tons)		
	Electric Energy (MWh)	Natural Gas (Therm)	Oil (MMBTU)	Propane (MMBTU)	NOX	SO2	CO2
A - Residential	24,569	94,462	40,372	18,131	4.04	1.04	17,209
B - Income Eligible	2,056	-	4,512	930	0.34	0.09	1,444
C - Commercial & Industrial	19,549	(69,894)	(5,322)	32	3.21	0.83	8,821
Grand Total	46,173	24,567	39,562	19,093	7.59	1.96	27,474

2019-2021 Greenhouse Gas Reductions							
Sector	Adjusted Gross Annual Savings				Annual Emissions Reductions (Short Tons)		
	Electric Energy (MWh)	Natural Gas (Therm)	Oil (MMBTU)	Propane (MMBTU)	NOX	SO2	CO2
A - Residential	96,880	(50,115)	81,213	40,808	15.92	4.11	56,959
B - Income Eligible	5,242	-	8,592	1,756	0.86	0.22	3,405
C - Commercial & Industrial	57,423	(933,852)	(9,791)	108	9.44	2.44	22,122
Grand Total	159,545	(983,968)	80,015	42,671	26.22	6.77	82,485

Notes

The Program Administrators have worked with the Department of Environmental Protection ("DEP") to properly capture the full impact of energy efficiency measures on GHG emissions. These reductions are calculated using factors prepared by DEP, which are based on adjusted gross annual electric energy, natural gas, oil, and propane savings. For projected emissions reductions in future years for the electric sector, Program Administrators are using values that are consistent with the values used in the Massachusetts Clean Energy and Climate Plan for 2020, as provided by DEP.

Calculated Fields

Formulas used in pivot tables

Cape Light Compact

June 4, 2021

Field	Formula
B/C Ratio	= 'Total Benefits ' / 'Total Resource Costs (First Yr\$)'
Net Benefits	= 'Total Benefits ' - 'Total Resource Costs (First Yr\$)'
Avg Measure Life	= ROUND('Net Lifetime Electric Energy (MWh) No FS or DR' / 'Net Annual Electric Energy (MWh) No FS or DR', 0)
PA Budget (First Yr\$)	= 'Total Program Costs (First Yr\$)' + 'Performance Incentive (First Yr\$)'
Summer Cost (TRC Cost First Yr\$/Summer kW)	= 'Total Resource Costs (First Yr\$)' / 'Net Summer Capacity (kW)'
Energy Cost (TRC Cost First Yr\$/Annual MWh)	= 'Total Program Costs (First Yr\$)' / 'Net Annual Electric Energy (MWh)'
Natural Gas Costs (PA Cost First Yr\$/Annual Therm)	= 'PA Budget (First Yr\$)' / 'Net Annual Natural Gas (Therms)'
Summer Cost (PA Cost First Yr\$/Summer kW)	= 'PA Budget (First Yr\$)' / 'Net Summer Capacity (kW)'
Energy Cost (PA Cost First Yr\$/Annual MWh)	= 'PA Budget (First Yr\$)' / 'Net Annual Electric Energy (MWh)'
Natural Gas Costs (TRC Cost First Yr\$/Annual Therm)	= 'Total Program Costs (First Yr\$)' / 'Net Annual Natural Gas (Therms)'
Total Savings Cost (PA Cost First Yr\$/Annual MMBTU)	= 'PA Budget (First Yr\$)' / 'Total Net Annual Adjusted (MMBTU)'
Total Savings Cost (TRC Cost First Yr\$/Annual MMBTU)	= 'Total Resource Costs (First Yr\$)' / 'Total Net Annual Adjusted (MMBTU)'
Total PA Budget (Programs + PI + Benefit Burden)	= 'Total Program Costs' + 'Performance Incentive' + 'Benefit Burden'
Total Resource Benefits per Participant	= 'Total Resource Benefits' / 'Participants'
Total PA Budget	= 'Total Program Costs' + 'Performance Incentive'
Program Cost per Participant	= 'Total Program Costs' / 'Participants'
Resource Benefit per Program Cost	= 'Total Resource Benefits' / 'Total Program Costs'

Notes

- The above calculations are used to prepare the previous data tables.
- This table is provided consistent with the Department's directives in D.P.U. 18-110 through D.P.U. 18-119, at 75 to provide a detailed list of calculated fields used in creating the pivot tables.

SECTION II
CAPE LIGHT COMPACT JPE DATA TABLES

Part B: Shared Costs Allocated using CLC Board Factors

Energy Efficiency Data Tables

2020 Plan Year Report Overview

Cape Light Compact

June 4, 2021

DATA OVERVIEW

The following data tables provide a summary of the Program Administrator's benefits, costs, savings, and cost-effectiveness for 2019 through 2021. The planned values are consistent with each Program Administrator's 2019-2021 Three-Year Plan. The 2020 preliminary and evaluated values are presented here for the first time as part of each Program Administrator's 2020 Plan Year Report.

The data included in these tables is based on other supporting models. The primary supporting models used by the Program Administrators in the preparation of this 2020 Plan Year Report are the Benefit-Cost Screening model and the Performance Incentive model. These exhibits should be referenced when looking for more detailed analyses, such as measure-level savings. High-level summaries for each of these models are provided below.

USING THE DATA TABLES

These Plan Year Report data tables are in a pivot table format with set outputs based on the Department's direction in D.P.U. 11-120, Phase II. Users can manipulate the data by using either the raw data included on the Master Data tab, or the Slicers shown on the Selections tab. The Slicers will update the comparisons between the planned, preliminary, or evaluated results on the Plan Year Summary tables only.

BENEFIT-COST SCREENING MODEL

The Benefit-Cost Screening model provides measure-level savings and benefits. This model uses the avoided cost values from the 2018 Avoided Energy Supply Cost study prepared by Synapse Energy Economics, Inc.

PERFORMANCE INCENTIVE MODEL

The Performance Incentive model filed as part of the Joint Statewide Three-Year Plan provides support for the performance incentive dollars proposed for collection by the Program Administrator. Final performance incentive amounts will be based on the three-year term and will be subject to review and final approval in the three-year term report; the amounts shown in the Plan Year Report are based on the data available to date and will change as additional years of data are included. Note that performance incentives are not applicable to the Cape Light Compact.

EM&V ACTIVITIES

The Evaluation, Monitoring & Verification (EMV) Section of the Joint Statewide Three-Year Plan describes in detail the EM&V activities planned for 2019-2021. The EMV section of each Program Administrator's 2020 Plan Year Report summarizes the evaluation results completed in 2020 and their impact on the 2020 evaluated results. The Technical Reference Library (TRL) has been updated to account for recent evaluation results.

2020 Plan Year Report Data Tables

Template Version: June 4, 2021

PA-Specific Information

2020 Plan Year Report Filing Detail

Distribution Fuel	Electric
Program Administrator	Cape Light Compact
Date of Filing	June 4, 2021
Name of Filing	2020 Plan Year Report

PLAN FILINGS

Reporting Period	Filing Date	DPU Docket #
2019 Plan	February 19, 2019	D.P.U. 18-110 thru 18-119
2020 Plan	February 19, 2019	D.P.U. 18-110 thru 18-119
2021 Plan	February 19, 2019	D.P.U. 18-110 thru 18-119
2019 Preliminary and Evaluated	May 27, 2021	D.P.U. 20-50
2020 Preliminary and Evaluated	June 4, 2021	D.P.U. 21-70
2021 Preliminary and Evaluated	TBD	D.P.U. 22-###

RATES FOR ADJUSTMENTS

2020 Nominal Discount Rate	2.33%
2021 Nominal Discount Rate	2.33%
Effective Tax Rate	27.32% PA-specific

PLAN YEARS

Current Plan Year 1	2019
Current Plan Year 2	2020
Current Plan Year 3	2021

GHG EMISSIONS REDUCTION FACTORS (Short Tons)

GHG per:	NOX	SO2	CO2
Electricity (MWh)	0.00016	0.00004	0.49400
Gas (Therm)			0.00585
Oil (MMBTU)			0.08069
Propane (MMBTU)			0.06959
Source:	File named "3-year plan EFs 8-9-18.xlsx"		

Technical Reference Library

TRL Link	https://etrm.anbetrack.com/#/workarea/home?token=6d6c4576
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Selections for Data Displayed in Tables

2020 Plan Year Report

Cape Light Compact

June 4, 2021

Use the options in the boxes below to select the data shown and compared in the Term Report data tables.

Tables with Master Data source						
Select comparison Year Year 2019 2020 2021	Select comparison Reporting Periods <table> <thead> <tr> <th>First Comparison</th> <th>Second Comparison</th> </tr> </thead> <tbody> <tr> <td> Evaluated Planned Preliminary </td> <td> Evaluated Planned Preliminary </td> </tr> </tbody> </table>		First Comparison	Second Comparison	Evaluated Planned Preliminary	Evaluated Planned Preliminary
First Comparison	Second Comparison					
Evaluated Planned Preliminary	Evaluated Planned Preliminary					
Select the PA and corresponding Distribution Company <table> <thead> <tr> <th>Program Administrator</th> <th>Distribution Company</th> </tr> </thead> <tbody> <tr> <td> Cape Light Compact Eversource National Grid Statewide Electric Unitil </td> <td> Electric Gas (blank) </td> </tr> </tbody> </table>			Program Administrator	Distribution Company	Cape Light Compact Eversource National Grid Statewide Electric Unitil	Electric Gas (blank)
Program Administrator	Distribution Company					
Cape Light Compact Eversource National Grid Statewide Electric Unitil	Electric Gas (blank)					

Tables with Master ADR data source						
Select comparison Year Year 2019 2020 2021	Select comparison Reporting Periods <table> <thead> <tr> <th>First Comparison</th> <th>Second Comparison</th> </tr> </thead> <tbody> <tr> <td> Evaluated Planned Preliminary </td> <td> Evaluated Planned Preliminary </td> </tr> </tbody> </table>		First Comparison	Second Comparison	Evaluated Planned Preliminary	Evaluated Planned Preliminary
First Comparison	Second Comparison					
Evaluated Planned Preliminary	Evaluated Planned Preliminary					
Select the PA and corresponding Distribution Company <table> <thead> <tr> <th>Program Administrator</th> <th>Distribution Company</th> </tr> </thead> <tbody> <tr> <td> Cape Light Compact Eversource National Grid Statewide Electric Unitil (blank) </td> <td> Electric (blank) </td> </tr> </tbody> </table>			Program Administrator	Distribution Company	Cape Light Compact Eversource National Grid Statewide Electric Unitil (blank)	Electric (blank)
Program Administrator	Distribution Company					
Cape Light Compact Eversource National Grid Statewide Electric Unitil (blank)	Electric (blank)					

Notes

- To select more than one option, press the Control button while clicking on the options.
- If no data is included for a Program Administrator on the MasterData tabs, then the Program Administrator's name and distribution company may not appear in the above boxes. For example, if this a Program Administrator-specific filing, then the other Program Administrators names may not appear in the boxes for selection.

2020 Plan Year Report Variances

Variances Summary

Cape Light Compact

June 4, 2021

Variances Summary				
Program	Total Program Cost Variances	Lifetime Electric Savings (MWh) Variances	Total Benefits (2019\$) Variances	Total Resource Benefits (2019\$) Variances
A - Residential	19%	46%	4%	-9%
A1 - Residential New Buildings	11%	84%	-15%	-49%
A1a - Residential New Homes & Renovations	11%	84%	-15%	-49%
A2 - Residential Existing Buildings	20%	40%	6%	-4%
A2a - Residential Coordinated Delivery	36%	28%	14%	-1%
A2b - Residential Conservation Services (RCS)	-6%			
A2c - Residential Retail	6%	78%	-1%	-8%
A2d - Residential Behavior	-18%	-98%	-95%	0%
A2e - Residential Active Demand Reduction	-65%		-100%	
A3 - Residential Hard-to-Measure	16%			
B - Income Eligible	-29%	-38%	-42%	-3%
B1 - Income Eligible Existing Buildings	-29%	-38%	-42%	-3%
B1a - Income Eligible Coordinated Delivery	-29%	-38%	-42%	-3%
B1b - Income Eligible Active Demand Reduction				
B2 - Income Eligible Hard-to-Measure	-12%			
C - Commercial & Industrial	-41%	4%	-50%	-2%
C1 - C&I New Buildings	-51%	-12%	-3%	-2%
C1a - C&I New Buildings & Major Renovations	-51%	-12%	-3%	-2%
C2 - C&I Existing Buildings	-44%	5%	-51%	-2%
C2a - C&I Existing Building Retrofit	-47%	-48%	-65%	-7%
C2b - C&I New & Replacement Equipment	-3%	399%	132%	2%
C2c - C&I Active Demand Reduction	-74%		-93%	-19%
C3 - C&I Hard-to-Measure	22%			
Grand Total	-7%	15%	-22%	-7%

Notes

• Significant variances, which require explanation, are defined as:

- (1) variances between *planned and actual* core initiative budget of 15 percent or greater;
- (2) variances between *planned and preliminary* core initiative total lifetime savings showing a decrease of 15 percent or greater;
- (3) variances between *planned and preliminary* core initiative total benefits showing a decrease of 15 percent or greater; and
- (4) variances between *preliminary and evaluated* core initiative total resource benefits showing a decrease of 15 percent or greater.

• Variances are calculated as a percent of the three-year goal, meaning variance are calculated as the percentage difference between the percentage of the Three-Year Plan goals planned to be achieved through the Plan Year Report year compared to the percentage of the Three-Year Plan goals actually achieved through the Plan Year Report year.

• Cells highlighted in the above tables indicate that a variance is significant enough to require explanation. Refer to the Program Administrator's Plan Year Report for explanations of significant variances.

2020 Plan Year Report Variances

Total Program Cost Variances

Cape Light Compact

June 4, 2021

Total Program Cost Variances									
Program	Planned				Actual		Planned v. Actual (%)		
	2019	2020	2021	2019-2021	2019	2020	Planned 2019 - 2020 % Total Plan	Actual 2019 - 2020 % Total Plan	Planned v Actual (%)
A - Residential	24,849,635	24,097,012	23,574,299	72,520,946	29,571,652	28,559,838	67%	80%	19%
A1 - Residential New Buildings	925,744	975,692	1,030,425	2,931,861	958,135	1,147,640	65%	72%	11%
A1a - Residential New Homes & Renovations	925,744	975,692	1,030,425	2,931,861	958,135	1,147,640	65%	72%	11%
A2 - Residential Existing Buildings	20,990,223	20,071,681	19,403,931	60,465,835	25,457,914	23,638,984	68%	81%	20%
A2a - Residential Coordinated Delivery	11,165,815	10,966,175	11,219,816	33,351,806	16,089,258	14,085,970	66%	90%	36%
A2b - Residential Conservation Services (RCS)	1,914,195	1,921,625	1,937,560	5,773,380	2,031,757	1,582,434	66%	63%	-6%
A2c - Residential Retail	7,048,565	6,035,629	5,080,625	18,164,818	6,741,839	7,109,996	72%	76%	6%
A2d - Residential Behavior	861,648	730,438	678,351	2,270,438	595,059	716,010	70%	58%	-18%
A2e - Residential Active Demand Reduction	-	417,814	487,579	905,393	-	144,574	46%	16%	-65%
A3 - Residential Hard-to-Measure	2,933,668	3,049,639	3,139,942	9,123,250	3,155,604	3,773,214	66%	76%	16%
B - Income Eligible	4,177,118	4,514,047	5,000,459	13,691,624	3,757,783	2,456,039	63%	45%	-29%
B1 - Income Eligible Existing Buildings	3,952,489	4,285,614	4,766,155	13,004,258	3,602,721	2,210,237	63%	45%	-29%
B1a - Income Eligible Coordinated Delivery	3,952,489	4,285,614	4,766,155	13,004,258	3,602,721	2,210,237	63%	45%	-29%
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-			
B2 - Income Eligible Hard-to-Measure	224,629	228,433	234,304	687,366	155,063	245,802	66%	58%	-12%
C - Commercial & Industrial	14,888,929	16,628,489	17,507,342	49,024,760	9,219,403	9,279,340	64%	38%	-41%
C1 - C&I New Buildings	626,369	632,111	642,013	1,900,493	342,308	274,781	66%	32%	-51%
C1a - C&I New Buildings & Major Renovations	626,369	632,111	642,013	1,900,493	342,308	274,781	66%	32%	-51%
C2 - C&I Existing Buildings	13,565,911	15,281,781	16,137,757	44,985,448	8,159,007	8,000,834	64%	36%	-44%
C2a - C&I Existing Building Retrofit	12,165,537	12,631,085	13,070,025	37,866,647	7,353,090	5,747,777	65%	35%	-47%
C2b - C&I New & Replacement Equipment	1,400,374	1,433,032	1,255,209	4,088,614	805,917	1,937,691	69%	67%	-3%
C2c - C&I Active Demand Reduction	-	1,217,664	1,812,523	3,030,187	-	315,366	40%	10%	-74%
C3 - C&I Hard-to-Measure	696,649	714,597	727,572	2,138,818	718,087	1,003,725	66%	81%	22%
Grand Total	43,915,682	45,239,548	46,082,099	135,237,329	42,548,838	40,295,217	66%	61%	-7%

Notes

Plan year core initiative significant variance explanations are required for: (1) variances between planned and actual core initiative budget of 15 percent or greater.

2020 Plan Year Report Variances
Lifetime Electric Savings (MWh) Variances

Cape Light Compact
June 4, 2021

Lifetime Electric Savings (MWh) Variances									
Program	Planned				Preliminary		Planned v. Preliminary (%)		
	2019	2020	2021	2019-2021	2019	2020	Planned 2019 - 2020 % Total Plan	Preliminary 2019 - 2020 % Total Plan	Planned v Preliminary (%)
A - Residential	110,297	88,056	66,054	264,408	186,868	103,227	75%	110%	46%
A1 - Residential New Buildings	13,800	13,850	13,395	41,046	19,499	31,449	67%	124%	84%
A1a - Residential New Homes & Renovations	13,800	13,850	13,395	41,046	19,499	31,449	67%	124%	84%
A2 - Residential Existing Buildings	96,497	74,206	52,659	223,362	167,369	71,779	76%	107%	40%
A2a - Residential Coordinated Delivery	48,931	43,434	45,461	137,825	81,900	36,569	67%	86%	28%
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-			
A2c - Residential Retail	43,614	24,117	(290)	67,441	85,223	35,195	100%	179%	78%
A2d - Residential Behavior	3,952	6,656	7,488	18,096	246	15	59%	1%	-98%
A2e - Residential Active Demand Reduction	-	-	-	-	-	-			
A3 - Residential Hard-to-Measure	-	-	-	-	-	-			
B - Income Eligible	17,535	17,603	18,144	53,282	15,652	5,986	66%	41%	-38%
B1 - Income Eligible Existing Buildings	17,535	17,603	18,144	53,282	15,652	5,986	66%	41%	-38%
B1a - Income Eligible Coordinated Delivery	17,535	17,603	18,144	53,282	15,652	5,986	66%	41%	-38%
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-			
B2 - Income Eligible Hard-to-Measure	-	-	-	-	-	-			
C - Commercial & Industrial	195,060	202,036	196,715	593,812	136,666	275,508	67%	69%	4%
C1 - C&I New Buildings	14,033	17,434	18,260	49,727	15,294	12,446	63%	56%	-12%
C1a - C&I New Buildings & Major Renovations	14,033	17,434	18,260	49,727	15,294	12,446	63%	56%	-12%
C2 - C&I Existing Buildings	181,027	184,602	178,455	544,085	121,372	263,062	67%	71%	5%
C2a - C&I Existing Building Retrofit	157,637	164,470	160,532	482,639	96,112	71,354	67%	35%	-48%
C2b - C&I New & Replacement Equipment	23,390	20,133	17,924	61,446	25,261	191,709	71%	353%	399%
C2c - C&I Active Demand Reduction	-	-	-	-	-	-			
C3 - C&I Hard-to-Measure	-	-	-	-	-	-			
Grand Total	322,893	307,695	280,914	911,502	339,185	384,721.60	69%	79%	15%

Notes

- Plan year core initiative significant variance explanations are required for: (2) variances between planned and preliminary core initiative total lifetime savings showing a decrease of 15 percent or greater.
- Total lifetime savings are not calculated for active demand reduction (ADR) measures. Correspondingly, a variance for total lifetime savings is not calculated for the ADR core initiatives in each sector.

2020 Plan Year Report Variances

Total Benefits (2019\$) Variances

Cape Light Compact

June 4, 2021

Total Benefits (2019\$) Variances									
Program	Planned				Preliminary		Planned v. Preliminary (%)		
	2019	2020	2021	2019-2021	2019	2020	Planned 2019 - 2020 % Total Plan	Preliminary 2019 - 2020 % Total Plan	Planned v Preliminary (%)
A - Residential	73,921,750	69,517,588	67,062,991	210,502,329	81,845,679	67,493,420	68%	71%	4%
A1 - Residential New Buildings	6,534,859	6,779,002	6,959,008	20,272,869	4,500,953	6,775,875	66%	56%	-15%
A1a - Residential New Homes & Renovations	6,534,859	6,779,002	6,959,008	20,272,869	4,500,953	6,775,875	66%	56%	-15%
A2 - Residential Existing Buildings	67,386,891	62,738,586	60,103,983	190,229,460	77,344,726	60,717,544	68%	73%	6%
A2a - Residential Coordinated Delivery	40,120,102	38,373,686	39,062,472	117,556,259	53,996,866	35,234,862	67%	76%	14%
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-			
A2c - Residential Retail	26,522,831	22,521,775	18,722,333	67,766,939	23,270,652	25,461,595	72%	72%	-1%
A2d - Residential Behavior	743,958	1,264,581	1,425,325	3,433,865	77,208	21,087	58%	3%	-95%
A2e - Residential Active Demand Reduction	-	578,543	893,853	1,472,397	-	-	39%	0%	-100%
A3 - Residential Hard-to-Measure	-	-	-	-	-	-			
B - Income Eligible	9,378,213	9,809,568	10,155,851	29,343,632	6,976,915	4,101,833	65%	38%	-42%
B1 - Income Eligible Existing Buildings	9,378,213	9,809,568	10,155,851	29,343,632	6,976,915	4,101,833	65%	38%	-42%
B1a - Income Eligible Coordinated Delivery	9,378,213	9,809,568	10,155,851	29,343,632	6,976,915	4,101,833	65%	38%	-42%
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-			
B2 - Income Eligible Hard-to-Measure	-	-	-	-	-	-			
C - Commercial & Industrial	54,973,612	62,766,069	67,059,186	184,798,867	26,301,870	32,854,571	64%	32%	-50%
C1 - C&I New Buildings	1,854,264	2,225,554	2,321,632	6,401,450	2,164,523	1,774,438	64%	62%	-3%
C1a - C&I New Buildings & Major Renovations	1,854,264	2,225,554	2,321,632	6,401,450	2,164,523	1,774,438	64%	62%	-3%
C2 - C&I Existing Buildings	53,119,348	60,540,515	64,737,554	178,397,417	24,137,348	31,080,133	64%	31%	-51%
C2a - C&I Existing Building Retrofit	48,538,291	50,753,049	51,185,761	150,477,101	19,677,159	15,204,236	66%	23%	-65%
C2b - C&I New & Replacement Equipment	4,581,057	3,994,141	3,560,265	12,135,463	4,460,189	15,452,966	71%	164%	132%
C2c - C&I Active Demand Reduction	-	5,793,324	9,991,528	15,784,852	-	422,931	37%	3%	-93%
C3 - C&I Hard-to-Measure	-	-	-	-	-	-			
Grand Total	138,273,576	142,093,224	144,278,028	424,644,828	115,124,464	104,449,823	66%	52%	-22%

Notes

Plan year core initiative significant variance explanations are required for: (3) variances between planned and preliminary core initiative total benefits showing a decrease of 15 percent or greater.

2020 Plan Year Report Variances

Total Resource Benefits (2019\$) Variances

Cape Light Compact

June 4, 2021

Total Resource Benefits (2019\$) Variances			
Program	2020		
	Preliminary	Evaluated	Preliminary v Evaluated (%)
A - Residential	59,204,011	53,666,436	-9%
A1 - Residential New Buildings	6,540,055	3,361,605	-49%
A1a - Residential New Homes & Renovations	6,540,055	3,361,605	-49%
A2 - Residential Existing Buildings	52,663,957	50,304,831	-4%
A2a - Residential Coordinated Delivery	28,258,532	27,846,322	-1%
A2b - Residential Conservation Services (RCS)	-	-	
A2c - Residential Retail	24,384,337	22,437,380	-8%
A2d - Residential Behavior	21,087	21,130	0%
A2e - Residential Active Demand Reduction	-	-	
A3 - Residential Hard-to-Measure	-	-	
B - Income Eligible	2,350,448	2,286,221	-3%
B1 - Income Eligible Existing Buildings	2,350,448	2,286,221	-3%
B1a - Income Eligible Coordinated Delivery	2,350,448	2,286,221	-3%
B1b - Income Eligible Active Demand Reduction	-	-	
B2 - Income Eligible Hard-to-Measure	-	-	
C - Commercial & Industrial	30,120,058	29,401,803	-2%
C1 - C&I New Buildings	1,726,639	1,691,358	-2%
C1a - C&I New Buildings & Major Renovations	1,726,639	1,691,358	-2%
C2 - C&I Existing Buildings	28,393,419	27,710,445	-2%
C2a - C&I Existing Building Retrofit	12,606,065	11,766,368	-7%
C2b - C&I New & Replacement Equipment	15,364,423	15,600,271	2%
C2c - C&I Active Demand Reduction	422,931	343,806	-19%
C3 - C&I Hard-to-Measure	-	-	
Grand Total	91,674,518	85,354,461	-7%

Notes

Plan year core initiative significant variance explanations are required for: (4) variances between preliminary and evaluated core initiative total resource benefits showing a decrease of 15 percent or greater.

Program Administrator Budgets, Plan Year Summary

2020 Planned vs. Evaluated

Cape Light Compact

June 4, 2021

2020 Planned Program Administrator Budget										
Program	Program Costs						Performance Incentive	Total Program Administrator Budget	Program Cost per Participant	Resource Benefit per Program Cost
	Program Planning and Administration	Marketing and Advertising	Participant Incentive	Sales, Technical Assistance & Training	Evaluation and Market Research	Total Program Costs				
A - Residential	1,436,066	737,359	16,407,017	4,861,567	655,004	24,097,012	-	24,097,012	99	2.62
A1 - Residential New Buildings	52,861	25,566	694,050	203,215	-	975,692	-	975,692	1,887	6.64
A1a - Residential New Homes & Renovations	52,861	25,566	694,050	203,215	-	975,692	-	975,692	1,887	6.64
A2 - Residential Existing Buildings	1,094,024	454,630	14,091,739	4,431,288	-	20,071,681	-	20,071,681	83	2.82
A2a - Residential Coordinated Delivery	594,128	157,387	8,409,067	1,805,594	-	10,966,175	-	10,966,175	3,014	3.00
A2b - Residential Conservation Services (RCS)	104,110	46,793	-	1,770,722	-	1,921,625	-	1,921,625	-	-
A2c - Residential Retail	326,999	230,112	4,872,982	605,535	-	6,035,629	-	6,035,629	37	3.62
A2d - Residential Behavior	39,574	8,485	665,000	17,379	-	730,438	-	730,438	10	1.73
A2e - Residential Active Demand Reduction	29,213	11,853	144,690	232,058	-	417,814	-	417,814	-	1.38
A3 - Residential Hard-to-Measure	289,180	257,163	1,621,228	227,064	655,004	3,049,639	-	3,049,639	-	-
A3a - Residential Statewide Marketing	-	159,797	-	-	-	159,797	-	159,797	-	-
A3b - Residential Statewide Database	8,193	-	-	-	-	8,193	-	8,193	-	-
A3c - Residential DOER Assessment	145,089	-	-	-	-	145,089	-	145,089	-	-
A3d - Residential Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
A3e - Residential Workforce Development	-	-	-	37,590	-	37,590	-	37,590	-	-
A3f - Residential Evaluation and Market Research	-	-	-	-	655,004	655,004	-	655,004	-	-
A3g - Residential EEAC Consultants	40,912	-	-	-	-	40,912	-	40,912	-	-
A3h - Residential R&D and Demonstration	-	-	124,817	-	-	124,817	-	124,817	-	-
A3i - Residential HEAT Loan	94,987	22,366	1,496,411	139,474	-	1,753,238	-	1,753,238	-	-
A3j - Residential Education	-	75,000	-	50,000	-	125,000	-	125,000	-	-
B - Income Eligible	279,644	99,177	3,280,186	730,161	124,880	4,514,047	-	4,514,047	3,224	1.25
B1 - Income Eligible Existing Buildings	219,663	80,603	3,280,186	705,161	-	4,285,614	-	4,285,614	3,061	1.32
B1a - Income Eligible Coordinated Delivery	219,663	80,603	3,280,186	705,161	-	4,285,614	-	4,285,614	3,061	1.32
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	59,981	18,573	-	25,000	124,880	228,433	-	228,433	-	-
B2a - Income Eligible Statewide Marketing	-	18,573	-	-	-	18,573	-	18,573	-	-
B2b - Income Eligible Statewide Database	1,013	-	-	-	-	1,013	-	1,013	-	-
B2c - Income Eligible DOER Assessment	29,381	-	-	-	-	29,381	-	29,381	-	-
B2d - Income Eligible Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
B2e - Income Eligible Workforce Development	-	-	-	25,000	-	25,000	-	25,000	-	-
B2f - Income Eligible Evaluation and Market Research	-	-	-	-	124,880	124,880	-	124,880	-	-
B2g - Income Eligible Energy Affordability Network	29,587	-	-	-	-	29,587	-	29,587	-	-
C - Commercial & Industrial	1,129,025	380,401	12,736,906	1,872,797	509,360	16,628,489	-	16,628,489	8,314	2.41
C1 - C&I New Buildings	51,576	8,235	360,850	211,451	-	632,111	-	632,111	12,394	3.46
C1a - C&I New Buildings & Major Renovations	51,576	8,235	360,850	211,451	-	632,111	-	632,111	12,394	3.46
C2 - C&I Existing Buildings	972,328	337,905	12,338,556	1,632,992	-	15,281,781	-	15,281,781	7,841	2.48
C2a - C&I Existing Building Retrofit	797,981	273,067	10,426,875	1,133,163	-	12,631,085	-	12,631,085	16,173	2.23
C2b - C&I New & Replacement Equipment	88,947	48,902	925,601	369,582	-	1,433,032	-	1,433,032	1,230	2.75
C2c - C&I Active Demand Reduction	85,400	15,937	986,080	130,247	-	1,217,664	-	1,217,664	405,888	4.76
C3 - C&I Hard-to-Measure	105,122	34,261	37,500	28,354	509,360	714,597	-	714,597	-	-
C3a - C&I Statewide Marketing	-	29,261	-	-	-	29,261	-	29,261	-	-
C3b - C&I Statewide Database	1,394	-	-	-	-	1,394	-	1,394	-	-
C3c - C&I DOER Assessment	97,530	-	-	-	-	97,530	-	97,530	-	-
C3d - C&I Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
C3e - C&I Workforce Development	-	5,000	-	28,354	-	33,354	-	33,354	-	-
C3f - C&I Evaluation and Market Research	-	-	-	-	509,360	509,360	-	509,360	-	-
C3g - C&I EEAC Consultants	6,197	-	-	-	-	6,197	-	6,197	-	-
C3h - C&I R&D and Demonstration	-	-	37,500	-	-	37,500	-	37,500	-	-
Grand Total	2,844,734	1,216,937	32,424,108	7,464,525	1,289,244	45,239,548	-	45,239,548	184	2.41

Program Administrator Budgets, Plan Year Summary

2020 Planned vs. Evaluated

Cape Light Compact

June 4, 2021

2020 Evaluated Program Administrator Budget										
Program	Program Costs						Performance Incentive	Total Program Administrator Budget	Program Cost per Participant	Resource Benefit per Program Cost
	Program Planning and Administration	Marketing and Advertising	Participant Incentive	Sales, Technical Assistance & Training	Evaluation and Market Research	Total Program Costs				
A - Residential	1,451,076	491,764	20,801,818	5,051,952	763,229	28,559,838	-	28,559,838	145	1.88
A1 - Residential New Buildings	51,981	20,296	931,426	143,937	-	1,147,640	-	1,147,640	3,060	2.93
A1a - Residential New Homes & Renovations	51,981	20,296	931,426	143,937	-	1,147,640	-	1,147,640	3,060	2.93
A2 - Residential Existing Buildings	1,081,022	361,541	17,446,664	4,749,758	-	23,638,984	-	23,638,984	121	2.13
A2a - Residential Coordinated Delivery	584,233	135,964	11,487,618	1,878,154	-	14,085,970	-	14,085,970	1,850	1.98
A2b - Residential Conservation Services (RCS)	114,060	26,360	-	1,442,014	-	1,582,434	-	1,582,434	236	-
A2c - Residential Retail	321,554	186,792	5,926,115	675,536	-	7,109,996	-	7,109,996	39	3.16
A2d - Residential Behavior	38,915	7,904	2,931	666,261	-	716,010	-	716,010	716,010	0.03
A2e - Residential Active Demand Reduction	22,259	4,521	30,000	87,793	-	144,574	-	144,574	205	-
A3 - Residential Hard-to-Measure	318,073	109,927	2,423,728	158,256	763,229	3,773,214	-	3,773,214	2,154	-
A3a - Residential Statewide Marketing	-	55,370	-	-	-	55,370	-	55,370	-	-
A3b - Residential Statewide Database	865	-	-	-	-	865	-	865	-	-
A3c - Residential DOER Assessment	150,212	-	-	-	-	150,212	-	150,212	-	-
A3d - Residential Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
A3e - Residential Workforce Development	-	-	-	18,749	-	18,749	-	18,749	-	-
A3f - Residential Evaluation and Market Research	-	-	-	-	763,229	763,229	-	763,229	-	-
A3g - Residential EEAC Consultants	73,591	-	-	-	-	73,591	-	73,591	-	-
A3h - Residential R&D and Demonstration	-	-	-	-	-	-	-	-	-	-
A3i - Residential HEAT Loan	93,405	18,971	2,423,728	128,322	-	2,664,427	-	2,664,427	1,521	-
A3j - Residential Education	-	35,586	-	11,185	-	46,771	-	46,771	-	-
B - Income Eligible	286,524	63,541	1,530,795	416,520	158,660	2,456,039	-	2,456,039	1,430	0.93
B1 - Income Eligible Existing Buildings	214,899	51,285	1,530,795	413,258	-	2,210,237	-	2,210,237	1,287	1.03
B1a - Income Eligible Coordinated Delivery	214,899	51,285	1,530,795	413,258	-	2,210,237	-	2,210,237	1,287	1.03
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	71,625	12,255	-	3,262	158,660	245,802	-	245,802	-	-
B2a - Income Eligible Statewide Marketing	-	12,255	-	-	-	12,255	-	12,255	-	-
B2b - Income Eligible Statewide Database	149	-	-	-	-	149	-	149	-	-
B2c - Income Eligible DOER Assessment	43,698	-	-	-	-	43,698	-	43,698	-	-
B2d - Income Eligible Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
B2e - Income Eligible Workforce Development	-	-	-	3,262	-	3,262	-	3,262	-	-
B2f - Income Eligible Evaluation and Market Research	-	-	-	-	158,660	158,660	-	158,660	-	-
B2g - Income Eligible Energy Affordability Network	27,778	-	-	-	-	27,778	-	27,778	-	-
C - Commercial & Industrial	1,006,390	379,895	5,925,388	1,099,391	868,275	9,279,340	-	9,279,340	8,176	3.17
C1 - C&I New Buildings	36,453	6,880	136,618	94,830	-	274,781	-	274,781	11,947	6.16
C1a - C&I New Buildings & Major Renovations	36,453	6,880	136,618	94,830	-	274,781	-	274,781	11,947	6.16
C2 - C&I Existing Buildings	878,563	334,314	5,788,770	999,187	-	8,000,834	-	8,000,834	7,195	3.46
C2a - C&I Existing Building Retrofit	727,809	203,094	4,174,904	641,969	-	5,747,777	-	5,747,777	11,226	2.05
C2b - C&I New & Replacement Equipment	82,607	118,292	1,563,304	173,489	-	1,937,691	-	1,937,691	3,370	8.05
C2c - C&I Active Demand Reduction	68,147	12,928	50,561	183,730	-	315,366	-	315,366	12,615	1.09
C3 - C&I Hard-to-Measure	91,374	38,700	-	5,375	868,275	1,003,725	-	1,003,725	-	-
C3a - C&I Statewide Marketing	-	38,700	-	-	-	38,700	-	38,700	-	-
C3b - C&I Statewide Database	477	-	-	-	-	477	-	477	-	-
C3c - C&I DOER Assessment	79,202	-	-	-	-	79,202	-	79,202	-	-
C3d - C&I Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
C3e - C&I Workforce Development	-	-	-	5,375	-	5,375	-	5,375	-	-
C3f - C&I Evaluation and Market Research	-	-	-	-	868,275	868,275	-	868,275	-	-
C3g - C&I EEAC Consultants	11,695	-	-	-	-	11,695	-	11,695	-	-
C3h - C&I R&D and Demonstration	-	-	-	-	-	-	-	-	-	-
Grand Total	2,743,989	935,200	28,258,001	6,567,863	1,790,164	40,295,217	-	40,295,217	201	2.12

Program Administrator Budgets, Plan Year Summary

2020 Planned vs. Evaluated

Cape Light Compact

June 4, 2021

2020 Planned v. Evaluated Program Administrator Budget Variances (%)										
Program	Program Costs						Performance Incentive	Total Program Administrator Budget	Program Cost per Participant	Resource Benefit per Program Cost
	Program Planning and Administration	Marketing and Advertising	Participant Incentive	Sales, Technical Assistance & Training	Evaluation and Market Research	Total Program Costs				
A - Residential	1%	-33%	27%	4%	17%	19%		19%	46%	-28%
A1 - Residential New Buildings	-2%	-21%	34%	-29%		18%		18%	62%	-56%
A1a - Residential New Homes & Renovations	-2%	-21%	34%	-29%		18%		18%	62%	-56%
A2 - Residential Existing Buildings	-1%	-20%	24%	7%		18%		18%	46%	-25%
A2a - Residential Coordinated Delivery	-2%	-14%	37%	4%		28%		28%	-39%	-34%
A2b - Residential Conservation Services (RCS)	10%	-44%		-19%		-18%		-18%		
A2c - Residential Retail	-2%	-19%	22%	12%		18%		18%	6%	-13%
A2d - Residential Behavior	-2%	-7%	-100%	3734%		-2%		-2%	7449780%	-98%
A2e - Residential Active Demand Reduction	-24%	-62%	-79%	-62%		-65%		-65%		-100%
A3 - Residential Hard-to-Measure	10%	-57%	49%	-30%	17%	24%		24%		
A3a - Residential Statewide Marketing		-65%				-65%		-65%		
A3b - Residential Statewide Database	-89%					-89%		-89%		
A3c - Residential DOER Assessment	4%					4%		4%		
A3d - Residential Sponsorships & Subscriptions										
A3e - Residential Workforce Development				-50%		-50%		-50%		
A3f - Residential Evaluation and Market Research					17%	17%		17%		
A3g - Residential EEAC Consultants	80%					80%		80%		
A3h - Residential R&D and Demonstration			-100%			-100%		-100%		
A3i - Residential HEAT Loan	-2%	-15%	62%	-8%		52%		52%		
A3j - Residential Education		-53%		-78%		-63%		-63%		
B - Income Eligible	2%	-36%	-53%	-43%	27%	-46%		-46%	-56%	-26%
B1 - Income Eligible Existing Buildings	-2%	-36%	-53%	-41%		-48%		-48%	-58%	-22%
B1a - Income Eligible Coordinated Delivery	-2%	-36%	-53%	-41%		-48%		-48%	-58%	-22%
B1b - Income Eligible Active Demand Reduction										
B2 - Income Eligible Hard-to-Measure	19%	-34%		-87%	27%	8%		8%		
B2a - Income Eligible Statewide Marketing		-34%				-34%		-34%		
B2b - Income Eligible Statewide Database	-85%					-85%		-85%		
B2c - Income Eligible DOER Assessment	49%					49%		49%		
B2d - Income Eligible Sponsorships & Subscriptions										
B2e - Income Eligible Workforce Development				-87%		-87%		-87%		
B2f - Income Eligible Evaluation and Market Research					27%	27%		27%		
B2g - Income Eligible Energy Affordability Network	-6%					-6%		-6%		
C - Commercial & Industrial	-11%	0%	-53%	-41%	70%	-44%		-44%	-2%	31%
C1 - C&I New Buildings	-29%	-16%	-62%	-55%		-57%		-57%	-4%	78%
C1a - C&I New Buildings & Major Renovations	-29%	-16%	-62%	-55%		-57%		-57%	-4%	78%
C2 - C&I Existing Buildings	-10%	-1%	-53%	-39%		-48%		-48%	-8%	39%
C2a - C&I Existing Building Retrofit	-9%	-26%	-60%	-43%		-54%		-54%	-31%	-8%
C2b - C&I New & Replacement Equipment	-7%	142%	69%	-53%		35%		35%	174%	193%
C2c - C&I Active Demand Reduction	-20%	-19%	-95%	41%		-74%		-74%	-97%	-77%
C3 - C&I Hard-to-Measure	-13%	13%	-100%	-81%	70%	40%		40%		
C3a - C&I Statewide Marketing		32%				32%		32%		
C3b - C&I Statewide Database	-66%					-66%		-66%		
C3c - C&I DOER Assessment	-19%					-19%		-19%		
C3d - C&I Sponsorships & Subscriptions										
C3e - C&I Workforce Development		-100%		-81%		-84%		-84%		
C3f - C&I Evaluation and Market Research					70%	70%		70%		
C3g - C&I EEAC Consultants	89%					89%		89%		
C3h - C&I R&D and Demonstration			-100%			-100%		-100%		
Grand Total	-4%	-23%	-13%	-12%	39%	-11%		-11%	10%	-12%

Notes

- Where not otherwise indicated, budgets for each year are represented in nominal dollars (2019\$, 2020\$, 2021\$).
- Refer to common definitions for allocation of costs.
- The plan year variances provided above are intended to indicate the Program Administrator's performance in the plan year only. The variances used to determine significant variances are provided separately. The variances above and the significant variances use different calculations to determine variances on an annual basis and over the three-year term, respectively.

Program Administrator Budgets, Three-Year Total
2019-2021 Program Administrator Budget
Cape Light Compact
June 4, 2021

2019 Evaluated Program Administrator Budget										
Program	Program Costs						Performance Incentive	Total Program Administrator Budget	Program Cost per Participant	Resource Benefit per Program Cost
	Program Planning and Administration	Marketing and Advertising	Participant Incentive	Sales, Technical Assistance & Training	Evaluation and Market Research	Total Program Costs				
A - Residential	1,503,624	580,889	21,425,751	5,573,413	487,975	29,571,652	-	29,571,652	104	2.03
A1 - Residential New Buildings	53,739	18,586	742,424	143,386	-	958,135	-	958,135	2,618	3.30
A1a - Residential New Homes & Renovations	53,739	18,586	742,424	143,386	-	958,135	-	958,135	2,618	3.30
A2 - Residential Existing Buildings	1,229,555	418,123	18,568,967	5,241,269	-	25,457,914	-	25,457,914	90	2.23
A2a - Residential Coordinated Delivery	648,167	150,970	13,092,573	2,197,548	-	16,089,258	-	16,089,258	1,555	2.49
A2b - Residential Conservation Services (RCS)	122,206	32,754	-	1,876,796	-	2,031,757	-	2,031,757	314	-
A2c - Residential Retail	409,164	224,631	5,467,358	640,686	-	6,741,839	-	6,741,839	25	2.49
A2d - Residential Behavior	50,018	9,768	9,036	526,237	-	595,059	-	595,059	297,529	0.12
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
A3 - Residential Hard-to-Measure	220,331	144,180	2,114,359	188,758	487,975	3,155,604	-	3,155,604	1,833	-
A3a - Residential Statewide Marketing	-	92,938	-	-	-	92,938	-	92,938	-	-
A3b - Residential Statewide Database	1,361	-	-	-	-	1,361	-	1,361	-	-
A3c - Residential DOER Assessment	124,577	-	-	-	-	124,577	-	124,577	-	-
A3d - Residential Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
A3e - Residential Workforce Development	-	-	-	12,663	-	12,663	-	12,663	-	-
A3f - Residential Evaluation and Market Research	-	-	-	-	487,975	487,975	-	487,975	-	-
A3g - Residential EEAC Consultants	-	-	-	-	-	-	-	-	-	-
A3h - Residential R&D and Demonstration	-	-	-	-	-	-	-	-	-	-
A3i - Residential HEAT Loan	94,393	18,661	2,114,359	167,267	-	2,394,681	-	2,394,681	1,391	-
A3j - Residential Education	-	32,581	-	8,827	-	41,409	-	41,409	-	-
B - Income Eligible	265,884	70,574	2,739,800	594,915	86,610	3,757,783	-	3,757,783	1,655	1.21
B1 - Income Eligible Existing Buildings	218,940	49,155	2,739,800	594,826	-	3,602,721	-	3,602,721	1,587	1.26
B1a - Income Eligible Coordinated Delivery	218,940	49,155	2,739,800	594,826	-	3,602,721	-	3,602,721	1,587	1.26
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	46,944	21,420	-	89	86,610	155,063	-	155,063	-	-
B2a - Income Eligible Statewide Marketing	-	21,420	-	-	-	21,420	-	21,420	-	-
B2b - Income Eligible Statewide Database	235	-	-	-	-	235	-	235	-	-
B2c - Income Eligible DOER Assessment	14,927	-	-	-	-	14,927	-	14,927	-	-
B2d - Income Eligible Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
B2e - Income Eligible Workforce Development	-	-	-	89	-	89	-	89	-	-
B2f - Income Eligible Evaluation and Market Research	-	-	-	-	86,610	86,610	-	86,610	-	-
B2g - Income Eligible Energy Affordability Network	31,782	-	-	-	-	31,782	-	31,782	-	-
C - Commercial & Industrial	974,019	296,204	6,334,595	1,049,183	565,402	9,219,403	-	9,219,403	6,794	2.46
C1 - C&I New Buildings	39,778	7,038	184,531	110,961	-	342,308	-	342,308	12,225	6.02
C1a - C&I New Buildings & Major Renovations	39,778	7,038	184,531	110,961	-	342,308	-	342,308	12,225	6.02
C2 - C&I Existing Buildings	861,624	224,710	6,150,064	922,610	-	8,159,007	-	8,159,007	6,139	2.52
C2a - C&I Existing Building Retrofit	772,693	193,753	5,636,214	750,430	-	7,353,090	-	7,353,090	9,883	2.22
C2b - C&I New & Replacement Equipment	88,931	30,956	513,850	172,180	-	805,917	-	805,917	1,378	5.30
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
C3 - C&I Hard-to-Measure	72,617	64,456	-	15,613	565,402	718,087	-	718,087	-	-
C3a - C&I Statewide Marketing	-	64,373	-	-	-	64,373	-	64,373	-	-
C3b - C&I Statewide Database	751	-	-	-	-	751	-	751	-	-
C3c - C&I DOER Assessment	71,866	-	-	-	-	71,866	-	71,866	-	-
C3d - C&I Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
C3e - C&I Workforce Development	-	83	-	15,613	-	15,696	-	15,696	-	-
C3f - C&I Evaluation and Market Research	-	-	-	-	565,402	565,402	-	565,402	-	-
C3g - C&I EEAC Consultants	-	-	-	-	-	-	-	-	-	-
C3h - C&I R&D and Demonstration	-	-	-	-	-	-	-	-	-	-
Grand Total	2,743,528	947,667	30,500,145	7,217,511	1,139,987	42,548,838	-	42,548,838	148	2.05

Program Administrator Budgets, Three-Year Total
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2020 Evaluated Program Administrator Budget										
Program	Program Costs						Performance Incentive	Total Program Administrator Budget	Program Cost per Participant	Resource Benefit per Program Cost
	Program Planning and Administration	Marketing and Advertising	Participant Incentive	Sales, Technical Assistance & Training	Evaluation and Market Research	Total Program Costs				
A - Residential	1,451,076	491,764	20,801,818	5,051,952	763,229	28,559,838	-	28,559,838	145	1.88
A1 - Residential New Buildings	51,981	20,296	931,426	143,937	-	1,147,640	-	1,147,640	3,060	2.93
A1a - Residential New Homes & Renovations	51,981	20,296	931,426	143,937	-	1,147,640	-	1,147,640	3,060	2.93
A2 - Residential Existing Buildings	1,081,022	361,541	17,446,664	4,749,758	-	23,638,984	-	23,638,984	121	2.13
A2a - Residential Coordinated Delivery	584,233	135,964	11,487,618	1,878,154	-	14,085,970	-	14,085,970	1,850	1.98
A2b - Residential Conservation Services (RCS)	114,060	26,360	-	1,442,014	-	1,582,434	-	1,582,434	236	-
A2c - Residential Retail	321,554	186,792	5,926,115	675,536	-	7,109,996	-	7,109,996	39	3.16
A2d - Residential Behavior	38,915	7,904	2,931	666,261	-	716,010	-	716,010	716,010	0.03
A2e - Residential Active Demand Reduction	22,259	4,521	30,000	87,793	-	144,574	-	144,574	205	-
A3 - Residential Hard-to-Measure	318,073	109,927	2,423,728	158,256	763,229	3,773,214	-	3,773,214	2,154	-
A3a - Residential Statewide Marketing	-	55,370	-	-	-	55,370	-	55,370	-	-
A3b - Residential Statewide Database	865	-	-	-	-	865	-	865	-	-
A3c - Residential DOER Assessment	150,212	-	-	-	-	150,212	-	150,212	-	-
A3d - Residential Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
A3e - Residential Workforce Development	-	-	-	18,749	-	18,749	-	18,749	-	-
A3f - Residential Evaluation and Market Research	-	-	-	-	763,229	763,229	-	763,229	-	-
A3g - Residential EEAC Consultants	73,591	-	-	-	-	73,591	-	73,591	-	-
A3h - Residential R&D and Demonstration	-	-	-	-	-	-	-	-	-	-
A3i - Residential HEAT Loan	93,405	18,971	2,423,728	128,322	-	2,664,427	-	2,664,427	1,521	-
A3j - Residential Education	-	35,586	-	11,185	-	46,771	-	46,771	-	-
B - Income Eligible	286,524	63,541	1,530,795	416,520	158,660	2,456,039	-	2,456,039	1,430	0.93
B1 - Income Eligible Existing Buildings	214,899	51,285	1,530,795	413,258	-	2,210,237	-	2,210,237	1,287	1.03
B1a - Income Eligible Coordinated Delivery	214,899	51,285	1,530,795	413,258	-	2,210,237	-	2,210,237	1,287	1.03
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	71,625	12,255	-	3,262	158,660	245,802	-	245,802	-	-
B2a - Income Eligible Statewide Marketing	-	12,255	-	-	-	12,255	-	12,255	-	-
B2b - Income Eligible Statewide Database	149	-	-	-	-	149	-	149	-	-
B2c - Income Eligible DOER Assessment	43,698	-	-	-	-	43,698	-	43,698	-	-
B2d - Income Eligible Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
B2e - Income Eligible Workforce Development	-	-	-	3,262	-	3,262	-	3,262	-	-
B2f - Income Eligible Evaluation and Market Research	-	-	-	-	158,660	158,660	-	158,660	-	-
B2g - Income Eligible Energy Affordability Network	27,778	-	-	-	-	27,778	-	27,778	-	-
C - Commercial & Industrial	1,006,390	379,895	5,925,388	1,099,391	868,275	9,279,340	-	9,279,340	8,176	3.17
C1 - C&I New Buildings	36,453	6,880	136,618	94,830	-	274,781	-	274,781	11,947	6.16
C1a - C&I New Buildings & Major Renovations	36,453	6,880	136,618	94,830	-	274,781	-	274,781	11,947	6.16
C2 - C&I Existing Buildings	878,563	334,314	5,788,770	999,187	-	8,000,834	-	8,000,834	7,195	3.46
C2a - C&I Existing Building Retrofit	727,809	203,094	4,174,904	641,969	-	5,747,777	-	5,747,777	11,226	2.05
C2b - C&I New & Replacement Equipment	82,607	118,292	1,563,304	173,489	-	1,937,691	-	1,937,691	3,370	8.05
C2c - C&I Active Demand Reduction	68,147	12,928	50,561	183,730	-	315,366	-	315,366	12,615	1.09
C3 - C&I Hard-to-Measure	91,374	38,700	-	5,375	868,275	1,003,725	-	1,003,725	-	-
C3a - C&I Statewide Marketing	-	38,700	-	-	-	38,700	-	38,700	-	-
C3b - C&I Statewide Database	477	-	-	-	-	477	-	477	-	-
C3c - C&I DOER Assessment	79,202	-	-	-	-	79,202	-	79,202	-	-
C3d - C&I Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
C3e - C&I Workforce Development	-	-	-	5,375	-	5,375	-	5,375	-	-
C3f - C&I Evaluation and Market Research	-	-	-	-	868,275	868,275	-	868,275	-	-
C3g - C&I EEAC Consultants	11,695	-	-	-	-	11,695	-	11,695	-	-
C3h - C&I R&D and Demonstration	-	-	-	-	-	-	-	-	-	-
Grand Total	2,743,989	935,200	28,258,001	6,567,863	1,790,164	40,295,217	-	40,295,217	201	2.12

Program Administrator Budgets, Three-Year Total
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2021 Planned Program Administrator Budget										
Program	Program Costs						Performance Incentive	Total Program Administrator Budget	Program Cost per Participant	Resource Benefit per Program Cost
	Program Planning and Administration	Marketing and Advertising	Participant Incentive	Sales, Technical Assistance & Training	Evaluation and Market Research	Total Program Costs				
A - Residential	1,509,802	770,291	15,610,097	5,026,354	657,754	23,574,299	-	23,574,299	140	2.58
A1 - Residential New Buildings	60,556	27,499	736,455	205,915	-	1,030,425	-	1,030,425	1,922	6.45
A1a - Residential New Homes & Renovations	60,556	27,499	736,455	205,915	-	1,030,425	-	1,030,425	1,922	6.45
A2 - Residential Existing Buildings	1,146,904	481,781	13,186,440	4,588,807	-	19,403,931	-	19,403,931	116	2.79
A2a - Residential Coordinated Delivery	659,364	177,626	8,443,972	1,938,853	-	11,219,816	-	11,219,816	3,067	2.99
A2b - Residential Conservation Services (RCS)	113,866	49,964	-	1,773,730	-	1,937,560	-	1,937,560	-	-
A2c - Residential Retail	298,577	231,849	3,947,049	603,149	-	5,080,625	-	5,080,625	54	3.60
A2d - Residential Behavior	39,865	8,926	612,500	17,061	-	678,351	-	678,351	10	2.10
A2e - Residential Active Demand Reduction	35,230	13,415	182,919	256,014	-	487,579	-	487,579	-	1.83
A3 - Residential Hard-to-Measure	302,343	261,011	1,687,202	231,632	657,754	3,139,942	-	3,139,942	-	-
A3a - Residential Statewide Marketing	-	159,797	-	-	-	159,797	-	159,797	-	-
A3b - Residential Statewide Database	8,193	-	-	-	-	8,193	-	8,193	-	-
A3c - Residential DOER Assessment	145,089	-	-	-	-	145,089	-	145,089	-	-
A3d - Residential Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
A3e - Residential Workforce Development	-	-	-	37,590	-	37,590	-	37,590	-	-
A3f - Residential Evaluation and Market Research	-	-	-	-	657,754	657,754	-	657,754	-	-
A3g - Residential EEAC Consultants	40,912	-	-	-	-	40,912	-	40,912	-	-
A3h - Residential R&D and Demonstration	-	-	125,322	-	-	125,322	-	125,322	-	-
A3i - Residential HEAT Loan	108,150	26,214	1,561,881	144,042	-	1,840,287	-	1,840,287	-	-
A3j - Residential Education	-	75,000	-	50,000	-	125,000	-	125,000	-	-
B - Income Eligible	324,765	112,245	3,626,278	806,421	130,750	5,000,459	-	5,000,459	3,449	1.17
B1 - Income Eligible Existing Buildings	264,784	93,672	3,626,278	781,421	-	4,766,155	-	4,766,155	3,287	1.23
B1a - Income Eligible Coordinated Delivery	264,784	93,672	3,626,278	781,421	-	4,766,155	-	4,766,155	3,287	1.23
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	59,981	18,573	-	25,000	130,750	234,304	-	234,304	-	-
B2a - Income Eligible Statewide Marketing	-	18,573	-	-	-	18,573	-	18,573	-	-
B2b - Income Eligible Statewide Database	1,013	-	-	-	-	1,013	-	1,013	-	-
B2c - Income Eligible DOER Assessment	29,381	-	-	-	-	29,381	-	29,381	-	-
B2d - Income Eligible Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
B2e - Income Eligible Workforce Development	-	-	-	25,000	-	25,000	-	25,000	-	-
B2f - Income Eligible Evaluation and Market Research	-	-	-	-	130,750	130,750	-	130,750	-	-
B2g - Income Eligible Energy Affordability Network	29,587	-	-	-	-	29,587	-	29,587	-	-
C - Commercial & Industrial	1,248,831	417,228	13,355,941	1,963,007	522,335	17,507,342	-	17,507,342	8,586	2.55
C1 - C&I New Buildings	54,787	9,321	360,850	217,056	-	642,013	-	642,013	12,346	3.56
C1a - C&I New Buildings & Major Renovations	54,787	9,321	360,850	217,056	-	642,013	-	642,013	12,346	3.56
C2 - C&I Existing Buildings	1,088,922	373,646	12,957,591	1,717,597	-	16,137,757	-	16,137,757	8,122	2.63
C2a - C&I Existing Building Retrofit	877,378	299,388	10,695,285	1,197,974	-	13,070,025	-	13,070,025	16,017	2.21
C2b - C&I New & Replacement Equipment	83,569	48,768	741,081	381,791	-	1,255,209	-	1,255,209	1,075	2.81
C2c - C&I Active Demand Reduction	127,975	25,490	1,521,225	137,832	-	1,812,523	-	1,812,523	604,174	5.51
C3 - C&I Hard-to-Measure	105,122	34,261	37,500	28,354	522,335	727,572	-	727,572	-	-
C3a - C&I Statewide Marketing	-	29,261	-	-	-	29,261	-	29,261	-	-
C3b - C&I Statewide Database	1,394	-	-	-	-	1,394	-	1,394	-	-
C3c - C&I DOER Assessment	97,530	-	-	-	-	97,530	-	97,530	-	-
C3d - C&I Sponsorships & Subscriptions	-	-	-	-	-	-	-	-	-	-
C3e - C&I Workforce Development	-	5,000	-	28,354	-	33,354	-	33,354	-	-
C3f - C&I Evaluation and Market Research	-	-	-	-	522,335	522,335	-	522,335	-	-
C3g - C&I EEAC Consultants	6,197	-	-	-	-	6,197	-	6,197	-	-
C3h - C&I R&D and Demonstration	-	-	37,500	-	-	37,500	-	37,500	-	-
Grand Total	3,083,398	1,299,764	32,592,316	7,795,782	1,310,839	46,082,099	-	46,082,099	268	2.42

Program Administrator Budgets, Three-Year Total
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2019-2021 Program Administrator Budget										
Program	Program Costs						Performance Incentive	Total Program Administrator Budget	Program Cost per Participant	Resource Benefit per Program Cost
	Program Planning and Administration	Marketing and Advertising	Participant Incentive	Sales, Technical Assistance & Training	Evaluation and Market Research	Total Program Costs				
A - Residential	4,464,503	1,842,943	57,837,666	15,651,719	1,908,958	81,705,789	-	81,705,789	126	2.14
A1 - Residential New Buildings	166,276	66,380	2,410,305	493,239	-	3,136,200	-	3,136,200	2,456	4.20
A1a - Residential New Homes & Renovations	166,276	66,380	2,410,305	493,239	-	3,136,200	-	3,136,200	2,456	4.20
A2 - Residential Existing Buildings	3,457,480	1,261,444	49,202,071	14,579,833	-	68,500,829	-	68,500,829	106	2.36
A2a - Residential Coordinated Delivery	1,891,765	464,561	33,024,163	6,014,556	-	41,395,044	-	41,395,044	1,915	2.45
A2b - Residential Conservation Services (RCS)	350,133	109,078	-	5,092,540	-	5,551,751	-	5,551,751	421	-
A2c - Residential Retail	1,029,295	643,272	15,340,522	1,919,371	-	18,932,461	-	18,932,461	35	3.04
A2d - Residential Behavior	128,798	26,597	624,467	1,209,559	-	1,989,421	-	1,989,421	28	0.76
A2e - Residential Active Demand Reduction	57,490	17,936	212,919	343,807	-	632,152	-	632,152	898	1.41
A3 - Residential Hard-to-Measure	840,747	515,118	6,225,290	578,646	1,908,958	10,068,760	-	10,068,760		
A3a - Residential Statewide Marketing	-	308,105	-	-	-	308,105	-	308,105		
A3b - Residential Statewide Database	10,418	-	-	-	-	10,418	-	10,418		
A3c - Residential DOER Assessment	419,878	-	-	-	-	419,878	-	419,878		
A3d - Residential Sponsorships & Subscriptions	-	-	-	-	-	-	-	-		
A3e - Residential Workforce Development	-	-	-	69,002	-	69,002	-	69,002		
A3f - Residential Evaluation and Market Research	-	-	-	-	1,908,958	1,908,958	-	1,908,958		
A3g - Residential EEAC Consultants	114,503	-	-	-	-	114,503	-	114,503		
A3h - Residential R&D and Demonstration	-	-	125,322	-	-	125,322	-	125,322		
A3i - Residential HEAT Loan	295,948	63,846	6,099,969	439,632	-	6,899,394	-	6,899,394		
A3j - Residential Education	-	143,167	-	70,012	-	213,179	-	213,179		
B - Income Eligible	877,173	246,360	7,896,872	1,817,856	376,020	11,214,282	-	11,214,282	2,063	1.13
B1 - Income Eligible Existing Buildings	698,624	194,112	7,896,872	1,789,505	-	10,579,113	-	10,579,113	1,946	1.20
B1a - Income Eligible Coordinated Delivery	698,624	194,112	7,896,872	1,789,505	-	10,579,113	-	10,579,113	1,946	1.20
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-		
B2 - Income Eligible Hard-to-Measure	178,549	52,248	-	28,351	376,020	635,168	-	635,168		
B2a - Income Eligible Statewide Marketing	-	52,248	-	-	-	52,248	-	52,248		
B2b - Income Eligible Statewide Database	1,396	-	-	-	-	1,396	-	1,396		
B2c - Income Eligible DOER Assessment	88,006	-	-	-	-	88,006	-	88,006		
B2d - Income Eligible Sponsorships & Subscriptions	-	-	-	-	-	-	-	-		
B2e - Income Eligible Workforce Development	-	-	-	28,351	-	28,351	-	28,351		
B2f - Income Eligible Evaluation and Market Research	-	-	-	-	376,020	376,020	-	376,020		
B2g - Income Eligible Energy Affordability Network	89,146	-	-	-	-	89,146	-	89,146		
C - Commercial & Industrial	3,229,240	1,093,327	25,615,924	4,111,581	1,956,012	36,006,084	-	36,006,084	7,947	2.69
C1 - C&I New Buildings	131,017	23,239	681,999	422,846	-	1,259,102	-	1,259,102	12,224	4.79
C1a - C&I New Buildings & Major Renovations	131,017	23,239	681,999	422,846	-	1,259,102	-	1,259,102	12,224	4.79
C2 - C&I Existing Buildings	2,829,109	932,670	24,896,425	3,639,394	-	32,297,598	-	32,297,598	7,294	2.81
C2a - C&I Existing Building Retrofit	2,377,880	696,235	20,506,403	2,590,373	-	26,170,892	-	26,170,892	12,631	2.18
C2b - C&I New & Replacement Equipment	255,107	198,016	2,818,235	727,460	-	3,998,817	-	3,998,817	1,718	5.85
C2c - C&I Active Demand Reduction	196,122	38,419	1,571,786	321,562	-	2,127,889	-	2,127,889	75,996	4.86
C3 - C&I Hard-to-Measure	269,113	137,417	37,500	49,341	1,956,012	2,449,384	-	2,449,384		
C3a - C&I Statewide Marketing	-	132,334	-	-	-	132,334	-	132,334		
C3b - C&I Statewide Database	2,622	-	-	-	-	2,622	-	2,622		
C3c - C&I DOER Assessment	248,599	-	-	-	-	248,599	-	248,599		
C3d - C&I Sponsorships & Subscriptions	-	-	-	-	-	-	-	-		
C3e - C&I Workforce Development	-	5,083	-	49,341	-	54,424	-	54,424		
C3f - C&I Evaluation and Market Research	-	-	-	-	1,956,012	1,956,012	-	1,956,012		
C3g - C&I EEAC Consultants	17,892	-	-	-	-	17,892	-	17,892		
C3h - C&I R&D and Demonstration	-	-	37,500	-	-	37,500	-	37,500		
Grand Total	8,570,915	3,182,630	91,350,462	21,581,157	4,240,991	128,926,155	-	128,926,155	196	2.20

Notes

- Where not otherwise indicated, budgets for each year are represented in nominal dollars (2019\$, 2020\$, 2021\$).
- Refer to common definitions for allocation of costs.

Program Savings, Plan Year Summary
2020 Planned vs. Evaluated
Cape Light Compact
June 4, 2021

2020 Planned Net Savings									
Program	# of Participants	Electric						Natural Gas	
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (MMBTU)		(Therms)	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	242,609	3,005	4,263	19,500	88,056	141,836	597,259	168,202	4,653,634
A1 - Residential New Buildings	517	112	210	1,008	13,850	7,332	89,945	-	-
A1a - Residential New Homes & Renovations	517	112	210	1,008	13,850	7,332	89,945	-	-
A2 - Residential Existing Buildings	242,092	2,892	4,052	18,492	74,206	134,504	507,314	168,202	4,653,634
A2a - Residential Coordinated Delivery	3,638	680	1,186	5,777	43,434	42,013	286,602	232,334	4,973,736
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	162,454	1,317	1,482	6,060	24,117	44,013	172,234	(64,132)	(320,102)
A2d - Residential Behavior	76,000	896	1,385	6,656	6,656	48,479	48,479	-	-
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-
B - Income Eligible	1,400	258	405	2,143	17,603	15,616	118,829	-	-
B1 - Income Eligible Existing Buildings	1,400	258	405	2,143	17,603	15,616	118,829	-	-
B1a - Income Eligible Coordinated Delivery	1,400	258	405	2,143	17,603	15,616	118,829	-	-
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	2,000	2,768	2,377	17,140	202,036	125,614	1,367,926	(62,747)	(688,026)
C1 - C&I New Buildings	51	71	61	985	17,434	7,236	115,742	(2,355)	(43,863)
C1a - C&I New Buildings & Major Renovations	51	71	61	985	17,434	7,236	115,742	(2,355)	(43,863)
C2 - C&I Existing Buildings	1,949	2,696	2,316	16,155	184,602	118,378	1,252,184	(60,393)	(644,163)
C2a - C&I Existing Building Retrofit	781	2,236	2,031	13,963	164,470	102,305	1,113,797	(59,152)	(634,531)
C2b - C&I New & Replacement Equipment	1,165	461	285	2,192	20,133	16,073	138,387	(1,240)	(9,632)
C2c - C&I Active Demand Reduction	3	-	-	-	-	-	-	-	-
Grand Total	246,009	6,030	7,045	38,783	307,695	283,067	2,084,013	105,455	3,965,608

2020 Evaluated Net Savings									
Program	# of Participants	Electric						Natural Gas	
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (MMBTU)		(Therms)	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	195,421	2,306	3,104	14,367	84,067	104,686	563,375	126,403	3,976,008
A1 - Residential New Buildings	375	64	186	887	15,888	6,421	101,167	-	-
A1a - Residential New Homes & Renovations	375	64	186	887	15,888	6,421	101,167	-	-
A2 - Residential Existing Buildings	195,046	2,242	2,918	13,480	68,179	98,265	462,208	126,403	3,976,008
A2a - Residential Coordinated Delivery	7,612	640	1,166	5,378	34,342	39,110	227,335	195,463	4,099,354
A2b - Residential Conservation Services (RCS)	6,715	-	-	-	-	-	-	-	-
A2c - Residential Retail	180,014	1,602	1,752	8,088	33,823	59,050	234,767	(69,060)	(123,347)
A2d - Residential Behavior	1	-	-	15	15	105	105	-	-
A2e - Residential Active Demand Reduction	704	-	-	-	-	-	-	-	-
B - Income Eligible	1,717	168	193	1,112	5,773	8,107	39,822	-	-
B1 - Income Eligible Existing Buildings	1,717	168	193	1,112	5,773	8,107	39,822	-	-
B1a - Income Eligible Coordinated Delivery	1,717	168	193	1,112	5,773	8,107	39,822	-	-
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	1,135	3,152	3,047	21,178	270,382	155,093	1,818,586	(743,798)	(11,019,917)
C1 - C&I New Buildings	23	88	41	739	12,239	5,426	81,448	(1,611)	(30,208)
C1a - C&I New Buildings & Major Renovations	23	88	41	739	12,239	5,426	81,448	(1,611)	(30,208)
C2 - C&I Existing Buildings	1,112	3,065	3,007	20,439	258,143	149,667	1,737,138	(742,187)	(10,989,709)
C2a - C&I Existing Building Retrofit	512	1,326	1,206	6,170	62,813	45,265	430,890	(25,688)	(254,485)
C2b - C&I New & Replacement Equipment	575	1,738	1,801	14,269	195,330	104,402	1,306,248	(716,500)	(10,735,224)
C2c - C&I Active Demand Reduction	25	-	-	-	-	-	-	-	-
Grand Total	198,273	5,627	6,344	36,657	360,222	267,886	2,421,784	(617,395)	(7,043,909)

Program Savings, Plan Year Summary

2020 Planned vs. Evaluated

Cape Light Compact

June 4, 2021

2020 Planned v. Evaluated Net Savings Variances (%)										
Program	# of Participants	Electric							Natural Gas	
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (MMBTU)			(Therms)	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime		Annual	Lifetime
A - Residential	-19%	-23%	-27%	-26%	-5%	-26%	-6%		-25%	-15%
A1 - Residential New Buildings	-27%	-43%	-12%	-12%	15%	-12%	12%			
A1a - Residential New Homes & Renovations	-27%	-43%	-12%	-12%	15%	-12%	12%			
A2 - Residential Existing Buildings	-19%	-22%	-28%	-27%	-8%	-27%	-9%		-25%	-15%
A2a - Residential Coordinated Delivery	109%	-6%	-2%	-7%	-21%	-7%	-21%		-16%	-18%
A2b - Residential Conservation Services (RCS)										
A2c - Residential Retail	11%	22%	18%	33%	40%	34%	36%		8%	-61%
A2d - Residential Behavior	-100%	-100%	-100%	-100%	-100%	-100%	-100%			
A2e - Residential Active Demand Reduction										
B - Income Eligible	23%	-35%	-52%	-48%	-67%	-48%	-66%			
B1 - Income Eligible Existing Buildings	23%	-35%	-52%	-48%	-67%	-48%	-66%			
B1a - Income Eligible Coordinated Delivery	23%	-35%	-52%	-48%	-67%	-48%	-66%			
B1b - Income Eligible Active Demand Reduction										
C - Commercial & Industrial	-43%	14%	28%	24%	34%	23%	33%		1085%	1502%
C1 - C&I New Buildings	-55%	23%	-34%	-25%	-30%	-25%	-30%		-32%	-31%
C1a - C&I New Buildings & Major Renovations	-55%	23%	-34%	-25%	-30%	-25%	-30%		-32%	-31%
C2 - C&I Existing Buildings	-43%	14%	30%	27%	40%	26%	39%		1129%	1606%
C2a - C&I Existing Building Retrofit	-34%	-41%	-41%	-56%	-62%	-56%	-61%		-57%	-60%
C2b - C&I New & Replacement Equipment	-51%	277%	532%	551%	870%	550%	844%		57669%	111353%
C2c - C&I Active Demand Reduction	733%									
Grand Total	-19%	-7%	-10%	-5%	17%	-5%	16%		-685%	-278%

Notes

- The plan year variances provided above are intended to indicate the Program Administrator's performance in the plan year only. The variances used to determine significant variances are provided separately. The variances above and the significant variances use different calculations to determine variances on an annual basis and over the three-year term, respectively.
- MMBtu savings are calculated consistent with the findings in the Study to Propose a More Refined Method to Account for the Conversion of Electric Savings to MMBtu Savings (2019 Energy Efficiency Plan-Year Reports, D.P.U. 20-50, Appendix 7).

Program Savings, Plan Year Summary
2020 Planned vs. Evaluated
Cape Light Compact
June 4, 2021

2020 Planned Net Savings												
Program	Deliverable Fuels				Other				Total Savings		Electric Energy, no Fuel Switching or ADR (MWh)	
	Oil (MMBTU)		Propane (MMBTU)		Wood (MMBTU)		Water (Gallons)		MMBTU		Annual	Lifetime
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime		
A - Residential	43,708	888,726	17,163	355,139	-	-	2,701,602	19,586,572	219,527	2,306,488	21,555	124,409
A1 - Residential New Buildings	19	453	4,820	118,992	-	-	-	-	12,171	209,390	1,008	13,850
A1a - Residential New Homes & Renovations	19	453	4,820	118,992	-	-	-	-	12,171	209,390	1,008	13,850
A2 - Residential Existing Buildings	43,689	888,273	12,343	236,148	-	-	2,701,602	19,586,572	207,356	2,097,099	20,548	110,559
A2a - Residential Coordinated Delivery	25,238	517,736	5,646	106,032	-	-	2,433,883	17,712,542	96,131	1,407,743	5,777	43,434
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	18,451	370,538	6,697	130,116	-	-	267,719	1,874,030	62,747	640,878	8,115	60,469
A2d - Residential Behavior	-	-	-	-	-	-	-	-	48,479	48,479	6,656	6,656
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	4,351	81,389	904	15,230	-	-	-	-	20,871	215,447	2,143	17,603
B1 - Income Eligible Existing Buildings	4,351	81,389	904	15,230	-	-	-	-	20,871	215,447	2,143	17,603
B1a - Income Eligible Coordinated Delivery	4,351	81,389	904	15,230	-	-	-	-	20,871	215,447	2,143	17,603
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	(4,760)	(53,915)	35	778	-	-	245,770	2,059,439	114,614	1,245,987	17,140	202,036
C1 - C&I New Buildings	(97)	(1,290)	-	-	-	-	5,249	41,991	6,903	110,066	985	17,434
C1a - C&I New Buildings & Major Renovations	(97)	(1,290)	-	-	-	-	5,249	41,991	6,903	110,066	985	17,434
C2 - C&I Existing Buildings	(4,663)	(52,625)	35	778	-	-	240,521	2,017,448	107,711	1,135,921	16,155	184,602
C2a - C&I Existing Building Retrofit	(4,444)	(50,681)	35	778	-	-	218,021	1,809,588	91,981	1,000,441	13,963	164,470
C2b - C&I New & Replacement Equipment	(218)	(1,944)	-	-	-	-	22,500	207,860	15,731	135,480	2,192	20,133
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	43,299	916,200	18,102	371,148	-	-	2,947,372	21,646,011	355,013	3,767,922	40,838	344,048

2020 Evaluated Net Savings												
Program	Deliverable Fuels				Other				Total Savings		Electric Energy, no Fuel Switching or ADR (MWh)	
	Oil (MMBTU)		Propane (MMBTU)		Wood (MMBTU)		Water (Gallons)		MMBTU		Annual	Lifetime
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime		
A - Residential	35,158	726,621	16,157	311,527	-	-	3,043,019	40,195,076	168,641	1,999,124	16,163	115,805
A1 - Residential New Buildings	25	603	1,326	33,233	-	-	-	-	7,771	135,003	887	15,888
A1a - Residential New Homes & Renovations	25	603	1,326	33,233	-	-	-	-	7,771	135,003	887	15,888
A2 - Residential Existing Buildings	35,133	726,018	14,831	278,294	-	-	3,043,019	40,195,076	160,870	1,864,120	15,276	99,918
A2a - Residential Coordinated Delivery	23,060	464,103	3,799	76,625	-	-	3,015,637	39,784,348	85,515	1,177,999	5,410	34,928
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	11,499	261,340	10,846	201,482	-	-	27,382	410,729	74,488	685,255	9,851	64,975
A2d - Residential Behavior	574	574	187	187	-	-	-	-	866	866	15	15
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	1,621	31,679	331	6,587	-	-	460,448	5,646,747	10,059	78,088	1,121	5,915
B1 - Income Eligible Existing Buildings	1,621	31,679	331	6,587	-	-	460,448	5,646,747	10,059	78,088	1,121	5,915
B1a - Income Eligible Coordinated Delivery	1,621	31,679	331	6,587	-	-	460,448	5,646,747	10,059	78,088	1,121	5,915
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	(1,851)	(17,854)	24	290	-	-	476,315	4,837,725	78,887	699,031	21,178	270,382
C1 - C&I New Buildings	(58)	(760)	-	-	-	-	3,499	27,994	5,207	77,667	739	12,239
C1a - C&I New Buildings & Major Renovations	(58)	(760)	-	-	-	-	3,499	27,994	5,207	77,667	739	12,239
C2 - C&I Existing Buildings	(1,792)	(17,093)	24	290	-	-	472,816	4,809,731	73,680	621,364	20,439	258,143
C2a - C&I Existing Building Retrofit	(1,549)	(14,811)	24	290	-	-	333,775	3,156,303	41,171	390,921	6,170	62,813
C2b - C&I New & Replacement Equipment	(243)	(2,283)	-	-	-	-	139,041	1,653,428	32,509	230,443	14,269	195,330
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	34,928	740,446	16,513	318,403	-	-	3,979,782	50,679,549	257,587	2,776,242	38,463	392,103

Program Savings, Plan Year Summary
2020 Planned vs. Evaluated
Cape Light Compact
June 4, 2021

2020 Planned v. Evaluated Net Savings Variances (%)													
Program	Deliverable Fuels				Other				Total Savings		Electric Energy, no Fuel Switching or ADR (MWh)		
	Oil (MMBTU)		Propane (MMBTU)		Wood (MMBTU)		Water (Gallons)		MMBTU				
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	
A - Residential	-20%	-18%	-6%	-12%				13%	105%	-23%	-13%	-25%	-7%
A1 - Residential New Buildings	32%	33%	-72%	-72%						-36%	-36%	-12%	15%
A1a - Residential New Homes & Renovations	32%	33%	-72%	-72%						-36%	-36%	-12%	15%
A2 - Residential Existing Buildings	-20%	-18%	20%	18%				13%	105%	-22%	-11%	-26%	-10%
A2a - Residential Coordinated Delivery	-9%	-10%	-33%	-28%				24%	125%	-11%	-16%	-6%	-20%
A2b - Residential Conservation Services (RCS)													
A2c - Residential Retail	-38%	-29%	62%	55%				-90%	-78%	19%	7%	21%	7%
A2d - Residential Behavior										-98%	-98%	-100%	-100%
A2e - Residential Active Demand Reduction													
B - Income Eligible	-63%	-61%	-63%	-57%						-52%	-64%	-48%	-66%
B1 - Income Eligible Existing Buildings	-63%	-61%	-63%	-57%						-52%	-64%	-48%	-66%
B1a - Income Eligible Coordinated Delivery	-63%	-61%	-63%	-57%						-52%	-64%	-48%	-66%
B1b - Income Eligible Active Demand Reduction													
C - Commercial & Industrial	-61%	-67%	-30%	-63%				94%	135%	-31%	-44%	24%	34%
C1 - C&I New Buildings	-40%	-41%						-33%	-33%	-25%	-29%	-25%	-30%
C1a - C&I New Buildings & Major Renovations	-40%	-41%						-33%	-33%	-25%	-29%	-25%	-30%
C2 - C&I Existing Buildings	-62%	-68%	-30%	-63%				97%	138%	-32%	-45%	27%	40%
C2a - C&I Existing Building Retrofit	-65%	-71%	-30%	-63%				53%	74%	-55%	-61%	-56%	-62%
C2b - C&I New & Replacement Equipment	11%	17%						518%	695%	107%	70%	551%	870%
C2c - C&I Active Demand Reduction													
Grand Total	-19%	-19%	-9%	-14%				35%	134%	-27%	-26%	-6%	14%

Notes

- The plan year variances provided above are intended to indicate the Program Administrator's performance in the plan year only. The variances used to determine significant variances are provided separately. The variances above and the significant variances use different calculations to determine variances on an annual basis and over the three-year term, respectively.
- MMBtu savings are calculated consistent with the findings in the Study to Propose a More Refined Method to Account for the Conversion of Electric Savings to MMBtu Savings (2019 Energy Efficiency Plan-Year Reports, D.P.U. 20-50, Appendix 7).

Program Savings, Three-Year Total

2019-2021 Net Savings

Cape Light Compact

June 4, 2021

2019 Evaluated Net Savings									
Program	# of Participants	Electric						Natural Gas	
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (MMBTU)		(Therms)	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	282,965	3,714	5,022	24,892	152,794	181,161	1,039,504	116,076	4,612,976
A1 - Residential New Buildings	366	76	179	1,006	17,639	7,306	114,158	-	-
A1a - Residential New Homes & Renovations	366	76	179	1,006	17,639	7,306	114,158	-	-
A2 - Residential Existing Buildings	282,599	3,639	4,843	23,886	135,156	173,855	925,346	116,076	4,612,976
A2a - Residential Coordinated Delivery	10,344	1,334	2,236	10,560	80,086	76,805	538,516	240,801	4,961,384
A2b - Residential Conservation Services (RCS)	6,468	-	-	-	-	-	-	-	-
A2c - Residential Retail	265,785	2,260	2,562	13,073	54,817	95,203	384,983	(124,725)	(348,408)
A2d - Residential Behavior	2	44	45	253	253	1,846	1,846	-	-
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-
B - Income Eligible	2,270	299	350	2,075	15,200	15,135	105,236	-	-
B1 - Income Eligible Existing Buildings	2,270	299	350	2,075	15,200	15,135	105,236	-	-
B1a - Income Eligible Coordinated Delivery	2,270	299	350	2,075	15,200	15,135	105,236	-	-
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	1,357	2,152	2,019	11,669	132,875	82,659	879,506	(34,709)	(377,839)
C1 - C&I New Buildings	28	120	48	859	14,917	5,819	93,164	(2,205)	(39,619)
C1a - C&I New Buildings & Major Renovations	28	120	48	859	14,917	5,819	93,164	(2,205)	(39,619)
C2 - C&I Existing Buildings	1,329	2,032	1,971	10,810	117,958	76,840	786,342	(32,504)	(338,221)
C2a - C&I Existing Building Retrofit	744	1,646	1,655	8,378	92,771	59,137	614,278	(30,909)	(324,168)
C2b - C&I New & Replacement Equipment	585	386	316	2,432	25,187	17,703	172,064	(1,595)	(14,053)
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-
Grand Total	286,592	6,165	7,391	38,636	300,870	278,955	2,024,246	81,367	4,235,137

2020 Evaluated Net Savings									
Program	# of Participants	Electric						Natural Gas	
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (MMBTU)		(Therms)	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	195,421	2,306	3,104	14,367	84,067	104,686	563,375	126,403	3,976,008
A1 - Residential New Buildings	375	64	186	887	15,888	6,421	101,167	-	-
A1a - Residential New Homes & Renovations	375	64	186	887	15,888	6,421	101,167	-	-
A2 - Residential Existing Buildings	195,046	2,242	2,918	13,480	68,179	98,265	462,208	126,403	3,976,008
A2a - Residential Coordinated Delivery	7,612	640	1,166	5,378	34,342	39,110	227,335	195,463	4,099,354
A2b - Residential Conservation Services (RCS)	6,715	-	-	-	-	-	-	-	-
A2c - Residential Retail	180,014	1,602	1,752	8,088	33,823	59,050	234,767	(69,060)	(123,347)
A2d - Residential Behavior	1	-	-	15	15	105	105	-	-
A2e - Residential Active Demand Reduction	704	-	-	-	-	-	-	-	-
B - Income Eligible	1,717	168	193	1,112	5,773	8,107	39,822	-	-
B1 - Income Eligible Existing Buildings	1,717	168	193	1,112	5,773	8,107	39,822	-	-
B1a - Income Eligible Coordinated Delivery	1,717	168	193	1,112	5,773	8,107	39,822	-	-
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	1,135	3,152	3,047	21,178	270,382	155,093	1,818,586	(743,798)	(11,019,917)
C1 - C&I New Buildings	23	88	41	739	12,239	5,426	81,448	(1,611)	(30,208)
C1a - C&I New Buildings & Major Renovations	23	88	41	739	12,239	5,426	81,448	(1,611)	(30,208)
C2 - C&I Existing Buildings	1,112	3,065	3,007	20,439	258,143	149,667	1,737,138	(742,187)	(10,989,709)
C2a - C&I Existing Building Retrofit	512	1,326	1,206	6,170	62,813	45,265	430,890	(25,688)	(254,485)
C2b - C&I New & Replacement Equipment	575	1,738	1,801	14,269	195,330	104,402	1,306,248	(716,500)	(10,735,224)
C2c - C&I Active Demand Reduction	25	-	-	-	-	-	-	-	-
Grand Total	198,273	5,627	6,344	36,657	360,222	267,886	2,421,784	(617,395)	(7,043,909)

Program Savings, Three-Year Total
2019-2021 Net Savings
Cape Light Compact
June 4, 2021

2021 Planned Net Savings									
Program	# of Participants	Electric						Natural Gas	
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (MMBTU)		(Therms)	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	168,200	2,340	3,464	15,546	66,054	112,301	436,798	203,213	4,845,655
A1 - Residential New Buildings	536	99	202	935	13,395	6,754	85,640	-	-
A1a - Residential New Homes & Renovations	536	99	202	935	13,395	6,754	85,640	-	-
A2 - Residential Existing Buildings	167,664	2,241	3,262	14,611	52,659	105,547	351,158	203,213	4,845,655
A2a - Residential Coordinated Delivery	3,658	490	959	4,671	45,461	33,706	294,323	231,181	4,956,447
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	94,006	743	744	2,452	(290)	17,634	2,628	(27,968)	(110,793)
A2d - Residential Behavior	70,000	1,008	1,558	7,488	7,488	54,207	54,207	-	-
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-
B - Income Eligible	1,450	236	390	2,056	18,144	14,884	120,604	-	-
B1 - Income Eligible Existing Buildings	1,450	236	390	2,056	18,144	14,884	120,604	-	-
B1a - Income Eligible Coordinated Delivery	1,450	236	390	2,056	18,144	14,884	120,604	-	-
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	2,039	2,854	2,496	17,087	196,715	124,576	1,316,050	(63,580)	(655,101)
C1 - C&I New Buildings	52	71	61	1,026	18,260	7,505	120,099	(2,471)	(46,191)
C1a - C&I New Buildings & Major Renovations	52	71	61	1,026	18,260	7,505	120,099	(2,471)	(46,191)
C2 - C&I Existing Buildings	1,987	2,783	2,435	16,061	178,455	117,071	1,195,951	(61,109)	(608,910)
C2a - C&I Existing Building Retrofit	816	2,366	2,178	14,082	160,532	102,633	1,074,455	(60,067)	(601,289)
C2b - C&I New & Replacement Equipment	1,168	417	256	1,979	17,924	14,437	121,496	(1,043)	(7,621)
C2c - C&I Active Demand Reduction	3	-	-	-	-	-	-	-	-
Grand Total	171,689	5,430	6,350	34,689	280,914	251,761	1,873,453	139,633	4,190,554

2019-2021 Net Savings									
Program	# of Participants	Electric						Natural Gas	
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (MMBTU)		(Therms)	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	646,586	8,361	11,590	54,805	302,916	398,147	2,039,677	445,692	13,434,638
A1 - Residential New Buildings	1,277	239	567	2,828	46,922	20,481	300,965	-	-
A1a - Residential New Homes & Renovations	1,277	239	567	2,828	46,922	20,481	300,965	-	-
A2 - Residential Existing Buildings	645,309	8,122	11,023	51,977	255,994	377,667	1,738,712	445,692	13,434,638
A2a - Residential Coordinated Delivery	21,614	2,464	4,362	20,609	159,888	149,622	1,060,175	667,445	14,017,186
A2b - Residential Conservation Services (RCS)	13,183	-	-	-	-	-	-	-	-
A2c - Residential Retail	539,805	4,605	5,058	23,613	88,350	171,886	622,378	(221,753)	(582,548)
A2d - Residential Behavior	70,003	1,052	1,603	7,756	7,756	56,159	56,159	-	-
A2e - Residential Active Demand Reduction	704	-	-	-	-	-	-	-	-
B - Income Eligible	5,437	704	934	5,242	39,117	38,127	265,663	-	-
B1 - Income Eligible Existing Buildings	5,437	704	934	5,242	39,117	38,127	265,663	-	-
B1a - Income Eligible Coordinated Delivery	5,437	704	934	5,242	39,117	38,127	265,663	-	-
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	4,531	8,158	7,562	49,934	599,973	362,328	4,014,142	(842,088)	(12,052,857)
C1 - C&I New Buildings	103	279	150	2,625	45,417	18,750	294,711	(6,287)	(116,018)
C1a - C&I New Buildings & Major Renovations	103	279	150	2,625	45,417	18,750	294,711	(6,287)	(116,018)
C2 - C&I Existing Buildings	4,428	7,879	7,413	47,309	554,556	343,578	3,719,432	(835,801)	(11,936,839)
C2a - C&I Existing Building Retrofit	2,072	5,337	5,040	28,630	316,115	207,036	2,119,623	(116,663)	(1,179,942)
C2b - C&I New & Replacement Equipment	2,328	2,542	2,373	18,679	238,441	136,542	1,599,808	(719,138)	(10,756,897)
C2c - C&I Active Demand Reduction	28	-	-	-	-	-	-	-	-
Grand Total	656,554	17,223	20,086	109,982	942,006	798,602	6,319,483	(396,396)	1,381,781

Notes

- MMBtu savings are calculated consistent with the findings in the Study to Propose a More Refined Method to Account for the Conversion of Electric Savings to MMBtu Savings (2019 Energy Efficiency Plan-Year Reports, D.P.U. 20-50, Appendix 7).

Program Savings, Three-Year Total
2019-2021 Net Savings
Cape Light Compact
June 4, 2021

2019 Evaluated Net Savings												
Program	Deliverable Fuels				Other				Total Savings		Electric Energy, no Fuel	
	Oil (MMBTU)		Propane (MMBTU)		Wood (MMBTU)		Water (Gallons)		MMBTU		Switching or ADR (MWh)	
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	28,868	672,821	10,076	221,642	-	-	3,876,723	27,863,522	231,711	2,395,264	25,642	166,199
A1 - Residential New Buildings	80	1,997	744	20,520	-	-	-	-	8,130	136,675	1,006	17,639
A1a - Residential New Homes & Renovations	80	1,997	744	20,520	-	-	-	-	8,130	136,675	1,006	17,639
A2 - Residential Existing Buildings	28,788	670,824	9,332	201,122	-	-	3,876,723	27,863,522	223,582	2,258,589	24,636	148,560
A2a - Residential Coordinated Delivery	27,292	551,465	5,667	115,659	-	-	3,872,009	27,830,522	133,845	1,701,778	10,678	82,189
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	939	118,803	3,358	85,156	-	-	4,714	33,000	87,028	554,102	13,706	66,118
A2d - Residential Behavior	556	556	307	307	-	-	-	-	2,709	2,709	253	253
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	2,460	48,005	494	9,510	-	-	1,328,006	15,936,072	18,089	162,751	2,075	15,200
B1 - Income Eligible Existing Buildings	2,460	48,005	494	9,510	-	-	1,328,006	15,936,072	18,089	162,751	2,075	15,200
B1a - Income Eligible Coordinated Delivery	2,460	48,005	494	9,510	-	-	1,328,006	15,936,072	18,089	162,751	2,075	15,200
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	(2,052)	(22,765)	53	474	-	-	1,413,457	11,794,732	77,189	819,431	11,669	132,875
C1 - C&I New Buildings	(179)	(2,670)	-	-	-	-	-	-	5,419	86,531	859	14,917
C1a - C&I New Buildings & Major Renovations	(179)	(2,670)	-	-	-	-	-	-	5,419	86,531	859	14,917
C2 - C&I Existing Buildings	(1,873)	(20,094)	53	474	-	-	1,413,457	11,794,732	71,769	732,900	10,810	117,958
C2a - C&I Existing Building Retrofit	(1,685)	(18,324)	53	474	-	-	1,314,945	10,519,557	54,414	564,011	8,378	92,771
C2b - C&I New & Replacement Equipment	(188)	(1,770)	-	-	-	-	98,512	1,275,175	17,355	168,889	2,432	25,187
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	29,275	698,061	10,623	231,626	-	-	6,618,186	55,594,326	326,989	3,377,446	39,386	314,274

Program	2020 Evaluated Net Savings											
	Deliverable Fuels				Other				Total Savings		Electric Energy, no Fuel	
	Oil (MMBTU)		Propane (MMBTU)		Wood (MMBTU)		Water (Gallons)		MMBTU		Switching or ADR (MWh)	
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	35,158	726,621	16,157	311,527	-	-	3,043,019	40,195,076	168,641	1,999,124	16,163	115,805
A1 - Residential New Buildings	25	603	1,326	33,233	-	-	-	-	7,771	135,003	887	15,888
A1a - Residential New Homes & Renovations	25	603	1,326	33,233	-	-	-	-	7,771	135,003	887	15,888
A2 - Residential Existing Buildings	35,133	726,018	14,831	278,294	-	-	3,043,019	40,195,076	160,870	1,864,120	15,276	99,918
A2a - Residential Coordinated Delivery	23,060	464,103	3,799	76,625	-	-	3,015,637	39,784,348	85,515	1,177,999	5,410	34,928
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	11,499	261,340	10,846	201,482	-	-	27,382	410,729	74,488	685,255	9,851	64,975
A2d - Residential Behavior	574	574	187	187	-	-	-	-	866	866	15	15
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	1,621	31,679	331	6,587	-	-	460,448	5,646,747	10,059	78,088	1,121	5,915
B1 - Income Eligible Existing Buildings	1,621	31,679	331	6,587	-	-	460,448	5,646,747	10,059	78,088	1,121	5,915
B1a - Income Eligible Coordinated Delivery	1,621	31,679	331	6,587	-	-	460,448	5,646,747	10,059	78,088	1,121	5,915
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	(1,851)	(17,854)	24	290	-	-	476,315	4,837,725	78,887	699,031	21,178	270,382
C1 - C&I New Buildings	(58)	(760)	-	-	-	-	3,499	27,994	5,207	77,667	739	12,239
C1a - C&I New Buildings & Major Renovations	(58)	(760)	-	-	-	-	3,499	27,994	5,207	77,667	739	12,239
C2 - C&I Existing Buildings	(1,792)	(17,093)	24	290	-	-	472,816	4,809,731	73,680	621,364	20,439	258,143
C2a - C&I Existing Building Retrofit	(1,549)	(14,811)	24	290	-	-	333,775	3,156,303	41,171	390,921	6,170	62,813
C2b - C&I New & Replacement Equipment	(243)	(2,283)	-	-	-	-	139,041	1,653,428	32,509	230,443	14,269	195,330
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	34,928	740,446	16,513	318,403	-	-	3,979,782	50,679,549	257,587	2,776,242	38,463	392,103

Program Savings, Three-Year Total
2019-2021 Net Savings
Cape Light Compact
June 4, 2021

2021 Planned Net Savings												
Program	Deliverable Fuels				Other				Total Savings		Electric Energy, no Fuel Switching or ADR (MWh)	
	Oil (MMBTU)		Propane (MMBTU)		Wood (MMBTU)		Water (Gallons)		MMBTU			
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	45,686	897,031	18,291	368,676	-	-	2,701,602	19,586,572	196,599	2,187,071	17,564	101,745
A1 - Residential New Buildings	20	473	5,036	124,323	-	-	-	-	11,810	210,437	935	13,395
A1a - Residential New Homes & Renovations	20	473	5,036	124,323	-	-	-	-	11,810	210,437	935	13,395
A2 - Residential Existing Buildings	45,666	896,558	13,254	244,353	-	-	2,701,602	19,586,572	184,789	1,976,634	16,629	88,349
A2a - Residential Coordinated Delivery	25,460	521,086	6,072	112,422	-	-	2,433,883	17,712,542	88,356	1,423,476	4,671	45,461
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	20,206	375,471	7,182	131,931	-	-	267,719	1,874,030	42,226	498,951	4,470	35,401
A2d - Residential Behavior	-	-	-	-	-	-	-	-	54,207	54,207	7,488	7,488
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	4,512	84,607	930	15,756	-	-	-	-	20,326	220,967	2,056	18,144
B1 - Income Eligible Existing Buildings	4,512	84,607	930	15,756	-	-	-	-	20,326	220,967	2,056	18,144
B1a - Income Eligible Coordinated Delivery	4,512	84,607	930	15,756	-	-	-	-	20,326	220,967	2,056	18,144
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	(4,763)	(51,450)	35	778	-	-	262,875	2,205,561	113,489	1,199,869	17,087	196,715
C1 - C&I New Buildings	(115)	(1,648)	-	-	-	-	5,249	41,991	7,143	113,832	1,026	18,260
C1a - C&I New Buildings & Major Renovations	(115)	(1,648)	-	-	-	-	5,249	41,991	7,143	113,832	1,026	18,260
C2 - C&I Existing Buildings	(4,648)	(49,801)	35	778	-	-	257,626	2,163,571	106,347	1,086,037	16,061	178,455
C2a - C&I Existing Building Retrofit	(4,454)	(48,118)	35	778	-	-	227,626	1,886,424	92,207	966,986	14,082	160,532
C2b - C&I New & Replacement Equipment	(194)	(1,683)	-	-	-	-	30,000	277,147	14,140	119,051	1,979	17,924
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	45,435	930,188	19,256	385,211	-	-	2,964,476	21,792,133	330,415	3,607,907	36,706	316,604

2019-2021 Net Savings												
Program	Deliverable Fuels				Other				Total Savings		Electric Energy, no Fuel Switching or ADR (MWh)	
	Oil (MMBTU)		Propane (MMBTU)		Wood (MMBTU)		Water (Gallons)		MMBTU			
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	109,711	2,296,473	44,523	901,845	-	-	9,621,343	87,645,170	596,951	6,581,459	59,369	383,749
A1 - Residential New Buildings	124	3,074	7,106	178,077	-	-	-	-	27,711	482,116	2,828	46,922
A1a - Residential New Homes & Renovations	124	3,074	7,106	178,077	-	-	-	-	27,711	482,116	2,828	46,922
A2 - Residential Existing Buildings	109,587	2,293,399	37,417	723,768	-	-	9,621,343	87,645,170	569,240	6,099,343	56,540	336,827
A2a - Residential Coordinated Delivery	75,812	1,536,654	15,538	304,705	-	-	9,321,528	85,327,411	307,716	4,303,253	20,759	162,578
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	32,645	755,615	21,386	418,569	-	-	299,815	2,317,759	203,741	1,738,308	28,026	166,494
A2d - Residential Behavior	1,130	1,130	494	494	-	-	-	-	57,782	57,782	7,756	7,756
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	8,592	164,290	1,756	31,853	-	-	1,788,454	21,582,819	48,475	461,806	5,252	39,260
B1 - Income Eligible Existing Buildings	8,592	164,290	1,756	31,853	-	-	1,788,454	21,582,819	48,475	461,806	5,252	39,260
B1a - Income Eligible Coordinated Delivery	8,592	164,290	1,756	31,853	-	-	1,788,454	21,582,819	48,475	461,806	5,252	39,260
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	(8,666)	(92,068)	112	1,542	-	-	2,152,647	18,838,019	269,565	2,718,330	49,934	599,973
C1 - C&I New Buildings	(352)	(5,079)	-	-	-	-	8,748	69,985	17,769	278,030	2,625	45,417
C1a - C&I New Buildings & Major Renovations	(352)	(5,079)	-	-	-	-	8,748	69,985	17,769	278,030	2,625	45,417
C2 - C&I Existing Buildings	(8,314)	(86,989)	112	1,542	-	-	2,143,898	18,768,034	251,796	2,440,301	47,309	554,556
C2a - C&I Existing Building Retrofit	(7,689)	(81,253)	112	1,542	-	-	1,876,346	15,562,284	187,792	1,921,918	28,630	316,115
C2b - C&I New & Replacement Equipment	(625)	(5,736)	-	-	-	-	267,553	3,205,751	64,004	518,383	18,679	238,441
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	109,638	2,368,695	46,391	935,239	-	-	13,562,444	128,066,008	914,991	9,761,595	114,555	1,022,981

Notes

- MMBtu savings are calculated consistent with the findings in the Study to Propose a More Refined Method to Account for the Conversion of Electric Savings to MMBtu Savings (2019 Energy Efficiency Plan-Year Reports, D.P.U. 20-50, Appendix 7).

Demand Response Savings, Plan Year Summary

2020 Planned vs. Evaluated

Cape Light Compact

June 4, 2021

2020 Planned Net Savings									
Program	# of Participants	Electric						Total Savings	
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (MMBTU)		MMBTU	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	1,764	1,455	120	(1)	(1)	(8)	(8)	(8)	(8)
A2 - Residential Existing Buildings	1,764	1,455	120	(1)	(1)	(8)	(8)	(8)	(8)
A2e - Residential Active Demand Reduction	1,764	1,455	120	(1)	(1)	(8)	(8)	(8)	(8)
B - Income Eligible	-	-	-	-	-	-	-	-	-
B1 - Income Eligible Existing Buildings	-	-	-	-	-	-	-	-	-
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	40	14,563	5,125	(16)	(16)	(136)	(136)	(136)	(136)
C2 - C&I Existing Buildings	40	14,563	5,125	(16)	(16)	(136)	(136)	(136)	(136)
C2c - C&I Active Demand Reduction	40	14,563	5,125	(16)	(16)	(136)	(136)	(136)	(136)
Grand Total	1,804	16,018	5,245	(17)	(17)	(145)	(145)	(145)	(145)

2020 Evaluated Net Savings									
Program	# of Participants	Electric						Total Savings	
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (MMBTU)		MMBTU	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	704	-	-	-	-	-	-	-	-
A2 - Residential Existing Buildings	704	-	-	-	-	-	-	-	-
A2e - Residential Active Demand Reduction	704	-	-	-	-	-	-	-	-
B - Income Eligible	-	-	-	-	-	-	-	-	-
B1 - Income Eligible Existing Buildings	-	-	-	-	-	-	-	-	-
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	25	962	-	(0)	(0)	(1)	(1)	(1)	(1)
C2 - C&I Existing Buildings	25	962	-	(0)	(0)	(1)	(1)	(1)	(1)
C2c - C&I Active Demand Reduction	25	962	-	(0)	(0)	(1)	(1)	(1)	(1)
Grand Total	729	962	-	(0)	(0)	(1)	(1)	(1)	(1)

2020 Planned v. Evaluated Net Savings Variances (%)									
Program	# of Participants	Electric						Total Savings	
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (MMBTU)		MMBTU	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	-60%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%
A2 - Residential Existing Buildings	-60%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%
A2e - Residential Active Demand Reduction	-60%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%
B - Income Eligible	-	-	-	-	-	-	-	-	-
B1 - Income Eligible Existing Buildings	-	-	-	-	-	-	-	-	-
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	-38%	-93%	-100%	-98%	-98%	-99%	-99%	-99%	-99%
C2 - C&I Existing Buildings	-38%	-93%	-100%	-98%	-98%	-99%	-99%	-99%	-99%
C2c - C&I Active Demand Reduction	-38%	-93%	-100%	-98%	-98%	-99%	-99%	-99%	-99%
Grand Total	-60%	-94%	-100%	-98%	-98%	-99%	-99%	-99%	-99%

Notes

- The above tables reflect only demand response measures in the active demand reduction core initiatives. These savings cannot be summed across years, so are shown here for each individual year.
- The active demand reduction core initiatives may include other, non-demand response measures such as storage. If applicable, those measures are included in the previous savings tables.

Demand Response Savings, Three-Year Total

2019-2021 Net Savings

Cape Light Compact
June 4, 2021

2019 Evaluated Net Savings									
Program	# of Participants	Electric						Total Savings	
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (MMBTU)		MMBTU	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential									
A2 - Residential Existing Buildings									
A2e - Residential Active Demand Reduction									
B - Income Eligible									
B1 - Income Eligible Existing Buildings									
B1b - Income Eligible Active Demand Reduction									
C - Commercial & Industrial									
C2 - C&I Existing Buildings									
C2c - C&I Active Demand Reduction									
Grand Total									

2020 Evaluated Net Savings									
Program	# of Participants	Electric						Total Savings	
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (MMBTU)		MMBTU	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	704	-	-	-	-	-	-	-	-
A2 - Residential Existing Buildings	704	-	-	-	-	-	-	-	-
A2e - Residential Active Demand Reduction	704	-	-	-	-	-	-	-	-
B - Income Eligible	-	-	-	-	-	-	-	-	-
B1 - Income Eligible Existing Buildings	-	-	-	-	-	-	-	-	-
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	25	962	-	(0)	(0)	(1)	(1)	(1)	(1)
C2 - C&I Existing Buildings	25	962	-	(0)	(0)	(1)	(1)	(1)	(1)
C2c - C&I Active Demand Reduction	25	962	-	(0)	(0)	(1)	(1)	(1)	(1)
Grand Total	729	962	-	(0)	(0)	(1)	(1)	(1)	(1)

2021 Planned Net Savings									
Program	# of Participants	Electric						Total Savings	
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (MMBTU)		MMBTU	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	2,709	2,247	200	(2)	(2)	(14)	(14)	(14)	(14)
A2 - Residential Existing Buildings	2,709	2,247	200	(2)	(2)	(14)	(14)	(14)	(14)
A2e - Residential Active Demand Reduction	2,709	2,247	200	(2)	(2)	(14)	(14)	(14)	(14)
B - Income Eligible	-	-	-	-	-	-	-	-	-
B1 - Income Eligible Existing Buildings	-	-	-	-	-	-	-	-	-
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	54	25,120	7,750	(16)	(16)	(135)	(135)	(135)	(135)
C2 - C&I Existing Buildings	54	25,120	7,750	(16)	(16)	(135)	(135)	(135)	(135)
C2c - C&I Active Demand Reduction	54	25,120	7,750	(16)	(16)	(135)	(135)	(135)	(135)
Grand Total	2,763	27,367	7,950	(17)	(17)	(149)	(149)	(149)	(149)

Notes

- The above tables reflect only demand response measures in the active demand reduction core initiatives. These savings cannot be summed across years, so are shown here for each individual year.
- The active demand reduction core initiatives may include other, non-demand response measures such as storage. If applicable, those measures are included in the previous savings tables.

Program Benefits, Plan Year Summary
2020 Planned vs. Evaluated
Cape Light Compact
June 4, 2021

2020 Planned Benefits										
Program	Electric Benefits									
	Capacity						Electric Energy			
	Summer Generation	Capacity DRIPE	Transmission	Distribution	Reliability	Total Capacity Benefits	Electric Energy	Electric Energy DRIPE	Electric Energy Environmental Compliance	Total Electric Energy Benefits
A - Residential	1,068,013	368,639	1,542,006	3,248,054	48,156	6,274,868	5,804,851	1,955,351	3,156,490	10,916,692
A1 - Residential New Buildings	80,898	1,392	98,714	207,928	1,503	390,434	921,914	191,856	485,888	1,599,658
A1a - Residential New Homes & Renovations	80,898	1,392	98,714	207,928	1,503	390,434	921,914	191,856	485,888	1,599,658
A2 - Residential Existing Buildings	987,116	367,248	1,443,292	3,040,126	46,653	5,884,435	4,882,937	1,763,495	2,670,602	9,317,035
A2a - Residential Coordinated Delivery	292,507	90,420	356,781	751,518	6,538	1,497,764	2,866,517	644,914	1,535,145	5,046,577
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	619,165	35,901	861,926	1,815,546	17,353	3,349,891	1,592,037	979,104	892,970	3,464,112
A2d - Residential Behavior	61,738	126,860	85,602	180,311	4,031	458,543	424,264	139,251	242,523	806,039
A2e - Residential Active Demand Reduction	13,706	114,067	138,982	292,750	18,731	578,236	119	226	(37)	307
B - Income Eligible	123,618	23,169	160,496	338,067	3,114	648,464	1,106,868	343,132	627,513	2,077,513
B1 - Income Eligible Existing Buildings	123,618	23,169	160,496	338,067	3,114	648,464	1,106,868	343,132	627,513	2,077,513
B1a - Income Eligible Coordinated Delivery	123,618	23,169	160,496	338,067	3,114	648,464	1,106,868	343,132	627,513	2,077,513
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	2,869,252	1,313,430	4,674,263	9,845,788	240,529	18,943,262	12,247,414	4,079,084	7,116,311	23,442,809
C1 - C&I New Buildings	77,154	1,112	92,457	194,750	1,464	366,936	1,063,604	242,845	605,765	1,912,215
C1a - C&I New Buildings & Major Renovations	77,154	1,112	92,457	194,750	1,464	366,936	1,063,604	242,845	605,765	1,912,215
C2 - C&I Existing Buildings	2,792,098	1,312,318	4,581,806	9,651,039	239,065	18,576,326	11,183,810	3,836,239	6,510,546	21,530,594
C2a - C&I Existing Building Retrofit	2,347,511	133,941	2,789,473	5,875,699	43,731	11,190,356	9,974,111	3,350,058	5,797,694	19,121,864
C2b - C&I New & Replacement Equipment	307,390	36,556	401,106	844,883	7,831	1,597,767	1,207,723	482,421	713,465	2,403,609
C2c - C&I Active Demand Reduction	137,197	1,141,820	1,391,227	2,930,456	187,503	5,788,202	1,975	3,760	(613)	5,122
Grand Total	4,060,883	1,705,237	6,376,765	13,431,910	291,799	25,866,594	19,159,134	6,377,566	10,900,315	36,437,015

2020 Evaluated Benefits										
Program	Electric Benefits									
	Capacity						Electric Energy			
	Summer Generation	Capacity DRIPE	Transmission	Distribution	Reliability	Total Capacity Benefits	Electric Energy	Electric Energy DRIPE	Electric Energy Environmental Compliance	Total Electric Energy Benefits
A - Residential	967,156	263,336	1,206,415	2,541,172	23,090	5,001,170	5,393,937	1,407,283	2,973,609	9,774,829
A1 - Residential New Buildings	68,190	5,602	74,380	156,672	881	305,725	1,078,195	153,139	555,699	1,787,033
A1a - Residential New Homes & Renovations	68,190	5,602	74,380	156,672	881	305,725	1,078,195	153,139	555,699	1,787,033
A2 - Residential Existing Buildings	898,966	257,734	1,132,035	2,384,500	22,209	4,695,444	4,315,742	1,254,144	2,417,910	7,987,796
A2a - Residential Coordinated Delivery	191,046	85,668	246,138	518,461	5,320	1,046,632	2,263,128	529,346	1,216,829	4,009,303
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	707,920	172,066	885,897	1,866,039	16,889	3,648,812	2,051,607	724,528	1,200,541	3,976,676
A2d - Residential Behavior	-	-	-	-	-	-	1,006	270	540	1,816
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	60,001	18,868	80,541	169,649	1,750	330,810	357,378	135,642	205,983	699,004
B1 - Income Eligible Existing Buildings	60,001	18,868	80,541	169,649	1,750	330,810	357,378	135,642	205,983	699,004
B1a - Income Eligible Coordinated Delivery	60,001	18,868	80,541	169,649	1,750	330,810	357,378	135,642	205,983	699,004
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	2,839,758	189,961	3,598,934	7,580,733	72,011	14,281,397	16,353,482	4,813,239	9,540,047	30,706,769
C1 - C&I New Buildings	79,452	4,423	98,663	207,822	1,762	392,121	750,309	181,591	426,283	1,358,183
C1a - C&I New Buildings & Major Renovations	79,452	4,423	98,663	207,822	1,762	392,121	750,309	181,591	426,283	1,358,183
C2 - C&I Existing Buildings	2,760,306	185,538	3,500,271	7,372,911	70,250	13,889,276	15,603,173	4,631,649	9,113,764	29,348,586
C2a - C&I Existing Building Retrofit	959,666	124,125	1,251,130	2,635,360	24,171	4,994,452	3,750,857	1,457,855	2,226,340	7,435,052
C2b - C&I New & Replacement Equipment	1,795,729	20,544	2,157,227	4,543,947	33,691	8,551,139	11,852,266	3,173,710	6,887,437	21,913,413
C2c - C&I Active Demand Reduction	4,911	40,869	91,913	193,605	12,388	343,685	51	84	(13)	121
Grand Total	3,866,915	472,165	4,885,889	10,291,554	96,852	19,613,376	22,104,797	6,356,165	12,719,639	41,180,602

Program Benefits, Plan Year Summary

2020 Planned vs. Evaluated

Cape Light Compact

June 4, 2021

2020 Planned v. Evaluated Total Benefits Variances (%)										
Program	Electric Benefits									
	Capacity					Electric Energy				
	Summer Generation	Capacity DRIPE	Transmission	Distribution	Reliability	Total Capacity Benefits	Electric Energy	Electric Energy DRIPE	Electric Energy Environmental Compliance	Total Electric Energy Benefits
A - Residential	-9%	-29%	-22%	-22%	-52%	-20%	-7%	-28%	-6%	-10%
A1 - Residential New Buildings	-16%	303%	-25%	-25%	-41%	-22%	17%	-20%	14%	12%
A1a - Residential New Homes & Renovations	-16%	303%	-25%	-25%	-41%	-22%	17%	-20%	14%	12%
A2 - Residential Existing Buildings	-9%	-30%	-22%	-22%	-52%	-20%	-12%	-29%	-9%	-14%
A2a - Residential Coordinated Delivery	-35%	-5%	-31%	-31%	-19%	-30%	-21%	-18%	-21%	-21%
A2b - Residential Conservation Services (RCS)										
A2c - Residential Retail	14%	379%	3%	3%	-3%	9%	29%	-26%	34%	15%
A2d - Residential Behavior	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%
A2e - Residential Active Demand Reduction	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%
B - Income Eligible	-51%	-19%	-50%	-50%	-44%	-49%	-68%	-60%	-67%	-66%
B1 - Income Eligible Existing Buildings	-51%	-19%	-50%	-50%	-44%	-49%	-68%	-60%	-67%	-66%
B1a - Income Eligible Coordinated Delivery	-51%	-19%	-50%	-50%	-44%	-49%	-68%	-60%	-67%	-66%
B1b - Income Eligible Active Demand Reduction										
C - Commercial & Industrial	-1%	-86%	-23%	-23%	-70%	-25%	34%	18%	34%	31%
C1 - C&I New Buildings	3%	298%	7%	7%	20%	7%	-29%	-25%	-30%	-29%
C1a - C&I New Buildings & Major Renovations	3%	298%	7%	7%	20%	7%	-29%	-25%	-30%	-29%
C2 - C&I Existing Buildings	-1%	-86%	-24%	-24%	-71%	-25%	40%	21%	40%	36%
C2a - C&I Existing Building Retrofit	-59%	-7%	-55%	-55%	-45%	-55%	-62%	-56%	-62%	-61%
C2b - C&I New & Replacement Equipment	484%	-44%	438%	438%	330%	435%	881%	558%	865%	812%
C2c - C&I Active Demand Reduction	-96%	-96%	-93%	-93%	-93%	-94%	-97%	-98%	-98%	-98%
Grand Total	-5%	-72%	-23%	-23%	-67%	-24%	15%	0%	17%	13%

Notes

- Benefits for each year are presented in real dollars (2019\$).
- Total Energy Benefits are the sum of electric benefits, natural gas benefits, and other resource benefits.

Program Benefits, Plan Year Summary
2020 Planned vs. Evaluated
Cape Light Compact
June 4, 2021

Program	2020 Planned Benefits										
	Natural Gas Benefits				Oil Benefits				Propane Benefits		
	Natural Gas	Natural Gas DRIPE	Natural Gas Environmental Compliance	Total Natural Gas Benefits	Oil	Oil DRIPE	Oil Environmental Compliance	Total Oil Benefits	Propane	Propane Environmental Compliance	Total Propane Benefits
A - Residential	4,302,391	383,995	1,786,563	6,472,949	21,050,939	61,875	4,731,703	25,844,518	11,599,904	1,630,219	13,230,124
A1 - Residential New Buildings	-	-	-	-	10,880	35	2,389	13,304	3,935,558	541,417	4,476,976
A1a - Residential New Homes & Renovations	-	-	-	-	10,880	35	2,389	13,304	3,935,558	541,417	4,476,976
A2 - Residential Existing Buildings	4,302,391	383,995	1,786,563	6,472,949	21,040,059	61,841	4,729,314	25,831,214	7,664,346	1,088,802	8,753,148
A2a - Residential Coordinated Delivery	4,595,635	496,289	1,914,792	7,006,715	12,305,544	37,027	2,747,358	15,089,929	3,451,529	487,744	3,939,272
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	(293,244)	(112,294)	(128,229)	(533,766)	8,734,515	24,813	1,981,956	10,741,285	4,212,817	601,058	4,813,876
A2d - Residential Behavior	-	-	-	-	-	-	-	-	-	-	-
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	-	-	-	-	1,919,210	5,563	434,638	2,359,412	491,207	70,501	561,708
B1 - Income Eligible Existing Buildings	-	-	-	-	1,919,210	5,563	434,638	2,359,412	491,207	70,501	561,708
B1a - Income Eligible Coordinated Delivery	-	-	-	-	1,919,210	5,563	434,638	2,359,412	491,207	70,501	561,708
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	(580,928)	(131,986)	(271,698)	(984,612)	(1,013,256)	(2,368)	(293,598)	(1,309,222)	25,611	3,554	29,165
C1 - C&I New Buildings	(37,157)	(5,030)	(17,019)	(59,206)	(24,640)	(69)	(6,990)	(31,699)	-	-	-
C1a - C&I New Buildings & Major Renovations	(37,157)	(5,030)	(17,019)	(59,206)	(24,640)	(69)	(6,990)	(31,699)	-	-	-
C2 - C&I Existing Buildings	(543,770)	(126,956)	(254,679)	(925,406)	(988,615)	(2,299)	(286,608)	(1,277,523)	25,611	3,554	29,165
C2a - C&I Existing Building Retrofit	(535,539)	(124,544)	(250,857)	(910,940)	(952,736)	(2,217)	(275,984)	(1,230,938)	25,611	3,554	29,165
C2b - C&I New & Replacement Equipment	(8,231)	(2,412)	(3,822)	(14,465)	(35,879)	(82)	(10,624)	(46,585)	-	-	-
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-
Grand Total	3,721,463	252,009	1,514,865	5,488,337	21,956,894	65,070	4,872,744	26,894,708	12,116,723	1,704,274	13,820,996

Program	2020 Evaluated Benefits										
	Natural Gas Benefits				Oil Benefits				Propane Benefits		
	Natural Gas	Natural Gas DRIPE	Natural Gas Environmental Compliance	Total Natural Gas Benefits	Oil	Oil DRIPE	Oil Environmental Compliance	Total Oil Benefits	Propane	Propane Environmental Compliance	Total Propane Benefits
A - Residential	3,676,618	369,799	1,530,200	5,576,617	17,191,606	50,079	3,871,242	21,112,926	10,119,288	1,435,489	11,554,777
A1 - Residential New Buildings	-	-	-	-	14,497	46	3,180	17,723	1,099,991	151,132	1,251,124
A1a - Residential New Homes & Renovations	-	-	-	-	14,497	46	3,180	17,723	1,099,991	151,132	1,251,124
A2 - Residential Existing Buildings	3,676,618	369,799	1,530,200	5,576,617	17,177,110	50,032	3,868,061	21,095,203	9,019,297	1,284,356	10,303,654
A2a - Residential Coordinated Delivery	3,786,324	416,584	1,579,937	5,782,845	11,012,670	32,870	2,465,735	13,511,275	2,505,332	351,407	2,856,739
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	(109,705)	(46,786)	(49,737)	(206,227)	6,154,108	17,140	1,399,133	7,570,381	6,509,097	932,051	7,441,149
A2d - Residential Behavior	-	-	-	-	10,332	22	3,193	13,547	4,868	898	5,766
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	-	-	-	-	749,479	2,217	168,873	920,569	214,394	30,304	244,697
B1 - Income Eligible Existing Buildings	-	-	-	-	749,479	2,217	168,873	920,569	214,394	30,304	244,697
B1a - Income Eligible Coordinated Delivery	-	-	-	-	749,479	2,217	168,873	920,569	214,394	30,304	244,697
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	(9,351,674)	(1,577,883)	(4,316,189)	(15,245,746)	(331,242)	(760)	(97,548)	(429,549)	9,192	1,354	10,547
C1 - C&I New Buildings	(25,589)	(3,442)	(11,718)	(40,749)	(14,489)	(39)	(4,124)	(18,652)	-	-	-
C1a - C&I New Buildings & Major Renovations	(25,589)	(3,442)	(11,718)	(40,749)	(14,489)	(39)	(4,124)	(18,652)	-	-	-
C2 - C&I Existing Buildings	(9,326,085)	(1,574,441)	(4,304,471)	(15,204,997)	(316,753)	(721)	(93,423)	(410,897)	9,192	1,354	10,547
C2a - C&I Existing Building Retrofit	(214,386)	(53,969)	(100,800)	(369,155)	(274,198)	(611)	(80,985)	(355,795)	9,192	1,354	10,547
C2b - C&I New & Replacement Equipment	(9,111,699)	(1,520,472)	(4,203,671)	(14,835,842)	(42,555)	(110)	(12,438)	(55,102)	-	-	-
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-
Grand Total	(5,675,056)	(1,208,084)	(2,785,989)	(9,669,129)	17,609,843	51,536	3,942,567	21,603,946	10,342,874	1,467,147	11,810,021

Program Benefits, Plan Year Summary
2020 Planned vs. Evaluated
Cape Light Compact
June 4, 2021

Program	2020 Planned v. Evaluated Total Benefits Variances (%)										
	Natural Gas Benefits				Oil Benefits				Propane Benefits		
	Natural Gas	Natural Gas DRIPE	Natural Gas Environmental Compliance	Total Natural Gas Benefits	Oil	Oil DRIPE	Oil Environmental Compliance	Total Oil Benefits	Propane	Propane Environmental Compliance	Total Propane Benefits
A - Residential	-15%	-4%	-14%	-14%	-18%	-19%	-18%	-18%	-13%	-12%	-13%
A1 - Residential New Buildings					33%	34%	33%	33%	-72%	-72%	-72%
A1a - Residential New Homes & Renovations					33%	34%	33%	33%	-72%	-72%	-72%
A2 - Residential Existing Buildings	-15%	-4%	-14%	-14%	-18%	-19%	-18%	-18%	18%	18%	18%
A2a - Residential Coordinated Delivery	-18%	-16%	-17%	-17%	-11%	-11%	-10%	-10%	-27%	-28%	-27%
A2b - Residential Conservation Services (RCS)											
A2c - Residential Retail	-63%	-58%	-61%	-61%	-30%	-31%	-29%	-30%	55%	55%	55%
A2d - Residential Behavior											
A2e - Residential Active Demand Reduction											
B - Income Eligible					-61%	-60%	-61%	-61%	-56%	-57%	-56%
B1 - Income Eligible Existing Buildings					-61%	-60%	-61%	-61%	-56%	-57%	-56%
B1a - Income Eligible Coordinated Delivery					-61%	-60%	-61%	-61%	-56%	-57%	-56%
B1b - Income Eligible Active Demand Reduction											
C - Commercial & Industrial	1510%	1095%	1489%	1448%	-67%	-68%	-67%	-67%	-64%	-62%	-64%
C1 - C&I New Buildings	-31%	-32%	-31%	-31%	-41%	-43%	-41%	-41%			
C1a - C&I New Buildings & Major Renovations	-31%	-32%	-31%	-31%	-41%	-43%	-41%	-41%			
C2 - C&I Existing Buildings	1615%	1140%	1590%	1543%	-68%	-69%	-67%	-68%	-64%	-62%	-64%
C2a - C&I Existing Building Retrofit	-60%	-57%	-60%	-59%	-71%	-72%	-71%	-71%	-64%	-62%	-64%
C2b - C&I New & Replacement Equipment	110595%	62938%	109884%	102460%	19%	34%	17%	18%			
C2c - C&I Active Demand Reduction											
Grand Total	-252%	-579%	-284%	-276%	-20%	-21%	-19%	-20%	-15%	-14%	-15%

Notes

- Benefits for each year are presented in real dollars (2019\$).
- Total Energy Benefits are the sum of electric benefits, natural gas benefits, and other resource benefits.

Program Benefits, Plan Year Summary

2020 Planned vs. Evaluated

Cape Light Compact

June 4, 2021

Program	2020 Planned Benefits						
	Wood	Water	Total Energy Benefits	Total Environmental Compliance Benefits	Non-Energy Impacts	Total TRC Test Benefits	Total Resource Benefits per Participant
A - Residential	-	319,395	63,058,546	11,304,976	6,459,042	69,517,588	260
A1 - Residential New Buildings	-	-	6,480,371	1,029,695	298,632	6,779,002	12,535
A1a - Residential New Homes & Renovations	-	-	6,480,371	1,029,695	298,632	6,779,002	12,535
A2 - Residential Existing Buildings	-	319,395	56,578,175	10,275,281	6,160,411	62,738,586	234
A2a - Residential Coordinated Delivery	-	288,778	32,869,036	6,685,039	5,504,650	38,373,686	9,035
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-
A2c - Residential Retail	-	30,617	21,866,014	3,347,756	655,761	22,521,775	135
A2d - Residential Behavior	-	-	1,264,581	242,523	-	1,264,581	17
A2e - Residential Active Demand Reduction	-	-	578,543	(37)	-	578,543	-
B - Income Eligible	-	-	5,647,097	1,132,652	4,162,470	9,809,568	4,034
B1 - Income Eligible Existing Buildings	-	-	5,647,097	1,132,652	4,162,470	9,809,568	4,034
B1a - Income Eligible Coordinated Delivery	-	-	5,647,097	1,132,652	4,162,470	9,809,568	4,034
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-
C - Commercial & Industrial	-	33,520	40,154,922	6,554,569	22,611,147	62,766,069	20,077
C1 - C&I New Buildings	-	684	2,188,930	581,757	36,624	2,225,554	42,920
C1a - C&I New Buildings & Major Renovations	-	684	2,188,930	581,757	36,624	2,225,554	42,920
C2 - C&I Existing Buildings	-	32,836	37,965,992	5,972,813	22,574,523	60,540,515	19,480
C2a - C&I Existing Building Retrofit	-	29,458	28,228,965	5,274,407	22,524,085	50,753,049	36,145
C2b - C&I New & Replacement Equipment	-	3,378	3,943,703	699,019	50,438	3,994,141	3,385
C2c - C&I Active Demand Reduction	-	-	5,793,324	(613)	-	5,793,324	1,931,108
Grand Total	-	352,915	108,860,565	18,992,198	33,232,659	142,093,224	443

Program	2020 Evaluated Benefits						
	Wood	Water	Total Energy Benefits	Total Environmental Compliance Benefits	Non-Energy Impacts	Total TRC Test Benefits	Total Resource Benefits per Participant
A - Residential	-	646,117	53,666,436	9,810,539	8,237,667	61,904,103	275
A1 - Residential New Buildings	-	-	3,361,605	710,011	235,821	3,597,426	8,964
A1a - Residential New Homes & Renovations	-	-	3,361,605	710,011	235,821	3,597,426	8,964
A2 - Residential Existing Buildings	-	646,117	50,304,831	9,100,528	8,001,846	58,306,677	258
A2a - Residential Coordinated Delivery	-	639,528	27,846,322	5,613,908	6,961,304	34,807,626	3,658
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-
A2c - Residential Retail	-	6,589	22,437,380	3,481,988	1,040,541	23,477,921	125
A2d - Residential Behavior	-	-	21,130	4,631	-	21,130	21,130
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-
B - Income Eligible	-	91,142	2,286,221	405,160	1,287,939	3,574,160	1,332
B1 - Income Eligible Existing Buildings	-	91,142	2,286,221	405,160	1,287,939	3,574,160	1,332
B1a - Income Eligible Coordinated Delivery	-	91,142	2,286,221	405,160	1,287,939	3,574,160	1,332
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-
C - Commercial & Industrial	-	78,386	29,401,803	5,127,665	2,363,031	31,764,834	25,905
C1 - C&I New Buildings	-	456	1,691,358	410,441	47,280	1,738,638	73,537
C1a - C&I New Buildings & Major Renovations	-	456	1,691,358	410,441	47,280	1,738,638	73,537
C2 - C&I Existing Buildings	-	77,930	27,710,445	4,717,225	2,315,751	30,026,196	24,919
C2a - C&I Existing Building Retrofit	-	51,268	11,766,368	2,045,909	2,184,763	13,951,131	22,981
C2b - C&I New & Replacement Equipment	-	26,663	15,600,271	2,671,329	130,988	15,731,259	27,131
C2c - C&I Active Demand Reduction	-	-	343,806	(13)	-	343,806	13,752
Grand Total	-	815,645	85,354,461	15,343,365	11,888,636	97,243,097	430

Program Benefits, Plan Year Summary
2020 Planned vs. Evaluated
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Program	2020 Planned v. Evaluated Total Benefits Variances (%)						
	Wood	Water	Total Energy Benefits	Total Environmental Compliance Benefits	Non-Energy Impacts	Total TRC Test Benefits	Total Resource Benefits per Participant
A - Residential		102%	-15%	-13%	28%	-11%	6%
A1 - Residential New Buildings			-48%	-31%	-21%	-47%	-28%
A1a - Residential New Homes & Renovations			-48%	-31%	-21%	-47%	-28%
A2 - Residential Existing Buildings		102%	-11%	-11%	30%	-7%	10%
A2a - Residential Coordinated Delivery		121%	-15%	-16%	26%	-9%	-60%
A2b - Residential Conservation Services (RCS)							
A2c - Residential Retail		-78%	3%	4%	59%	4%	-7%
A2d - Residential Behavior			-98%	-98%		-98%	126888%
A2e - Residential Active Demand Reduction			-100%	-100%		-100%	
B - Income Eligible			-60%	-64%	-69%	-64%	-67%
B1 - Income Eligible Existing Buildings			-60%	-64%	-69%	-64%	-67%
B1a - Income Eligible Coordinated Delivery			-60%	-64%	-69%	-64%	-67%
B1b - Income Eligible Active Demand Reduction							
C - Commercial & Industrial		134%	-27%	-22%	-90%	-49%	29%
C1 - C&I New Buildings		-33%	-23%	-29%	29%	-22%	71%
C1a - C&I New Buildings & Major Renovations		-33%	-23%	-29%	29%	-22%	71%
C2 - C&I Existing Buildings		137%	-27%	-21%	-90%	-50%	28%
C2a - C&I Existing Building Retrofit		74%	-58%	-61%	-90%	-73%	-36%
C2b - C&I New & Replacement Equipment		689%	296%	282%	160%	294%	701%
C2c - C&I Active Demand Reduction			-94%	-98%		-94%	-99%
Grand Total		131%	-22%	-19%	-64%	-32%	-3%

Notes

- Benefits for each year are presented in real dollars (2019\$).
- Total Energy Benefits are the sum of electric benefits, natural gas benefits, and other resource benefits.

Program Benefits, Three-Year Total
2019-2021 Benefits
Cape Light Compact
June 4, 2021

2019 Evaluated Benefits										
Program	Electric Benefits									
	Capacity					Electric Energy				
	Summer Generation	Capacity DRIPE	Transmission	Distribution	Reliability	Total Capacity Benefits	Electric Energy	Electric Energy DRIPE	Electric Energy Environmental Compliance	Total Electric Energy Benefits
A - Residential	1,527,659	210,706	1,862,046	3,922,183	37,546	7,560,140	9,811,859	2,976,100	5,436,742	18,224,702
A1 - Residential New Buildings	84,669	1,241	92,060	193,913	1,075	372,959	1,167,825	182,293	615,341	1,965,460
A1a - Residential New Homes & Renovations	84,669	1,241	92,060	193,913	1,075	372,959	1,167,825	182,293	615,341	1,965,460
A2 - Residential Existing Buildings	1,442,990	209,465	1,769,986	3,728,269	36,470	7,187,181	8,644,034	2,793,807	4,821,401	16,259,242
A2a - Residential Coordinated Delivery	667,325	37,434	791,832	1,667,901	14,236	3,178,727	5,191,542	1,391,177	2,838,342	9,421,060
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	771,559	165,800	973,950	2,051,512	22,037	3,984,858	3,437,996	1,397,313	1,973,871	6,809,180
A2d - Residential Behavior	4,106	6,231	4,204	8,856	198	23,596	14,495	5,318	9,189	29,002
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	149,361	8,854	190,611	401,500	3,816	754,143	933,460	340,179	542,379	1,816,018
B1 - Income Eligible Existing Buildings	149,361	8,854	190,611	401,500	3,816	754,143	933,460	340,179	542,379	1,816,018
B1a - Income Eligible Coordinated Delivery	149,361	8,854	190,611	401,500	3,816	754,143	933,460	340,179	542,379	1,816,018
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	1,745,789	136,782	2,210,210	4,655,550	40,608	8,788,939	7,559,080	2,634,624	4,511,780	14,705,484
C1 - C&I New Buildings	140,371	350	166,199	350,078	2,478	659,476	840,314	192,543	485,060	1,517,917
C1a - C&I New Buildings & Major Renovations	140,371	350	166,199	350,078	2,478	659,476	840,314	192,543	485,060	1,517,917
C2 - C&I Existing Buildings	1,605,418	136,432	2,044,012	4,305,471	38,130	8,129,463	6,718,766	2,442,081	4,026,720	13,187,567
C2a - C&I Existing Building Retrofit	1,322,510	121,770	1,686,809	3,553,066	31,591	6,715,746	5,239,886	1,904,489	3,146,012	10,290,386
C2b - C&I New & Replacement Equipment	282,908	14,662	357,203	752,405	6,539	1,413,716	1,478,881	537,592	880,708	2,897,180
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
Grand Total	3,422,810	356,342	4,262,868	8,979,233	81,970	17,103,222	18,304,400	5,950,903	10,490,901	34,746,204

2020 Evaluated Benefits										
Program	Electric Benefits									
	Capacity					Electric Energy				
	Summer Generation	Capacity DRIPE	Transmission	Distribution	Reliability	Total Capacity Benefits	Electric Energy	Electric Energy DRIPE	Electric Energy Environmental Compliance	Total Electric Energy Benefits
A - Residential	967,156	263,336	1,206,415	2,541,172	23,090	5,001,170	5,393,937	1,407,283	2,973,609	9,774,829
A1 - Residential New Buildings	68,190	5,602	74,380	156,672	881	305,725	1,078,195	153,139	555,699	1,787,033
A1a - Residential New Homes & Renovations	68,190	5,602	74,380	156,672	881	305,725	1,078,195	153,139	555,699	1,787,033
A2 - Residential Existing Buildings	898,966	257,734	1,132,035	2,384,500	22,209	4,695,444	4,315,742	1,254,144	2,417,910	7,987,796
A2a - Residential Coordinated Delivery	191,046	85,668	246,138	518,461	5,320	1,046,632	2,263,128	529,346	1,216,829	4,009,303
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	707,920	172,066	885,897	1,866,039	16,889	3,648,812	2,051,607	724,528	1,200,541	3,976,676
A2d - Residential Behavior	-	-	-	-	-	-	1,006	270	540	1,816
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	60,001	18,868	80,541	169,649	1,750	330,810	357,378	135,642	205,983	699,004
B1 - Income Eligible Existing Buildings	60,001	18,868	80,541	169,649	1,750	330,810	357,378	135,642	205,983	699,004
B1a - Income Eligible Coordinated Delivery	60,001	18,868	80,541	169,649	1,750	330,810	357,378	135,642	205,983	699,004
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	2,839,758	189,961	3,598,934	7,580,733	72,011	14,281,397	16,353,482	4,813,239	9,540,047	30,706,769
C1 - C&I New Buildings	79,452	4,423	98,663	207,822	1,762	392,121	750,309	181,591	426,283	1,358,183
C1a - C&I New Buildings & Major Renovations	79,452	4,423	98,663	207,822	1,762	392,121	750,309	181,591	426,283	1,358,183
C2 - C&I Existing Buildings	2,760,306	185,538	3,500,271	7,372,911	70,250	13,889,276	15,603,173	4,631,649	9,113,764	29,348,586
C2a - C&I Existing Building Retrofit	959,666	124,125	1,251,130	2,635,360	24,171	4,994,452	3,750,857	1,457,855	2,226,340	7,435,052
C2b - C&I New & Replacement Equipment	1,795,729	20,544	2,157,227	4,543,947	33,691	8,551,139	11,852,266	3,173,710	6,887,437	21,913,413
C2c - C&I Active Demand Reduction	4,911	40,869	91,913	193,605	12,388	343,685	51	84	(13)	121
Grand Total	3,866,915	472,165	4,885,889	10,291,554	96,852	19,613,376	22,104,797	6,356,165	12,719,639	41,180,602

Program Benefits, Three-Year Total
2019-2021 Benefits
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2021 Planned Benefits										
Program	Electric Benefits									
	Capacity					Electric Energy				
	Summer Generation	Capacity DRIPE	Transmission	Distribution	Reliability	Total Capacity Benefits	Electric Energy	Electric Energy DRIPE	Electric Energy Environmental Compliance	Total Electric Energy Benefits
A - Residential	836,922	405,762	1,255,139	2,643,804	50,135	5,191,763	4,459,414	1,243,819	2,362,483	8,065,716
A1 - Residential New Buildings	75,064	1,746	87,377	184,049	1,249	349,486	907,401	165,856	469,206	1,542,462
A1a - Residential New Homes & Renovations	75,064	1,746	87,377	184,049	1,249	349,486	907,401	165,856	469,206	1,542,462
A2 - Residential Existing Buildings	761,858	404,016	1,167,763	2,459,755	48,885	4,842,277	3,552,013	1,077,963	1,893,277	6,523,253
A2a - Residential Coordinated Delivery	272,124	56,493	323,364	681,129	5,368	1,338,477	3,023,584	623,313	1,604,857	5,251,754
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	412,200	28,618	533,426	1,123,600	10,051	2,107,895	34,980	297,611	15,634	348,225
A2d - Residential Behavior	56,365	142,722	96,306	202,857	4,535	502,786	493,028	156,663	272,848	922,539
A2e - Residential Active Demand Reduction	21,170	176,183	214,666	452,169	28,932	893,119	420	376	(61)	734
B - Income Eligible	125,518	18,845	159,239	335,419	3,002	642,023	1,143,709	345,975	646,583	2,136,267
B1 - Income Eligible Existing Buildings	125,518	18,845	159,239	335,419	3,002	642,023	1,143,709	345,975	646,583	2,136,267
B1a - Income Eligible Coordinated Delivery	125,518	18,845	159,239	335,419	3,002	642,023	1,143,709	345,975	646,583	2,136,267
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	3,195,219	2,153,695	5,830,048	12,280,313	377,030	23,836,304	12,041,885	4,041,065	6,928,344	23,011,294
C1 - C&I New Buildings	79,171	1,112	92,457	194,750	1,464	368,953	1,132,308	252,940	634,425	2,019,674
C1a - C&I New Buildings & Major Renovations	79,171	1,112	92,457	194,750	1,464	368,953	1,132,308	252,940	634,425	2,019,674
C2 - C&I Existing Buildings	3,116,048	2,152,583	5,737,591	12,085,563	375,566	23,467,350	10,909,577	3,788,124	6,293,919	20,991,620
C2a - C&I Existing Building Retrofit	2,595,082	148,676	2,979,298	6,275,542	45,117	12,043,715	9,824,265	3,362,938	5,659,526	18,846,730
C2b - C&I New & Replacement Equipment	284,311	34,359	358,539	755,220	7,022	1,439,451	1,081,114	421,427	635,006	2,137,547
C2c - C&I Active Demand Reduction	236,654	1,969,548	2,399,754	5,054,801	323,427	9,984,184	4,197	3,760	(613)	7,343
Grand Total	4,157,658	2,578,302	7,244,426	15,259,536	430,167	29,670,090	17,645,008	5,630,858	9,937,411	33,213,277

2019-2021 Benefits										
Program	Electric Benefits									
	Capacity					Electric Energy				
	Summer Generation	Capacity DRIPE	Transmission	Distribution	Reliability	Total Capacity Benefits	Electric Energy	Electric Energy DRIPE	Electric Energy Environmental Compliance	Total Electric Energy Benefits
A - Residential	3,331,737	879,804	4,323,601	9,107,159	110,770	17,753,072	19,665,210	5,627,202	10,772,834	36,065,246
A1 - Residential New Buildings	227,923	8,590	253,817	534,635	3,205	1,028,169	3,153,421	501,288	1,640,245	5,294,955
A1a - Residential New Homes & Renovations	227,923	8,590	253,817	534,635	3,205	1,028,169	3,153,421	501,288	1,640,245	5,294,955
A2 - Residential Existing Buildings	3,103,815	871,215	4,069,784	8,572,524	107,565	16,724,903	16,511,788	5,125,914	9,132,588	30,770,291
A2a - Residential Coordinated Delivery	1,130,494	179,595	1,361,334	2,867,490	24,924	5,563,837	10,478,255	2,543,836	5,660,027	18,682,118
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	1,891,679	366,484	2,393,274	5,041,151	48,976	9,741,565	5,524,584	2,419,451	3,190,046	11,134,081
A2d - Residential Behavior	60,472	148,953	100,510	211,713	4,733	526,382	508,530	162,251	282,576	953,357
A2e - Residential Active Demand Reduction	21,170	176,183	214,666	452,169	28,932	893,119	420	376	(61)	734
B - Income Eligible	334,880	46,567	430,391	906,568	8,569	1,726,976	2,434,548	821,796	1,394,946	4,651,289
B1 - Income Eligible Existing Buildings	334,880	46,567	430,391	906,568	8,569	1,726,976	2,434,548	821,796	1,394,946	4,651,289
B1a - Income Eligible Coordinated Delivery	334,880	46,567	430,391	906,568	8,569	1,726,976	2,434,548	821,796	1,394,946	4,651,289
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	7,780,766	2,480,437	11,639,192	24,516,596	489,650	46,906,640	35,954,447	11,488,928	20,980,171	68,423,547
C1 - C&I New Buildings	298,994	5,885	357,318	752,650	5,704	1,420,551	2,722,931	627,074	1,545,769	4,895,774
C1a - C&I New Buildings & Major Renovations	298,994	5,885	357,318	752,650	5,704	1,420,551	2,722,931	627,074	1,545,769	4,895,774
C2 - C&I Existing Buildings	7,481,772	2,474,552	11,281,873	23,763,946	483,946	45,486,089	33,231,516	10,861,854	19,434,403	63,527,773
C2a - C&I Existing Building Retrofit	4,877,258	394,571	5,917,237	12,463,967	100,880	23,753,913	18,815,008	6,725,282	11,031,878	36,572,168
C2b - C&I New & Replacement Equipment	2,362,948	69,565	2,872,969	6,051,573	47,252	11,404,307	14,412,261	4,132,729	8,403,150	26,948,140
C2c - C&I Active Demand Reduction	241,565	2,010,417	2,491,667	5,248,406	335,814	10,327,869	4,247	3,843	(626)	7,464
Grand Total	11,447,383	3,406,809	16,393,184	34,530,323	608,989	66,386,688	58,054,205	17,937,926	33,147,951	109,140,082

Notes

- Benefits for each year are presented in real dollars (2019\$).
- Total Energy Benefits are the sum of electric benefits, natural gas benefits, and other resource benefits.

Program Benefits, Three-Year Total
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Program	2019 Evaluated Benefits									
	Natural Gas Benefits				Oil Benefits				Propane Benefits	
	Natural Gas	Natural Gas DRIPE	Natural Gas Environmental Compliance	Total Natural Gas Benefits	Oil	Oil DRIPE	Oil Environmental Compliance	Total Oil Benefits	Propane	Total Propane Benefits
A - Residential	4,236,301	376,811	1,772,649	6,385,760	15,658,085	44,819	3,575,580	19,278,483	7,107,459	8,125,294
A1 - Residential New Buildings	-	-	-	-	47,132	149	10,520	57,800	670,780	763,808
A1a - Residential New Homes & Renovations	-	-	-	-	47,132	149	10,520	57,800	670,780	763,808
A2 - Residential Existing Buildings	4,236,301	376,811	1,772,649	6,385,760	15,610,953	44,670	3,565,060	19,220,683	6,436,679	7,361,485
A2a - Residential Coordinated Delivery	4,532,314	511,776	1,912,872	6,956,962	12,801,131	37,212	2,928,069	15,766,412	3,711,936	4,241,958
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	(296,013)	(134,965)	(140,224)	(571,201)	2,800,635	7,437	633,898	3,441,970	2,717,225	3,110,536
A2d - Residential Behavior	-	-	-	-	9,188	21	3,093	12,301	7,518	8,992
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	-	-	-	-	1,108,472	3,173	255,962	1,367,607	302,638	346,444
B1 - Income Eligible Existing Buildings	-	-	-	-	1,108,472	3,173	255,962	1,367,607	302,638	346,444
B1a - Income Eligible Coordinated Delivery	-	-	-	-	1,108,472	3,173	255,962	1,367,607	302,638	346,444
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	(311,735)	(72,870)	(149,186)	(533,791)	(400,739)	(872)	(124,221)	(525,831)	14,341	16,568
C1 - C&I New Buildings	(33,105)	(4,706)	(15,398)	(53,208)	(49,955)	(144)	(14,426)	(64,525)	-	-
C1a - C&I New Buildings & Major Renovations	(33,105)	(4,706)	(15,398)	(53,208)	(49,955)	(144)	(14,426)	(64,525)	-	-
C2 - C&I Existing Buildings	(278,630)	(68,164)	(133,789)	(480,583)	(350,783)	(728)	(109,795)	(461,306)	14,341	16,568
C2a - C&I Existing Building Retrofit	(267,098)	(65,032)	(128,223)	(460,354)	(319,267)	(654)	(100,137)	(420,059)	14,341	16,568
C2b - C&I New & Replacement Equipment	(11,532)	(3,131)	(5,565)	(20,229)	(31,516)	(74)	(9,657)	(41,248)	-	-
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
Grand Total	3,924,566	303,941	1,623,462	5,851,969	16,365,818	47,121	3,707,321	20,120,259	7,424,438	8,488,305

Program	2020 Evaluated Benefits									
	Natural Gas Benefits				Oil Benefits				Propane Benefits	
	Natural Gas	Natural Gas DRIPE	Natural Gas Environmental Compliance	Total Natural Gas Benefits	Oil	Oil DRIPE	Oil Environmental Compliance	Total Oil Benefits	Propane	Total Propane Benefits
A - Residential	3,676,618	369,799	1,530,200	5,576,617	17,191,606	50,079	3,871,242	21,112,926	10,119,288	11,554,777
A1 - Residential New Buildings	-	-	-	-	14,497	46	3,180	17,723	1,099,991	1,251,124
A1a - Residential New Homes & Renovations	-	-	-	-	14,497	46	3,180	17,723	1,099,991	1,251,124
A2 - Residential Existing Buildings	3,676,618	369,799	1,530,200	5,576,617	17,177,110	50,032	3,868,061	21,095,203	9,019,297	10,303,654
A2a - Residential Coordinated Delivery	3,786,324	416,584	1,579,937	5,782,845	11,012,670	32,870	2,465,735	13,511,275	2,505,332	2,856,739
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	(109,705)	(46,786)	(49,737)	(206,227)	6,154,108	17,140	1,399,133	7,570,381	6,509,097	7,441,149
A2d - Residential Behavior	-	-	-	-	10,332	22	3,193	13,547	4,868	5,766
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	-	-	-	-	749,479	2,217	168,873	920,569	214,394	244,697
B1 - Income Eligible Existing Buildings	-	-	-	-	749,479	2,217	168,873	920,569	214,394	244,697
B1a - Income Eligible Coordinated Delivery	-	-	-	-	749,479	2,217	168,873	920,569	214,394	244,697
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	(9,351,674)	(1,577,883)	(4,316,189)	(15,245,746)	(331,242)	(760)	(97,548)	(429,549)	9,192	10,547
C1 - C&I New Buildings	(25,589)	(3,442)	(11,718)	(40,749)	(14,489)	(39)	(4,124)	(18,652)	-	-
C1a - C&I New Buildings & Major Renovations	(25,589)	(3,442)	(11,718)	(40,749)	(14,489)	(39)	(4,124)	(18,652)	-	-
C2 - C&I Existing Buildings	(9,326,085)	(1,574,441)	(4,304,471)	(15,204,997)	(316,753)	(721)	(93,423)	(410,897)	9,192	10,547
C2a - C&I Existing Building Retrofit	(214,386)	(53,969)	(100,800)	(369,155)	(274,198)	(611)	(80,985)	(355,795)	9,192	10,547
C2b - C&I New & Replacement Equipment	(9,111,699)	(1,520,472)	(4,203,671)	(14,835,842)	(42,555)	(110)	(12,438)	(55,102)	-	-
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
Grand Total	(5,675,056)	(1,208,084)	(2,785,989)	(9,669,129)	17,609,843	51,536	3,942,567	21,603,946	10,342,874	11,810,021

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Program	2021 Planned Benefits										
	Natural Gas Benefits				Oil Benefits				Propane Benefits		
	Natural Gas	Natural Gas DRIPE	Natural Gas Environmental Compliance	Total Natural Gas Benefits	Oil	Oil DRIPE	Oil Environmental Compliance	Total Oil Benefits	Propane	Propane Environmental Compliance	Total Propane Benefits
A - Residential	4,510,371	451,253	1,863,537	6,825,161	21,652,130	65,508	4,778,192	26,495,829	12,246,353	1,693,029	13,939,381
A1 - Residential New Buildings	-	-	-	-	11,566	38	2,497	14,100	4,177,787	565,678	4,743,465
A1a - Residential New Homes & Renovations	-	-	-	-	11,566	38	2,497	14,100	4,177,787	565,678	4,743,465
A2 - Residential Existing Buildings	4,510,371	451,253	1,863,537	6,825,161	21,640,564	65,470	4,775,695	26,481,729	8,068,566	1,127,350	9,195,917
A2a - Residential Coordinated Delivery	4,613,808	493,842	1,908,022	7,015,672	12,624,714	39,064	2,765,413	15,429,192	3,723,438	517,471	4,240,908
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	(103,437)	(42,589)	(44,485)	(190,511)	9,015,850	26,406	2,010,282	11,052,538	4,345,129	609,880	4,955,008
A2d - Residential Behavior	-	-	-	-	-	-	-	-	-	-	-
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	-	-	-	-	2,038,652	6,120	451,783	2,496,555	518,283	72,920	591,203
B1 - Income Eligible Existing Buildings	-	-	-	-	2,038,652	6,120	451,783	2,496,555	518,283	72,920	591,203
B1a - Income Eligible Coordinated Delivery	-	-	-	-	2,038,652	6,120	451,783	2,496,555	518,283	72,920	591,203
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	(561,004)	(133,437)	(259,021)	(953,462)	(994,904)	(2,419)	(280,500)	(1,277,822)	26,039	3,554	29,593
C1 - C&I New Buildings	(39,489)	(5,279)	(17,920)	(62,688)	(32,607)	(102)	(8,906)	(41,615)	-	-	-
C1a - C&I New Buildings & Major Renovations	(39,489)	(5,279)	(17,920)	(62,688)	(32,607)	(102)	(8,906)	(41,615)	-	-	-
C2 - C&I Existing Buildings	(521,515)	(128,157)	(241,101)	(890,774)	(962,297)	(2,316)	(271,594)	(1,236,207)	26,039	3,554	29,593
C2a - C&I Existing Building Retrofit	(514,815)	(126,240)	(238,077)	(879,133)	(930,075)	(2,245)	(262,395)	(1,194,714)	26,039	3,554	29,593
C2b - C&I New & Replacement Equipment	(6,700)	(1,917)	(3,024)	(11,641)	(32,222)	(72)	(9,199)	(41,493)	-	-	-
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-
Grand Total	3,949,367	317,817	1,604,515	5,871,699	22,695,878	69,209	4,949,475	27,714,562	12,790,675	1,769,502	14,560,177

Program	2019-2021 Benefits										
	Natural Gas Benefits				Oil Benefits				Propane Benefits		
	Natural Gas	Natural Gas DRIPE	Natural Gas Environmental Compliance	Total Natural Gas Benefits	Oil	Oil DRIPE	Oil Environmental Compliance	Total Oil Benefits	Propane	Propane Environmental Compliance	Total Propane Benefits
A - Residential	12,423,291	1,197,863	5,166,385	18,787,539	54,501,821	160,405	12,225,013	66,887,239	29,473,101	4,146,352	33,619,453
A1 - Residential New Buildings	-	-	-	-	73,194	233	16,197	89,624	5,948,558	809,838	6,758,397
A1a - Residential New Homes & Renovations	-	-	-	-	73,194	233	16,197	89,624	5,948,558	809,838	6,758,397
A2 - Residential Existing Buildings	12,423,291	1,197,863	5,166,385	18,787,539	54,428,627	160,172	12,208,816	66,797,615	23,524,542	3,336,514	26,861,056
A2a - Residential Coordinated Delivery	12,932,445	1,422,202	5,400,831	19,755,478	36,438,515	109,146	8,159,218	44,706,879	9,940,705	1,398,900	11,339,605
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	(509,155)	(224,339)	(234,446)	(967,939)	17,970,593	50,983	4,043,312	22,064,888	13,571,451	1,935,243	15,506,693
A2d - Residential Behavior	-	-	-	-	19,519	43	6,286	25,849	12,386	2,371	14,757
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	-	-	-	-	3,896,603	11,510	876,618	4,784,731	1,035,315	147,029	1,182,344
B1 - Income Eligible Existing Buildings	-	-	-	-	3,896,603	11,510	876,618	4,784,731	1,035,315	147,029	1,182,344
B1a - Income Eligible Coordinated Delivery	-	-	-	-	3,896,603	11,510	876,618	4,784,731	1,035,315	147,029	1,182,344
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	(10,224,414)	(1,784,189)	(4,724,397)	(16,733,000)	(1,726,885)	(4,050)	(502,268)	(2,233,203)	49,572	7,135	56,708
C1 - C&I New Buildings	(98,183)	(13,427)	(45,036)	(156,646)	(97,051)	(285)	(27,456)	(124,792)	-	-	-
C1a - C&I New Buildings & Major Renovations	(98,183)	(13,427)	(45,036)	(156,646)	(97,051)	(285)	(27,456)	(124,792)	-	-	-
C2 - C&I Existing Buildings	(10,126,231)	(1,770,762)	(4,679,361)	(16,576,354)	(1,629,834)	(3,765)	(474,812)	(2,108,411)	49,572	7,135	56,708
C2a - C&I Existing Building Retrofit	(996,300)	(245,242)	(467,101)	(1,708,642)	(1,523,541)	(3,510)	(443,517)	(1,970,568)	49,572	7,135	56,708
C2b - C&I New & Replacement Equipment	(9,129,932)	(1,525,520)	(4,212,260)	(14,867,712)	(106,293)	(256)	(31,294)	(137,843)	-	-	-
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-
Grand Total	2,198,877	(586,327)	441,989	2,054,539	56,671,540	167,865	12,599,363	69,438,768	30,557,987	4,300,516	34,858,504

Notes

- Benefits for each year are presented in real dollars (2019\$).
- Total Energy Benefits are the sum of electric benefits, natural gas benefits, and other resource benefits.

Program Benefits, Three-Year Total
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Program	2019 Evaluated Benefits						Total Resource Benefits per Participant
	Wood	Water	Total Energy Benefits	Total Environmental Compliance Benefits	Non-Energy Impacts	Total TRC Test Benefits	
A - Residential	-	454,685	60,029,064	11,802,805	9,895,755	69,924,819	212
A1 - Residential New Buildings	-	-	3,160,027	718,889	245,036	3,405,064	8,634
A1a - Residential New Homes & Renovations	-	-	3,160,027	718,889	245,036	3,405,064	8,634
A2 - Residential Existing Buildings	-	454,685	56,869,036	11,083,916	9,650,719	66,519,755	201
A2a - Residential Coordinated Delivery	-	454,146	40,019,265	8,209,305	8,332,688	48,351,952	3,869
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-
A2c - Residential Retail	-	539	16,775,882	2,860,856	1,318,031	18,093,913	63
A2d - Residential Behavior	-	-	73,890	13,755	-	73,890	36,945
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-
B - Income Eligible	-	257,405	4,541,617	842,146	2,344,210	6,885,827	2,001
B1 - Income Eligible Existing Buildings	-	257,405	4,541,617	842,146	2,344,210	6,885,827	2,001
B1a - Income Eligible Coordinated Delivery	-	257,405	4,541,617	842,146	2,344,210	6,885,827	2,001
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-
C - Commercial & Industrial	-	191,999	22,643,367	4,240,600	2,859,630	25,502,997	16,686
C1 - C&I New Buildings	-	-	2,059,661	455,237	47,727	2,107,388	73,559
C1a - C&I New Buildings & Major Renovations	-	-	2,059,661	455,237	47,727	2,107,388	73,559
C2 - C&I Existing Buildings	-	191,999	20,583,706	3,785,363	2,811,903	23,395,609	15,488
C2a - C&I Existing Building Retrofit	-	171,470	16,313,758	2,919,878	2,727,601	19,041,360	21,927
C2b - C&I New & Replacement Equipment	-	20,529	4,269,948	865,485	84,301	4,354,249	7,299
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-
Grand Total	-	904,088	87,214,047	16,885,551	15,099,595	102,313,642	304

Program	2020 Evaluated Benefits						Total Resource Benefits per Participant
	Wood	Water	Total Energy Benefits	Total Environmental Compliance Benefits	Non-Energy Impacts	Total TRC Test Benefits	
A - Residential	-	646,117	53,666,436	9,810,539	8,237,667	61,904,103	275
A1 - Residential New Buildings	-	-	3,361,605	710,011	235,821	3,597,426	8,964
A1a - Residential New Homes & Renovations	-	-	3,361,605	710,011	235,821	3,597,426	8,964
A2 - Residential Existing Buildings	-	646,117	50,304,831	9,100,528	8,001,846	58,306,677	258
A2a - Residential Coordinated Delivery	-	639,528	27,846,322	5,613,908	6,961,304	34,807,626	3,658
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-
A2c - Residential Retail	-	6,589	22,437,380	3,481,988	1,040,541	23,477,921	125
A2d - Residential Behavior	-	-	21,130	4,631	-	21,130	21,130
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-
B - Income Eligible	-	91,142	2,286,221	405,160	1,287,939	3,574,160	1,332
B1 - Income Eligible Existing Buildings	-	91,142	2,286,221	405,160	1,287,939	3,574,160	1,332
B1a - Income Eligible Coordinated Delivery	-	91,142	2,286,221	405,160	1,287,939	3,574,160	1,332
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-
C - Commercial & Industrial	-	78,386	29,401,803	5,127,665	2,363,031	31,764,834	25,905
C1 - C&I New Buildings	-	456	1,691,358	410,441	47,280	1,738,638	73,537
C1a - C&I New Buildings & Major Renovations	-	456	1,691,358	410,441	47,280	1,738,638	73,537
C2 - C&I Existing Buildings	-	77,930	27,710,445	4,717,225	2,315,751	30,026,196	24,919
C2a - C&I Existing Building Retrofit	-	51,268	11,766,368	2,045,909	2,184,763	13,951,131	22,981
C2b - C&I New & Replacement Equipment	-	26,663	15,600,271	2,671,329	130,988	15,731,259	27,131
C2c - C&I Active Demand Reduction	-	-	343,806	(13)	-	343,806	13,752
Grand Total	-	815,645	85,354,461	15,343,365	11,888,636	97,243,097	430

Program Benefits, Three-Year Total
2019-2021 Benefits
Cape Light Compact
June 4, 2021

Program	2021 Planned Benefits						Total Resource Benefits per Participant
	Wood	Water	Total Energy Benefits	Total Environmental Compliance Benefits	Non-Energy Impacts	Total TRC Test Benefits	
A - Residential	-	319,395	60,837,245	10,697,240	6,225,746	67,062,991	362
A1 - Residential New Buildings	-	-	6,649,513	1,037,380	309,495	6,959,008	12,406
A1a - Residential New Homes & Renovations	-	-	6,649,513	1,037,380	309,495	6,959,008	12,406
A2 - Residential Existing Buildings	-	319,395	54,187,732	9,659,860	5,916,251	60,103,983	323
A2a - Residential Coordinated Delivery	-	288,778	33,564,782	6,795,763	5,497,690	39,062,472	9,176
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-
A2c - Residential Retail	-	30,617	18,303,772	2,591,310	418,561	18,722,333	195
A2d - Residential Behavior	-	-	1,425,325	272,848	-	1,425,325	20
A2e - Residential Active Demand Reduction	-	-	893,853	(61)	-	893,853	-
B - Income Eligible	-	-	5,866,048	1,171,286	4,289,803	10,155,851	4,046
B1 - Income Eligible Existing Buildings	-	-	5,866,048	1,171,286	4,289,803	10,155,851	4,046
B1a - Income Eligible Coordinated Delivery	-	-	5,866,048	1,171,286	4,289,803	10,155,851	4,046
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-
C - Commercial & Industrial	-	35,899	44,681,805	6,392,377	22,377,381	67,059,186	21,914
C1 - C&I New Buildings	-	684	2,285,008	607,599	36,624	2,321,632	43,942
C1a - C&I New Buildings & Major Renovations	-	684	2,285,008	607,599	36,624	2,321,632	43,942
C2 - C&I Existing Buildings	-	35,214	42,396,797	5,784,778	22,340,757	64,737,554	21,337
C2a - C&I Existing Building Retrofit	-	30,710	28,876,901	5,162,608	22,308,860	51,185,761	35,388
C2b - C&I New & Replacement Equipment	-	4,504	3,528,368	622,783	31,897	3,560,265	3,021
C2c - C&I Active Demand Reduction	-	-	9,991,528	(613)	-	9,991,528	3,330,509
Grand Total	-	355,294	111,385,098	18,260,903	32,892,929	144,278,028	649

Program	2019-2021 Benefits						Total Resource Benefits per Participant
	Wood	Water	Total Energy Benefits	Total Environmental Compliance Benefits	Non-Energy Impacts	Total TRC Test Benefits	
A - Residential	-	1,420,196	174,532,745	32,310,584	24,359,167	198,891,912	270
A1 - Residential New Buildings	-	-	13,171,145	2,466,281	790,352	13,961,497	10,314
A1a - Residential New Homes & Renovations	-	-	13,171,145	2,466,281	790,352	13,961,497	10,314
A2 - Residential Existing Buildings	-	1,420,196	161,361,600	29,844,303	23,568,815	184,930,415	250
A2a - Residential Coordinated Delivery	-	1,382,451	101,430,369	20,618,976	20,791,681	122,222,050	4,693
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-
A2c - Residential Retail	-	37,745	57,517,033	8,934,155	2,777,134	60,294,167	107
A2d - Residential Behavior	-	-	1,520,345	291,234	-	1,520,345	22
A2e - Residential Active Demand Reduction	-	-	893,853	(61)	-	893,853	1,270
B - Income Eligible	-	348,546	12,693,886	2,418,593	7,921,951	20,615,838	2,335
B1 - Income Eligible Existing Buildings	-	348,546	12,693,886	2,418,593	7,921,951	20,615,838	2,335
B1a - Income Eligible Coordinated Delivery	-	348,546	12,693,886	2,418,593	7,921,951	20,615,838	2,335
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-
C - Commercial & Industrial	-	306,284	96,726,975	15,760,642	27,600,042	124,327,017	21,348
C1 - C&I New Buildings	-	1,141	6,036,027	1,473,276	131,631	6,167,658	58,602
C1a - C&I New Buildings & Major Renovations	-	1,141	6,036,027	1,473,276	131,631	6,167,658	58,602
C2 - C&I Existing Buildings	-	305,143	90,690,948	14,287,366	27,468,411	118,159,359	20,481
C2a - C&I Existing Building Retrofit	-	253,448	56,957,027	10,128,396	27,221,225	84,178,252	27,489
C2b - C&I New & Replacement Equipment	-	51,695	23,398,587	4,159,596	247,186	23,645,774	10,051
C2c - C&I Active Demand Reduction	-	-	10,335,334	(626)	-	10,335,334	369,119
Grand Total	-	2,075,026	283,953,607	50,489,819	59,881,161	343,834,767	432

Notes

- Benefits for each year are presented in real dollars (2019\$).
- Total Energy Benefits are the sum of electric benefits, natural gas benefits, and other resource benefits.

Cost-Effectiveness, Plan Year Summary

2020 Planned vs. Evaluated

Cape Light Compact

June 4, 2021

2020 Planned Total Resource Cost Test (2019\$)							
Program	Benefit-Cost Ratio	Net Benefits	Total TRC Test Benefits	Costs			
				Total Program Costs	Performance Incentive	Participant Costs	Total TRC Test Costs
A - Residential	2.27	38,826,541	69,517,588	23,548,336	-	7,142,712	30,691,047
A1 - Residential New Buildings	4.92	5,402,084	6,779,002	953,476	-	423,442	1,376,918
A1a - Residential New Homes & Renovations	4.92	5,402,084	6,779,002	953,476	-	423,442	1,376,918
A2 - Residential Existing Buildings	2.38	36,404,657	62,738,586	19,614,659	-	6,719,269	26,333,928
A2a - Residential Coordinated Delivery	2.68	24,063,341	38,373,686	10,716,481	-	3,593,864	14,310,345
A2b - Residential Conservation Services (RCS)	0.00	(1,877,870)	-	1,877,870	-	-	1,877,870
A2c - Residential Retail	2.50	13,498,169	22,521,775	5,898,201	-	3,125,405	9,023,606
A2d - Residential Behavior	1.77	550,775	1,264,581	713,807	-	-	713,807
A2e - Residential Active Demand Reduction	1.42	170,243	578,543	408,301	-	-	408,301
A3 - Residential Hard-to-Measure	0.00	(2,980,201)	-	2,980,201	-	-	2,980,201
B - Income Eligible	2.22	5,398,303	9,809,568	4,411,265	-	-	4,411,265
B1 - Income Eligible Existing Buildings	2.34	5,621,535	9,809,568	4,188,032	-	-	4,188,032
B1a - Income Eligible Coordinated Delivery	2.34	5,621,535	9,809,568	4,188,032	-	-	4,188,032
B1b - Income Eligible Active Demand Reduction		-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	0.00	(223,232)	-	223,232	-	-	223,232
C - Commercial & Industrial	3.56	45,127,792	62,766,069	16,249,867	-	1,388,409	17,638,276
C1 - C&I New Buildings	3.28	1,546,106	2,225,554	617,719	-	61,729	679,448
C1a - C&I New Buildings & Major Renovations	3.28	1,546,106	2,225,554	617,719	-	61,729	679,448
C2 - C&I Existing Buildings	3.72	44,280,013	60,540,515	14,933,823	-	1,326,679	16,260,502
C2a - C&I Existing Building Retrofit	3.79	37,349,395	50,753,049	12,343,482	-	1,060,173	13,403,655
C2b - C&I New & Replacement Equipment	2.40	2,327,232	3,994,141	1,400,402	-	266,507	1,666,909
C2c - C&I Active Demand Reduction	4.87	4,603,386	5,793,324	1,189,939	-	-	1,189,939
C3 - C&I Hard-to-Measure	0.00	(698,326)	-	698,326	-	-	698,326
Grand Total	2.69	89,352,636	142,093,224	44,209,468	-	8,531,120	52,740,588

Cost-Effectiveness, Plan Year Summary

2020 Planned vs. Evaluated

Cape Light Compact

June 4, 2021

2020 Evaluated Total Resource Cost Test (2019\$)							
Program	Benefit-Cost Ratio	Net Benefits	Total TRC Test Benefits	Costs			
				Total Program Costs	Performance Incentive	Participant Costs	Total TRC Test Costs
A - Residential	1.42	18,422,816	61,904,103	27,909,546	-	15,571,741	43,481,287
A1 - Residential New Buildings	2.30	2,030,645	3,597,426	1,121,509	-	445,272	1,566,781
A1a - Residential New Homes & Renovations	2.30	2,030,645	3,597,426	1,121,509	-	445,272	1,566,781
A2 - Residential Existing Buildings	1.53	20,079,470	58,306,677	23,100,737	-	15,126,470	38,227,207
A2a - Residential Coordinated Delivery	2.06	17,881,796	34,807,626	13,765,240	-	3,160,591	16,925,830
A2b - Residential Conservation Services (RCS)	0.00	(1,546,403)	-	1,546,403	-	-	1,546,403
A2c - Residential Retail	1.24	4,563,937	23,477,921	6,948,105	-	11,965,879	18,913,984
A2d - Residential Behavior	0.03	(678,577)	21,130	699,707	-	-	699,707
A2e - Residential Active Demand Reduction	0.00	(141,282)	-	141,282	-	-	141,282
A3 - Residential Hard-to-Measure	0.00	(3,687,300)	-	3,687,300	-	-	3,687,300
B - Income Eligible	1.49	1,174,043	3,574,160	2,400,117	-	-	2,400,117
B1 - Income Eligible Existing Buildings	1.65	1,414,248	3,574,160	2,159,912	-	-	2,159,912
B1a - Income Eligible Coordinated Delivery	1.65	1,414,248	3,574,160	2,159,912	-	-	2,159,912
B1b - Income Eligible Active Demand Reduction		-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	0.00	(240,205)	-	240,205	-	-	240,205
C - Commercial & Industrial	3.02	21,251,360	31,764,834	9,068,054	-	1,445,420	10,513,474
C1 - C&I New Buildings	1.72	726,514	1,738,638	268,524	-	743,599	1,012,124
C1a - C&I New Buildings & Major Renovations	1.72	726,514	1,738,638	268,524	-	743,599	1,012,124
C2 - C&I Existing Buildings	3.52	21,505,716	30,026,196	7,818,659	-	701,821	8,520,480
C2a - C&I Existing Building Retrofit	2.15	7,452,338	13,951,131	5,616,903	-	881,890	6,498,793
C2b - C&I New & Replacement Equipment	9.18	14,017,758	15,731,259	1,893,571	-	(180,069)	1,713,502
C2c - C&I Active Demand Reduction	1.12	35,620	343,806	308,186	-	-	308,186
C3 - C&I Hard-to-Measure	0.00	(980,870)	-	980,870	-	-	980,870
Grand Total	1.72	40,848,219	97,243,097	39,377,716	-	17,017,161	56,394,878

Cost-Effectiveness, Plan Year Summary

2020 Planned vs. Evaluated

Cape Light Compact

June 4, 2021

2020 Planned v. Evaluated Total Resource Cost Test (2019\$) Variances (%)							
Program	Benefit-Cost Ratio	Net Benefits	Total TRC Test Benefits	Costs			
				Total Program Costs	Performance Incentive	Participant Costs	Total TRC Test Costs
A - Residential	-37%	-53%	-11%	19%		118%	42%
A1 - Residential New Buildings	-53%	-62%	-47%	18%		5%	14%
A1a - Residential New Homes & Renovations	-53%	-62%	-47%	18%		5%	14%
A2 - Residential Existing Buildings	-36%	-45%	-7%	18%		125%	45%
A2a - Residential Coordinated Delivery	-23%	-26%	-9%	28%		-12%	18%
A2b - Residential Conservation Services (RCS)		-18%		-18%			-18%
A2c - Residential Retail	-50%	-66%	4%	18%		283%	110%
A2d - Residential Behavior	-98%	-223%	-98%	-2%			-2%
A2e - Residential Active Demand Reduction	-100%	-183%	-100%	-65%			-65%
A3 - Residential Hard-to-Measure		24%		24%			24%
B - Income Eligible	-33%	-78%	-64%	-46%			-46%
B1 - Income Eligible Existing Buildings	-29%	-75%	-64%	-48%			-48%
B1a - Income Eligible Coordinated Delivery	-29%	-75%	-64%	-48%			-48%
B1b - Income Eligible Active Demand Reduction							
B2 - Income Eligible Hard-to-Measure		8%		8%			8%
C - Commercial & Industrial	-15%	-53%	-49%	-44%		4%	-40%
C1 - C&I New Buildings	-48%	-53%	-22%	-57%		1105%	49%
C1a - C&I New Buildings & Major Renovations	-48%	-53%	-22%	-57%		1105%	49%
C2 - C&I Existing Buildings	-5%	-51%	-50%	-48%		-47%	-48%
C2a - C&I Existing Building Retrofit	-43%	-80%	-73%	-54%		-17%	-52%
C2b - C&I New & Replacement Equipment	283%	502%	294%	35%		-168%	3%
C2c - C&I Active Demand Reduction	-77%	-99%	-94%	-74%			-74%
C3 - C&I Hard-to-Measure		40%		40%			40%
Grand Total	-36%	-54%	-32%	-11%		99%	7%

Notes

- Costs and benefits for each year are presented in real dollars (2019\$).
- The Total TRC Costs are the sum of the Total Program Costs, Performance Incentives, and Participant Costs.
- The plan year variances provided above are intended to indicate the Program Administrator's performance in the plan year only. The variances used to determine significant variances are provided separately. The variances above and the significant variances use different calculations to determine variances on an annual basis and over the three-year term, respectively.

**Cost-Effectiveness, Three-Year Total
2019-2021 Total Resource Cost Test (2019\$)**

Cape Light Compact
June 4, 2021

2019 Evaluated Total Resource Cost Test (2019\$)							
Program	Benefit-Cost Ratio	Net Benefits	Total TRC Test Benefits	Costs			
				Total Program Costs	Performance Incentive	Participant Costs	Total TRC Test Costs
A - Residential	1.90	33,107,847	69,924,819	29,571,652	-	7,245,320	36,816,972
A1 - Residential New Buildings	2.29	1,917,596	3,405,064	958,135	-	529,332	1,487,467
A1a - Residential New Homes & Renovations	2.29	1,917,596	3,405,064	958,135	-	529,332	1,487,467
A2 - Residential Existing Buildings	2.07	34,345,854	66,519,755	25,457,914	-	6,715,987	32,173,901
A2a - Residential Coordinated Delivery	2.31	27,459,565	48,351,952	16,089,258	-	4,803,128	20,892,387
A2b - Residential Conservation Services (RCS)	0.00	(2,031,757)	-	2,031,757	-	-	2,031,757
A2c - Residential Retail	2.09	9,439,215	18,093,913	6,741,839	-	1,912,859	8,654,698
A2d - Residential Behavior	0.12	(521,169)	73,890	595,059	-	-	595,059
A2e - Residential Active Demand Reduction		-	-	-	-	-	-
A3 - Residential Hard-to-Measure	0.00	(3,155,604)	-	3,155,604	-	-	3,155,604
B - Income Eligible	1.83	3,128,043	6,885,827	3,757,783	-	-	3,757,783
B1 - Income Eligible Existing Buildings	1.91	3,283,106	6,885,827	3,602,721	-	-	3,602,721
B1a - Income Eligible Coordinated Delivery	1.91	3,283,106	6,885,827	3,602,721	-	-	3,602,721
B1b - Income Eligible Active Demand Reduction		-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	0.00	(155,063)	-	155,063	-	-	155,063
C - Commercial & Industrial	2.50	15,301,346	25,502,997	9,219,403	-	982,248	10,201,651
C1 - C&I New Buildings	4.64	1,653,671	2,107,388	342,308	-	111,408	453,716
C1a - C&I New Buildings & Major Renovations	4.64	1,653,671	2,107,388	342,308	-	111,408	453,716
C2 - C&I Existing Buildings	2.59	14,365,762	23,395,609	8,159,007	-	870,839	9,029,847
C2a - C&I Existing Building Retrofit	2.31	10,793,479	19,041,360	7,353,090	-	894,790	8,247,880
C2b - C&I New & Replacement Equipment	5.57	3,572,283	4,354,249	805,917	-	(23,951)	781,966
C2c - C&I Active Demand Reduction		-	-	-	-	-	-
C3 - C&I Hard-to-Measure	0.00	(718,087)	-	718,087	-	-	718,087
Grand Total	2.01	51,537,237	102,313,642	42,548,838	-	8,227,567	50,776,406

**Cost-Effectiveness, Three-Year Total
2019-2021 Total Resource Cost Test (2019\$)**

Cape Light Compact
June 4, 2021

2020 Evaluated Total Resource Cost Test (2019\$)							
Program	Benefit-Cost Ratio	Net Benefits	Total TRC Test Benefits	Costs			
				Total Program Costs	Performance Incentive	Participant Costs	Total TRC Test Costs
A - Residential	1.42	18,422,816	61,904,103	27,909,546	-	15,571,741	43,481,287
A1 - Residential New Buildings	2.30	2,030,645	3,597,426	1,121,509	-	445,272	1,566,781
A1a - Residential New Homes & Renovations	2.30	2,030,645	3,597,426	1,121,509	-	445,272	1,566,781
A2 - Residential Existing Buildings	1.53	20,079,470	58,306,677	23,100,737	-	15,126,470	38,227,207
A2a - Residential Coordinated Delivery	2.06	17,881,796	34,807,626	13,765,240	-	3,160,591	16,925,830
A2b - Residential Conservation Services (RCS)	0.00	(1,546,403)	-	1,546,403	-	-	1,546,403
A2c - Residential Retail	1.24	4,563,937	23,477,921	6,948,105	-	11,965,879	18,913,984
A2d - Residential Behavior	0.03	(678,577)	21,130	699,707	-	-	699,707
A2e - Residential Active Demand Reduction	0.00	(141,282)	-	141,282	-	-	141,282
A3 - Residential Hard-to-Measure	0.00	(3,687,300)	-	3,687,300	-	-	3,687,300
B - Income Eligible	1.49	1,174,043	3,574,160	2,400,117	-	-	2,400,117
B1 - Income Eligible Existing Buildings	1.65	1,414,248	3,574,160	2,159,912	-	-	2,159,912
B1a - Income Eligible Coordinated Delivery	1.65	1,414,248	3,574,160	2,159,912	-	-	2,159,912
B1b - Income Eligible Active Demand Reduction		-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	0.00	(240,205)	-	240,205	-	-	240,205
C - Commercial & Industrial	3.02	21,251,360	31,764,834	9,068,054	-	1,445,420	10,513,474
C1 - C&I New Buildings	1.72	726,514	1,738,638	268,524	-	743,599	1,012,124
C1a - C&I New Buildings & Major Renovations	1.72	726,514	1,738,638	268,524	-	743,599	1,012,124
C2 - C&I Existing Buildings	3.52	21,505,716	30,026,196	7,818,659	-	701,821	8,520,480
C2a - C&I Existing Building Retrofit	2.15	7,452,338	13,951,131	5,616,903	-	881,890	6,498,793
C2b - C&I New & Replacement Equipment	9.18	14,017,758	15,731,259	1,893,571	-	(180,069)	1,713,502
C2c - C&I Active Demand Reduction	1.12	35,620	343,806	308,186	-	-	308,186
C3 - C&I Hard-to-Measure	0.00	(980,870)	-	980,870	-	-	980,870
Grand Total	1.72	40,848,219	97,243,097	39,377,716	-	17,017,161	56,394,878

**Cost-Effectiveness, Three-Year Total
2019-2021 Total Resource Cost Test (2019\$)**

Cape Light Compact
June 4, 2021

2021 Planned Total Resource Cost Test (2019\$)							
Program	Benefit-Cost Ratio	Net Benefits	Total TRC Test Benefits	Costs			
				Total Program Costs	Performance Incentive	Participant Costs	Total TRC Test Costs
A - Residential	2.28	37,603,524	67,062,991	22,512,972	-	6,946,495	29,459,467
A1 - Residential New Buildings	5.02	5,573,137	6,959,008	984,035	-	401,836	1,385,871
A1a - Residential New Homes & Renovations	5.02	5,573,137	6,959,008	984,035	-	401,836	1,385,871
A2 - Residential Existing Buildings	2.40	35,028,968	60,103,983	18,530,357	-	6,544,659	25,075,015
A2a - Residential Coordinated Delivery	2.71	24,622,206	39,062,472	10,714,694	-	3,725,572	14,440,266
A2b - Residential Conservation Services (RCS)	0.00	(1,850,330)	-	1,850,330	-	-	1,850,330
A2c - Residential Retail	2.44	11,051,353	18,722,333	4,851,893	-	2,819,087	7,670,980
A2d - Residential Behavior	2.20	777,514	1,425,325	647,812	-	-	647,812
A2e - Residential Active Demand Reduction	1.92	428,226	893,853	465,628	-	-	465,628
A3 - Residential Hard-to-Measure	0.00	(2,998,581)	-	2,998,581	-	-	2,998,581
B - Income Eligible	2.13	5,380,515	10,155,851	4,775,336	-	-	4,775,336
B1 - Income Eligible Existing Buildings	2.23	5,604,271	10,155,851	4,551,580	-	-	4,551,580
B1a - Income Eligible Coordinated Delivery	2.23	5,604,271	10,155,851	4,551,580	-	-	4,551,580
B1b - Income Eligible Active Demand Reduction		-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	0.00	(223,755)	-	223,755	-	-	223,755
C - Commercial & Industrial	3.68	48,854,526	67,059,186	16,719,153	-	1,485,508	18,204,660
C1 - C&I New Buildings	3.45	1,648,199	2,321,632	613,109	-	60,324	673,433
C1a - C&I New Buildings & Major Renovations	3.45	1,648,199	2,321,632	613,109	-	60,324	673,433
C2 - C&I Existing Buildings	3.85	47,901,143	64,737,554	15,411,227	-	1,425,184	16,836,411
C2a - C&I Existing Building Retrofit	3.75	37,533,324	51,185,761	12,481,606	-	1,170,831	13,652,437
C2b - C&I New & Replacement Equipment	2.45	2,107,213	3,560,265	1,198,699	-	254,353	1,453,051
C2c - C&I Active Demand Reduction	5.77	8,260,606	9,991,528	1,730,922	-	-	1,730,922
C3 - C&I Hard-to-Measure	0.00	(694,816)	-	694,816	-	-	694,816
Grand Total	2.75	91,838,565	144,278,028	44,007,460	-	8,432,002	52,439,463

Cost-Effectiveness, Three-Year Total
2019-2021 Total Resource Cost Test (2019\$)

Cape Light Compact
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2019-2021 Total Resource Cost Test (2019\$)							
Program	Benefit-Cost Ratio	Net Benefits	Total TRC Test Benefits	Costs			
				Total Program Costs	Performance Incentive	Participant Costs	Total TRC Test Costs
A - Residential	1.81	89,134,187	198,891,912	79,994,170	-	29,763,556	109,757,725
A1 - Residential New Buildings	3.14	9,521,378	13,961,497	3,063,679	-	1,376,440	4,440,119
A1a - Residential New Homes & Renovations	3.14	9,521,378	13,961,497	3,063,679	-	1,376,440	4,440,119
A2 - Residential Existing Buildings	1.94	89,454,292	184,930,415	67,089,007	-	28,387,116	95,476,123
A2a - Residential Coordinated Delivery	2.34	69,963,567	122,222,050	40,569,192	-	11,689,291	52,258,483
A2b - Residential Conservation Services (RCS)	0.00	(5,428,490)	-	5,428,490	-	-	5,428,490
A2c - Residential Retail	1.71	25,054,504	60,294,167	18,541,837	-	16,697,825	35,239,662
A2d - Residential Behavior	0.78	(422,232)	1,520,345	1,942,578	-	-	1,942,578
A2e - Residential Active Demand Reduction	1.47	286,944	893,853	606,909	-	-	606,909
A3 - Residential Hard-to-Measure	0.00	(9,841,484)	-	9,841,484	-	-	9,841,484
B - Income Eligible	1.89	9,682,602	20,615,838	10,933,236	-	-	10,933,236
B1 - Income Eligible Existing Buildings	2.00	10,301,625	20,615,838	10,314,213	-	-	10,314,213
B1a - Income Eligible Coordinated Delivery	2.00	10,301,625	20,615,838	10,314,213	-	-	10,314,213
B1b - Income Eligible Active Demand Reduction		-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	0.00	(619,023)	-	619,023	-	-	619,023
C - Commercial & Industrial	3.19	85,407,233	124,327,017	35,006,609	-	3,913,175	38,919,785
C1 - C&I New Buildings	2.88	4,028,385	6,167,658	1,223,942	-	915,331	2,139,273
C1a - C&I New Buildings & Major Renovations	2.88	4,028,385	6,167,658	1,223,942	-	915,331	2,139,273
C2 - C&I Existing Buildings	3.44	83,772,622	118,159,359	31,388,894	-	2,997,844	34,386,738
C2a - C&I Existing Building Retrofit	2.96	55,779,142	84,178,252	25,451,599	-	2,947,511	28,399,110
C2b - C&I New & Replacement Equipment	5.99	19,697,254	23,645,774	3,898,187	-	50,333	3,948,520
C2c - C&I Active Demand Reduction	5.07	8,296,226	10,335,334	2,039,108	-	-	2,039,108
C3 - C&I Hard-to-Measure	0.00	(2,393,774)	-	2,393,774	-	-	2,393,774
Grand Total	2.15	184,224,021	343,834,767	125,934,015	-	33,676,731	159,610,746

Notes

- Costs and benefits for each year are presented in real dollars (2019\$).
- The Total TRC Costs are the sum of the Total Program Costs, Performance Incentives, and Participant Costs.

Core Initiatives, Plan Year Summary

Residential Programs

Cape Light Compact

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A1 - Residential New Buildings, 2019 Summary							
A1a - Residential New Homes & Renovations							
Metric	Units	Planned	Preliminary	Evaluated	Plan v Preliminary	Plan v Evaluated	Preliminary v Evaluated
Annual Energy	MWh	1,008	1,472	887	46%	-12%	-40%
Lifetime Energy	MWh	13,850	31,449	15,888	127%	15%	-49%
Annual Natural Gas	Therms	-	-	-			
Lifetime Natural Gas	Therms	-	-	-			
Total Benefits	2019\$	6,779,002	6,775,875	3,597,426	0%	-47%	-47%
Total Program Costs	nominal\$	975,692	1,147,640	1,147,640	18%	18%	0%
Total Resource Costs	2019\$	1,409,001	1,603,287	1,603,287	14%	14%	0%
Benefit Cost Ratio	B/C	4.92	4.32	2.30	-12%	-53%	-47%

A2 - Residential Existing Buildings, 2019 Summary							
A2a - Residential Coordinated Delivery							
Metric	Units	Planned	Preliminary	Evaluated	Plan v Preliminary	Plan v Evaluated	Preliminary v Evaluated
Annual Energy	MWh	5,777	6,150	5,378	6%	-7%	-13%
Lifetime Energy	MWh	43,434	36,569	34,342	-16%	-21%	-6%
Annual Natural Gas	Therms	232,334	200,634	195,463	-14%	-16%	-3%
Lifetime Natural Gas	Therms	4,973,736	4,102,613	4,099,354	-18%	-18%	0%
Total Benefits	2019\$	38,373,686	35,234,862	34,807,626	-8%	-9%	-1%
Total Program Costs	nominal\$	10,966,175	14,085,970	14,085,970	28%	28%	0%
Total Resource Costs	2019\$	14,643,776	17,320,202	17,320,202	18%	18%	0%
Benefit Cost Ratio	B/C	2.68	2.08	2.06	-22%	-23%	-1%

A2c - Residential Retail							
Metric	Units	Planned	Preliminary	Evaluated	Plan v Preliminary	Plan v Evaluated	Preliminary v Evaluated
Annual Energy	MWh	6,060	7,982	8,088	32%	33%	1%
Lifetime Energy	MWh	24,117	35,195	33,823	46%	40%	-4%
Annual Natural Gas	Therms	(64,132)	(69,060)	(69,060)	8%	8%	0%
Lifetime Natural Gas	Therms	(320,102)	(150,300)	(123,347)	-53%	-61%	-18%
Total Benefits	2019\$	22,521,775	25,461,595	23,477,921	13%	4%	-8%
Total Program Costs	nominal\$	6,035,629	7,109,996	7,109,996	18%	18%	0%
Total Resource Costs	2019\$	9,233,856	19,354,680	19,354,680	110%	110%	0%
Benefit Cost Ratio	B/C	2.50	1.35	1.24	-46%	-50%	-8%

A2d - Residential Behavior							
Metric	Units	Planned	Preliminary	Evaluated	Plan v Preliminary	Plan v Evaluated	Preliminary v Evaluated
Annual Energy	MWh	6,656	15	15	-100%	-100%	0%
Lifetime Energy	MWh	6,656	15	15	-100%	-100%	0%
Annual Natural Gas	Therms	-	-	-			
Lifetime Natural Gas	Therms	-	-	-			
Total Benefits	2019\$	1,264,581	21,087	21,130	-98%	-98%	0%
Total Program Costs	nominal\$	730,438	716,010	716,010	-2%	-2%	0%
Total Resource Costs	2019\$	730,438	716,010	716,010	-2%	-2%	0%
Benefit Cost Ratio	B/C	1.77	0.03	0.03	-98%	-98%	0%

A2e - Residential Active Demand Reduction							
Metric	Units	Planned	Preliminary	Evaluated	Plan v Preliminary	Plan v Evaluated	Preliminary v Evaluated
Annual Energy	MWh	-	-	-			
Lifetime Energy	MWh	-	-	-			
Annual Natural Gas	Therms	-	-	-			
Lifetime Natural Gas	Therms	-	-	-			
Total Benefits	2019\$	578,543	-	-	-100%	-100%	
Total Program Costs	nominal\$	417,814	144,574	144,574	-65%	-65%	0%
Total Resource Costs	2019\$	417,814	144,574	144,574	-65%	-65%	0%
Benefit Cost Ratio	B/C	1.42	-	-	-100%	-100%	

Core Initiatives, Plan Year Summary

Income Eligible Programs

Cape Light Compact

June 4, 2021

B1 - Income Eligible Existing Buildings, 2019 Summary							
B1a - Income Eligible Coordinated Delivery							
Metric	Units	Planned	Preliminary	Evaluated	Plan v Preliminary	Plan v Evaluated	Preliminary v Evaluated
Annual Energy	MWh	2,143	1,072	1,112	-50%	-48%	4%
Lifetime Energy	MWh	17,603	5,986	5,773	-66%	-67%	-4%
Annual Natural Gas	Therms	-	-	-			
Lifetime Natural Gas	Therms	-	-	-			
Total Benefits	2019\$	9,809,568	4,101,833	3,574,160	-58%	-64%	-13%
Total Program Costs	nominal\$	4,285,614	2,210,237	2,210,237	-48%	-48%	0%
Total Resource Costs	2019\$	4,285,614	2,210,237	2,210,237	-48%	-48%	0%
Benefit Cost Ratio	B/C	2.34	1.90	1.65	-19%	-29%	-13%

B1b - Income Eligible Active Demand Reduction							
Metric	Units	Planned	Preliminary	Evaluated	Plan v Preliminary	Plan v Evaluated	Preliminary v Evaluated
Annual Energy	MWh	-	-	-			
Lifetime Energy	MWh	-	-	-			
Annual Natural Gas	Therms	-	-	-			
Lifetime Natural Gas	Therms	-	-	-			
Total Benefits	2019\$	-	-	-			
Total Program Costs	nominal\$	-	-	-			
Total Resource Costs	2019\$	-	-	-			
Benefit Cost Ratio	B/C						

Core Initiatives, Plan Year Summary

C&I Programs

Cape Light Compact

June 4, 2021

C1 - C&I New Buildings, 2019 Summary							
C1a - C&I New Buildings & Major Renovations							
Metric	Units	Planned	Preliminary	Evaluated	Plan v Preliminary	Plan v Evaluated	Preliminary v Evaluated
Annual Energy	MWh	985	741	739	-25%	-25%	0%
Lifetime Energy	MWh	17,434	12,446	12,239	-29%	-30%	-2%
Annual Natural Gas	Therms	(2,355)	(1,617)	(1,611)	-31%	-32%	0%
Lifetime Natural Gas	Therms	(43,863)	(30,632)	(30,208)	-30%	-31%	-1%
Total Benefits	2019\$	2,225,554	1,774,438	1,738,638	-20%	-22%	-2%
Total Program Costs	nominal\$	632,111	274,781	274,781	-57%	-57%	0%
Total Resource Costs	2019\$	695,279	1,035,706	1,035,706	49%	49%	0%
Benefit Cost Ratio	B/C	3.28	1.75	1.72	-46%	-48%	-2%

C2 - C&I Existing Buildings, 2019 Summary							
C2a - C&I Existing Building Retrofit							
Metric	Units	Planned	Preliminary	Evaluated	Plan v Preliminary	Plan v Evaluated	Preliminary v Evaluated
Annual Energy	MWh	13,963	6,408	6,170	-54%	-56%	-4%
Lifetime Energy	MWh	164,470	71,354	62,813	-57%	-62%	-12%
Annual Natural Gas	Therms	(59,152)	(26,937)	(25,688)	-54%	-57%	-5%
Lifetime Natural Gas	Therms	(634,531)	(282,818)	(254,485)	-55%	-60%	-10%
Total Benefits	2019\$	50,753,049	15,204,236	13,951,131	-70%	-73%	-8%
Total Program Costs	nominal\$	12,631,085	5,747,777	5,747,777	-54%	-54%	0%
Total Resource Costs	2019\$	13,715,960	6,650,215	6,650,215	-52%	-52%	0%
Benefit Cost Ratio	B/C	3.79	2.34	2.15	-38%	-43%	-8%

C2b - C&I New & Replacement Equipment							
Metric	Units	Planned	Preliminary	Evaluated	Plan v Preliminary	Plan v Evaluated	Preliminary v Evaluated
Annual Energy	MWh	2,192	13,749	14,269	527%	551%	4%
Lifetime Energy	MWh	20,133	191,709	195,330	852%	870%	2%
Annual Natural Gas	Therms	(1,240)	(716,500)	(716,500)	57669%	57669%	0%
Lifetime Natural Gas	Therms	(9,632)	(10,735,224)	(10,735,224)	111353%	111353%	0%
Total Benefits	2019\$	3,994,141	15,452,966	15,731,259	287%	294%	2%
Total Program Costs	nominal\$	1,433,032	1,937,691	1,937,691	35%	35%	0%
Total Resource Costs	2019\$	1,705,748	1,753,426	1,753,426	3%	3%	0%
Benefit Cost Ratio	B/C	2.40	9.02	9.18	276%	283%	2%

C2c - C&I Active Demand Reduction							
Metric	Units	Planned	Preliminary	Evaluated	Plan v Preliminary	Plan v Evaluated	Preliminary v Evaluated
Annual Energy	MWh	-	-	-			
Lifetime Energy	MWh	-	-	-			
Annual Natural Gas	Therms	-	-	-			
Lifetime Natural Gas	Therms	-	-	-			
Total Benefits	2019\$	5,793,324	422,931	343,806	-93%	-94%	-19%
Total Program Costs	nominal\$	1,217,664	315,366	315,366	-74%	-74%	0%
Total Resource Costs	2019\$	1,217,664	315,366	315,366	-74%	-74%	0%
Benefit Cost Ratio	B/C	4.87	1.37	1.12	-72%	-77%	-19%

Core Initiatives, Three-Year Total

Residential Programs

Cape Light Compact

June 4, 2021

A1 - Residential New Buildings, 2019-2021 Summary					
A1a - Residential New Homes & Renovations					
Metric	Units	2019 Evaluated	2020 Evaluated	2021 Planned	2019-2021 Total
Annual Energy	MWh	1,006	887	935	2,828
Lifetime Energy	MWh	17,639	15,888	13,395	46,922
Annual Natural Gas	Therms	-	-	-	-
Lifetime Natural Gas	Therms	-	-	-	-
Total Benefits	2019\$	3,405,064	3,597,426	6,959,008	13,961,497
Total Program Costs	nominal\$	958,135	1,147,640	1,030,425	3,136,200
Total Resource Costs	2019\$	1,487,467	1,603,287	1,451,205	4,541,959
Benefit Cost Ratio	B/C	2.29	2.30	5.02	3.07

A2 - Residential Existing Buildings, 2019-2021 Summary					
A2a - Residential Coordinated Delivery					
Metric	Units	2019 Evaluated	2020 Evaluated	2021 Planned	2019-2021 Total
Annual Energy	MWh	10,560	5,378	4,671	20,609
Lifetime Energy	MWh	80,086	34,342	45,461	159,888
Annual Natural Gas	Therms	240,801	195,463	231,181	667,445
Lifetime Natural Gas	Therms	4,961,384	4,099,354	4,956,447	14,017,186
Total Benefits	2019\$	48,351,952	34,807,626	39,062,472	122,222,050
Total Program Costs	nominal\$	16,089,258	14,085,970	11,219,816	41,395,044
Total Resource Costs	2019\$	20,892,387	17,320,202	15,121,022	53,333,611
Benefit Cost Ratio	B/C	2.31	2.06	2.71	2.29

A2c - Residential Retail					
Metric	Units	2019 Evaluated	2020 Evaluated	2021 Planned	2019-2021 Total
Annual Energy	MWh	13,073	8,088	2,452	23,613
Lifetime Energy	MWh	54,817	33,823	(290)	88,350
Annual Natural Gas	Therms	(124,725)	(69,060)	(27,968)	(221,753)
Lifetime Natural Gas	Therms	(348,408)	(123,347)	(110,793)	(582,548)
Total Benefits	2019\$	18,093,913	23,477,921	18,722,333	60,294,167
Total Program Costs	nominal\$	6,741,839	7,109,996	5,080,625	18,932,461
Total Resource Costs	2019\$	8,654,698	19,354,680	8,032,612	36,041,990
Benefit Cost Ratio	B/C	2.09	1.24	2.44	1.67

A2d - Residential Behavior					
Metric	Units	2019 Evaluated	2020 Evaluated	2021 Planned	2019-2021 Total
Annual Energy	MWh	253	15	7,488	7,756
Lifetime Energy	MWh	253	15	7,488	7,756
Annual Natural Gas	Therms	-	-	-	-
Lifetime Natural Gas	Therms	-	-	-	-
Total Benefits	2019\$	73,890	21,130	1,425,325	1,520,345
Total Program Costs	nominal\$	595,059	716,010	678,351	1,989,421
Total Resource Costs	2019\$	595,059	716,010	678,351	1,989,421
Benefit Cost Ratio	B/C	0.12	0.03	2.20	0.76

A2e - Residential Active Demand Reduction					
Metric	Units	2019 Evaluated	2020 Evaluated	2021 Planned	2019-2021 Total
Annual Energy	MWh	-	-	(2)	(2)
Lifetime Energy	MWh	-	-	(2)	(2)
Annual Natural Gas	Therms	-	-	-	-
Lifetime Natural Gas	Therms	-	-	-	-
Total Benefits	2019\$	-	-	893,853	893,853
Total Program Costs	nominal\$	-	144,574	487,579	632,152
Total Resource Costs	2019\$	-	144,574	487,579	632,152
Benefit Cost Ratio	B/C	-	-	1.92	1.41

Core Initiatives, Three-Year Total

Income Eligible Programs

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B1 - Income Eligible Existing Buildings, 2019-2021 Summary					
B1a - Income Eligible Coordinated Delivery					
Metric	Units	2019 Evaluated	2020 Evaluated	2021 Planned	2019-2021 Total
Annual Energy	MWh	2,075	1,112	2,056	5,242
Lifetime Energy	MWh	15,200	5,773	18,144	39,117
Annual Natural Gas	Therms	-	-	-	-
Lifetime Natural Gas	Therms	-	-	-	-
Total Benefits	2019\$	6,885,827	3,574,160	10,155,851	20,615,838
Total Program Costs	nominal\$	3,602,721	2,210,237	4,766,155	10,579,113
Total Resource Costs	2019\$	3,602,721	2,210,237	4,766,155	10,579,113
Benefit Cost Ratio	B/C	1.91	1.65	2.23	1.95

B1b - Income Eligible Active Demand Reduction					
Metric	Units	2019 Evaluated	2020 Evaluated	2021 Planned	2019-2021 Total
Annual Energy	MWh		-	-	-
Lifetime Energy	MWh		-	-	-
Annual Natural Gas	Therms				-
Lifetime Natural Gas	Therms				-
Total Benefits	2019\$	-	-	-	-
Total Program Costs	nominal\$	-	-	-	-
Total Resource Costs	2019\$	-	-	-	-
Benefit Cost Ratio	B/C				#DIV/0!

Core Initiatives, Three-Year Total

C&I Programs

Cape Light Compact

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C1 - C&I New Buildings, 2019-2021 Summary					
C1a - C&I New Buildings & Major Renovations					
Metric	Units	2019 Evaluated	2020 Evaluated	2021 Planned	2019-2021 Total
Annual Energy	MWh	859	739	1,026	2,625
Lifetime Energy	MWh	14,917	12,239	18,260	45,417
Annual Natural Gas	Therms	(2,205)	(1,611)	(2,471)	(6,287)
Lifetime Natural Gas	Therms	(39,619)	(30,208)	(46,191)	(116,018)
Total Benefits	2019\$	2,107,388	1,738,638	2,321,632	6,167,658
Total Program Costs	nominal\$	342,308	274,781	642,013	1,259,102
Total Resource Costs	2019\$	453,716	1,035,706	705,181	2,194,603
Benefit Cost Ratio	B/C	4.64	1.72	3.45	2.81

C2 - C&I Existing Buildings, 2019-2021 Summary					
C2a - C&I Existing Building Retrofit					
Metric	Units	2019 Evaluated	2020 Evaluated	2021 Planned	2019-2021 Total
Annual Energy	MWh	8,378	6,170	14,082	28,630
Lifetime Energy	MWh	92,771	62,813	160,532	316,115
Annual Natural Gas	Therms	(30,909)	(25,688)	(60,067)	(116,663)
Lifetime Natural Gas	Therms	(324,168)	(254,485)	(601,289)	(1,179,942)
Total Benefits	2019\$	19,041,360	13,951,131	51,185,761	84,178,252
Total Program Costs	nominal\$	7,353,090	5,747,777	13,070,025	26,170,892
Total Resource Costs	2019\$	8,247,880	6,650,215	14,296,053	29,194,148
Benefit Cost Ratio	B/C	2.31	2.15	3.75	2.88

C2b - C&I New & Replacement Equipment					
Metric	Units	2019 Evaluated	2020 Evaluated	2021 Planned	2019-2021 Total
Annual Energy	MWh	2,432	14,269	1,979	18,679
Lifetime Energy	MWh	25,187	195,330	17,924	238,441
Annual Natural Gas	Therms	(1,595)	(716,500)	(1,043)	(719,138)
Lifetime Natural Gas	Therms	(14,053)	(10,735,224)	(7,621)	(10,756,897)
Total Benefits	2019\$	4,354,249	15,731,259	3,560,265	23,645,774
Total Program Costs	nominal\$	805,917	1,937,691	1,255,209	3,998,817
Total Resource Costs	2019\$	781,966	1,753,426	1,521,553	4,056,945
Benefit Cost Ratio	B/C	5.57	9.18	2.45	5.83

C2c - C&I Active Demand Reduction					
Metric	Units	2019 Evaluated	2020 Evaluated	2021 Planned	2019-2021 Total
Annual Energy	MWh		(0)	(16)	(16)
Lifetime Energy	MWh		(0)	(16)	(16)
Annual Natural Gas	Therms				-
Lifetime Natural Gas	Therms				-
Total Benefits	2019\$	-	343,806	9,991,528	10,335,334
Total Program Costs	nominal\$	-	315,366	1,812,523	2,127,889
Total Resource Costs	2019\$	-	315,366	1,812,523	2,127,889
Benefit Cost Ratio	B/C		1.12	5.77	4.86

Greenhouse Gas Reductions, Plan Year Summary

GHG reductions are provided for information purposes only. They are not included in the TRC test.

Cape Light Compact

June 4, 2021

2020 Planned Greenhouse Gas Reductions							
Sector	Adjusted Gross Annual Savings				Annual Emissions Reductions (Short Tons)		
	Electric Energy (MWh)	Natural Gas (Therm)	Oil (MMBTU)	Propane (MMBTU)	NOX	SO2	CO2
A - Residential	33,127	5,701	35,199	16,165	5.45	1.41	20,363
B - Income Eligible	2,143	-	4,351	904	0.35	0.09	1,473
C - Commercial & Industrial	19,385	(68,847)	(5,294)	32	3.19	0.82	8,749
Grand Total	54,655	(63,146)	34,256	17,101	8.98	2.32	30,584

2020 Evaluated Greenhouse Gas Reductions							
Sector	Adjusted Gross Annual Savings				Annual Emissions Reductions (Short Tons)		
	Electric Energy (MWh)	Natural Gas (Therm)	Oil (MMBTU)	Propane (MMBTU)	NOX	SO2	CO2
A - Residential	28,389	(31,373)	26,288	15,475	4.67	1.20	17,039
B - Income Eligible	1,112	-	1,621	331	0.18	0.05	703
C - Commercial & Industrial	24,675	(826,236)	(2,152)	26	4.06	1.05	7,184
Grand Total	54,176	(857,609)	25,756	15,833	8.90	2.30	24,926

2020 Planned v. Evaluated Greenhouse Gas Reductions Variances (%)							
Sector	Adjusted Gross Annual Savings				Annual Emissions Reductions (Short Tons)		
	Electric Energy (MWh)	Natural Gas (Therm)	Oil (MMBTU)	Propane (MMBTU)	NOX	SO2	CO2
A - Residential	-14%	-650%	-25%	-4%	-14%	-14%	-16%
B - Income Eligible	-48%		-63%	-63%	-48%	-48%	-52%
C - Commercial & Industrial	27%	1100%	-59%	-19%	27%	27%	-18%
Grand Total	-1%	1258%	-25%	-7%	-1%	-1%	-18%

Notes

The Program Administrators have worked with the Department of Environmental Protection ("DEP") to properly capture the full impact of energy efficiency measures on GHG emissions. These reductions are calculated using factors prepared by DEP, which are based on adjusted gross annual electric energy, natural gas, oil, and propane savings. For projected emissions reductions in future years for the electric sector, Program Administrators are using values that are consistent with the values used in the Massachusetts Clean Energy and Climate Plan for 2020, as provided by DEP.

Greenhouse Gas Reductions, Three-Year Total

GHG reductions are provided for information purposes only. They are not included in the TRC test.

Cape Light Compact

June 4, 2021

2019 Evaluated Greenhouse Gas Reductions							
Sector	Adjusted Gross Annual Savings				Annual Emissions Reductions (Short Tons)		
	Electric Energy (MWh)	Natural Gas (Therm)	Oil (MMBTU)	Propane (MMBTU)	NOX	SO2	CO2
A - Residential	43,922	(113,204)	14,554	7,201	7.22	1.86	22,711
B - Income Eligible	2,075	-	2,460	494	0.34	0.09	1,258
C - Commercial & Industrial	13,199	(37,722)	(2,317)	50	2.17	0.56	6,116
Grand Total	59,196	(150,926)	14,697	7,745	9.73	2.51	30,085

2020 Evaluated Greenhouse Gas Reductions							
Sector	Adjusted Gross Annual Savings				Annual Emissions Reductions (Short Tons)		
	Electric Energy (MWh)	Natural Gas (Therm)	Oil (MMBTU)	Propane (MMBTU)	NOX	SO2	CO2
A - Residential	28,389	(31,373)	26,288	15,475	4.67	1.20	17,039
B - Income Eligible	1,112	-	1,621	331	0.18	0.05	703
C - Commercial & Industrial	24,675	(826,236)	(2,152)	26	4.06	1.05	7,184
Grand Total	54,176	(857,609)	25,756	15,833	8.90	2.30	24,926

2021 Planned Greenhouse Gas Reductions							
Sector	Adjusted Gross Annual Savings				Annual Emissions Reductions (Short Tons)		
	Electric Energy (MWh)	Natural Gas (Therm)	Oil (MMBTU)	Propane (MMBTU)	NOX	SO2	CO2
A - Residential	24,569	94,462	40,372	18,131	4.04	1.04	17,209
B - Income Eligible	2,056	-	4,512	930	0.34	0.09	1,444
C - Commercial & Industrial	19,549	(69,894)	(5,322)	32	3.21	0.83	8,821
Grand Total	46,173	24,567	39,562	19,093	7.59	1.96	27,474

2019-2021 Greenhouse Gas Reductions							
Sector	Adjusted Gross Annual Savings				Annual Emissions Reductions (Short Tons)		
	Electric Energy (MWh)	Natural Gas (Therm)	Oil (MMBTU)	Propane (MMBTU)	NOX	SO2	CO2
A - Residential	96,880	(50,115)	81,213	40,808	15.92	4.11	56,959
B - Income Eligible	5,242	-	8,592	1,756	0.86	0.22	3,405
C - Commercial & Industrial	57,423	(933,852)	(9,791)	108	9.44	2.44	22,122
Grand Total	159,545	(983,968)	80,015	42,671	26.22	6.77	82,485

Notes

The Program Administrators have worked with the Department of Environmental Protection ("DEP") to properly capture the full impact of energy efficiency measures on GHG emissions. These reductions are calculated using factors prepared by DEP, which are based on adjusted gross annual electric energy, natural gas, oil, and propane savings. For projected emissions reductions in future years for the electric sector, Program Administrators are using values that are consistent with the values used in the Massachusetts Clean Energy and Climate Plan for 2020, as provided by DEP.

Calculated Fields

Formulas used in pivot tables

Cape Light Compact

June 4, 2021

Field	Formula
B/C Ratio	= 'Total Benefits ' / 'Total Resource Costs (First Yr\$)'
Net Benefits	= 'Total Benefits ' - 'Total Resource Costs (First Yr\$)'
Avg Measure Life	= ROUND('Net Lifetime Electric Energy (MWh) No FS or DR' / 'Net Annual Electric Energy (MWh) No FS or DR', 0)
PA Budget (First Yr\$)	= 'Total Program Costs (First Yr\$)' + 'Performance Incentive (First Yr\$)'
Summer Cost (TRC Cost First Yr\$/Summer kW)	= 'Total Resource Costs (First Yr\$)' / 'Net Summer Capacity (kW)'
Energy Cost (TRC Cost First Yr\$/Annual MWh)	= 'Total Program Costs (First Yr\$)' / 'Net Annual Electric Energy (MWh)'
Natural Gas Costs (PA Cost First Yr\$/Annual Therm)	= 'PA Budget (First Yr\$)' / 'Net Annual Natural Gas (Therms)'
Summer Cost (PA Cost First Yr\$/Summer kW)	= 'PA Budget (First Yr\$)' / 'Net Summer Capacity (kW)'
Energy Cost (PA Cost First Yr\$/Annual MWh)	= 'PA Budget (First Yr\$)' / 'Net Annual Electric Energy (MWh)'
Natural Gas Costs (TRC Cost First Yr\$/Annual Therm)	= 'Total Program Costs (First Yr\$)' / 'Net Annual Natural Gas (Therms)'
Total Savings Cost (PA Cost First Yr\$/Annual MMBTU)	= 'PA Budget (First Yr\$)' / 'Total Net Annual Adjusted (MMBTU)'
Total Savings Cost (TRC Cost First Yr\$/Annual MMBTU)	= 'Total Resource Costs (First Yr\$)' / 'Total Net Annual Adjusted (MMBTU)'
Total PA Budget (Programs + PI + Benefit Burden)	= 'Total Program Costs' + 'Performance Incentive' + 'Benefit Burden'
Total Resource Benefits per Participant	= 'Total Resource Benefits' / 'Participants'
Total PA Budget	= 'Total Program Costs' + 'Performance Incentive'
Program Cost per Participant	= 'Total Program Costs' / 'Participants'
Resource Benefit per Program Cost	= 'Total Resource Benefits' / 'Total Program Costs'

Notes

- The above calculations are used to prepare the previous data tables.
- This table is provided consistent with the Department's directives in D.P.U. 18-110 through D.P.U. 18-119, at 75 to provide a detailed list of calculated fields used in creating the pivot tables.

APPENDIX 1 SIGNIFICANT CORE INITIATIVE VARIANCES & COST-EFFECTIVENESS

The Compact's 2019–2021 Plan referenced in this section excludes the Compact's Cape and Vineyard Electrification Offering ("CVEO"). On October 31, 2018, the Compact, along with the other Massachusetts Program Administrators, submitted its 2019–2021 Three-Year Plan to the Department for review and approval. As part of its 2019–2021 Three-Year Plan, the Compact first proposed CVEO for Department review. CVEO is the Compact's integrated and comprehensive strategic electrification and energy optimization offering that combines home weatherization from the Compact's historically successful energy efficiency programs with three technologies: (1) cold climate air source heat pumps; (2) battery storage; and (3) solar photovoltaic ("PV") arrays. The Department did not approve CVEO as presented in the 2019–2021 Three-Year Plan, but instead invited the Compact to submit a revised proposal for the Department's review and approval after the Compact received approval from the Energy Efficiency Advisory Council ("EEAC") and addressed the issues raised in the Department's order on the Plan. After following the Department's direction, on May 15, 2020, the Compact submitted a revised CVEO proposal and associated budget for the Department's review (see, D.P.U. 20-40). Briefing in that proceeding ended on January 20, 2021. The Compact awaits an order from the Department on this matter.

The Compact routinely incurs costs that it shares between its energy efficiency activities and its non-energy efficiency activities (e.g., its municipal aggregation power supply program). These costs are allocated between the Compact's energy efficiency and its operating budget. In D.P.U. 18-116, the Department placed new reporting requirements on the Compact for costs: (1) shared between its energy efficiency and operating budget, and (2) related to consumer advocacy matters. D.P.U. 18-116, at 142-143. In its 2020 energy efficiency surcharge ("EES") proceeding, D.P.U. 19-136, the Department further investigated the Compact's allocation factors for sharing costs between its operating and energy efficiency budgets. Because the investigation in D.P.U. 19-136 remains open, the Compact is submitting two sets of data tables to provide a complete record. The variance explanations in this Appendix rely on the shared costs allocated using the DPU Factors (Section II, Part A). Only costs are adjusted between the two data sets; savings and benefits are consistent between Section II, Part A, and Part B. Refer to Appendix 6 for more information on shared costs and costs related to consumer advocacy matters.

Please note any deviations from planned values as a result of the COVID-19 pandemic are explained in the subsections below.

Program Administrator-specific narrative explanations for the Compact are as follows.

I. Residential Programs

A. Residential New Buildings

For the Residential New Buildings program, the 2020 actual BCR is 2.30, while the BCR for the three-year term after accounting for actual results from 2019 and 2020 is 3.15.

1. Residential New Homes & Renovations

a. Significant Variances

For this core initiative, actual total benefits were significantly less than planned.

The variance in total benefits is driven by a continuing change in fuel mix for HVAC measures, which despite yielding more than twice the planned lifetime MWh savings, achieved only 84% of planned total benefits. All-electric homes made up a higher proportion of participants than planned, following a trend that began in 2019 and became more pronounced in 2020. HVAC measures drive overall savings and benefits for this program, comprising 78% of planned savings and 90% of planned benefits. Therefore, changes in HVAC measures yield significant variances for the core initiative overall.

The Compact will continue to monitor the measure mix for this core initiative, but at this time does not anticipate any changes to program design or implementation.

Evaluated resource benefits were also significantly lower than preliminary total resource benefits. This decrease represents a reduction in attributable energy savings resulting from two distinct baseline updates from recent evaluation studies.

The 2019 Residential New Construction Baseline and Code Compliance Study (2019 Plan-Year Report D.P.U. 20-50 Appendix 4D, Study 19-27) updated the User Defined Reference Home (“UDRH”) for new low-rise residential buildings. This study found that program homes are significantly more efficient than non-program homes, but the difference between program and non-program homes has decreased since the previous UDRH update in 2016.

The Renovations and Additions Market Characterization and Potential Savings Study (2019 Plan-Year Report D.P.U. 20-50 Appendix 4D, Study 19-6) recommended the program transition from an “existing conditions” baseline for renovations projects to an Industry Standard Practice (or ISP) baseline starting in 2020. For example, instead of using the pre-existing insulation in a home as the baseline condition for calculating savings, the program now assumes the wall cavities in the renovated area of the home would have been filled to code, regardless of the pre-existing insulation. This categorical baseline change has been applied retrospectively to 2020 projects.

In addition, a decrease in measure lives for lighting measures (derived via consensus process) reduced lifetime MWh savings.

b. Cost-Effectiveness

For the Residential New Homes & Renovations core initiative, the 2020 actual BCR is 2.30, while the BCR for the three-year term after accounting for actual results from 2019 and 2020 is 3.15.

B. Residential Existing Buildings

For the Residential Existing Buildings program, the 2020 actual BCR is 1.52, while the BCR for the three-year term after accounting for actual results from 2019 and 2020 is 1.94.

1. Residential Coordinated Delivery

a. Significant Variances

For this core initiative, actual expenditures were significantly higher than planned.

Expenditures in the Residential Coordinated Delivery core initiative were 36% higher than planned. Increased spending was due to higher than planned quantities in every end-use but HVAC. Envelope measures comprise the largest portion of the incentive budget and saw an almost 30% increase from planned quantities in 2020, and an almost 50% increase in spending. A secondary contributor to this variance was higher than planned spending for lighting and process measures. During the 2020 Plan-Year, the Compact increased marketing efforts through print and social media targeting Home Energy Assessments and offered a 100% incentive for recommended weatherization measures. These successful campaigns drove higher than planned program participation and related costs.

The Compact will continue to monitor expenditures in this core initiative but at this time does not anticipate any changes to program design or implementation.

b. Cost-Effectiveness

For the Residential Coordinated Delivery core initiative, the 2020 actual BCR is 2.06, while the BCR for the three-year term after accounting for actual results from 2019 and 2020 is 2.34.

2. Residential Conservation Services

a. Significant Variances

There are no significant variances for this core initiative.

b. Cost-Effectiveness

There are no benefits associated with Residential Conservation Services measures.

3. Residential Retail

a. Significant Variances

There are no significant variances for this core initiative.

b. Cost-Effectiveness

For the Residential Retail core initiative, the 2020 actual BCR is 1.24, while the BCR for the three-year term after accounting for actual results from 2019 and 2020 is 1.71.

4. Residential Behavior

a. Significant Variances

For this core initiative, actual expenditures, lifetime savings, and total benefits were significantly lower than planned.

In 2019, the Compact launched its behavior reports, but due to data issues within the reports, the Compact put the offering on hold. The offering was set to re-launch in the second quarter of 2020; however, the timing of this restart was impacted by the COVID-19 pandemic, and the restart was delayed by a few months. The Compact continues to work with its vendor to address the lower-than-planned values.

b. Cost-Effectiveness

For the Residential Behavior core initiative, the 2020 actual BCR is 0.03, while the BCR for the three-year term after accounting for actual results from 2019 and 2020 is 0.78. The core initiative was not cost-effective in 2019 or 2020 due to the timing and logistical issues identified above. Throughout 2021, the Compact will work with its vendor to try increasing savings and benefits. The Compact is optimistic that the core initiative will be cost-effective over the plan term, despite the low benefit-cost ratio in 2020.

5. Residential Active Demand Reduction

a. Significant Variances

For this core initiative, actual expenditures and total benefits were significantly lower than planned. As noted in the Compact's data tables, total lifetime savings are not calculated for active demand reduction ("ADR") measures. Therefore, a variance for total lifetime savings is not calculated for this core initiative.

The Compact did not offer ADR measures in 2019.² Starting in 2020, the Compact began offering its WIFI Thermostat Direct Load Control offering to residential customers. WIFI thermostats connected to central air conditioning were remotely controlled during times of expected peak load ("DR Events"). As with traditional energy efficiency measures, savings and benefits are driven by the number of participating customers and devices. With ADR, benefits are also driven significantly by the number of DR Events and participant behavior during those events.

Throughout 2020, the Compact successfully enrolled 704 customers in this core initiative's offerings. However, the Compact did not call any DR Events because the Compact's residential demand response vendor was not able to finish setting up the Compact's demand response platform until mid-August, after the last DR Event had been called for 2020. The Compact was unable to enroll customers or call DR Events until the vendor could complete the platform setup. This delay was caused in part by the timing of the DPU's approval of the Compact's DR offerings, which delayed the Compact's ability to contract with the vendor and pushed back the vendor's internal scheduling of the Compact's platform setup. However, the Compact enrolled 1,200 WIFI thermostats in 2020 and has enrolled nearly 1,600 WIFI thermostats to date, positioning the Compact for significantly increased savings in the 2021 demand response season.

The Compact will begin implementing its residential storage DR program in Summer 2021, and already has more than 30 customers signed up to participate. This offering will also increase total savings and benefits for this core initiative.

b. Cost-Effectiveness

The Compact was not able to call any DR Events in 2020 for the Residential ADR core initiative. Therefore, there are no savings or benefits to report, and the Compact cannot calculate a benefit-

² See, D.P.U. 18-116, Order dated February 10, 2020, at 138-140.

cost ratio. The Compact expects to call DR Events and implement its storage offering in 2021, providing savings and benefits within the plan term for this core initiative.

II. Income-Eligible Programs

The 2020 actual low-income expenditures were 46% lower than the 2020 planned low-income budget. Despite lower-than-expected spending in the low-income sector for 2020, the Compact continues to spend a significant amount of its budget on low-income customers. The Compact will continue to work toward spending 10% of total costs on the low-income sector. However, the Compact may not be able to reach that goal for several reasons, as explained below.

The COVID-19 pandemic has severely impacted income-eligible participation rates, which has continued into 2021. A large proportion of the Compact's low-income sector is senior citizens who are particularly vulnerable to COVID-19. As a result, many customers are more reticent to in-person services and less comfortable with remote service alternatives. This is true for both multi-family and single-family opportunities. Several multi-family sites with senior populations continue delaying in-unit work in 2021.

The COVID-19 pandemic also impacted contractor timelines for measure installations. Weatherization contractors are still working through income-eligible jobs that were expected to be completed in 2020. The Compact is also seeing delays for HVAC contractors installing heat pumps and some electrical subcontractors. Not only has the COVID-19 pandemic reduced participation, but it has significantly delayed measure installations as well.

As the Compact ramps up implementation of electrification heat pump projects, it is learning that sometimes additional steps and expenses are needed for a project, especially if the project increases electrical capacity for a site. As a result, some small (i.e., single-family) and large (i.e., multi-family) heat pump retrofit jobs are experiencing longer lead times than planned.

The Compact has historically struggled to meet the statutory requirement to spend 10% of total costs on income-eligible customers. The Compact proposed the Cape and Vineyard Electrification Offering in part to creatively and cost-effectively maximize benefits for this customer sector. CVEO would contribute significantly to the Compact's income-eligible budget, allowing it to meet the spending requirement while providing direct benefits to income-eligible customers. The Compact awaits an order from the Department in this proceeding (see D.P.U. 20-40).

Lastly, the amount the Compact spends on income-eligible customers as a percent of total budget is dependent on the amount it spends in the residential and commercial and industrial ("C&I") sectors. Should those sectors spend less than planned for any reason (e.g., lasting effects from the COVID-19 pandemic, improved cost-effectiveness) then the Compact may be able to achieve the 10% income-eligible spending requirement.

A. Income-Eligible Existing Buildings

For the Income-Eligible Existing Buildings program, the 2020 actual BCR is 1.66, while the BCR for the three-year term after accounting for actual results from 2019 and 2020 is 2.00.

1. Income-Eligible Coordinated Delivery

a. Significant Variances

For this core initiative, actual expenditures, lifetime savings, and total benefits were significantly less than planned.

The primary driver of these variances was reduced program participation beginning in March 2020 due to the COVID-19 pandemic. Measures that required in-person contractor installation were especially impacted, specifically HVAC and envelope measures. Envelope measures had contractor backlogs in the latter half of 2020, exacerbating the delays. In 2020, the Compact installed just 23% of planned HVAC quantities and just 25% of planned envelope measures, but more refrigerators and clothes washers than expected despite appliance shortages. Because HVAC and envelope measures typically have longer measure lives than other measure types, the change in measure mix disproportionately impacted total lifetime savings and benefits, as compared to expenditures. The Compact also saw lower-than-expected lighting installations due to decreasing opportunities in participant households, a trend also continued from 2019.

A secondary driver of reduced HVAC measure quantities and savings was the postponement of a large multi-family heat pump project due to complications over maintenance costs. The Compact remains committed to offering education along with the program offering for future prospective sites. The Compact is working with previously postponed sites on improved system design approaches and maintenance options to allow those projects to move forward in the near future.

Unfortunately, as indicated in prior term reports, opportunities for envelope measures either exist or they do not. Once a home or building is retrofitted, those measures have long lives, and the building does not need upgrades again for quite some time. The Compact will continue to identify and serve any weatherization opportunities available. This ongoing trend in reduced weatherization opportunities was further exacerbated in 2020 by a shortage in available installation contractor resources. Delayed weatherization jobs will continue to take place into 2021.

The Compact still expects to attain its three-year savings goals in this core initiative.

b. Cost-Effectiveness

For the Income-Eligible Coordinated Delivery core initiative, the 2020 actual BCR is 1.66, while the BCR for the three-year term after accounting for actual results from 2019 and 2020 is 2.00.

2. Income-Eligible Active Demand Response

The Compact did not implement any income-eligible ADR measures in 2020, consistent with the 2019–2021 Three-Year Plan. Therefore, there are no significant variances in 2020 for this core initiative, nor are there cost-effectiveness results to report.

III. Commercial Programs

A. C&I New Buildings

For the C&I New Buildings program, the 2020 actual BCR is 1.72, while the BCR for the three-year term after accounting for actual results from 2019 and 2020 is 2.89.

1. C&I New Buildings & Major Renovations

a. Significant Variances

For this core initiative, actual expenditures were significantly lower than planned.

The primary driver for the decrease in spending compared to planned budget is measure mix. The Compact installed more lighting measures as compared to other more expensive measures, such as HVAC. Despite spending less than anticipated, the Compact was able to provide more lifetime electric savings and total benefits as compared to relative expenses.

The nature of new construction is highly variable, and program measure mix relies upon construction choices, which are often outside of the Compact's control. While the Compact spent less on incentives than expected in 2020, there are several projects in the planning stage that could impact the remainder of the Three-Year Plan. It should be noted that the COVID-19 pandemic did have a depressing effect on the construction market and may likely continue to have lingering effects.

b. Cost-Effectiveness

For the C&I New Buildings & Major Renovations core initiative, the 2020 actual BCR is 1.72, while the BCR for the three-year term after accounting for actual results from 2019 and 2020 is 2.89.

B. C&I Existing Buildings

For the C&I Existing Buildings program, the 2020 actual BCR is 3.53, while the BCR for the three-year term after accounting for actual results from 2019 and 2020 is 3.44.

1. C&I Existing Building Retrofit

a. Significant Variances

For this core initiative, actual expenditures, lifetime savings, and total benefits were significantly lower than planned.

The variances in C&I Existing Building Retrofit were due mainly to less-than-expected participation throughout the initiative as a result of the rapid and dramatic impacts of the COVID-19 pandemic. Beyond the inability to access sites to install energy efficiency upgrades, lower load and energy usage attributed to “stay-at-home orders” combined with future economic uncertainty resulted in the COVID-19 pandemic reducing the value and opportunity for customers to invest in energy efficiency. The reduction in total spending, lifetime savings, and total benefits mirrored the lower participation numbers. More specifically, customers had indicated an interest in project implementation in 2020, but the pandemic exacerbated project planning as many efforts were put on hold. The Compact expects these projects will remain in the pipeline for 2021.

Additionally, the Compact anticipated participation from electrically heated multi-family buildings, where envelope measures would have added benefits. There were fewer opportunities here than originally expected, which increased the variance for benefits more than for expenditures or lifetime savings.

Further, benefits were lower than planned due to a data error in the plan for envelope measures in the C&I multi-family sub-initiative. Non-energy benefits were inadvertently determined on a per-quantity basis (e.g., square feet of insulation) rather than the number of participants. This use of incorrect quantities resulted in planned benefits for these measures that were several orders of magnitude greater than they should have been. This issue has been corrected in the preliminary and evaluated models; accordingly, both quantities and total benefits decreased significantly from planned.

b. Cost-Effectiveness

For the C&I Existing Building Retrofit core initiative, the 2020 actual BCR is 2.15, while the BCR for the three-year term after accounting for actual results from 2019 and 2020 is 2.97.

2. C&I New & Replacement Equipment

a. Significant Variances

There are no significant variances for this core initiative.

b. Cost-Effectiveness

For the C&I New & Replacement Equipment core initiative, the 2020 actual BCR is 9.19, while the BCR for the three-year term after accounting for actual results from 2019 and 2020 is 6.00.

3. C&I Active Demand Reduction

a. Significant Variances

For this core initiative, actual expenditures and total benefits were significantly lower than planned, while evaluated total resource benefits were significantly lower than preliminary results. As noted in the Compact's data tables, total lifetime savings are not calculated for ADR measures. Therefore, a variance for total lifetime savings is not calculated for this core initiative.

Throughout 2020, the Compact successfully enrolled 25 customers in this core initiative. Total benefits were lower than planned for several reasons. First, the Compact overestimated C&I demand response participation due to the Compact's lack of prior experience with C&I demand response planning. Because the Compact had no prior C&I demand response program planning or implementation experience, it relied on participation estimates by curtailment service providers ("CSP") when developing demand savings goals and associated budgets, which turned out to be overly optimistic. Second, participation was limited by the timing of the DPU's approval of the Compact's demand response programs, which shortened the customer recruitment window prior the start of the Summer 2020 demand response season beginning in June. Third, CSPs reported that the COVID-19 pandemic severely limited their ability to recruit participants, as customers who were good candidates for recruitment did not have the bandwidth to go through the enrollment process during the spring, in the midst of working to keep their businesses running after the onset of the pandemic. Lower-than-expected savings and participation led to total benefits that were lower than planned.

Because the majority of the demand response budget is customer incentives that are directly tied to customer performance, low participation (due to the reasons outlined above) also accounts for lower-than-planned expenditures.

Evaluated total resource benefits were lower than preliminary total resource benefits because of a lower realization rate for interruptible load measure, based on the "Cross-State C&I Demand Response Program Summer 2019 Evaluation Report."³ The realization rate is the result of

³ See, 2019 Plan Year Report, Appendix 4D.

calculation differences between reported and evaluated savings, specifically, whether a symmetric or asymmetric baseline is used.

The Compact expects to recruit more C&I curtailment and storage customers in 2021 to achieve greater savings and benefits for this core initiative.

b. Cost-Effectiveness

For the C&I Active Demand Response core initiative, the 2020 actual BCR is 1.12, while the BCR for the three-year term after accounting for actual results from 2019 and 2020 is 5.07.

APPENDIX 2
BENEFIT-COST RATIO SCREENING TOOL

Please see the Microsoft Excel workbook accompanying this report for the benefit-cost ratio screening tool.

APPENDIX 3
STATEWIDE TECHNICAL REFERENCE MANUAL
2020 REPORT VERSION

Please see Statewide Appendix 3: Technical Reference Manual – 2020 Report Version, filed under separate cover. The electronic version, the eTRM, is available at:

<http://www.masssavedata.com/Public/TechnicalReferenceLibrary>

APPENDIX 4
STATEWIDE EVALUATION STUDIES SUMMARY

APPENDIX 4

Statewide Evaluation Studies Summary

A. Table of Evaluation Studies

STUDY NAME	STUDY LOCATION AND NUMBER	FUEL	EM&V CONTRACTOR
Residential Studies			
Residential New Construction Non-Program Model Review (MA19R19)	Appendix D, Study 20-1	Electric & Gas	NMR Group, Inc.
Lighting Supplier Insights (MA19R13)	Appendix D, Study 20-2	Electric	NMR Group, Inc.
Passive House Offering Program Theory and Logic Model (MA19R05)	Appendix D, Study 20-3	Electric & Gas	NMR Group, Inc.
Lighting Sales Data Regional Analysis (MA20R22)	Appendix D, Study 20-4	Electric	NMR Group, Inc.
2019 Residential Lighting On-Sites (MA19R15)	Appendix D, Study 20-5	Electric	NMR Group, Inc.
Residential Coordinated Delivery Virtual Home Energy Assessment Study (MA20R26)	Appendix D, Study 20-6	Electric & Gas	Guidehouse Inc.
Renovations and Additions Incremental Cost Study (MA20R27)	Appendix D, Study 20-7	Electric & Gas	NMR Group, Inc.
Comprehensive TRM Review (MA19R17)	Appendix D, Study 20-8	Electric & Gas	Guidehouse Inc.
2019/20 Massachusetts Winter Thermostat Optimization Evaluation	Appendix D, Study 20-9	Electric	Guidehouse Inc.
Eversource Home Energy Report Program Year One Persistence Savings and Decay Rate Study	Appendix D, Study 20-10	Electric & Gas	Guidehouse Inc.
Commercial & Industrial Studies			
Impact Evaluation of PY2019 Massachusetts C&I Upstream Lighting Initiative (MA19C06)	Appendix D, Study 20-11	Electric	DNV-GL
Gross Impact Framework - Decision Guide (MA20C06)	Appendix D, Study 20-12	Electric & Gas	DNV-GL
C&I Lighting Market Characterization Study(MA20C09)	Appendix D, Study 20-13	Electric	DNV-GL

STUDY NAME	STUDY LOCATION AND NUMBER	FUEL	EM&V CONTRACTOR
Impact Evaluation of PY2018-2019 Custom Electric Installations (MA20C04)	Appendix D, Study 20-14	Electric	DNV-GL
Massachusetts Custom Electric CDA (MA20C16)	Appendix D, Study 20-15	Electric	DNV-GL
Steam Trap and Boiler Efficiency Research (MA20C05)	Appendix D, Study 20-16	Gas	DNV-GL
Massachusetts C&I Impact Evaluation of PY2018 Custom Gas Installations (MA20C01)	Appendix D, Study 20-17	Gas	DNV-GL
Franchise Controls Deemed Savings Study (MA20C07-E-DUN)	Appendix D, Study 20-18	Electric	DNV-GL
Ground Source Heat Pump eTRM Measure Review (MA20C15)	Appendix D, Study 20-19	Electric & Gas	DNV-GL
C&I ISP Research and Repository: Food Services Equipment Pre-Research Memo (MA20C02)	Appendix D, Study 20-20	Electric & Gas	DNV-GL
Special & Cross Sector Studies			
Code Promulgation Attribution Study (MA19X07)	Appendix D, Study 20-21	Electric & Gas	NMR Group, Inc.
2013-2017 Residential Customer Profile Study: Stakeholder Summary and Comprehensive Report (MA19X08)	Appendix D, Study 20-22	Electric & Gas	DNV-GL
2018 Commercial and Industrial Customer Profile Study: Stakeholder Summary and Comprehensive (MA20X01)	Appendix D, Study 20-23	Electric & Gas	DNV-GL
Consistent Methodology for Self-Reported Residential Net-to-Gross Measurement (MA19X03)	Appendix D, Study 20-24	Electric & Gas	NMR Group, Inc.
Municipal Partnership Initiative Program Theory and Logic Model Development Memo (MA19X12)	Appendix D, Study 20-25	Electric & Gas	Opinion Dynamics
Demand Response Studies			
2019 Electric Vehicle Supply Equipment Direct Load Control Demonstration - Process evaluation	Appendix D, Study 20-26	Electric	Guidehouse, Inc.
2019 National Grid Behavioral Demand Response Evaluation	Appendix D, Study 20-27	Electric	Guidehouse, Inc.
2019/2020 Residential Energy Storage Demand Response Demonstration Evaluation - Winter Season	Appendix D, Study 20-28	Electric	Guidehouse, Inc.

APPENDIX 4

Statewide Evaluation Studies Summary

B. Summary of the Studies with the Most Significant Effects

The Massachusetts Program Administrators completed 28 evaluation studies for the 2020 Energy Efficiency Plan-Year Report. The studies that produced the most significant results in 2020 were the:

1. Passive House Offering Program Theory and Logic Model
2. Comprehensive TRM Review
3. C&I Lighting Market Characterization Study
4. Custom Impact Evaluations (Impact Evaluation of PY2018-2019 Custom Electric Installations and Massachusetts C&I Impact Evaluation of PY2018 Custom Gas Installations)
5. Code Promulgation Attribution Study

1. Passive House Offering Program Theory and Logic Model

The purpose of this study was to document the Mass Save Residential New Construction program's intention and plan to fundamentally shift building practices in Massachusetts to include passive design practices and super-insulation of building shells. In particular, this study focused on the multifamily Passive House program, as designed and initiated by Mass Save in 2019.

The Program Administrators used NMR's 2019 MA Residential New Construction Passive House Assessment report in designing the Passive House program. This research builds on that study by leveraging interviews with program staff to map the PAs' multifaceted approach to transforming the multifamily construction market. This study identifies the actions taken by the program, including:

- Outreach to market actors in the form of trainings and marketing,
- Incentives and technical support for potential projects from pre-design through occupancy, and
- Post-construction/occupancy data collection to increase transparency on this burgeoning market, highlight best practices for construction, and facilitate future program evaluation.

Additionally, the study isolates the program's stated goals, and identifies the metrics and potential data sources for measuring the success of those goals. These metrics enable the ongoing assessment of program success in meeting short-term objectives (like project enrollment in the

Multifamily Passive House offering) to long-term objectives (such as enabling the transition to more advanced building codes by priming the market to achieve those levels of efficiency).

Future evaluation of these metrics identified in the study will enable the estimation of the program's effect on the overall market. Subsequent research on these market effects will aim to identify attributable and claimable savings and benefits actualized by the program through this market transformation effort. This work is currently being explored in the Passive House Market Effects Baseline Study, scheduled to conclude later this year. A copy of the full Passive House Offering Program Theory and Logic Model study can be found in Appendix 4D, Study 20-3.

2. Comprehensive TRM Review

The purpose of this study was to review the assumptions and values in the Massachusetts Technical Reference Manual ("TRM") to ensure that the TRM assumptions reflect the results of recent residential studies, such as the Residential Baseline Study. The study also assessed the quality of the values in the residential portion of the TRM and conducted analysis, where relevant, to improve these parameters.

The review focused on identifying TRM parameters that were out-of-date, that were based on less relevant data sources (*i.e.*, not Massachusetts or New England-specific), or that have a significant effect on the energy efficiency program's energy, demand, or fossil fuel savings. A scoring methodology was designed and implemented that accounted for these factors and flagged select parameters as a high priority to update. Conversely, parameters from recently published, relevant data sources or that have a low savings impact received a low priority score. The resulting priority scores helped determine which parameters were candidates for updating.

The team reviewed data collected in the Residential Baseline Study and other available data sources to identify newer or more robust data available for updating parameter values. Other data sources include but are not limited to federal standard updates, ENERGY STAR updates, and recent evaluation studies.

This study led to multiple updates in gross savings and lifetime assumptions for residential measures. The study also identified measures and parameters that could be updated through future studies or through additional data collection in future iterations of the Baseline Study. A copy of the complete study can be found in Appendix 4D, Study 20-8.

3. 2020 C&I Lighting Market Characterization

The primary goal of the 2020 Lighting Market Characterization Study was to produce adjusted measure lives ("AMLs") for major commercial and industrial ("C&I") lighting applications using lighting market data collected to improve the Lighting Market Model (the "Model"). As part of updating the Model, the study analyzed market trends in C&I lighting, including saturation (the percentage of fixtures of different types installed across the C&I sector) and market share (the percentage of sales of different lighting types in the C&I sector).

The research conducted during this study focused on three main C&I lighting applications: ambient linear, high & low bay, and building exterior & outdoor lighting. This study also presents AMLs for traditional screw-based lighting categories (a-line, downlight/track, and decorative lighting).

The evaluation team used a variety of methods to research C&I lighting market indicators, which were used to refine the Model's saturation and market share forecasts and the resulting AML calculations. Methods included: onsite lighting inventory assessments via phone interviews, distributor and manufacturer interviews, contractor web surveys, customer surveys, reviewing program tracking data, web scraping, reviewing secondary data sources, and developing a stock turnover model to compare modeled results to national and regional forecasts.

The study found that AMLs for ambient linear LED lighting ranged from 8.5 to 8.8 years for 2020. AMLs for high/low bay LED lighting ranged from 8.2 to 8.6 years for 2020. AMLs for exterior/outdoor LED lighting ranged from 6.9 to 7.4 years in 2020. AMLs for screw-based LED lighting ranged from 3.0 to 6.0 years in 2020. AML values decreased for all lighting types between 2019-2021. When compared to 2019 AML values, the 2020 AMLs are considerably lower. This finding is primarily driven by a change in methodology and effective useful life ("EUL") assumptions serving as the basis for measure life adjustments, rather than differences between previously forecasted and actual adoption of LEDs. Further detail is provided in the report.

The study concluded that the LED C&I Market is continuing to advance, and it will become increasingly difficult to fund opportunities for program savings. With regard to ambient linear lighting, the study found that TLEDs and LED integrated fixtures continue to replace fluorescent technologies at a rapid pace and the market is expected to be largely transformed by 2024. Having said that, the program is steering customers towards higher efficiency products, such as linear LED fixtures, which present future opportunities for controls savings. With regard to high/low bay lighting, the dominant technology type is linear, so the largest opportunity in this market is for TLEDs and LED integrated fixtures to continue to replace the T8s and the T12s that continue to persist in the market. Like the ambient linear submarket, the market is expected to be largely transformed by 2024, though pockets of potential are still expected. With regard to building exterior/outdoor lighting, the diversity of available products is decreasing, and as of 2020 there are few, non-LED options for customers. Consequently, this submarket is transforming rapidly as well. A copy of the complete study can be found in Appendix 4D, Study 20-13.

4. Impact Evaluations of C&I Custom Installations

Two C&I custom impact studies were conducted to verify the savings generated through C&I custom electric and gas installations. Custom installations account for approximately 15% of planned lifetime electric savings and 7% of planned lifetime gas savings. Impact studies for C&I custom installations are conducted on a rolling basis, with updates to the sample of facilities evaluated each year. Impact evaluations produce realization rates, which are used to calibrate savings estimates. These impact evaluations also produced Lifetime Savings Adjustment Factors ("LSAF"), which will be applied for the first time in 2020 to PA reported savings values. In

addition, these evaluations produce recommendations for program improvements, including opportunities to make initial program savings estimates more accurate.

Impact Evaluation of PY2018-2019 Custom Electric Installations

The objective of this impact evaluation is to provide verification or re-estimation of electric energy and demand savings estimates for a sample of custom lighting and non-lighting electric projects through site-specific inspection, monitoring, and analysis.

The study approach involved selecting a representative sample of large C&I custom electric projects from 2018 and 2019. Evaluators then conducted a comprehensive desk review of each sample project to support an independent analysis of achieved gross electric savings realization rates. Where possible, evaluators also conducted a site visit and measurement and verification supported by metering for a subset of sample projects, in accordance with PA pandemic protocols. The site level evaluation results were aggregated using the final adjusted case weights. The sample for the PY2018-19 impact evaluation was generated with the intention of pooling the annual evaluation results with the prior PY2016 and PY2017-18 results to produce a rolling updated result.

The results of this study are realization rates and LSAF for custom lighting and non-lighting electric energy efficiency measures. Realization rates and LSAF were determined at the statewide level as well as separately for Cape Light Compact, Eversource, and National Grid. Statewide, two-year pooled realization rates for gross annual MWh savings were $100\% \pm 5\%$ for custom lighting, and $75\% \pm 6\%$ for custom non-lighting measures. Realization rates are reported at a 90% confidence level. Realization rates for both lighting and non-lighting measures improved from the prior year analysis. Statewide, the improvements in realization rates between the three-year pooled results and the previous two-year pooled results for gross annual MWh are + 0.2% for custom lighting and + 3.1% for custom non-lighting. LSAF values were calculated at both the statewide and PA-specific level. At the statewide level, the LSAF for custom lighting was calculated to be 97.5%, and for custom non-lighting, 101.3%. A copy of the complete study can be found in Appendix 4D, Study 20-13.

Impact Evaluation of PY2018 Custom Gas Installations

The primary objective of this impact evaluation was to verify and re-estimate the energy savings for a sample of statistically selected PY2018 custom gas projects through site-specific inspection, monitoring, and analysis.

The study approach consisted of desk reviews, on-site visits, and metering of a randomly selected sample of projects at participating facilities. The sample for the PY2018 impact evaluation was generated with the intention of pooling the annual evaluation results with the prior PY2016 and PY2017 results to produce a rolling updated result.

The study produced statewide realization rates and LSAF, as well as specific realization rates and LSAF for Columbia Gas, Eversource, and National Grid. The statewide realization rate for the three-year pooled sample (PY2016-PY2018) was $80\% \pm 7\%$ at an 80% confidence level. This

realization rate represented a decrease of 5% compared to the prior year analysis. PA-specific realization rates changed by +7% for Columbia Gas, -15% for Eversource, and -4% for National Grid. LSAF values were calculated to be 103% at the statewide level, 108% for Columbia Gas, 102% for Eversource, and 102% for National Grid. A copy of the complete study can be found in Appendix 4D, Study 20-17.

5. Code Promulgation Attribution Study

The purpose of the Code Promulgation Attribution Study was to develop an attribution factor for PA efforts to promulgate five more stringent energy code requirements into state building energy codes (the code amendments for both the MA residential and commercial portions of the 2018 IECC were approved in 2019 and took effect in November 2020). An additional goal of this study was to estimate the gross technical potential (“GTP”) of the approved code amendments.

To achieve these goals, the evaluators conducted the following research activities:

- Reviewed PA documentation of code promulgation efforts: The evaluators reviewed over 130 documents provided by the PAs that were relevant to their involvement in the 2018 IECC code amendment and adoption process in Massachusetts, as well as all publicly posted materials.
- Conducted code promulgation interviews to help assess attribution: The evaluators conducted in-depth interviews (“IDIs”) with seven stakeholders to gain more perspective on what occurred during the code amendment and adoption process.
- Estimated the GTP savings associated with each of the five 2018 IECC amendments proposed by the PAs that were incorporated into the state-level building energy code.

The study found that it is unlikely that proposals similar to those of the PAs would have been promulgated without the PAs’ efforts. The PAs submitted their proposals late in the code-cycle and were thus able to pick proposals that were not being advanced by other parties. The document review provided evidence of the PAs’ efforts and the lack of any similar efforts from another party. IDI participants also indicated that it was unlikely that another party would have advanced similar proposals.

Based on these findings, the study recommended that the PAs use an attribution factor of 90% for the savings generated from their efforts to promulgate the five approved amendments to the 2018 IECC. The 90% value reflects the fact that it is unlikely, though not impossible, that similar amendments to the PAs’ proposals would have been promulgated without the PAs’ efforts.

In addition, the study estimated the combined electric and gas GTP savings from the amendments as 138,153 MBTU accumulated through 2026. This includes 29,103 MWh of GTP electric savings and 388,574 therms of GTP gas savings, assuming 100% compliance with the PAs amendments. To put these values into context, these savings represent between 1% and 6% of combined electric

and gas 2018 new construction savings annually. Note that the GTP analysis in this report was intended as a forecast rather than an evaluation of actual savings.

The study suggested that the PAs consider developing guidelines for evaluation methods that may be applicable for future codes and standards promulgation efforts, plus consider conducting additional research that will increase the accuracy of GTP estimates during the 2022-2026 program years.

Ultimately, the results of the PAs' code promulgation efforts have implications for other PA new construction programs as they affect the entire new construction market. A copy of the complete study can be found in Appendix 4D, Study 20-21.

APPENDIX 4

Statewide Evaluation Studies Summary

C. Evaluation Study Summaries

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Study 20-1: Residential New Construction Non-Program Model Review (MA19R19-B)

Type of Study: Market Characterization or Assessment Evaluation

Evaluation Conducted by: NMR Group

Date Evaluation Completed: 6/6/2020

Study Objective and Summary of Results:

The purpose of this study was to assess the relative merits of using Home Energy Rating System (HERS) data, obtained from Ekotrope Inc., as an additional data source to inform research on the performance of new homes built outside of the Program Administrators' (PAs') low-rise residential new construction (RNC) program. Given the cost and difficulty of collecting data for baseline studies via conventional site visits, alternative methods of data collection, such as registered HERS ratings, could be a valuable source for learning more about how non-program homes are built. These methods might allow for the development of more statistically robust, lower-cost, and/or more frequent updates to the User Defined Reference Home (UDRH), which serves as the RNC program's baseline.

The study provides the following key findings:

- Registered HERS ratings for non-program participant homes are heavily weighted toward stretch code communities.
- HERS ratings are not statistically different between the registered non-program participant sample from Ekotrope and the MA19X02-B-RNCBL baseline sample.
- MA-REC compliance scores are significantly different between the samples.
- Duct leakage to outside (LTO) is not significantly different between the samples.
- Air infiltration is significantly lower in the registered HERS ratings sample than in the baseline sample.
- Baseline audits captured freezers, coolers, and secondary refrigerators absent from the registered HERS ratings sample, representing an additional 361 kWh/yr per home of electric consumption.

Core Initiatives or End Uses to which the Results of the Study Apply:

- Residential & Income-Eligible
- New Homes & Renovations
- Envelope & HVAC
- Electric & Gas

Evaluation Recommendations:

No formal recommendations were made in this evaluation.

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

N/A (no formal recommendations were made in this evaluation)

How the Study Affects Program Results and Its Significance:

The study does not directly affect program results rather, it explores new methods to conduct future evaluations in a more timely and cost-effective manner.

Overview of Study Method:

Our team made statistical comparisons for numerous measures between 292 Ekotrope non-participant energy models of single-family detached homes and the sample of 100 baseline homes that participated in the MA19X02-B-RNCBL study. This study compared data for all key shell measures, mechanical equipment, lighting, appliances, HERS ratings, and MA-REC compliance.

Application of Results: Prospectively

A copy of the complete study can be found in Appendix D, Study 20-1.

Study 20-2: Lighting Supplier Insights (MA19R13-E)

Type of Study: Market Characterization or Assessment Evaluation

Evaluation Conducted by: NMR Group
DNV GL

Date Evaluation Completed: 8/14/2020

Study Objective and Summary of Results:

This report summarizes findings from 19 in-depth interviews (IDIs) conducted in 2020 with manufacturers, retail buyers (collectively termed *suppliers*), and advocacy groups with knowledge of the lighting market. The study was designed to provide information on the current state of the market and the regulatory environment to inform whether the Massachusetts Program Administrators (PAs) should make mid-cycle changes to the lighting portion of the Residential Retail Initiative (the program).

The study objectives included the following:

- Estimates of LED market share for 2019 and predictions of market share for 2021 and 2023 (LED market share is the percentage of bulbs sold that are LEDs)
- Opinions on when LEDs would become the dominant bulb type and how suppliers define market dominance
- Insights on how federal and state regulations affect suppliers' business practices

Key findings in this study include:

Lighting suppliers provided their companies' estimated 2019 and predicted 2021 and 2023 LED market shares in non-program areas by bulb shape. The average market share estimates were at 66% or higher for all bulb types. Suppliers were asked to estimate the LED proportion of their companies' light bulb sales in areas of the country without upstream lighting programs for 2019 and to predict those proportions for 2021 and 2023. Importantly, the estimates / predictions focused on each individual company rather than the entire market. Every supplier produces or sells LEDs – some of them exclusively – so their estimates / predictions do not reflect the entire market, which would also include suppliers who do not make or sell LEDs. **Table 1** lists the average shares, which are likely higher than the overall market due towards the bias towards LED suppliers.

Table 1: Average LED Market Share Estimates / Predictions, 2019 to 2023

(Limited to Respondents' Companies, all of which make or sell LEDs)

Product	2019	2021	2023
A-line (n=10)	72%	76%	78%
Reflector (n=11)	72%	75%	78%
Specialty (n=10)	66%	66%	70%

Lighting suppliers predicted that standard LEDs would become the dominant bulb technology in 2023, reflectors in 2025, and specialty bulbs in 2026. Suppliers generally defined dominance as achieving 50% to 70% market share. Comparing this range with estimates of suppliers' market share predictions for their companies seems to indicate that the market has achieved dominance already; however, this is not necessarily the case. Unlike market share estimates / predictions, the year of dominance predication reflects the entire market, including the influence of non-LED suppliers. As LED suppliers, respondents believed that their companies' sell a greater proportion of LEDs than found throughout the entire market.

Most suppliers expected little to no impact on their short- or mid-term business practices due to the recent Department of Energy (DOE) decisions. These decisions included rescinding the expanded definition of general service lamps (GSLs) and rejecting the 45 lumens per watt (Lm/W) backstop. However, respondents were less certain about the impact of the decisions on their long-term business practices.

Suppliers offered mixed responses when asked whether the uncertainty regarding federal standards affected their bulb ordering / shipment practices. Five of the nine respondents who answered this question said that they did not expect any changes to their practices. Two of the nine who said they did expect changes planned to increase their manufacture and/or stocking of LEDs, while the other two planned to do the opposite and reduce their LED efforts.

Most suppliers reported little variation in stocking practices based on program activity, but three reported differences in LED proportions in program vs. non-program areas. The most commonly mentioned difference in stocking involved ENERGY STAR® qualified LEDs: Suppliers argued that retailers carry a greater proportion of ENERGY STAR models in program areas.

Suppliers preferred the consistency of federal regulations for the efficiencies in manufacturing, shipping, and other business practices. Respondents argued that state-specific regulations lead to inefficiencies that ultimately serve to increase product prices.

More suppliers (six) reported that retailers will sell through their remaining stock rather than ship stock to states with lower standards (three), citing logistics and costs and that they would not vary their stocking practices based on state regulations. Shipping products between states creates challenges and increases costs, leading some suppliers to say they would not ship inefficient product from states with regulations to states with others. Other suppliers, however, argued the opposite – that they would ship products between states.

Core Initiatives or End Uses to which the Results of the Study Apply:

- Residential
- Residential Retail
- Lighting
- Electric Only

Evaluation Recommendations:

No formal recommendations were made in this evaluation.

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

N/A (no formal recommendations were made in this evaluation)

How the Study Affects Program Results and Its Significance:

The study provided insights into the lighting and regulatory market in which the Residential Lighting Initiative is operating, including markets in areas unaffected by programs.

Overview of Study Method:

The evaluation team conducted in-depth interviews over the phone from January to March 2020 with 14 manufacturers and three retailers. These companies manufactured, supplied, or sold lighting products that received upstream incentives from the program from January through October 2019. Collectively, the lighting suppliers interviewed accounted for 67% of total program sales in Massachusetts for the first ten months of 2019. The evaluation team also conducted IDIs with two stakeholders: one representing an energy-efficiency advocacy group and one representing a consumer advocacy group.

The interviews addressed LED market share by bulb shape in non-program areas for each company, when the respondents thought that LEDs would become the dominant bulb on the market and how they defined dominance, and the current and future impact of federal and state lighting regulations on their production, shipping, and stocking practices.

Application of Results: Retrospectively and Prospectively

A copy of the complete study can be found in Appendix 4D, Study 20-2.

Study 20-3: Passive House Offering Program Theory and Logic Model (MA19R05)

Type of Study: Market Characterization or Assessment Evaluation

Evaluation Conducted by: NMR Group

Date Evaluation Completed: 6/26/2020

Study Objective and Summary of Results:

The purpose of this study was to follow-up on the MA19R05 Passive House Assessment study and develop a final program theory and logic model (PTLM) for the Passive House program.

The study provides the following key findings:

- A final PTLM for the Passive House program

Core Initiatives or End Uses to which the Results of the Study Apply:

- Residential
- New Homes & Renovations
- All End Uses
- Electric & Gas

Evaluation Recommendations:

No formal recommendations were made in this evaluation.

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

N/A (no formal recommendations were made in this evaluation)

How the Study Affects Program Results and Its Significance:

The results of this study were used to finalize market effects indicators that can be measured over time and used to quantify attributable market effects savings to the PAs efforts in this area. In addition, this study lays out the planned program processes and interactions so that they are easily digestible.

Overview of Study Method:

This study leveraged the results of the MA19R05 Passive House Assessment, along with conversations with program implementation staff, to develop a PTLM of the new Passive House offering.

Application of Results: Prospectively

A copy of the complete study can be found in Appendix 4D, Study 20-3.

Study 20-4: Lighting Sales Data Regional Analysis (MA20R22-E)

Type of Study: Market Characterization or Assessment Evaluation

Evaluation Conducted by: NMR Group

Date Evaluation Completed: 12/2/2020

Study Objective and Summary of Results:

This report describes recent screw-base light bulb market share, shipments, and prices in Connecticut, Massachusetts, New Hampshire, Rhode Island, and program and non-program states. The analyses draw on light bulb sales data compiled by the LightTracker Initiative of the Consortium for Residential Energy Efficiency Data (CREED) and shipment data reported by the National Electrical Manufacturers of America (NEMA). The primary purpose of this study is to characterize the current lighting market and track market share over time. The Massachusetts Program Administrators (PAs) partnered with the Connecticut Energy Efficiency Board, the New Hampshire PAs, and National Grid Rhode Island on this study. The study refers to these four states as the Study States.

The objectives of this study were:

- Examine current market share in the Study States individually, the states with upstream lighting programs, the states without upstream lighting programs, and the entire nation.
- Provide breakdowns of market share by bulb type (i.e., LEDs, CFLs, halogens, and incandescents), shape (A-line, reflector, globes, and candelabras), and ENERGY STAR® status for each of the Study States (individually) and non-program states (collectively).
- Investigate if there are differential growth rates in market shares across areas.
- Create adoption curves of overall market share by bulb technology (inclusive of all shapes) for each Study State and non-program areas from 2009 to 2019.
- Explore trends in NEMA reported quarterly bulb shipment share from 2017 through the second quarter of 2020.
- Assess market share in very low (<310) and very high lumen bins (>2,600), which roughly coincide with ranges that are exempt from Phase 1 of the Energy Independence and Security Act (EISA), which was the original incandescent phase-out that went into effect between 2012 and 2014.
- Compare average prices of LEDs and halogens over time.

Key findings in this study include:

- **In 2019, LEDs made up the majority of light bulb sales in all areas, including non-program states.** Massachusetts (67%) and Rhode Island (68%) had higher market shares than Connecticut (56%) and New Hampshire (60%). LED market share in non-program areas was 54%.
- **Prior to 2018 and in all areas examined, LEDs mainly displaced CFL market share; after 2018, LEDs also displaced halogen shares.** Prior to 2018, LED growth in market share primarily displaced CFL market share. In or after 2018, LED market share began to displace halogen market share as well across all the areas.
- **LED market share differed across retail channels overall and for all shapes.** Overall LED market share in the combined hardware and home improvement stores (non-POS channels) was 59% or higher in all areas, while LED market share in discount, dollar, drug, grocery, mass merchandise, and some membership stores (POS channels) did not exceed 52% in all areas. For every bulb shape and in all areas, LED market shares in non-POS channels exceeded those in POS channels.
- **While reflectors had the highest LED market share in all areas studied, candelabras saw the largest growth in market share between 2018 and 2019. A-line LED market share in non-program areas increased by only 3 percentage points.** As in 2018, reflector market share continued to exceed that of all other shapes, with market shares at 80% or higher in all areas. Candelabra market shares were 46% or higher and had increased by at least 25 percentage points. Market share for globes was 42% or higher and A-lines was 51% or higher.
- **Halogens are the most common alternative to LEDs for A-lines, whereas incandescents are the primary LED alternative to globes and candelabras. For reflectors, consumers across the areas are nearly equally as likely to opt for halogens and incandescents if they do not select an LED.** Halogens made up the second largest market share for A-lines (ranging from 21% to 42% across the areas) and reflectors (4% to 11%) after LEDs whereas incandescents dominated the market for candelabras (31% to 53%) and globes (24% to 42%).
- **LED market share continues to grow in both program and non-program states. Program areas still have higher LED market share, but non-program areas are closing the gap.** LED market share of program states had a nine to ten percentage point lead over non-program states between 2016 and 2017 and a seven percentage point lead between 2018 and 2019. While the percentage difference between program and non-program states has mostly remained unchanged, the relative difference has declined because LED market share increased in non-program states. LED market share of program states had a 37 percent relative lead over non-program states in 2016 and a 12 relative percent lead in 2019.

- **Market share of ENERGY STAR qualified LEDs was at least 66% or higher, including in non-program areas.** ENERGY STAR qualified LEDs accounted for 91% of LED sales in Rhode Island, 88% in Massachusetts and New Hampshire, and 84% in Connecticut. ENERGY STAR qualified LED market share in program areas (74%) was still notably higher than non-program areas (66%).
- **LEDs dominated the A-line market in lumen bins most closely associated with 60 Watt incandescent bulbs, but incandescents remained the most common bulb in low and high lumen bins (representing 2% to 6% of the market) in most areas.** Bulbs most closely associated with a 60 watt incandescent bulb have the highest sales volumes. LEDs made up at least 68% of sales in this lumen bin across the four Study States and 62% in non-program areas.
- **Across all channels, LED prices continued to fall in non-program areas, but the pace slowed. In POS channels, LED prices for reflectors in non-program areas fell below those for halogens, but remained higher than incandescents.** LED prices in non-program areas fell from \$4.93 in 2016 to \$2.59 in 2018. At the same time, halogen prices fell from \$1.75 to \$1.43. Both bulbs saw slight upticks in 2019, to \$2.68 for LEDs and \$1.48 for halogens.. Reflector LED prices were \$3.99 in POS channels in non-program areas, compared to \$4.63 for halogens and \$3.18 for incandescents.

Core Initiatives or End Uses to which the Results of the Study Apply:

- Residential
- Residential Retail
- Lighting
- Electric Only

Evaluation Recommendations:

No formal recommendations were made in this evaluation.

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

N/A (no formal recommendations were made in this evaluation)

How the Study Affects Program Results and Its Significance:

The Study provided valuable context as the PAs continue to monitor the residential lighting market and the impact of the Residential Lighting Initiative. The results suggest that, in 2019, the Residential Lighting Initiative contributed to increased market share and lower shelf prices of ENERGY STAR LEDs, but the impact of the program on the market as a whole appears to be dwindling as the market naturally progresses towards LEDs.

Overview of Study Method:

Using lighting bulb sales data compiled by CREED as part of the LightTracker Initiative (2009 to 2019), shipment data (2011-2020) from NEMA, and program activity data, NMR employed a series of descriptive analysis tasks. The CREED data were generated from point-of-sale (POS) sales data (from grocery, drug, dollar, discount, mass merchandiser, and selected club stores), and National Consumer Panel state sales data (from home improvement, hardware, online, and selected club stores).

Application of Results: Retrospectively and Prospectively

A copy of the complete study can be found in Appendix 4D, Study 20-4.

Study 20-5: 2019 Residential Lighting On-Sites (MA19R15-E)

Type of Study: Market Characterization or Assessment Evaluation

Evaluation Conducted by: NMR Group

Date Evaluation Completed: 12/9/2020

Study Objective and Summary of Results:

The goal of this study was to update estimates of lighting saturation and other critical market indicators in Massachusetts. The data for this study came from on-site lighting inventories conducted in the summer of 2017 and between October 2019 and March 2020 in Massachusetts homes that are a part of the Residential Baseline Study (RES 1).

Evidence from this study suggests the following:

- Light Emitting Diode (LED) saturation in 2020 was 45% in RES1 Baseline homes, an increase from 2017 when saturation was 27% in the Baseline study homes.
- Massachusetts households chose LEDs as replacements for two-thirds (66%) of bulbs replaced since the 2017 visit.
- Over one-third of all installed bulbs (37%) were ENERGY STAR® LEDs, and 92% of all LEDs that households recalled purchasing or obtaining in the last year were verified to be ENERGY STAR-certified.
- Saturation of specialty LED lamps in Massachusetts was highest for reflectors (60%), followed by candelabras (47%) and globes (35%).
- While compact fluorescent lamps (CFLs) and inefficient bulbs (halogens + incandescents) made up about equal proportions of non-LED A-line sockets, inefficient bulbs accounted for nearly all of the non-LED specialty bulbs.
- However, the RES1 Baseline sample includes a disproportionately high number of households verified to have taken part in a direct install program between 2017 and 2020, which has important implications:
 - Some of the observed changes to lighting use reflect program influence. Findings for socket saturation, bulb replacement, and newly purchased or obtained bulbs may be biased towards LEDs as a result.
 - Socket saturation for households not taking part in a direct install program was 39%; therefore, true socket saturation in 2020 was likely between 39% and 45%.

Core Initiatives or End Uses to which the Results of the Study Apply:

- Residential
- Residential Retail

- Lighting
- Electric Only

Evaluation Recommendations:

No formal recommendations were made in this evaluation.

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

N/A (no formal recommendations were made in this evaluation)

How the Study Affects Program Results and Its Significance:

Estimates of saturation and other market indicators help inform program design, planning, and implementation of the upstream lighting program.

Overview of Study Method:

The data for this study came from on-site lighting inventories of 301 homes in Massachusetts completed between October 2019 and March 2020. Of these, 199 homes had been previously visited in 2017 as part of the RES1 Baseline study. The other 102 homes were visited for the time in 2019/2020. Trained technicians visited the homes and identified all light bulbs installed in sockets or in storage. They noted key characteristics, such as technology, shape, and wattage. They also collected model numbers for LEDs to determine if the bulbs were ENERGY STAR qualified. For homes visited in 2017, the technicians also identified bulbs that had been switched between sockets, removed from storage, or newly brought into the home.

NMR weighted the on-site survey data to reflect the population proportions for home ownership (tenure) and education in Massachusetts based on the American Community Survey (ACS) Five-Year Estimates.

Application of Results: Retrospectively

A copy of the complete study can be found in Appendix 4D, Study 20-5.

Study 20-6: Residential Coordinated Delivery Virtual Home Energy Assessment Study (MA20R26-B-VHEA)

Type of Study: Market Characterization or Assessment Evaluation

Evaluation Conducted by: Guidehouse

Date Evaluation Completed: 3/12/2021

Study Objective and Summary of Results:

In March 2020, in response to COVID-19 social distancing requirements, the Massachusetts Program Administrators (the PAs) temporarily replaced the Residential Coordinated Delivery (RCD) initiative's customary in-person home energy assessments (HEA) with virtual (i.e., remote home energy assessments (VHEA). As part of a VHEA, RCD assessors:

- Virtually complete the basic functions of the in-person HEA using common communication software like Zoom and Google Meet/Duo.
- Mail the participant a customized package of instant savings measures (ISMs) for self-installation.
- Develop a scope of work to address any identified air sealing and insulation opportunities and/or mechanical system upgrades.

The PAs expanded the RCD assessment repertoire in July 2020 to include "hybrids". Hybrids, which combined VHEA elements with a shorter follow-up in-person visit, typically occurred for customers with physical limitations, complex properties, those who expressed a strong preference for in-person engagement, or when a VHEA findings were inconclusive (i.e., assessors needed more information to develop recommendations or work scopes).

After nearly a year and more than 20,000 VHEAs, the PAs and Energy Efficiency Advisory Council (EEAC) want to identify lessons learned from the transition to VHEAs and determine how best to interact virtually with customers as part of future initiative cycles.

The key findings are:

1. Most VHEA participants were satisfied with their virtual experience.
2. VHEA-based scopes of work are less accurate, which has adverse implications for contractors.
3. In-service rates are much lower for self-installed measures.
4. VHEAs are a viable, yet imperfect, delivery method.

Core Initiatives or End Uses to which the Results of the Study Apply:

- Residential
- Weatherization
- Electric & Gas

Evaluation Recommendations:

The following recommendations were made by the evaluators conducting this study.

Recommendation #1 - The evaluation team recommends using the weighted In-Service Rates by measure:

Measure	Weighted ISR (By Assessment Type and Assessor)
LED lightbulbs	87%
Showerheads	66%
Faucet aerators	74%
Smart power strip	73%
Thermostats	79%

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

The PAs plan to adopt the recommendations.

How the Study Affects Program Results and Its Significance:

The study identified lessons learned from VHEAs so the PAs can apply them to future RCD cycles and maximize the value of this new delivery mechanism.

Overview of Study Method:

The methodology was developed to provide the PAs with insights on VHEAs from a variety of perspectives. To provide this, the evaluation team completed the following tasks.

Task 1 | Program Manager Interviews (n=11)

The evaluation team began by interviewing the PA and LV managers that oversee RCD. The evaluation team used these initial interviews to gain program managers' perspectives on the lessons they learned launching VHEAs, as well as their thoughts about the potential role of VHEAs (or other forms of virtual customer interaction) as part of future program delivery. The team spoke with representatives from each PA and LV, in addition to EEAC implementation consultants.

Task 2 | Assessor Interviews (n=22)

Next, the evaluation team conducted 22 interviews—10 with LV Energy Specialists and 12 with HPCs, including HPC technicians and management. The interviews focused on their experience completing VHEAs, the advantages and disadvantages of the approach, technological difficulties, and customer feedback. As with the program manager interviews, the team asked for their perspective on the long-term role for VHEAs in RCD and what, if anything, could be done to streamline VHEA delivery, increase effectiveness, or add value for participating customers.

Task 3 | Participant Surveys (n=332)

Customer's experience with VHEAs was central to this study. To gain this, the team surveyed 332 participants who completed a virtual assessment between May and September 2020. The web-based survey focused on participants' experience conducting the VHEA, their interaction with their ES/HPC, and installation rates for mailed self-install measures. See Appendix A for a list of respondents by PA and the analysis weights the team applied to estimate statewide values.

Task 4 | Nonparticipant Surveys (n=77)

To understand why some customers decided not to proceed with the VHEA, the evaluation team surveyed 77 customers—henceforth referred to as “nonparticipants”—that declined to have a virtual assessment when their in-person assessment was cancelled. The team used the web-based survey to ask nonparticipants why they declined the VHEA, their concerns about the VHEA, and their awareness of the increased insulation incentive.

Task 5 | Contractor Interviews (n=20)

The evaluation team interviewed 20 contractors (14 IICs and 6 HPCs) to determine the accuracy of weatherization scopes based on VHEAs and how, if at all, their business has been impacted by the transition to virtual assessments.

Task 6 | Program Data Analysis

To complement and support Tasks 1-5, the team also analyzed 2019 (HEA only) and 2020 (mostly VHEA) program tracking data. The team explored for potential differences in recommendation rates by measure, participating building types, and renter/landlord participation.

Application of Results: Retrospectively and Prospectively

A copy of the complete study can be found in Appendix 4D, Study 20-6.

Study 20-7: Renovations and Additions Incremental Cost Study (MA20R27)

Type of Study: Market Characterization or Assessment Evaluation

Evaluation Conducted by: NMR Group

Date Evaluation Completed: 5/18/2021

Study Objective and Summary of Results:

The purpose of this study was to provide an estimate of the incremental costs associated with participating in the Massachusetts Renovations and Additions (R&A) program. This study applies to single-family homes and low-rise (three stories or less) multifamily housing units that conduct a renovation and/or addition. Incremental costs were calculated on a per square foot of conditioned floor area (CFA) basis to move from baseline construction practices (ISP for renovation and the residential new construction baseline for additions, referred to as the RNC UDRH) to construction practices applied in recent R&A program projects. The study also included a summary of program practices based on the review of 973 participant projects.

The study provides the following key findings:

- Incremental costs for the renovations portion of the program, using the ISP baseline, were \$3.05 per square foot. The incremental costs for the addition portion of the program were \$1.28 per square foot. The overall cumulative incremental cost for the R&A program is \$2.77 per square foot.
- Only 32% of homes initially conducted air sealing tests before any work was conducted. The homes that did not conduct air infiltration testing applied default efficiency values, making it unclear whether air sealing practices occurred during the renovation.

Core Initiatives or End Uses to which the Results of the Study Apply:

- Residential
- New Homes & Renovations
- Envelope & All End Uses
- Electric & Gas

Evaluation Recommendations:

The following recommendations were made by the evaluators conducting this study.

Recommendation 1: The savings for the R&A program were recalculated with the ISP baseline; therefore, we recommend using the incremental cost of \$2.77 per CFA for the R&A program retrospectively and prospectively.

Recommendation 2: The program would benefit from an increased focus on air sealing. This may increase the frequency of air infiltration testing during the initial audit and after the work is completed to allow for assessment on savings that are a result of air sealing that occurred on

the project. If air sealing is not being conducted on R&A projects, the program has an opportunity to intervene.

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

The PAs plan to adopt the recommendations.

How the Study Affects Program Results and Its Significance:

The findings from this study provide insight into the incremental costs currently faced by contractors or homeowners who decide to participate in the R&A Program. This information is used for cost-effectiveness testing and may inform the incentives offered to participants.

Overview of Study Method:

In this study, NMR leveraged the methodology used in the MA19R18 Residential New Construction Incremental Cost Study to calculate incremental costs. The incremental cost estimates were evaluated against two separate baselines: a renovation baseline (ISP) and an addition baseline (RNC UDRH). The team assessed the measure-level data for 973 projects to determine, at the measure-level, what was a renovation and what was an addition. NMR then assessed costs for recently-renovated program homes against the ISP baseline, to provide an estimate of the incremental costs associated with program participation using two baselines.¹

The study approach relied on cost data from the National Renewable Energy Laboratory's (NREL) National Residential Efficiency Measures Database (NREMD), to construct cost regression models that estimated costs based on efficiency for various measures. The costs were calculated, by measure, for baseline conditions and for the improved conditions, the incremental cost is based on the delta between these estimates.

Application of Results: Retrospectively and Prospectively

A copy of the complete study can be found in Appendix 4D, Study 20-7.

¹ The study also included an incremental cost estimate for the previous baseline scenario that the program used, pre-existing conditions, which ultimately was replaced with the ISP baseline to calculate savings for the R&A program. The pre-existing baseline incremental cost results are included in the final report for reference, but are no longer applicable due to programmatic changes.

Study 20-8: Comprehensive TRM Review (MA19R17-B-TRM)

Type of Study: Market Characterization or Assessment Evaluation

Evaluation Conducted by: Guidehouse

Date Evaluation Completed: 3/9/2021

Study Objective and Summary of Results:

The Technical Reference Manual (TRM) documents the calculations used by the state's Program Administrators (PAs) to claim savings through their energy efficiency programs. It is critical that the TRM use the best available data and that its deemed savings values are based on credible, standardized assumptions. The primary goal of this review was to ensure that relevant data from the Residential Baseline Study and other recent studies are incorporated into the TRM. A secondary goal was to assess the quality of the values in the residential portion of the TRM and to conduct analysis, where relevant, to improve these parameters.

Core Initiatives or End Uses to which the Results of the Study Apply:

- Residential
- New Buildings & Major Renovations
- Behavior & HVAC
- Electric & Gas

Evaluation Recommendations:

The following recommendations were made by the evaluators conducting this study.

Recommendation 1: Table 1 describes the measure parameters for which the evaluation team recommends the PAs adopt updated TRM values. Table 1 is organized by measure title, with measures presented in the order in which they appear in the 2019-2021 Plan Version of the MA TRM.

Measure Name	Parameter Name	Unit	Existing Value	Proposed Value
Boiler, Gas Forced Hot Water (RES-HVAC-BGFHW)	Effective Useful Life (EUL)	Years	20	23
	Baseline Efficiency, ER	AFUE	80.0% nameplate 77.4% actual	85.5% nameplate 77.4% actual
	Baseline Efficiency, ROF	AFUE	82.0% nameplate 79.3% actual	86.5% nameplate 83.7% actual
	Baseline Efficiency, Oil, ROF	AFUE	83.0%	Through 2020: 83.0% 2021 and on: 86.0%

Measure Name	Parameter Name	Unit	Existing Value	Proposed Value
Boiler, Oil/Propane Forced Hot Water (RES-HVAC-BFHW)	Baseline Efficiency, Propane, ROF	AFUE	82.0% nameplate 79.3% actual	86.5% nameplate 83.6% actual
Central Air Conditioning (RES-HVAC-CAC)	Baseline Efficiency, ER	SEER	10.0	13.5 nameplate 12.0 actual
	Baseline Efficiency, ROF	SEER	13.0	14.0
Central Ducted HP Fully Displacing Existing Furnace (RES-HVAC-FSHP)	Baseline Efficiency, Oil, ER	AFUE	78%	79%
Central Ducted HP Partially Displacing Existing Furnace (RES-HVAC-FSHP-P)	Baseline Efficiency, Oil, ER	AFUE	78%	79%
Clothes Dryer (RES-A-CD)	EUL, Electric	Years	12	16
	EUL, Gas	Years	12	17
Combo Condensing Boiler/Water Heater (RES-HVAC-CCBWH)	Baseline % Split of Indirect vs Storage Water Heater (WH)	%	80% Indirect, 20% Storage	24% Indirect, 76% Storage
	Baseline Efficiency, Boiler, ER	AFUE	80.0% nameplate 77.4% actual	85.5% nameplate 77.4% actual
	Baseline Efficiency, Boiler, ROF	AFUE	82.0% nameplate 79.3% actual	86.5% nameplate 83.7% actual
	Baseline Efficiency, WH, ER Blended Medium-, High-Draw	UEF	0.55	0.58
Dehumidifier (RES-PL-DH)	Capacity	Pints/Day	35	Remove
	Efficiency	Liters/kWh	Retirement: 1.0 Baseline: 1.5 Measure: 2.0	Retirement: 1.6 Baseline: 2.8 Measure: 3.3
	Hours of Operation	Hours/Year	Undocumented	Remove
	Dehumidification Load	Liters/Year	n/a	1,520
	Energy Savings	kWh/Year	New: 167.6 Retirement: 152.7	New: 82.3 Retirement: 407.1
	Demand Savings	kW	New: 0.04 Retirement: 0.04	New: 0.02 Retirement: 0.10
	EUL	Years	12	17
ECM Circulator Pump (RES-HVAC-ECMCP)	CF _{WP}	-	0.16	0.53
Furnace, Gas (RES-HVAC-FG)	EUL	Years	18	17
	Baseline Efficiency, ER	AFUE	78.0% nameplate 78.9% actual	85.0% nameplate 81.0% actual
	Baseline Efficiency, ROF	AFUE	85.0%	89.0% nameplate 90.1% actual

Measure Name	Parameter Name	Unit	Existing Value	Proposed Value
Furnace, Oil/Propane (RES-HVAC-FOP)	Baseline Efficiency, Propane, ROF	AFUE	85.0%	89.0% nameplate 90.1% actual
Heat Recovery Ventilator (RES-HVAC-HRV)	HRV Gas Savings	MMBtu	7.7	8.6
	HRV Electricity Savings	kWh	-133	-171
	HRV Demand Savings	kW	-0.10	-0.02
	ERV Gas Savings	MMBtu	-	8.8
	ERV Electricity Savings	kWh	-	-127
	ERV Demand Savings	kW	-	-0.014
Insulation (RES-BS-I)	Heating Degree-Days, Cooling Degree-Hours	HDD, CDH	Varies by City, see Table 3-20	
Low-Flow Showerhead (RES-WH-S)	EUL	Years	7	15
Low-Flow Showerhead with Thermostatic Valve (RES-WH-STV)	EUL	Years	7	15
	Electric (Single Family)	kWh	372	247
	Electric (Single Family)	kW	0.08	0.06
	Gas (Single Family)	MMBtu	1.84	1.22
	Oil (Single Family)	MMBtu	2.09	1.32
	Other (Single Family)	MMBtu	1.84	1.22
	Electric (Multi-family)	kWh	335	183
	Electric (Multi-family)	kW	0.09	0.04
	Gas (Multi-family)	MMBtu	1.66	1.41
	Oil (Multi-family)	MMBtu	1.88	1.44
	Other (Multi-family)	MMBtu	1.66	1.41
Pool Pump (RES-MAD-PP)	Operating Days per Year	Days/Year	91	122
	Pool Size	Gallons	20,000 to 23,000	22,000
	Flow Rates	gpm	Baseline: 64 2S: 66 high, 33 low VS: 50 high	Baseline: 97 2S: 97 high, 48 low VS: 77 high, 31 low
	Daily Operating Hours	Hours/day	Baseline: 8.5 2S: 2 high, 12.5 low VS: 2 high, 18 low	Baseline: 5.7 2S: 2 high, 9.5 low VS: 2 high, 15.7 low
	Energy Factor	EF	Baseline: 2.1 2S: 2.0 high, 5.2 low VS: 4.0 high, 8.8 low	Baseline: 2.0 2S: 1.9 high, 5.3 low VS: 2.9 high, 10.5 low
	Energy Savings	kWh/year	2S: 842, VS: 1,062	2S: 639, VS: 1,284
	Demand Savings	kW	2S: 0.87, VS: 1.12	2S: 0.67, VS: 1.35
	EUL	Years	10	6
Programmable Thermostat (RES-HVAC-PT)	EUL	Years	15	19
Energy Savings		kWh/year	513	230

Measure Name	Parameter Name	Unit	Existing Value	Proposed Value
Quality Installation with Duct Modification (RES-HVAC-QIDM)	Demand Savings	kW	0.85	0.18
Room Air Cleaner (RES-PL-RAC)	Energy Savings	kWh	391	Varies; see Table 3-28
Room Air Conditioner (RES-PL-ROOMAC)	EUL	Years	8	12
Stand Alone Water Heater (RES-WH-SASWH)	Baseline Efficiency, ER	UEF	Medium Draw: 0.52 High Draw: 0.58 Blended: 0.55	Medium Draw: 0.56 High Draw: 0.60 Blended: 0.58
	EUL	Years	13	10
Thermostatic Valve (RES-WH-TV)	EUL	Years	7	15
Variable Frequency Drive (RES-MAD-VFD)	Energy Savings	kWh/HP	Varies by type; see Table 3-34	
	Demand Savings, Summer	kW/HP _{SP}	Varies by type; see Table 3-34	
	Demand Savings, Winter	kW/HP _{WP}	Varies by type; see Table 3-34	

Recommendation 2: The team identified several measures and parameters for which updated parameter values are not recommended. Table 2 lists these measures and the reasons why this study does not recommend updated parameter values for them.

Measure Names and Codes	Reason for Not Updating
- Air Source Central Heat Pumps (RES-HVAC-ASHP) - Central Air Conditioning (RES-HVAC-CAC), efficient level - Ductless Mini-Split Heat Pumps (RES-HVAC-DMHP)	The PAs use program data to update measure parameters.
- Central Ducted Heat Pump Fully Displacing Existing Furnace (RES-HVAC-FSHP) - Central Ducted Heat Pump Partially Displacing Existing Furnace, Oil (RES-HVAC-FSHP-P) - Ductless Mini-Split Heat Pump with Integrated Controls – Fully Displacing Existing Boiler (RES-HVAC-FS-DMSHP) - Ductless Mini-Split Heat Pump with Integrated Controls – Partially Displacing Existing Boiler (RES-HVAC-FS-DMSHP-P)	This study recommends revised measure lifetime values. Revised measure savings values will be informed by a new energy optimization study.
Refrigerator/Freezer Recycling (RES-A-RFR)	Improved data is not available.
- Faucet Aerators (RES-WH-FA) - Pipe Wrap, Water Heating (RES-WH-PW) - Early Retirement Clothes Washers (RES-A-ERCW) - Clothes Dryers (RES-A-CD) - Heat Pump Quality Installation Verification (RES-HVAC-HPQIV) - Heat Pump Digital Check-up/Tune-up (RES-HVAC-HPDCU)	Measures represent a small portion of program savings.

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

The PAs plan to adopt the recommendations.

How the Study Affects Program Results and Its Significance:

The study identified measure parameters in the TRM for which the evaluate team recommends the PAs adopt.

Overview of Study Method:

The evaluation team's review focused on identifying TRM parameters that were out-of-date, that were based on less relevant data sources (i.e., not Massachusetts or New England-specific), or that have a significant effect on the energy efficiency program's energy, demand, or fossil fuel savings. The team designed and implemented a scoring methodology that accounted for these factors and flagged select parameters as a high priority to update. Conversely, parameters from recently published, relevant data sources or that have a low savings impact received a low priority score. The resulting priority scores helped determine which parameters are candidates for updating.

The team reviewed data collected in the Residential Baseline Study and other available data sources to identify newer or more robust data available for updating parameter values. Other data sources include but are not limited to federal standard updates, ENERGY STAR updates, and recent evaluation studies.

Application of Results: Retrospectively

A copy of the complete study can be found in Appendix 4D, Study 20-8.

Study 20-9: 2019/20 Massachusetts Winter Thermostat Optimization Evaluation

Type of Study: Impact Evaluation

Evaluation Conducted by: Guidehouse

Date Evaluation Completed: 10/23/2020

Study Objective and Summary of Results:

The purpose of this study was to estimate energy savings for the winter thermostat optimization program (called Seasonal Savings, hereafter SS) deployed in Cape Light Compact (CLC), Eversource, and (National Grid service territories in winter 2019/20, and to estimate associated energy and demand savings and calculate realization rates.

The study provides the following key findings:

- 47% of ITT thermostats and 61% of qualified ITT thermostats enrolled in the program across all three PAs.
- Enrollment and qualification rates for ITT devices are lower for Cape Light Compact than National Grid and Eversource (63% qualified and 38% of those qualified enrolled for Cape Light Compact versus 78% and 48%, respectively, for National Grid and Eversource combined). Such differences are likely due to different home usage and heating needs on Cape Cod.
- Enrollment rates by PA were similar to 2018/19. Almost two-thirds of devices that enrolled in 2018/19 and were offered the program again in 2019/20 reenrolled.
- Scheduled and actual setpoints and runtime all show evidence of the program effect for the ITT versus control groups. The stay-at-home period from the pandemic does not seem to affect the relative positioning of the ITT and control groups.
- Reviewing scheduled and actual setpoints and runtime based on when customers were treated (2018/19, 2019/20, both, or neither) shows some persistence in setpoints and shows the program effect builds over time.
- Scheduled setpoints for natural gas customers were about 0.25°F lower in the pre-period than in 2018/19. The SS impact on scheduled setpoints was roughly the same as 2018/19 (-0.80°F this year compared with -0.67°F last year).
- Average daily runtime for natural gas customers in the pre-period was similar across the two years (~250 minutes); however, it was lower in the 2019/20 program period (~190 minutes) compared with 2018/19 (~220 minutes), likely driven by milder weather in January to March. The SS impact on runtime was smaller (-4 minutes this year compared with -6 minutes last year).
- Across all three PAs, the program achieved 62,681 MMBtu of fuel energy savings and 319 MWh of electric energy savings (91 MWh on-peak and 228 MWh off-peak) between January 8 and April 30, 2020.
- For natural gas devices, the average energy savings per treated thermostat over the season was 11.6 therms (3.6% of heating load) and 5.4 kWh (3.6% of heating load) between

January 8 and April 30, 2020. This was a decrease of approximately 26% from 2018/19, likely driven by milder weather.

- For non-natural gas devices, average energy savings per treated thermostat over the season were 8.2 therms (2.7% of heating load) and 15.2 kWh (6.0% of heating load) between January 8 and April 30, 2020. This was a decrease of approximately 12% from 2018/19, likely driven by milder weather resulting in lower baseline usage.

Core Initiatives or End Uses to which the Results of the Study Apply:

- Residential
- New Buildings & Major Renovations
- Behavior & HVAC
- Electric & Gas

Evaluation Recommendations:

The following recommendations were made by the evaluators conducting this study.

Recommendation 1: In 2019/20, the PAs should claim the fuel and electric savings listed in the following table.

PA	Heating Fuel Type	Measure Life	Participating Thermostats	Verified MMBtu Savings [†]	Verified kWh Savings [†]
Statewide	Natural Gas	1	52,285	60,796	281,641
Eversource	Natural Gas	1	15,977	18,578	86,064
National Grid	Natural Gas	1	36,308	42,219	195,582
Statewide	Non-Natural Gas	1	2,449	1,886	37,167
	Electric	1	32	-	486
Cape Light Compact	Oil	1	700	575	10,624
	Propane	1	228	187	3,460
	Electric	1	46	-	698
Eversource	Oil	1	392	322	5,949
	Propane	1	129	106	1,958
	Electric	1	77	-	1,169
National Grid	Oil	1	644	529	9,774
	Propane	1	201	165	3,050

Recommendation 2: In 2019/20, the PAs should claim electric savings broken down into on-peak and off-peak savings based on the following percentages:

- Natural gas: 28% on-peak, 72% off-peak
- Non-natural gas: 32% on-peak, 68% off-peak

These percentages should be multiplied by the verified kWh savings shown in the table in recommendation 1.

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

The PAs are considering all recommendations for adoption at this time. The PAs have not formally adopted or rejected any recommendations that require changes to program design and operations.

How the Study Affects Program Results and Its Significance:

The study found average energy savings of approximately 11.6 therms and 5.4 kWh per treated natural gas thermostat and 8.2 therms and 15.2 kWh per treated non-natural gas thermostat in winter 2019/20. This is the last year SS will be evaluated as Google has integrated it as a standard offering for all Nest thermostats.

Overview of Study Method:

The study relied on thermostat telemetry data and thermostat-level participation data. A total of 145,659 thermostats (98,622 in National Grid's service territory, 41,925 in Eversource's service territory, and 5,112 in CLC's service territory) were included in the study (93% of the 145,659 thermostats in the PAs combined service territories were eligible for savings and approximately 11% were excluded from the analysis due to data quality).

1. An exploratory analysis of the data was performed to:
 - Compare enrollment and reenrollment rates across PAs to assess customer acceptance of the program over multiple years.
 - Analyze setpoints (scheduled and actual) and thermostat heating runtime to assess whether the impact of thermostat optimization was evident in the data.
 - Compare data for devices treated in both 2018/19 and 2019/20 with those treated just one year or the other.
 - Analyze differences between weekdays and weekends.
2. Guidehouse conducted an impact analysis to estimate the energy savings from SS for treated devices. The impact analysis for natural gas devices consisted of a runtime to energy conversion, regression modeling to calculate savings, and a comparison with Google's calculated savings. For non-natural gas devices, Guidehouse applied percentage savings from the 2018/19 evaluation to baseline usage (converted from runtime) for 2019/20.

A regression-based modeling approach was used to estimate energy savings for natural gas devices over the heating season. The SS program uses a randomized encouragement design

(RED) in which all customers in a PA's service territory with a Nest thermostat were randomly assigned into one of two groups. These two groups are the intent to treat (ITT) group, where participants are randomly assigned to receive the program offering, and the control group, where participants are randomly assigned to *not* receive the program offering.²

All qualified customers were provided the program offering on the thermostat itself and through Nest's mobile app. Some portion of ITT customers chose to opt in and enrolled into the program, while others did not. The group of customers that opted in is referred to as the treated group. Thermostats that were part of the ITT group but either did not qualify or did not opt in are referred to as the untreated group.

SS savings are evaluated by comparing the ITT group (both treated and untreated thermostats) to the control group using a linear fixed effects (or difference-in-differences) regression model to estimate energy and demand savings. The estimate of savings is then scaled by the program opt-in rate to calculate savings per treated thermostat.

For the 2019/20 season, National Grid and Eversource only offered the SS program to natural gas customers, dramatically reducing the number of customers available to model non-natural gas device savings. In the 2018/19 evaluation, almost 18,000 non-natural gas devices participated in the program compared with less than 2,500 in 2019/20. With so few non-natural gas devices, Guidehouse and Google agreed that regression modeling was unreliable to estimate savings.³

Instead, Guidehouse estimated savings using the same percentage savings as the 2018/19 evaluation and applied them to the 2019/20 usage baselines. Although the same savings were claimed for all non-natural gas devices in the 2018/19 evaluation, the evaluation team used the per fuel type savings to account for the change in mix of non-natural gas devices by fuel type between the two years.⁴

Due to the design of the program, targeted thermostats could not be linked directly to customers and their billing data. Therefore, the study relied exclusively on thermostat telemetry data to estimate impacts after converting thermostat runtime to energy consumption. Based on a combination of geographic location, self-reported heating types, and thermostat wiring, each Nest thermostat was assigned a heating fuel and equipment type. To develop conversion factors for each heating and equipment type, Guidehouse leveraged various data sources to obtain accurate estimates of average capacity and

² For each PA, 80% of thermostats were randomly assigned to the ITT group while the remaining 20% were assigned to the control group.

³ Google did run regressions for non-natural gas devices but found the relative precision at 90% confidence to be 69% of the savings estimate for fuel and 116% for electric (compared with 39% and 55% for 2018/19).

⁴ In 2018/19, 75% of non-natural gas devices were oil, 16% propane, and 10% electric; in 2019/20, the same percentages were 71%, 23%, and 6%. This result shows a shift away from oil and electric and toward propane, which is likely explained by the higher share of Cape Light Compact thermostats among the non-natural gas devices in 2019/20 compared with 2018/19.

operating efficiency, including previous potential studies, the RES 1 Baseline Load Shape Study, past DOE regulatory analyses and the Massachusetts Technical Reference Manual.

Because Guidehouse received daily rather than hourly data from Google this year, electric savings for on-peak, off-peak, and demand periods could not be directly estimated using 2019/20 data. The evaluation team estimated on- and off-peak electric savings using the same percentage of savings these periods made up in the 2018/19 analysis (28% on-peak and 72% off-peak for natural gas devices; 32% on-peak and 68% off-peak for non-natural gas devices). No electric winter demand savings were found in 2018/19, so no demand savings can be claimed for 2019/20.

Application of Results: Retrospectively

A copy of the complete study can be found in Appendix 4D, Study 20-9.

Study 20-10: Eversource Home Energy Report Program Year One Persistence Savings and Decay Rate Study

Type of Study: Impact Evaluation

Evaluation Conducted by: Guidehouse Inc.
Illume Advising

Date Evaluation Completed: 2/26/2021

Study Objective and Summary of Results:

The purpose of this study was to determine how savings persisted after the November 2019 discontinuation of the Eversource Home Energy Reports (HER) program. The study identified first year persistence savings realized during calendar year 2020 and final year savings realized between November 2018 and October 2019. Using these findings, decay rates and persistence factors were provided to measure the extent to which savings persisted following termination of program treatment. For calendar year 2020, the persistence factor was defined as the ratio of percentage savings realized in 2020 and the percentage savings realized in the final year of program treatment, and the decay rate was equal to one minus the persistence factor. For a program with savings declining after discontinuation of program treatment persistence factors and decay rates will be between zero and one.

The study provides the following key findings:

- Net savings realized between November 2018 and October 2019:
 - o 39,619,661 kWh
 - o 873,955 Therms
- Net savings realized between January and December 2020:
 - o 37,359,250 kWh
 - o 857,253 Therms
 - o

Core Initiatives or End Uses to which the Results of the Study Apply:

- Residential & Income-Eligible
- Residential Behavior
- Behavior & All End Uses
- Electric & Gas

Evaluation Recommendations:

The following recommendations were made by the evaluators conducting this study.

Recommendation 1: While the savings from the study reflect reasonable statistical significance, the decay rate results indicate that forecasting future persistence may be unreliable. If Eversource claims persistence savings in the future, the evaluation team

recommends periodically updating the study to learn how persistence savings are changing year-over-year, which will allow for more certainty during future planning cycles and filings.

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

The PAs are considering all recommendations for adoption at this time. The PAs have not formally adopted or rejected any recommendations that require changes to program design and operations.

How the Study Affects Program Results and Its Significance:

Evaluation findings will help Eversource understand the persistence savings that exist from the discontinued HER program. The evaluation findings will also help Eversource understand the extent to which savings decay over time.

Overview of Study Method:

To evaluate electric and gas savings during the final year and first persistence year of the HER program, the evaluation team utilized billing data and customer tracking data. A lagged dependent variable (LDV) model was estimated using these data for each electric and gas wave independently, which included program treatment status, monthly fixed effects, and pre-program energy use variables.

Since HER program participation may impart a lift in other program participation (participant uplift), the evaluation team estimated the degree to which this occurred. To conduct uplift analysis the evaluation team utilized program tracking data for all HER waves between 2018 and 2020. These data did not include pre-period program participation for most treatment groups. Therefore, the evaluation team estimated uplift due to suggested actions contained in this HER evaluation period through a post-only differences (POD) approach.

Once uplift savings were estimated, the evaluation team deducted these uplift savings from the savings evaluated via the billing analysis. The result of this difference was program savings net of uplift. These savings are provided above as net savings realized between November 2018 and October 2019 and net savings realized between January and December 2020.

Application of Results: Retrospectively

A copy of the complete study can be found in Appendix 4D, Study 20-10.

Study 20-11: Impact Evaluation of PY2019 Massachusetts C&I Upstream Lighting Initiative (MA19C06-E UPLGHT)

Type of Study: Impact Evaluation

Evaluation Conducted by: DNV

Date Evaluation Completed: 3/5/2021

Study Objective and Summary of Results:

The purpose of this study was to build upon prior research to understand the extent to which program performance is meeting program and policy goals and objectives. Research objectives included updating building-type hours of use (HOU) and compiling space-type HOU; assessing the quality control (QC) process and documenting potential improvements; and surveying, inventorying, and metering customer lighting controls.

The study provides the following key findings:

- Two savings values were calculated for each site in the study: connected demand savings (kW) and energy savings (kWh).
- The 2020 retrospective energy savings realization rate (RR) is 85.8%, ± 15.3 at the 90% confidence level. We recommend the PAs apply these results retrospectively to PY2020.
- The overall short-term ISR is 83.4%, with a precision of $\pm 7.4\%$ at the 90% confidence level, and the long-term ISR is 84.0% with a precision of $\pm 7.4\%$ at 90% confidence.
- The delta watts RRs for evaluation categories 1-5 are all near or over 100%. For high/low bay LEDs, the delta watts realization rate is 57.3%, producing an overall RR of 102.3% with a $\pm 14.5\%$ precision at 90% confidence.
- Connected demand (ISR times delta watts) is 85.4%, with a precision of $\pm 14.3\%$ at 90% confidence.
- The overall demand interactive factor is 1.06, with a precision of ± 9.9 at the 90% confidence level.

Core Initiatives or End Uses to which the Results of the Study Apply:

- Commercial & Industrial
- C&I New & Replacement Equipment
- Lighting
- Electric Only

Evaluation Recommendations:

The following recommendations were made by the evaluators conducting this study.

Recommendation 1: For retrospective application of results (PY2020), the initiative should use the realization rates provided in the study. We recommend using the overall realization rate of 85.8% that covers all evaluation categories, given the high variance in individual evaluation categories.

Recommendation 2: In 2021, the initiative should use the realization rates of 96.8% for screw-in LEDs and 82.3% for non-screw-in LEDs, which exclude the impact of HOU updates that the PAs already adopted in 2021. Beginning in 2022, the PAs should use the updated impact factors provided in the first section of the study.

Recommendation 3: As with the prior HOU study, if a building type is unknown, use the overall result of 4,569 hours for upstream lighting, which represents the average operating hours of all building types combined.

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

The PAs plan to adopt and/or are considering some of the recommendations, as described below.

Recommendations 1 and 2 are/will be implemented by PAs. Recommendation 3 is currently being considered by PAs.

How the Study Affects Program Results and Its Significance:

Lighting is an important energy end use in Massachusetts' energy portfolio, and the Upstream Lighting Initiative represents a significant share of C&I savings. Since the Initiative tracks estimated savings based on deemed savings values, the PAs must evaluate the program to determine RRs and update deemed values for future programs.

Overview of Study Method:

This study had four phases of evaluation. In the sample design and sample selection phase, DNV gathered electric account and measure-level population data and developed stratified sample designs by evaluation category and QC or non-QC. In the file and savings reviews, we acquired files supporting savings claims for sampled sites and performed savings reviews with savings validation. For on-site data collection, we recruited 75 in-person and 17 virtual sites; did measure verification, observed operational conditions, and deployed metering, which will remain installed until June 2021. For the site and aggregate savings analysis phase, we made measure-level engineering estimates of connected kWh and kW savings and provided statistical expansion of results and realization rates with precisions.

Application of Results: Retrospectively and Prospectively

A copy of the complete study can be found in Appendix 4D, Study 20-11.

Study 20-12: Gross Impact Framework - Decision Guide (MA20C06-B-GIF)

Type of Study: Impact Evaluation

Evaluation Conducted by: DNV

Date Evaluation Completed: 1/20/2021

Study Objective and Summary of Results:

The purpose of this study was to make decisions related to key processes and issues that the PAs, the EEAC Consultants, and the DNV team have addressed since the publication of the previous Gross Impact Framework – Decision Guide Memo in March 2020, following the implementation of the Gross Impact Evaluation Framework adopted in February 2017.

The memo provides decisions on the following topics:

- Limits on projects per site for evaluations
- Subcategorization of operational differences
- Baseline for Replace on Failure (ROF) projects that involve a change in technology
- Custom express tool adoption
- Lifetime savings and measure life
- Ex-ante review process
- Special considerations of statewide results and prospective evaluation results

Core Initiatives or End Uses to which the Results of the Study Apply:

- Commercial & Industrial
- All Initiatives
- All End Uses
- Electric & Gas

Evaluation Recommendations:

No formal recommendations were made in this evaluation.

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

N/A (no formal recommendations were made in this evaluation)

How the Study Affects Program Results and Its Significance:

This memo is one iteration of a living document that will continue to be updated with EM&V decisions made in consultation with the PAs and EEAC Consultants.

Overview of Study Method:

All decisions were discussed among the PAs, the EEAC Consultants, and DNV team.

Application of Results: Retrospectively and Prospectively

A copy of the complete study can be found in Appendix 4D, Study 20-12.

Study 20-13: C&I Lighting Market Characterization Study (MA20C09-E-LMC)

Type of Study: Market Characterization or Assessment Evaluation

Evaluation Conducted by: DNV

Date Evaluation Completed: 3/25/2021

Study Objective and Summary of Results:

The purpose of this study was to update the adjusted measure lives (AMLs) for C&I upstream, prescriptive, and custom lighting program installations. The AMLs are based on market share estimates from the LED Market Model, so to ensure that the model reflects the most up-to-date information, this study also collected data to inform the model forecasts, including saturation, market share, volume of sales, product availability, and jurisdictional comparisons.

The study provides the following key findings:

- The AMLs calculated from the market share forecasts in the program-ending scenario in the LED market model are presented in a table.
- Overall, the LED C&I market is continuing to transform, and it will become increasingly difficult to find opportunities for program savings. COVID-19 had an impact on the uptake of LED technologies in 2020, although it's unclear how long these impacts will last.
- Even in the absence of the program, we expect the ambient linear submarket to be nearly transformed by 2024. However, the program is pushing the market toward higher efficiency LED integrated fixtures, with opportunities for more advanced control capabilities over the more traditional TLED replacements. If the programs continue as-is, we expect to see overall LED saturations near 85% by 2024.
- The high/low bay submarket looks much like the ambient linear submarket in MA, meaning it is dominated by linear technologies trending toward TLEDs and LED integrated fixtures, with the largest growth area in integrated fixtures. By the end of 2024, we estimate that the market saturation of LEDs will be 77% with the program. However, specific segments of the market may have lower saturation, which could provide more targeted opportunities for lighting programs.
- The building exterior/outdoor submarket is already highly saturated with LED technologies, leaving little room for additional market transformation. However, trade allies indicated that lighting programs will be driving a slightly higher percentage of LED market share in the future. There are not as many non-LED products available in the marketplace, so customers will likely be forced to replace non-LEDs with LEDs as equipment burns out or fails.

Core Initiatives or End Uses to which the Results of the Study Apply:

- Commercial & Industrial
- All Initiatives
- Lighting
- Electric Only

Evaluation Recommendations:

The following recommendations were made by the evaluators conducting this study.

Recommendation 1: We recommend the PAs adopt the PY2020 retrospective AMLs for all ER and ROF measures reflected in the results table for upstream, prescriptive, and custom lighting program installations. New construction and major renovation measures should continue using the full measure lives rather than the AML.

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

The PAs plan to adopt the recommendations.

How the Study Affects Program Results and Its Significance:

While the AMLs were the primary output of this study, it also provides insights into the current state of the C&I lighting market and how it is expected to evolve. These additional research insights are intended to help program planners and evaluators assess how to shape C&I lighting programs in the future.

Overview of Study Method:

The team conducted a saturation survey by doing phone re-visits for 103 sites that had had on-site visits in 2018 and 2019; developed and conducted a web survey of 32 contractors to estimate their market share; conducted in-depth interviews with 21 lighting manufacturers and 16 distributors that participated in the 2019 Upstream Initiative, with the primary goal of understanding how the PAs' programs have influenced all LED sales; developed a web-scraping tool to collect information on the types of products available on manufacturer and distributor websites; and re-calibrated the LED Market Model to reflect observed changes more accurately in the market over time.

Application of Results: Retrospectively

A copy of the complete study can be found in Appendix 4D, Study 20-13.

Study 20-14: Impact Evaluation of PY2018-2019 Custom Electric Installations (MA20C04)

Type of Study: Impact Evaluation

Evaluation Conducted by: DNV

Date Evaluation Completed: 3/17/2021

Study Objective and Summary of Results:

The purpose of this study was to provide verification and re-estimation of energy and demand savings for a sample of statistically selected custom electric projects through site-specific verification, monitoring, and analysis of Project Year 2018/2019 installations.

The study provides the following key findings:

- For almost all energy and peak demand savings parameters, the three-year pooled realization rates improved over the previous two-year rolling results. Statewide, operational effects represents the largest discrepancy adjustment for lighting and baseline the largest for non-lighting.
- Custom non-lighting projects are generally more complex than lighting projects, so the realization rates (RRs) tend to have more variation. However, the programs could gain some ground in some areas. In particular, a large portion of the savings were reduced due to adjusted baselines—something the PAs are committed to improving upon.
- A handful of projects did not claim savings for some portions of the project, possibly to use more conservative tracking savings estimates. Since these have typically been quantified via measurement & verification (M&V), and to stay consistent with past studies, we included these only for sites with full M&V, which was not the case for many of the projects due to impacts of the COVID-19 pandemic on conducting full M&V.
- The lifetime savings adjustment factors (LSAF) reported in this memo represents evaluation changes made to measure event type and measure life selection and does not include the new lighting EUL and adjusted measure life (AML) values from the most recent MA Lighting Market Characterization study. The evaluation found that the claimed custom measure life was typically supported by the documentation provided in the project file.

Core Initiatives or End Uses to which the Results of the Study Apply:

- Commercial & Industrial
- All Initiatives
- Custom
- Electric Only

Evaluation Recommendations:

The following recommendations were made by the evaluators conducting this study.

Recommendation 1: Apply the results from the Interim Results Memo to the PY2020 tracking savings reported in the 2020 Plan Year Report filed in 2021.

Recommendation 2: Apply the LSAF to the PY2020 lifetime tracking savings reported in the 2020 Plan Year Report filed in 2021.

Recommendation 3: As the application files are not always complete, be diligent in gathering the technical assistance studies, spreadsheets, and models used to define and develop the project and include them in the electronic documentation.

Recommendation 4: Separate fixture replacement and lighting controls savings when calculating annual and lifetime savings estimates. If this isn't possible, a weighted measure life should be applied to better represent early replacement projects with both lighting fixture and control savings.

Recommendation 5: Adopt the recommendation made in the "Memorandum on Dual Baseline Calculation Practices and Assumptions, November 27, 2019" to maximize the accuracy of lifetime savings, and continue to evaluate lifetime savings impacts and calculate a lifetime adjustment factor to be applied to tracking lifetimes.

Recommendation 6: Develop a weighted measure life for multi-measure projects that fall in the same line of tracking data or isolate the individual measure savings into unique lines in the tracking data so that each measure claims an accurate measure life.

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

The PAs are considering all recommendations for adoption at this time. The PAs have not formally adopted or rejected any recommendations that require changes to program design and operations.

How the Study Affects Program Results and Its Significance:

The results from this study should be combined with the next round of custom electric impact evaluation, which is expected to be applied to the PY2021 tracking savings and reported in the 2021 Plan Year Report filed in spring 2022. This aligns with the MA impact evaluation framework by maintaining an annual rolling custom electric impact evaluation result.

Overview of Study Method:

Methods used for this year's evaluation were similar to last year's, except for modifications due to the COVID-19 pandemic. The key modifications were an increased scope of desk review tasks, including a more in-depth review of applicants' assumptions and calculation methodology; the use of virtual audits to verify technology, assess HVAC interaction, and validate measure installation; and realization rates based on verified non-operational parameters of the current and PY2016 and PY2017/18 samples, verified operational parameters of the current sample where available and

historical operation adjustments from the past two studies where not available and the pooling of this sample's results with PY2016 and PY2017/18 results.

Application of Results: Retrospectively and Prospectively

A copy of the complete study can be found in Appendix 4D, Study 20-14.

Study 20-15: Massachusetts Custom Electric CDA (MA20C16-B-CDA)

Type of Study: Impact Evaluation

Evaluation Conducted by: DNV

Date Evaluation Completed: 3/23/2021

Study Objective and Summary of Results:

The purpose of this study was to re-analyze the 2018 Custom Comprehensive Design Approach (CDA) energy and peak demand savings realization rates using new standard lighting power densities (LPD) derived from the recent new construction baseline market characterization study as well as current baseline practices used by the program. The analysis also includes adjustments for other non-lighting industry standard practice (ISP) impacts.

The study provides the following key findings:

- For current CDA projects, as well as other performance lighting projects, the lighting baseline depends on the permitting code. For projects permitted under IECC 2015/ASHRAE 90.1-2013, the PAs use a baseline that is 0.8 of code LPD. For projects permitted under IECC 2018/ASHRAE 90.1-2016, the PAs use the Massachusetts Amendments to code. These requirements are documented each year in the Mass Save Baseline Document.
- DNV completed a detailed analysis for each site in the sample. The resulting program-level realization rate, which is the weighted result using the original sample design case weights, is 48% for annual electric energy savings. This is reduced from the 57% realization rate from the prior CDA impact evaluation. However, the removal of the FCU ISP baseline from the revised realization rates brings the result back to 57%.
- DNV applied the same ratio of annual energy savings realization rates between the old study and this study to re-calculate summer and winter on-peak demand savings, producing revised peak demand savings estimates of 58% for summer and 44% for winter.

Core Initiatives or End Uses to which the Results of the Study Apply:

- Commercial & Industrial
- New Buildings & Major Renovations
- Custom
- Electric Only

Evaluation Recommendations:

The following recommendations were made by the evaluators conducting this study.

Recommendation 1: Use RRs from this study to apply retrospectively to CDA projects completed in 2020:

- Gross annual electric kWh savings RR: 57%
- Gross summer on-peak kW reduction RR: 58%
- Gross winter on-peak kW reduction RR: 44%

Recommendation 2: Lighting baselines for new CDA studies should adopt the new LPD adjustment of 0.6 of IECC 2015 code.

Recommendation 3: Upon finalization of the Non-Residential New Construction Baseline study, incorporate any other non-lighting baseline findings to new construction projects going forward.

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

The PAs plan to adopt and/or are considering some of the recommendations, as described below.

Electric RR recommendations have been employed by PAs retrospectively for 2020. Other recommendations are currently under consideration by the PAs.

How the Study Affects Program Results and Its Significance:

This study found that lighting savings were significantly impacted by the use of the new LPD adjustment factor and by the appropriate application of current baseline practices to the older CDA study results. The opportunity for lighting savings given these new requirements has decreased.

Overview of Study Method:

This study used the same sampled CDA projects as the 2018 study to recalculate electric savings realization rates. For most projects in the impact evaluation sample, ex-ante baselines were defined in accordance with the 8th edition of the Massachusetts Energy Code. This analysis recalculated the custom electric CDA gross annual savings realization rate by applying the new LPD adjustment factor of 0.6 from the current NRNC project to the sample of sites from the prior impact evaluation.

Application of Results: Retrospectively and Prospectively

A copy of the complete study can be found in Appendix 4D, Study 20-15.

Study 20-16: Steam Trap and Boiler Efficiency Research (MA20C05-G-STBE)

Type of Study: Technology Evaluation

Evaluation Conducted by: DNV

Date Evaluation Completed: 10/20/2020

Study Objective and Summary of Results:

The purpose of this study was to research factors related to estimating savings for steam traps and the annual heating plant efficiency factor, which is a primary steam trap savings input, and to recommend future research and/or updates to the steam trap tool to improve consistency and accuracy in use of the tool.

The study provides the following key findings:

- Steam trap measures can be identified within the custom population through BCR measure IDs. A steam-trap-specific realization rate (RR) can be integrated into tracking if segmented from the rest of the custom gas measures.
- Stakeholders and tool users are satisfied with the general algorithmic approach of the steam trap tool (STT). However, the Team found variation among the PAs in how some variables are being assessed and input into the tool. PA staff do not believe vendors are systematically overstating hours of operation but have indicated the need for more guidance in the application of parameters, specifically hours. Implementing limits and caps in the tool may prevent gross overstatement but could create other issues. Application reviewers could benefit from built-in tool checks. Calibration of the STT is useful for approximating values of parameters that cannot be measured directly but increases the risk of double-counting some effects.
- While annual heating plant efficiency (AHPE) values vary within a narrow range with respect to firing rate at any site, efficiency values vary more significantly from site to site based on boiler type.

Core Initiatives or End Uses to which the Results of the Study Apply:

- Commercial & Industrial
- C&I New & Replacement Equipment
- Custom
- Gas Only

Evaluation Recommendations:

The following recommendations were made by the evaluators conducting this study.

Recommendation 1: Continue current evaluation sample design practices, such as the current practice of reporting all custom gas measures with a single statewide or PA-specific

RR, and reviewing the desk review results from the new calibration projects to further assess PA variability.

Recommendation 2: Modify the STT to clarify inputs and streamline QC review process. Update fields to improve consistency among various users and bolster the review process with a number of automated QC checks.

Recommendation 3: Update STT parameters via billing analysis calibration. Recalibrate using projects from PY2017 and PY2018.

Recommendation 4: Post the STT online with a summary of revisions and communicate updates to vendors and reviewers when the revised STT is rolled out.

Recommendation 5: For measures that reduce the boiler output, **use deemed AHPE values** based on average combustion efficiency measurements representative of typical boilers serving steam trap and insulation measures.

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

The PAs are considering all recommendations for adoption at this time. The PAs have not formally adopted or rejected any recommendations that require changes to program design and operations.

How the Study Affects Program Results and Its Significance:

Steam traps constitute a large share of custom program savings, rely on a single statewide calculator for estimating savings, and have had poorer RRs than other custom measures. These factors raise the question of whether steam trap measures should be evaluated as contributing to overall individual PA custom RRs as they are now, evaluated as a statewide measure, or evaluated in some other way.

Overview of Study Method:

The team researched factors associated with the evaluation of steam trap measures; interviewed experts nominated by stakeholders to gather feedback on the STT and annual heating plant efficiency methods; analyzed past evaluation project data to develop findings related to steam trap discrepancies and factors associated with AHPE methods; and organized five Working Group sessions attended by experts nominated by stakeholders to discuss the findings of each of the three other tasks.

Application of Results: Prospectively

A copy of the complete study can be found in Appendix 4D, Study 20-16.

Study 20-17: Massachusetts C&I Impact Evaluation of PY2018 Custom Gas Installations (MA20C01-G-CUSTGAS)

Type of Study: Impact Evaluation

Evaluation Conducted by: DNV

Date Evaluation Completed: 2/24/2021

Study Objective and Summary of Results:

The purpose of this study was to verify and re-estimate the energy savings for a sample of statistically selected PY2018 custom gas projects through site-specific inspection, monitoring, and analysis. The study provides the following key findings:

- The three-year pooled statewide precision target was met with an achieved relative precision value better than $\pm 10\%$ at the 80% confidence interval.
- When the results for the most recent three program years were pooled, PA-specific precision targets of $\pm 20\%$ at the 80% were met by Columbia Gas and National Grid, while Eversource achieved relative precision of $\pm 27\%$, which is greater than the target.

Core Initiatives or End Uses to which the Results of the Study Apply:

- o Commercial & Industrial
- o All Initiatives
- o All End Uses
- o Gas Only
- o Custom installations

Evaluation Recommendations:

The following recommendations were made by the evaluators conducting this study.

Recommendation 1: Use the appropriate realization rates. The relative precision of the RRs for National Grid ($\pm 8\%$), and Columbia ($\pm 7\%$) meet the target and each PA had more than ten sites (when PY16, PY17, and PY18 are pooled), therefore their individual PA realization rates will be applied. Eversource will use the statewide (EV) results that achieved a relative precision of $\pm 11\%$. Because fewer than ten sites were evaluated in their territory, Berkshire, Liberty, and Unitil will use the Statewide (BLU) results that achieved a relative precision of $\pm 7\%$.

Recommendation 2: Use the appropriate lifetime savings adjustment factors (LSAFs). Columbia Gas and National Grid will use their individual pooled LSAFs. Eversource will use the Statewide (EV) LSAF value and Berkshire Gas, Liberty, and Unitil will use the Statewide (BLU) pooled LSAF value.

Recommendation 3: Improve the data collection and controls procedures for projects greater than 100,00 therms (large). Pre-project errors (inputs or calculations) had a negative impact of

17% in the PY2018 savings. PAs should continue to improve project-specific pre-installation data collection and enhance the quality control process for large projects to catch errors that affect the program results.

Recommendation 4: Research to gather data on steam trap repair frequencies at participating and non-participating facilities that might result in an update of the steam traps calculator.

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

The PAs are considering all recommendations for adoption at this time. The PAs have not formally adopted or rejected any recommendations that require changes to program design and operations.

How the Study Affects Program Results and Its Significance:

The results from this study will be applied to the PY2020 savings in the 2020 term year report filed in 2021. The team will continue to roll the three most recent annual program evaluation results together to determine a realization rate that meets the precision targets.

Overview of Study Method:

The evaluation team's approach was consistent with the procedures and protocols developed during the previous rounds of custom gas impact evaluation conducted for PY2016 and PY2017. The impact evaluation consisted of desk reviews, on-site visits, and metering of a randomly selected sample of projects at participating facilities.

Application of Results: Retrospectively and Prospectively

A copy of the complete study can be found in Appendix 4D, Study 20-17.

Study 20-18: Franchise Controls Deemed Savings Study (MA20C07-E-DUN)

Type of Study: Impact Evaluation

Evaluation Conducted by: DNV

Date Evaluation Completed: 1/22/2021

Study Objective and Summary of Results:

The purpose of this study was to develop measure-level deemed savings estimates for a building automation system (BAS) measure offered for small franchise coffee and donut shops, which are often installed with multiple other efficiency measures such as lighting retrofits and refrigeration controls. The measure applies time switch-based scheduling of small individual food service appliances (e.g., toasters and coffee makers), and often HVAC setback and exterior lighting controls. The study leveraged three different recent evaluation studies, where results from those studies were used as a basis to determine the optimal deemed savings estimate for the BAS measure. The recent studies include billing analysis in study P71, and impact evaluation work for PY2017 small business (MA19C03-E-SBIMPCT) and PY2017/2018 custom electric (MA19C07-E-CUSTELEC). To narrow focus on the BAS measure, we isolated five sites that only installed BAS systems that controlled appliances and overlapped in both the M&V and billing analysis samples.

The study provides the following key findings:

- The five sites common to the three studies have similar average impacts, at 9,651 kWh and 9,135 kWh and of the same magnitude when viewed as a percent of consumption.
- Given the DNV team's confidence in the representativeness of the small sample, the methods to develop the measurement and verification (M&V) baseline, and that the billing analysis does not present evidence the M&V savings are incorrect, the team deemed the M&V results reasonable.
- The similarity of savings as a percent consumption between the pre-post billing analysis and M&V savings results among the overlapping subset indicates the two analyses are in agreement regarding individual site-level effects. The full billing analysis, incorporating far more sites and a comparison group, produces a result that is grounded in both more participant data and a consideration of non-program, exogenous trends. Given the parallels between the two analyses, but the ultimate overall strength of the billing analysis result, we recommend using the overall billing analysis study results to inform the deemed savings estimate.

Core Initiatives or End Uses to which the Results of the Study Apply:

- Commercial & Industrial
- Existing Building Retrofit
- Food Service
- Electric Only

Evaluation Recommendations:

The following recommendations were made by the evaluators conducting this study.

Recommendation 1: Given the similarity of savings as a percent of consumption between pre-post billing analysis and M&V savings results among this subset and the larger billing analysis study, use the overall billing analysis study results to inform the deemed savings estimate.

Recommendation 2: Ensure the appliances planned to be packaged into the BAS are appropriate for the control measure, rather than applying the controls to the eight greatest loads. Appliances such as ice machines, which do not benefit from controls, and appliances that were previously controlled in a similar fashion before the BAS installation should not be included in the BAS package.

Recommendation 3: The overall recommendation for the deemed savings estimate per BAS installed in a franchise site is 5,344 kWh, or 4.0% of site consumption.

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

The PAs are considering all recommendations for adoption at this time. The PAs have not formally adopted or rejected any recommendations that require changes to program design and operations.

How the Study Affects Program Results and Its Significance:

The recommended deemed savings estimate for the BAS measure of 5,344 kWh is significantly lower than the current estimate of 18,700 kWh. This decrease is mostly due to less than predicted operational changes impacting hours of use, which are mostly influenced by users overriding the BAS controls to use equipment during periods of lower demand. The change in savings may need to be analyzed through means of cost-effectiveness to determine if the measure should be considered for future energy efficiency implementation.

Overview of Study Method:

To narrow focus on the BAS measure, the DNV team isolated five sites that had only installed BAS and which were in both the M&V and billing analysis samples. In isolating the M&V sites within the billing analysis dataset, the team could then compare the small sample of M&V and billing results and examine the influence of a comparison group on the billing results. Though the selection of these five sites was not representative, they provided a basis to compare the M&V and

billing analysis methods, which provided more confidence that the billing analysis with the control group, which is representative, was the correct value to use.

Application of Results: Retrospectively and Prospectively

A copy of the complete study can be found in Appendix 4D, Study 20-18.

Study 20-19: Ground Source Heat Pump eTRM Measure Review (MA20C15-B-GSHP)

Type of Study: Technology Evaluation

Evaluation Conducted by: DNV

Date Evaluation Completed: 1/29/2021

Study Objective and Summary of Results:

The purpose of this study was to determine the accuracy of the values in the Massachusetts Technical Reference Manual (eTRM) for estimating savings for ground source heat pumps (GSHP). The main objectives were to provide guidance to the PAs on possible adjustments to the eTRM savings calculations as they are presented for this measure; the need for estimating whole system savings, as opposed to savings from the heat pump unit only; and measure life estimates, including unit lifetimes vs. whole system lifetime.

The study provides the following key findings:

- The current GSHP offering is sufficient for the limited event type offering. However, it does not accurately reflect the benefits of GSHP installation for wider event types.
- GSHPs are high-performing, supplying 3.1 to 4.1 units of energy to the building as heat for every 1 unit of energy used to power the system.

Core Initiatives or End Uses to which the Results of the Study Apply:

- Commercial & Industrial
- All Initiatives
- HVAC & Hot Water
- Electric & Gas

Evaluation Recommendations:

The following recommendations were made by the evaluators conducting this study.

Recommendation 1: To more accurately reflect savings from this measure, GSHPs should be broken out from air source heat pumps (ASHPs) into their own category offering. This will allow the program to attribute savings, baselines, and lifetimes in a more defensible way.

Recommendation 2: Baseline considerations: The measure should allow baselines to reflect pre-existing and similar code efficiencies to maximize savings for two different event types (new equipment and early replacement/retrofit).

Recommendation 3: Algorithmic considerations: Further algorithms should be considered to include fossil fuel impacts when replacing fossil fuel-fired heating systems. When a

desuperheater is included in the system, domestic hot water impacts should be included for either electric or gas dependent on the hot water heating system on-site.

Recommendation 4: Lifetime considerations: The lifetime of the measure should be updated from 12 years to match the U.S. Department of Energy's expected lifetime of 25 years for the indoor portion of the GSHP.

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

The PAs are considering all recommendations for adoption at this time. The PAs have not formally adopted or rejected any recommendations that require changes to program design and operations.

How the Study Affects Program Results and Its Significance:

Currently, the GSHP measure is lumped into a package with ASHPs. The current methodology, algorithms, and baseline for the new equipment event type are sufficient, though limited in scope, as other event types are not considered. The research suggests that, in reality, most GSHPs replace existing equipment such as boilers, chillers, furnaces, and ASHPs. In such cases, the efficiency of the existing unit or a comparable code efficiency is the better reference savings, though it is recommended that PAs seek secondary research to determine an appropriate baseline for GSHP retrofit event types that fit within the MA C&I baseline framework. Current GSHP methodology only considers electric impacts for cooling and heating supplied by the GSHP. When considering pre-existing conditions, a project may develop gas heating impacts when replacing pre-existing fossil fuel-fired equipment. Domestic hot water benefits are also potentially missed.

Overview of Study Method:

For this study, DNV gathered relevant documents and performed an initial literature review to provide a basis from which we assessed potential modifications to the eTRM measure. Information was collected from industry papers as well as TRMs from other states and jurisdictions that incentivize GSHPs. Interviews were also conducted to collect first-hand information from industry experts and independent engineers on GSHP unit performance and savings. We sought to address issues such as nameplate vs. actual performance, the appropriate baseline for these systems, and whole system savings vs. unit savings alone – which is understanding the impact of the ground source loop system on the ground source heat pump itself.

Application of Results: Prospectively

A copy of the complete study can be found in Appendix 4D, Study 20-19.

Study 20-20: C&I ISP Research and Repository: Food Services Equipment Pre-Research Memo (MA20C02-B-ISP-REPOS)

Type of Study: Market Characterization or Assessment Evaluation

Evaluation Conducted by: DNV

Date Evaluation Completed: 9/22/2020

Study Objective and Summary of Results:

The goal of this research was to assess whether we see enough evidence of used food service equipment being purchased and installed to warrant further ISP investigation. The evaluation team conducted pre-ISP study research, including web research and interviews, to determine whether a blended baseline is worth pursuing for food service measures.

The overall outcome of this study was that additional primary research with respect to industry standard practice surrounding kitchen equipment will be valuable to the PAs and the evaluation team.

Core Initiatives or End Uses to which the Results of the Study Apply:

- Electric & Gas

Evaluation Recommendations:

The following recommendations were made by the evaluators conducting this study. Based on the online research, referring to the TRMs, Food Service Technology Center (FSTC) engineer input, and phone calls with two suppliers, the team found that there is a significant market for used and refurbished food service equipment. The team believes that further research to determine a new baseline for used kitchen equipment will be valuable. The following topics are recommended for inclusion in a full ISP study:

- **Include research on used equipment market prevalence and practices in research.** This may be challenging due to the scattered nature of the used equipment market. Including some interviews with end users may be necessary.
- **Limit ISP research to non-refrigeration equipment.** The interviews and research we conducted suggests that cooking equipment, particularly ovens, griddles, fryers, and ranges, are more likely to last long enough to become part of the used equipment market, and this equipment is not subject to federal efficiency standards in the same way that refrigeration equipment is.
- **Consider differentiating practices by restaurant type.** Fast food, franchised, and chain restaurants may have different standard practices, especially when considering used equipment.

- **Include both gas and electric equipment.** Typical operating efficiencies for cooking equipment differ substantially depending on the fuel used.
- **Note that ongoing impacts due to the coronavirus may drive a change in behavior.** An upswing in the used equipment market may change industry standard practice in the short and long term.

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

The PAs are considering all recommendations for adoption at this time. The PAs have not formally adopted or rejected any recommendations that require changes to program design and operations.

How the Study Affects Program Results and Its Significance:

The results from this study do not have a direct impact on retrospective or prospective savings. If additional research is conducted, and the baseline for kitchen equipment is determined to be different from what the program commonly uses this could have savings implications in the future but is not defined at this time.

Overview of Study Method:

Evaluators used a mix of secondary research and a small amount of primary research to arrive at the recommendations. This included web research, online supplier research, a comparison of technical reference manuals and some informal interviews with industry experts.

Application of Results: Prospectively

A copy of the complete study can be found in Appendix 4D, Study 20-20.

Study 20-21: Code Promulgation Attribution Study (MA19X07-B-CDPROMATT)

Type of Study: Impact Evaluation

Evaluation Conducted by: NMR Group

Date Evaluation Completed: 9/15/2020

Study Objective and Summary of Results:

The purpose of this study was to determine an attribution factor to apply to the savings generated from the PAs' efforts to promulgate energy-efficient amendments into the 2018 Massachusetts State Building Code. The study also developed a framework for estimating the gross-technical-potential (GTP) savings resulting from those amendments.

The study provides the following key findings:

- The PAs developed three commercial and two residential amendments that were ultimately adopted into the State's base building energy code. It is unlikely similar proposals would have been adopted without the PAs' efforts.
- The PAs are 90% responsible for the savings resulting from the energy-efficient amendments. This factor was determined by a consensus group of stakeholders, based on a document review and in-depth interviews with participants in the code adoption process.
- The study estimated combined electric and gas GTP savings of 138,153 MMBTU from the amendments through 2026. This includes 29,103 MWh of electric GTP savings, which represent between 3% and 13% of the 2018 new construction electric savings annually. One amendment that reduces interior lighting power density allowances accounts for 95% of the electric GTP savings. The study estimates gas GTP savings at 388,574 therms, representing between -1% and 5% of 2018 new construction gas savings annually (accounting for interactive effects between lighting and gas savings). Commercial and industrial savings comprise 65% of the combined savings and residential savings comprise 35%.
- Using the framework developed in this study, the PAs can calculate more accurate estimations of GTP in the years 2022 through 2026 by replacing assumed values with actual data.

Core Initiatives or End Uses to which the Results of the Study Apply:

- Residential & Commercial & Industrial
- New Homes & Renovations
- Envelope & HVAC
- Electric & Gas

Evaluation Recommendations:

The following recommendations were made by the evaluators conducting this study.

Recommendation 1: The PAs should use an attribution factor of 90% for the savings generated from their efforts to promulgate the five Massachusetts-approved amendments to the 2018 International Energy Conservation Code (IECC).

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

The PAs plan to adopt the recommendations.

How the Study Affects Program Results and Its Significance:

This study determined that an attribution factor of 90% should be applied to gross savings estimates resulting from the PAs' efforts to promulgate amendments to the 2018 IECC. This will apply to gross savings generated in 2022 through 2026.

Overview of Study Method:

The study included a document review of all documentation of PAs' efforts and all publicly available BBRS proceeding documents. Additionally, NMR conducted in-depth interviews with two PA representatives and five key participants in the code adoption process. The attribution factor was determined using a consensus group, including experts from evaluation, implementation, PAs, and the Department of Energy Resources.

Application of Results: Prospectively

A copy of the complete study can be found in Appendix 4D, Study 20-21.

Study 20-22: 2013-2017 Residential Customer Profile Study: Stakeholder Summary and Comprehensive Report (MA19X08 2017 RESCUSTPRO)

Type of Study: Market Characterization or Assessment Evaluation

Evaluation Conducted by: DNV

Date Evaluation Completed: 9/16/2020

Study Objective and Summary of Results:

The principal research objectives of the RCPS comprehensive report is to analyze 2013-2017 customer usage, savings, incentive, and program participation data using charts, tables, and geographic outputs. In addition this report included a location-level analysis (within year, and over time) with aggregated savings and participation rates, by PA, fuel, and geography.

The study provides the following key findings:

- Despite a 4.2% increase in the number of physical locations served by the electric PAs from 2013 to 2017, the residential population's kWh consumption has declined by 1.7%.
- From 2013-2017, approximately 35% of locations participated in a program. This excludes upstream and behavioral programs.
- Housing authorities had a population savings achieved nearly double most other building types.
- The 5-year electric participant location rate is likely much larger than 35%. This is because that figure does not include any locations that purchased lights and other products through the upstream channel. The upstream channel represents 48% of electric program savings annually from 2013-2017.
- The geographic distribution of incentives per kWh at the block group level is relatively uniform, though larger projects can skew this.
- The block group scatterplots show that there are linear trends in savings and participation relative to demographic variables, and that the existence of outlier groups may offer "lessons learned" opportunities for additional savings and participation.
- Since 2015, the Residential Products program, a retail delivery channel, has contributed a proportionally larger percentage of savings, while the Residential Whole House program, which includes home energy audits, has contributed a smaller percentage.
- The electric PAs' quintile population savings ratios have been relatively consistent since 2014, with the first and fifth quintiles averaging around 1.3 to 1.4% savings.
- The gas PAs' quintile population savings ratios are more variable within the ACS attributes.
- Block groups with lower electric participation from 2013 to 2017 appear to be associated with high proportions of delivered heating fuels.
- Rural areas tend not to have access to PA-delivered natural gas and rely on delivered fuels, including oil and propane. These areas may represent opportunities for targeted electrification. Urban areas tend to have choices beyond delivered fuel and are less likely

locations for targeted fuel switching than rural areas, which have a higher percentage of delivered fuel.

- The location data grain is preferable for time series analysis due to its consistency across PAs and fuels, as well as the presence of location in nearly all third-party data.
- Some of the demographic variables of interest in this report appear to be correlated with one another.
- ACS household data and PA location data are complementary, but different grains and should be leveraged with this in mind.
- K-Means clustering of block groups using the combination of factor scores and PAs' tracking data offers an alternative and more comprehensive way than the basic quintile analyses to assess geographic patterns in customer engagement and to aggregate similar block groups for summary statistics.

Core Initiatives or End Uses to which the Results of the Study Apply:

- Residential
- Income-Eligible
- All Initiatives
- All End Uses
- Electric & Gas

Evaluation Recommendations:

The following recommendations were made by the evaluators conducting this study.

Recommendation 1: *Use third-party information, partner data, and DHCD data to better identify low-income households.* The RCPS has traditionally leveraged PA rate codes to identify low income housing. This approach has the benefits of maintaining consistency across all PAs and leveraging data (the rate code) that is captured as a core element of the billing process. The drawback is that even with the assistance in place through the PAs and other stakeholder groups, not all low-income customers may realize they qualify to be on a low-income rate code. The 2017 RCPS was able to leverage data about housing authorities, but this still leaves a population of privately-owned subsidized housing potentially under-represented in the data. After a review of data available from MA DHCD, DNV believes that a focused effort to identify the most useful datasets and develop a pipeline process to link the to the PAs data – similar to what was done with the tax data – would be a transparent and efficient way to further identify and report on the program engagement of low income customers.

Recommendation 2: *In future iterations of the RCPS, break out multifamily and single-family housing as separate reporting classes and build on the location-level grain to reflect sub-unit participation and savings for all PAs.* The idea arose through working groups with the PAs and EEAC Consultants to add an additional reporting grain identifying single family statistics and multifamily statistics. This grain was not reflected in the 2017 RCPS due to ongoing refinement around identifying multifamily data as accurately as possible. The difficulty of identifying multifamily data is compounded by the fact that while some measures, such as

insulation, impact all accounts, sub-units, and customers within a multifamily building, they might nevertheless be tied to a single record (such as the building's common area meter) or only reflected in the data at the building level. One workaround for this data limitation is to use consumption-weighted participation as done in the MA Residential Non-participant Customer Profile Study; others may include identifying sub-units using tax data or a logic model looking at simultaneously active electric accounts within a location. We suspect that in future studies, the parallel application of different identification systems will allow us to distinguish multifamily from single family sub-reporting grains to better reflect how these customer groups are served.

Recommendation 3: *In the next RCPS, use exploratory factor analysis (EFA) and k-means analyses to determine whether geographic hot spots and/or outliers exist within the landscape.* The application of the EFA and k-means to the geographic data in the 2017 RCPS confirmed that the more detailed classification of block groups leveraging multiple ACS variables yields a more nuanced and interesting geographic landscape than prior methods have yielded. The next RCPS should build on this analysis to not only score the individual block groups, but also identify where geographic clusters of similar block groups exist and if/where there are outliers within these groups or across the greater landscape. This type of analysis addition will facilitate the use of geographic data by implementation and outreach teams through visually focusing on areas of interest, and could become a particularly powerful community outreach tool when integrated into an interactive spatial decision support environment.

Recommendation 4: *Leverage a similar interactive platform for the data presentation along the lines of what the C&I Customer Profile has been migrated to. The RCPS contains a substantial amount of data, and is of interest to a broad array of stakeholders.* Migrating many of the graphics, in particular the geographic analyses, to an interactive platform would support the PAs' focus on continuing to develop and modernize data coordination. The PAs have successfully migrated the C&I Customer Profile Study to an interactive web-based platform; this reduced the report length by over 400 pages, shortened the timeline for making data available to stakeholders by nearly half a year, and based on stakeholder feedback – including the EEAC – greatly increased the data's usefulness by facilitating custom analyses and data summaries.

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

The PAs are considering all recommendations for adoption at this time. The PAs have not formally adopted or rejected any recommendations that require changes to program design and operations.

How the Study Affects Program Results and Its Significance:

The 2017 RCPS analyzes and reports on the Massachusetts Program Administrators' (PAs') energy efficiency program tracking and residential customer consumption data to offer diverse views of participation, savings, and geographic dynamics within the PAs' residential customer population. The RCPS assesses the energy efficiency program tracking and billed usage data for

residential gas and electric customers, and identifies and summarizes trends in participation and savings.

Overview of Study Method:

The RCPS dashboard, stakeholder summary and data insights report use PAs' 2017 billing and tracking. This data undergoes a standard extract, transform, and load (ETL) process. Data is prepared for analysis by linking the 2017 tracking and billing data to the historical data along with third-party tax assessor data.

- **Report on unique locations:** DNV reported on the unique locations represented in the PAs' data, replacing the previously reported on account-level analysis grain.
- **Report on unique locations over time:** The 2013-2017 data was used to report on activity at unique locations over time, creating a new analysis lens through which to better understand participation rates and coverage.
- **Report on incentives by geography:** DNV reported on savings, usage, and incentives for customers at the block group level.
- **Add ACS variable groups:** DNV coordinated with the PAs to integrate new ACS block group variables.
- **Link scatterplots, tables and maps:** DNV significantly modified the ACS block group analyses by including newly designed consumption-normalized scatterplots; providing greater transparency and insight into block groups of interest while still protecting customer privacy.
- **Re-cluster ACS block groups:** DNV assessed three clustering options – natural breaks, k-means and principal components analysis (PCA) – as alternatives to the quintile breaks used in prior reports.

Application of Results: Retrospectively

A copy of the complete study can be found in Appendix 4D, Study 20-22.

Study 20-23: 2018 Commercial and Industrial Customer Profile Study: Stakeholder Summary and Comprehensive (MA20X01-B-2018CICUSTPRO)

Type of Study: Market Characterization or Assessment Evaluation

Evaluation Conducted by: DNV

Date Evaluation Completed: 2/3/2021

Study Objective and Summary of Results:

The overall goals of the 2018 Commercial & Industrial Customer Profile Study (CCPS) are to analyze, summarize, and report on the energy efficiency program tracking data and billed usage data for all C&I gas and electric customers served by the PAs.

The study provides the following key findings:

- The MA PAs' 2018 energy efficiency programs continued to deliver consistent participation and savings statewide and across a diverse business demographic for Massachusetts C&I customers.
- Gas programs continued to meet statewide savings targets with participation rates consistent with prior years; natural gas prices remain particularly important in customer investment decisions.
- Accounts and locations provide two complementary, but different, views of participation—especially for time series metrics. For several PAs, participation rates nearly double when assessed through the lens of location rather than account.
- In 2018, the share of statewide savings from electric micro and small business accounts was nearly proportional to their share of statewide consumption. Small business gas accounts showed more participant savings achieved, on average, than medium and large accounts.
- Educational Services showed a high degree of measure diversity and high time-series lifetime savings at the location level compared to other segments, suggesting that measure diversity supported this segment's aggregate successes.
- HVAC is an important source of electric and gas savings. Continuing to engage customers in this ubiquitous end use and continuing to support HVAC measures via multiple delivery channels will likely be key to future savings goals.

Core Initiatives or End Uses to which the Results of the Study Apply:

- Commercial & Industrial
- All Initiatives
- All End Uses
- Electric & Gas

Evaluation Recommendations:

The following recommendations were made by the evaluators conducting this study.

Recommendation 1: incorporate broader analytics related to the program planning tools beyond traditional energy efficiency to create a more complete picture for planners and stakeholders, including assessing the performance of the C&I Active Demand Reduction (ADR) Initiative and any other key program or metrics or key performance indicators identified through stated goals in the Three-Year Plan.

Recommendation 2: expand location-level analysis to inform strategic targeting and equity efforts. This would potentially include adding more crosstabs with location comparisons, beyond PA and fuel, to look at location participation and savings across different customer sizes, towns, industry segments, end uses, etc.

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

The PAs are considering all recommendations for adoption at this time. The PAs have not formally adopted or rejected any recommendations that require changes to program design and operations.

How the Study Affects Program Results and Its Significance:

The analysis and reporting of the CCPS along with the easily accessible electronic dashboard (<https://www.masssavedata.com/Public/CICustomerProfileDashboard>) accurately quantify and report on time series trends on the Massachusetts C&I energy efficiency programs. The CCPS dashboard and paper report provide detailed data while always maintaining PAs' customer and IT system confidentiality.

Overview of Study Method:

The CCPS dashboard, stakeholder summary and data insights report use PAs' 2018 billing and tracking. This data undergoes a standard extract, transform, and load (ETL) process. Data is prepared for analysis by linking the 2018 tracking and billing data to the historical data along with third-party tax assessor data.

Location-level analysis: New to the 2018 CCPS, DNV created a location analysis grain. This allows for key metrics to be analyzed based on location in addition to, or instead of, account, which has historically been the basis for report findings.

Lifetime savings analysis: the new location grain also allows for a fresh look at program impacts at the site level, where (with relatively rare exception) assets remain constant regardless of account turnover. DNV expanded on this to include time-series contribution ratios utilizing lifetime savings. This new analysis captures a location's contribution to program goals over measure lives and addresses the concern of considering only existing single-year views.

New construction methodology change: to better analyze new construction accounts without prior consumption history, DNV modified the calculation logic to take the current year's extrapolated consumption plus the gross annual energy savings attributed to the new building.

Weather-normalize extrapolated consumption for both gas and electric accounts: for accounts with partial year consumption DNV used time-series data to generate weather-normalized consumption for both gas and electric accounts.

Consumption bin data retention: As part of the CCPS analysis, DNV compared results across customer sizes based on annual consumption. Accounts are broken into four customer size bins for this analysis: micro, small, medium, and large.

DNV updated the results from the 2017 CCPS using 2018 data provided by the PAs and tabulated year-over-year totals the broad groupings of:

1. Statewide by fuel
2. PA and fuel
3. Energy consumption range
4. Geographic region
5. Industry segment
6. End use

When possible, DNV also included breakdowns of these tables for each PA. Analysis of the tracking data by geography was conducted at the town level. The following metrics were used in the analyses:

- Participation
- Consumption-weighted participation
- Population savings achieved
- Participant savings achieved
- Market penetration
- Consumption-weighted penetration rate
- Contribution ratio
- Savings achieved over time

Application of Results: Retrospectively

A copy of the complete study can be found in Appendix 4D, Study 20-23.

Study 20-24: Consistent Methodology for Self-Reported Residential Net-to-Gross Measurement (MA19X03-B-RSRNTG)

Type of Study: Net-to-Gross Evaluation

Evaluation Conducted by: Tetra Tech
NMR Group

Date Evaluation Completed: 5/28/2020

Study Objective and Summary of Results:

The objective of this study is to develop a consistent methodology for determining self-reported (SR) residential downstream net-to-gross (NTG) for Massachusetts that can be adapted to reflect program offerings. This includes recommended survey questions and algorithms to be utilized for program offerings where a SR NTG is feasible.

The study provides the following key findings:

- The Illinois Technical Reference Manual, Evaluation Framework for Pennsylvania Act 129 Phase III Energy Efficiency and Conservation Programs, and the Energy Trust of Oregon Free-Ridership Methodology are similar in their NTG measurement approach for most residential programs (other than appliance recycling) in that they include a consistent set of core questions asking about influence of the program and customer intent had the program not existed. These frameworks have been in place for multiple program cycles, have been well-tested, and are commonly cited approaches.
- The study team built upon the NTG algorithms previously used in Massachusetts and incorporated commonalities from the Illinois, Pennsylvania, and Oregon frameworks above, including recommended residential batteries of questions and algorithms; questions about influence, timing, efficiency, and quantity; and questions designed to ensure consistency.
- The team created and provided PAs with tables aligned with the Benefit-cost Ratio model (BCR) that identify the residential programs/initiatives for which SR NTG is appropriate.

Core Initiatives or End Uses to which the Results of the Study Apply:

- Residential
- All Initiatives
- All End Uses
- Electric & Gas
- Downstream initiatives for which self-reported NTG is appropriate

Evaluation Recommendations:

The following recommendations were made by the evaluators conducting this study.

Recommendation 1: For residential NTG studies of programs for which self-reports from participating end-users or contractors are appropriate, PAs should use the batteries presented in this study, adapting them as appropriate for each evaluation.

Recommendation 2: Appliance recycling NTG evaluations should follow the protocols outlined in the Uniform Methods Project, not the batteries presented in this study.

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

The PAs plan to adopt the recommendations.

How the Study Affects Program Results and Its Significance:

The study findings have brought consistency to the approaches used to measure NTG from downstream residential programs. This will help ensure that changes in measured NTG from such programs going forward will primarily reflect changes to the measures, programs, and markets in question, not to the NTG measurement methodology.

Overview of Study Method:

With input from an Advisory Group comprising NTG experts from the residential evaluation team, the PAs, and the Energy Efficiency Advisory Council, the study team conducted a literature review. This involved identifying the best ideas for downstream residential self-reported NTG measurement from other jurisdictions and providing a preliminary assessment of the categories or types of programs relevant for consistent SR NTG measurement. With this information, the team created tables aligned with the BCR identifying the residential programs/initiatives for which SR NTG is appropriate. Accounting for each of the categories or types of programs and the different groups that would be expected to self-report NTG, the team developed a SR NTG method, including high-level outlines of algorithms, using questions with enough flexibility to address differences in program types.

Application of Results: Retrospectively

A copy of the complete study can be found in Appendix 4D, Study 20-24.

Study 20-25: Municipal Partnership Initiative Program Theory and Logic Model Development Memo (MA19X12-B-PTLMMuni)

Type of Study: Process Evaluation

Evaluation Conducted by: Opinion Dynamics

Date Evaluation Completed: 12/2/2020

Study Objective and Summary of Results:

The purpose of this study was answer to the following research questions:

- What is the core theory behind the Municipal Partnership Initiative?
- What are the anticipated activities that will be undertaken as part of the Initiative?
- What resources and tools are the PAs providing to the municipal leaders?
- What are the outputs of the activities?
- What the intended outcomes of the Initiative?
- What are the key metrics used to assess the Initiative's performance?
- Do the Initiative's activities and outputs vary by target community?

The study provides the following key findings:

- The COVID-19 pandemic is hindering municipalities' ability to reach their participation goals especially for programs that require in person assessments and installations.
- The delayed receipt of execution agreements and some outreach materials also impacted some municipalities.
- Municipalities believe there are opportunities for the PAs to provide increased support in helping them identify target customers groups by providing lists with customer information they can leverage for targeted outreach.
- Municipalities find value in the in opportunities the Initiative affords them to collaborate with not only their PAs and local community-based organizations, but also other municipalities.
- Municipalities are not accustomed to receiving performance-based incentives and would prefer to receive funds in grant form as some struggle with covering the upfront costs of marketing and outreach.
- As the Municipal Partnership Initiative outreach methods are effective for reaching income eligible populations and municipal leaders have expertise in engaging these customers, municipalities believe excluding this group as a target population is a missed opportunity.
- Municipal leaders identified ongoing barriers to engaging Limited English Proficiency customers. They share concerns that these customers are not able to complete the full enrollment and participation journey due to lack of in-language infrastructure and support, this challenge is especially prominent for virtual platforms.

Core Initiatives or End Uses to which the Results of the Study Apply:

- All Sectors
- Residential Coordinated Delivery
- Envelope & HVAC
- Electric & Gas
- Focus on Small Business, Moderate Income, and Limited English Proficiency customers

Evaluation Recommendations:

The following recommendations were made by the evaluators conducting this study.

Recommendation 1: As progress towards participation goals varies for each municipality within each Mass Save program, consider engaging in conversations with each municipality to assess what goals are feasible for 2020 given the impact of the pandemic and adjust goals accordingly.

Recommendation 2: As the COVID-19 pandemic is likely to continue to impact the ability to conduct in person events and interactions in the 2021 calendar year, consider adjusting the 2021 Initiative participation goals as well.

Recommendation 3: Consider re-aligning the performance period with receipt of execution agreements.

Recommendation 4: As data security and privacy constraints allow, consider providing the municipal leaders with access to contact lists pertaining to the target customer populations.

Recommendation 5: Consider hosting a workshop about best practices for reaching small businesses, seniors, and other populations that may be harder to reach due to COVID 19.

Recommendation 6: Continue to provide forums for the municipalities to connect, collaborate, and share experiences, challenges, and implementation ideas.

Recommendation 7: Consider revising the funding structure so less that a smaller percentage of the funds are contingent upon performance and municipalities receive funds earlier in the program year.

Recommendation 8: Consider including income eligible customers as a target customer population for the Initiative.

Recommendation 9: Ensure that customers have in language support through the entire customer journey.

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

The PAs are considering all recommendations for adoption at this time. The PAs have not formally adopted or rejected any recommendations that require changes to program design and operations.

How the Study Affects Program Results and Its Significance:

The PTLM and associated memo are designed to facilitate a common understanding of the Municipal Partnership Initiative design and implementation processes across Initiative stakeholders. These deliverables are also intended to support future evaluation efforts as they include descriptions of key activities, outputs, and outcomes expected from the Initiative and a list of potential performance metrics which the PAs can leverage to determine whether the Municipal Partnership Initiative is being delivered as planned and whether the intended theory of change is occurring.

Overview of Study Method:

The evaluation team approached the development of the PTLM as an iterative and interactive process. We started the process with a review of relevant program materials to develop initial PTLM inputs, which served as the base for in-depth interviews with PA staff. These activities gave us an initial understanding about the theory behind the Initiative and allowed us to develop a draft PTLM. Through interviews with each of the seven municipal leaders, we refined the PTLM and discussed Initiative implementation processes, any setbacks as a result of the COVID-19 pandemic, and identified successes and challenges related to participation. We also held follow-up group interviews with PA staff which allowed us to collect feedback on a draft PTLM and identify variations in program theory across municipalities, address gaps in knowledge, and determine any missing linkages to the PTLM.

Application of Results: Retrospectively

A copy of the complete study can be found in Appendix 4D, Study 20-25.

Study 20-26: 2019 Electric Vehicle Supply Equipment Direct Load Control Demonstration - Process /evaluation

Type of Study: Process Evaluation

Evaluation Conducted by: Guidehouse Inc.

Date Evaluation Completed: 7/6/2020

Study Objective and Summary of Results:

This evaluation assessed participant experience with Eversource's Electric Vehicle Supply Equipment (EVSE) Direct Load Control (DLC) demonstration and solicited information on participants' electric vehicle (EV) type, and their driving and charging behavior to inform the scalability of the solution. Additionally, the evaluation summarized key features of managed charging programs offered by utilities in other jurisdictions.

The study provides the following key findings:

Participant Survey Findings

- Survey respondents were generally very pleased with their program experience in 2019, despite events starting late in the evening (7 or 8 p.m.) when home charging is more common (compared to earlier in the day). In terms of program improvements, participant suggestions focused on modifications to program communications (event notification and program information).
- Based on survey feedback, the most common period during which EVs are connected to EVSEs on summer weekdays is between 6 p.m. and 6 a.m. A DLC program that calls events in the afternoon (earlier than 6 p.m.) on summer weekdays may see limited impacts.

Literature Review Findings

- Utilities across the US are experimenting with a variety of managed charging solutions (including direct load control and pricing-based solutions) to achieve goals for peak load reduction or load shifting. No single program design or technology platform has been identified as the model that will ultimately become the industry favorite.
- Early EVSE Demand Response (DR) pilots have shown promising potential, but challenges related to equipment connectivity and asset availability will need to be addressed before these programs can achieve the scale and dispatchability that utilities may ultimately want.
- Many utilities are planning for or are deploying managed charging-capable infrastructure with the intent of offering future DR programs.

Core Initiatives or End Uses to which the Results of the Study Apply:

- Residential
- Residential Behavior

- Other
- Electric Only
- Electric Vehicle Supply Equipment Direct Load Control

Evaluation Recommendations:

No formal recommendations were made in this evaluation.

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

N/A

How the Study Affects Program Results and Its Significance:

The evaluation begins to inform which managed charging solutions will be offered by the PAs in the future.

Overview of Study Method:

This evaluation assessed participant experience with the solution and solicited information on participants' EV types and driving and charging behavior. Additionally, the evaluation summarized key features of managed charging programs offered by utilities in other jurisdictions. The key elements of the study method include the following:

Participant Survey: Guidehouse administered an online survey with 2019 EVSE DLC demonstration participants. The evaluation team designed the survey instrument and had it reviewed by Eversource and the Energy Efficiency Advisory Council (EEAC) EM&V consultant before fielding the survey. The survey was administered online via the Qualtrics platform from December 16 through December 23, 2019 to the 74 customers enrolled in the demonstration as of October 31, 2019. Ultimately, 53 participants completed the survey.

Literature Review: Guidehouse performed a literature review to collect and synthesize information about EV managed charging programs being offered by other utilities around the US. The evaluation team collected information about program design and delivery, technology trends, and the overall experience that other utilities have had when attempting to manage EV charging by means of customer programs. In total, Guidehouse reviewed 14 programs in 12 jurisdictions.

Application of Results: Prospectively

A copy of the complete study can be found in Appendix 4D, Study 20-26.

Study 20-27: 2019 National Grid Behavioral Demand Response Evaluation

Type of Study: Impact Evaluation

Evaluation Conducted by: Guidehouse

Date Evaluation Completed: 4/28/2020

Study Objective and Summary of Results:

The objective of this study was to estimate demand reductions from National Grid's 2019 behavioral demand response (BDR) program via a literature review and an analysis of a subset of National Grid Massachusetts customers with interval utility metering.

The estimated event savings were not statistically significant across a variety of models. It is possible that an evaluation with access to a larger group of participants, or with a randomized control trial (RCT), may detect statistically significant savings in the future. Likewise, should National Grid have access to AMI data for more customers, the program design could be improved with customer-specific, post-event communications. An improved program design could lead to increased savings in the future.

Core Initiatives or End Uses to which the Results of the Study Apply:

- Residential
- Existing Building Retrofit
- Active Demand Reductions & Other
- Electric Only

Evaluation Recommendations:

No formal recommendations were made in this evaluation.

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

N/A (no formal recommendations were made in this evaluation)

How the Study Affects Program Results and Its Significance:

The estimated event savings were not statistically significant across a variety of models. It is possible that an evaluation with access to a larger group of participants, or with a randomized control trial (RCT), may detect statistically significant savings in the future. Likewise, should National Grid have access to AMI data for more customers, the program design could be improved with customer-specific, post-event communications. An improved program design could lead to increased savings in the future.

Overview of Study Method:

Guidehouse utilized AMI data from customers in the SES pilot to estimate impacts from the BDR program in 2019. Since the SES pilot ran from 2014 to 2018, with its own demand response events, it was not possible to estimate 2018 BDR savings with this dataset.⁵

Because there is no random control group for the BDR program, Guidehouse first utilized a within-subject analysis to estimate 2019 BDR savings. The within-subject analysis utilizes only BDR program participants and constructs counterfactual usage (i.e., usage in the absence of a BDR event) based on participant's usage during other hot days of the 2019 summer. The difference between the predicted baseline usage and actual usage during BDR events is the BDR program savings. We estimated the average treatment effect (ATE) which represents demand savings for all households called to participate in the BDR event.⁶

Guidehouse selected event-like non-event days to construct the counterfactual baseline usage for each event. The weekday event was matched to non-event, non-holiday weekdays and the weekend event was matched to non-event weekends or holidays. We chose non-event days that minimize the sum of the squared Euclidean distance in the temperature across the 14 hours of the day from 8 am to 10 pm, excluding days with unusual weather patterns (e.g. passage of cold fronts after thunderstorms).

Guidehouse then applied a linear regression framework using the event and selected non-event days to estimate the savings during each event. The regression model fits energy use as a function of a customer-specific fixed effect, events for participants, weather, and hour of the day. The model also captures up to 2 hours of (manual) precooling before the event starts and up to 3 hours of snapback after the event.

This model yields per participant average demand savings (or dissavings) during each hour of precooling, the event, and snapback. The values can be used to determine demand savings for the population during each hour of the event and energy savings for the day across precooling, the event, and snapback.

Guidehouse observed that the weather on event days was considerably hotter than the weather on the best matched control days. Therefore, in addition to the within-subject model, Guidehouse explored a regression specification that utilized the SES participants without email addresses as a quasi-control group for the BDR participants. The Level 1 Passive group from the SES pilot was the only group with enough non-BDR participants to serve as an adequate control group (3,646 quasi-controls compared to 4,896 treatment customers). Even for this group, there were not enough

⁵ As the effect would be confounded with that from the SES pilot.

⁶ We cannot estimate a treatment effect on the treated as we do not know who responds to the BDR emails by making changes to their usage and who does not.

non-BDR participants to conduct participant matching. Instead, Guidehouse used the entire non-BDR group as the quasi-control group.

Guidehouse applied a linear regression framework using the BDR and non-BDR participants on the event and selected non-event days to estimate the savings during each event. Like the within-subject model, the regression model fits energy use as a function of a customer-specific fixed effect, events for participants, weather, and hour of the day. The model also captures up to 2 hours of (manual) precooling before the event starts and up to 3 hours of snapback after the event.

Like the within-subject model, this model yields per participant average demand savings (or dissavings) during each hour of precooling, the event, and snapback. The values can be used to determine demand savings for the population during each hour of the event and energy savings for the day across precooling, the event, and snapback.

Application of Results: Retrospectively and Prospectively

A copy of the complete study can be found in Appendix D, Study 20-27.

Study 20-28: 2019/2020 Residential Energy Storage Demand Response Demonstration Evaluation - Winter Season

Type of Study: Pilot Evaluation and Demonstration Projects

Evaluation Conducted by: Guidehouse

Date Evaluation Completed: 9/21/2020

Study Objective and Summary of Results:

The purpose of this study was to assess the technical feasibility of using residential energy storage systems (battery) to reduce peak demand for National Grid and to flatten the solar output curve for Unitil as part of their broader active demand response initiatives. This study confirmed this feasibility; however, it has not looked at whether that control will be cost-effective for the electric system, program administrators, and/or customers. National Grid provided a performance incentive to customers in exchange for control of their existing battery as part of a “Bring Your Own Battery” demonstration, while Unitil provided each participant with a battery at no cost to them. National Grid called two events for participating customers⁷ during the winter season: one on December 19, 2019 and the other on February 14, 2020. Between January 1 and February 29, 2020 Unitil called events every day from 5 p.m. to 7 p.m. for 4 participating customers.

The study provides the following key findings for National Grid:

- Events called by National Grid during the winter season saved 559 kW per 2-hour event on average, with an average of 80 successfully participating battery devices.
- Battery devices that successfully participated in 2-hour events saved an average of 6.9 kW per unit.
- On average, called events had 72% of the expected maximum impact given the maximum expected discharge of the batteries operational at the time of the event.
- 119 devices were available for analysis, out of 148 devices that were enrolled in the program prior to the final event of the season.
- 102 of 119 devices successfully performed in at least one event this season.
- Successfully participating devices dispatched at a constant rate for the length of the event.
- The conventions (e.g., sign, time zone) associated with the telemetry data varied across manufacturers. While data consistency was largely improved since the original summer 2019 analysis, Guidehouse made a couple informed corrections to further align the telemetry data for all devices into a single convention.

The study provides the following key findings for Unitil:

- The battery output could not maintain a high level of discharge for the whole event. The batteries were successful at exceeding battery output targets for 30 minutes for 68% of events; however, no battery achieved its target for longer than 1.5 hours on any event day.

⁷ As of February 13, 2020, 148 customers enrolled in the program in Massachusetts.

- The average total output from the battery storage during the 2-hour events was 8.3 kW and 16.5 kWh.
- The average total battery discharge measured by PCS was 20.3 kWh, while the battery discharge calculated from power output averaged 16.5 kWh. The calculated battery discharge was approximately 82% of the battery's change in energy.

Core Initiatives or End Uses to which the Results of the Study Apply:

- Residential
- Existing Building Retrofits
- Active Demand Reductions
- Electric Only

Evaluation Recommendations:

The following recommendations were made by the evaluators conducting this study.

Recommendation 1: National Grid to encourage EnergyHub to work with manufacturers and/or integrators to align all details of the telemetry data so the data fields are consistent.

Explain Whether or Not the PAs Decided to Adopt the Recommendations from the Study:

The PAs are considering all recommendations for adoption at this time. The PAs have not formally adopted or rejected any recommendations that require changes to program design and operations.

How the Study Affects Program Results and Its Significance:

Regarding energy storage system performance, the study found that most batteries successfully performed in the majority of called events. This implies that daily dispatch is a viable option for consistent peak reduction or load shifting. National Grid should further explore the factors behind why the per-event average fleet performance was 72% of the maximum expected impact, which includes underperformance of selected devices. National Grid should also confirm that batteries are operational prior to joining program, in order to have accurate battery counts and impact estimations, and monitor batteries and potentially troubleshoot batteries that are consistently not performing. Depending on program objectives, Unitil should consider different approaches to increase event success—for example, reduce the duration of events from 2 hours to 1.5 hours or reduce the targeted output of the battery so batteries discharge through the entire period of winter events.

Overview of Study Method:

The study relied on several methods:

1. Impact analysis was performed using whole-home, solar PV, and energy storage system telemetry data along with event participation data. Interval data was collected for all

participating devices during the winter season. This was used to calculate the energy storage system dispatch during each called event and to assess the shape of the combined solar and battery output.

Application of Results: Retrospectively

A copy of the complete study can be found in Appendix 4D, Study 20-28.

APPENDIX 4

Statewide Evaluation Studies Summary

D. Evaluation Studies

Please see Statewide Appendix 4D: Evaluation Studies, filed under separate cover.

APPENDIX 5

PERFORMANCE INCENTIVES

The purpose of this section is to provide detailed supporting documentation on performance incentives that each Program Administrator proposes to collect. The Compact is a municipal aggregator and public entity that does not collect any performance incentives. As such, this section is not applicable to the Compact.

APPENDIX 6 2019 MISCELLANEOUS IMPLEMENTATION UPDATE

A. Renter, Income, and Language Data

Below is a table showing additional data related to renters, income level, and language.

Program Pathway	Renters Served			Notes
	2019	2020	2021	
Innovation - Tailored Energy Savings Packages	-	-	-	1
Residential Coordinated Delivery	254	148	-	2
Income Eligible Coordinated Delivery	1,202	295	-	
Total	1,456	443	-	
C&I, Residential End Use	58	40	-	3

- 1) Tailored Energy Savings Packages were made available to renters in 2019 as an easy way for them to access program savings. This number represents the number of customers receiving kits.
- 2) This number includes renter units in SF and legacy MF buildings who received at least one measure; renters who only received an audit are not counted.
- 3) This number represents the total number of units served through this pathway, not just renters. For large multifamily buildings, it is typically not possible to individually verify which units are occupied by a renter. However, it is likely that these buildings are predominantly occupied by renters.

Income Level	Renters Served			Notes
	2019	2020	2021	
Non-Income-Verified (Standard Program Participation)	247	133	-	1
Moderate Income Qualified (Weatherization Offer)	6	1		2
Income Eligible	1,202	295	-	
Total	1,455	429	-	

- 1) The vast majority of customers who participate in the PAs' programs do not undergo any income screening. The PAs are therefore unaware of their income status. All income screenings are voluntary.
- 2) This number only includes moderate-income-qualified renters who participated in the special insulation offer. In April of 2020, in response to the COVID-19 pandemic, the PAs began offering 100% incentives for insulation to all customers. There was therefore no reason for moderate income customers to undertake the voluntary income-qualification process, and *tracked* moderate income participation appears low as a result. This is not a representation of the total number of moderate income customers served. The customer profile studies issued annually contain information about participation in census blocks with high levels of moderate income residents.

Language Data (Statewide)	Mass Save Hotline Selection			MassSave.com Page Views		
	2019	2020	2021	2019	2020	2021
English	137,156	128,383		5,154,923	4,874,548	
Mandarin	158	1,399		N/A	N/A	
Portuguese	313	368		9,603	18,304	
Russian	212	761		N/A	N/A	
Spanish	2,900	3,039		44,195	31,927	
Total	140,739	133,950	-	5,208,721	4,924,779	-

B. [Compact Only] Shared Costs and Consumer Advocacy Matters

The Compact routinely incurs costs that it shares between its energy efficiency activities and its non-energy efficiency activities (e.g., its municipal aggregation power supply program). These costs are allocated between the Compact’s energy efficiency and its operating budget. In D.P.U. 18-116, the Department placed new reporting requirements on the Compact for costs: (1) shared between its energy efficiency and operating budget, and (2) related to consumer advocacy matters. D.P.U. 18-116 at 142-143.

1. *Background on Shared Costs Allocation Method*

In its 2020 energy efficiency surcharge (“EES”) proceeding, D.P.U. 19-136, the Compact identified its 2019 allocation factors for sharing costs between its operating and energy efficiency budgets. The 2019 allocation factors were different from those presented to the Department in D.P.U. 18-116, although the method for sharing costs (a determination by the Compact’s Governing Board), remained the same.⁴ The Compact’s identification in the 2020 EES proceeding of the change in allocation factors for its shared costs was consistent with the record in D.P.U. 18-116 describing how changes in allocation factors would be presented to the Department. The Department issued a partial approval of the Compact’s 2020 EES, withholding approval for collection of certain shared costs (those the Department believed to be attributable to the Compact’s new allocation factors as well as certain legal and consumer advocacy costs) pending further investigation (D.P.U. 19-136 at 5-6). In its 2019 Plan Year Report filed in D.P.U. 20-50, the Compact reported on its shared costs consistent with how it initially provided those costs to the Department in D.P.U. 19-136.

⁴ The Compact provided a detailed explanation of the new allocation factors and the Governing Board’s reasoning for them in D.P.U. 19-136, Exhibit DPU 1-7 and D.P.U. 20-50, Appendix 6 at 18-19.

In its 2021 EES filing, the Compact allocated estimated shared costs for 2021 using the factors presented to the Department in D.P.U. 18-116 (the “DPU Factors”), but also presented the Department with the Governing Board’s preferred shared cost allocation factors identified in D.P.U. 19-136 (the “CLC Board Factors”).⁵ In addition, the Compact provided further clarification regarding its consumer advocacy matters and its shared costs for legal matters: (1) some consumer advocacy matters may not have costs that are shared between the operating or energy efficiency budget (e.g., the costs are allocated 100% to one budget or the other); and (2) not all shared legal costs are consumer advocacy costs (e.g., instead, they are related to the Compact’s administration or its employees, or for certain regulatory matters that only require monitoring or review rather than active participation). The Department issued an approval of the Compact’s 2021 EES and deferred consideration of the Compact’s preferred approach to allocating shared costs to the investigation pending in D.P.U. 19-136. The briefing in D.P.U. 19-136 concluded in January 2021. The Compact awaits a decision from the Department in D.P.U. 19-136.

2. 2020 Shared Costs

For shared costs, in its plan year reports, the Department requires the Compact to provide a comparison of planned allocations versus actual spent dollars and an explanation of any variance greater than 10% (D.P.U. 18-116 at 142).

Because the investigation in D.P.U. 19-136 remains open, this 2020 Plan Year Report presents the Compact’s shared costs in two ways: (1) consistent with the DPU Factors; and (2) consistent with the CLC Board Factors. Refer to Section II, Parts A and B for the two allocation methods. The variance explanations in Appendix 1 rely on the data in Section II, Part A, which uses the DPU Factors to allocate shared costs.

The following tables provide, for each shared cost in 2020, (1) the allocation factor methodology, (2) the allocation factors used for planning and reporting using both the CLC Board Factors and the DPU Factors, and (3) the planned and actual allocated costs in dollars.

Table 6.A.1. 2019–2021 allocation factor methodology

Shared Cost	Allocation Factor Methodology
Legal, Consumer Advocacy	Case-specific, based on Board Consumer Advocacy Allocation Worksheet

⁵ The Compact also noted that the Department’s attribution in D.P.U. 19-136 of \$437,551 in added energy efficiency program costs as resulting from the Compact’s change in allocation factors was not accurate. D.P.U. 20-122, Exhibit 1 at 13-14 (clarifying that 85 percent of this added cost was instead due to increases in the Compact’s expenses based on updated information since the Compact’s 2019-2021 energy efficiency plan filing and would have increased regardless of how those expenses were allocated between the Compact’s two programs).

Legal, Other	Case-specific
Salary	Time spent on energy efficiency or operating activities
Software licenses	Same as salary (weighted average across staff based on time)
Payroll services	Same as salary (weighted average across staff based on time)
Internet	Same as salary (weighted average across staff based on time)
Rent	Same as salary (weighted average across staff based on time)
Custodial	Same as salary (weighted average across staff based on time)
Other Utilities	Same as salary (weighted average across staff based on time)
Auditor	Percentage each respective budget represents
Treasury services	Percentage each respective budget represents
Financial software	Percentage each respective budget represents
Insurance	Persons insured

Table 6.A.2. 2020 shared cost dollars and allocation factors

Shared Cost	2019-2021 Plan					Compact Board Allocation Factors					Department Allocation Factors				
	Costs (\$)			Allocations (%)		Costs (\$)			Allocations (%)		Costs (\$)			Allocations (%)	
	EE	OP	Total	EE	OP	EE	OP	Total	EE	OP	EE	OP	Total	EE	OP
2020	<i>Estimated costs, estimated allocations, legal not yet known</i>					<i>Actual costs, actual allocations, consumer advocacy to EE and OP</i>					<i>Actual costs, planned allocations, consumer advocacy to OP only</i>				
Legal, Consumer Advocacy	-	-	-	0%	0%	2,947	1,292	4,239	70%	30%	-	4,239	4,239	0%	100%
Legal, Other	-	-	-	0%	0%	28,882	35,289	64,172	45%	55%	28,882	35,289	64,172	45%	55%
Salary	2,257,201	151,220	2,408,421	94%	6%	2,506,476	162,827	2,669,303	94%	6%	2,501,703	167,600	2,669,303	94%	6%
Software licenses	-	-	-	94%	6%	20,531	1,334	21,865	94%	6%	20,492	1,373	21,865	94%	6%
Payroll services	-	-	-	94%	6%	1,519	99	1,618	94%	6%	1,516	102	1,618	94%	6%
Internet	8,500	2,833	11,333	75%	25%	14,512	943	15,455	94%	6%	11,591	3,864	15,455	75%	25%
Rent	67,500	22,500	90,000	75%	25%	84,510	5,490	90,000	94%	6%	67,500	22,500	90,000	75%	25%
Custodial	30,515	10,172	40,687	75%	25%	26,300	1,709	28,008	94%	6%	21,006	7,002	28,008	75%	25%
Other Utilities	75,750	25,250	101,000	75%	25%	34,381	2,234	36,615	94%	6%	27,461	9,154	36,615	75%	25%
Auditor	20,000	2,222	22,222	90%	10%	65,993	1,141	67,134	98%	2%	60,421	6,713	67,134	90%	10%
Treasury services	12,000	1,333	13,333	90%	10%	14,930	258	15,188	98%	2%	13,669	1,519	15,188	90%	10%
Financial software	1,000	111	1,111	90%	10%	45,395	785	46,180	98%	2%	41,562	4,618	46,180	90%	10%
Insurance	12,000	4,000	16,000	75%	25%	37,224	17,697	54,921	68%	32%	41,191	13,730	54,921	75%	25%
TOTAL	2,484,466	219,642	2,704,108	92%	8%	2,883,600	231,098	3,114,698	93%	7%	2,836,995	277,703	3,114,698	91%	9%

Table 6.A.3. 2020 planned vs. actual shared costs

Shared Cost	2019-2021 Plan			2020 Actual Costs			Compact Board Allocation Factors				Department Allocation Factors			
	Costs (\$)			Costs (\$)			Costs (\$)		Change (%)		Costs (\$)		Change (%)	
	EE	OP	Total	Total	Total	Total	EE	OP	EE	OP	EE	OP	EE	OP
2020														
Legal, Consumer Advocacy	-	-	-	4,239	4,239		2,947	1,292			-	4,239		
Legal, Other	-	-	-	64,172	64,172		28,882	35,289			28,882	35,289		
Salary	2,257,201	151,220	2,408,421	2,669,303	260,882	11%	2,506,476	162,827	11%	8%	2,501,703	167,600	11%	11%
Software licenses	-	-	-	21,865	21,865		20,531	1,334			20,492	1,373		
Payroll services	-	-	-	1,618	1,618		1,519	99			1,516	102		
Internet	8,500	2,833	11,333	15,455	4,122	36%	14,512	943	71%	-67%	11,591	3,864	36%	36%
Rent	67,500	22,500	90,000	90,000	-	0%	84,510	5,490	25%	-76%	67,500	22,500	0%	0%
Custodial	30,515	10,172	40,687	28,008	(12,678)	-31%	26,300	1,709	-14%	-83%	21,006	7,002	-31%	-31%
Other Utilities	75,750	25,250	101,000	36,615	(64,385)	-64%	34,381	2,234	-55%	-91%	27,461	9,154	-64%	-64%
Auditor	20,000	2,222	22,222	67,134	44,912	202%	65,993	1,141	230%	-49%	60,421	6,713	202%	202%
Treasury services	12,000	1,333	13,333	15,188	1,854	14%	14,930	258	24%	-81%	13,669	1,519	14%	14%
Financial software	1,000	111	1,111	46,180	45,069	4056%	45,395	785	4439%	607%	41,562	4,618	4056%	4056%
Insurance	12,000	4,000	16,000	54,921	38,921	243%	37,224	17,697	210%	342%	41,191	13,730	243%	243%
TOTAL	2,484,466	219,642	2,704,108	3,114,698	410,590	15%	2,883,600	231,098	16%	5%	2,836,995	277,703	14%	26%

As indicated in the above table, actual shared costs were about \$410,000 or 15% greater than planned costs, regardless of the allocation factors used. Below, the Compact provides an explanation for the variance in each shared cost. In general, the reason for most variances between plan to actual costs and variances between the Compact's Board planned and actual allocation

factors is that actual costs and allocation factors reflect total incurred costs, and these sometimes vary from the estimated values. The Compact uses the best available information at the time of planning to estimate costs. This includes historical information as well as the Compact's best estimate of projected costs.

- *Legal, Consumer Advocacy and Other.* The Compact did not plan at this level of detail in its 2019–2021 Three-Year Plan. See the following section for a discussion on consumer advocacy costs.
- *Salary.* The expenditures for salary reflect the actual time Compact staff spent working on energy efficiency programs. Staff who work on energy efficiency and non-energy efficiency programs track and record their time on a daily basis, charging each program budget based on actual hours worked.
- *Software Licenses.* The expenditures for software licenses allocated to energy efficiency in 2020 is not a new cost. Software license fees were previously embedded in the Compact's database budget. Effective in 2019, the Compact began tracking software licenses separately from the database to more efficiently track shared costs (the database is specific to energy efficiency programs and is not a shared cost).
- *Payroll Services.* Payroll expenditures are directly related to staff time spent on energy efficiency and non-energy efficiency programs. Prior to the 2019–2021 Plan, energy efficiency payroll costs were allocated to the Compact's operating budget. This practice changed as a result of the April 2019 Compact Board vote to accurately track staff time spent on energy efficiency programs and to allocate shared costs based on this practice.
- *Internet.* When the Compact developed its 2019–2021 budget in 2018, it relied on 2017 actual expenditures to estimate future costs. In 2017, the Compact spent approximately \$7,300 within energy efficiency on internet services. Anticipating higher costs going forward, the Compact budgeted \$8,500 per year in the 2019–2021 plan. The Compact spent approximately \$11,000 in 2018, \$14,000 in 2019, and \$15,000 in 2020 on internet services.
- *Rent.* Rent costs are allocated based on the percentage of time Compact staff spend working on energy efficiency programs. The increase in energy efficiency costs for rent is directly proportional to the increase in staff time spent on energy efficiency programs in 2020 as compared to the planned time that was estimated to be spent on energy efficiency programs.
- *Custodial.* Custodial services are required to support Compact staff. Custodial costs are allocated based on the percentage of time Compact staff spent working on energy efficiency programs. The decrease in costs for custodial services is due to the Compact selecting a new vendor which resulted in lower fees for custodial services.
- *Other Utilities.* Utility services are required to support Compact staff. Utility costs are allocated based on the percentage of time Compact staff spent working on energy

efficiency programs. The decrease in costs for utility services is due to the Compact selecting a new audio video vendor which resulted in a decrease in overall utility costs.

- *Auditor.* Over the 2016–2018 term, the Compact’s audit fees were about \$20,000 in 2016, \$30,000 in 2017, \$20,000 in 2018, and \$94,000 in 2019. In 2020, the Compact’s audit fees were about \$67,000. The 2019 costs are higher than previous years because 2019 costs included additional costs for the 2017 and 2018 audits. The cost of the Compact’s audits has increased since 2016 and 2017 because the Compact is no longer sharing audit costs with Barnstable County. As an independent entity, the Compact has seen an increase in audit fees. The energy efficiency program will only be billed for the actual cost of the audit, which will be reconciled in future EES.
- *Treasury Services.* The increase in costs for treasury services for 2019 is a result of additional tasks undertaken by the Compact’s treasurer. Specifically, the Compact’s treasurer was tasked with selecting a new banking institution and transferring all Compact funds and accounts to a new bank. The selection of a new bank will result in the Compact receiving a higher interest rate on its funds which will benefit rate payers.
- *Financial Software.* To improve coordination and reporting requirements for energy efficiency vendors, the Compact switched its financial software system in 2019. As a result, the cost of the financial system increased to approximately \$65,000 in 2019, and was about \$46,000 in 2020. The new financial software system enables vendor invoices to be uploaded into the energy efficiency database and financial software system simultaneously, rather than needing to enter the same invoice twice into two different systems. Compact staff can now view in real-time the status of customer rebates, vendor payments, and sector budgets.
- *Insurance.* The Compact is insured by Massachusetts Interlocal Insurance Association. Insurance costs reflect coverage for the following items: general liability, workers compensation, cyber liability, property and equipment, auto, and public officials liability. The Compact procured its insurance coverage competitively. Insurance premiums are determined each year by the Compact’s insurance company and the revised budget reflects the updated estimated insurance costs. The energy efficiency program will only be billed for the actual insurance costs, which will be reconciled in future EES filings.

3. Consumer Advocacy Costs related to Energy Efficiency

Background on Consumer Advocacy Costs

Where the Compact classifies any consumer advocacy costs as energy efficiency-related, the Department now requires that the Compact be prepared to demonstrate, at the time final cost recovery is sought, that such activities have a direct energy efficiency-related benefit. Accordingly, in each Plan Year report, the Compact is now required to identify any consumer advocacy costs that were charged to its energy efficiency budget and provide an explanation supporting the direct energy efficiency-related benefit of such activities (D.P.U. 18-116 at 143).

In response to the Department's requirement in D.P.U. 18-116 that the Compact report on its consumer advocacy activities, the Compact's Governing Board created a consumer advocacy cost allocation worksheet, to be filled out for all consumer advocacy matters. The worksheet details the energy efficiency and non-energy efficiency activities associated with the matter and contains an initial estimate of the percentage allocation of costs for the matter between the Compact's energy efficiency and operating budgets. The Compact's Governing Board will review the worksheet for a consumer advocacy proceeding annually to determine if there is any change in the energy efficiency and non-energy efficiency issues for the proceeding that would require a new percentage allocation of costs between the energy efficiency and operating budgets.

It is important to note that the Compact's involvement in consumer advocacy matters related to energy efficiency often overlaps with its direct energy efficiency program administration activities: it is not always possible for the Compact to expressly isolate one cost from the other. Therefore, the costs identified herein as consumer advocacy costs are conservative (i.e., potentially on the high side of estimates), as they may include amounts spent directly on energy efficiency planning and program design in addition to consumer advocacy matters. In addition, Compact staff do not track their time at this level of granularity and so cannot identify actual hours spent on "consumer advocacy." The Compact's Administrator and its Senior Power Supply Planner may have spent time during 2020 communicating with counsel on matters that arose in the dockets identified below as well as reviewing any of the Compact's pleadings and comments in those dockets. No other Compact staff spent time on consumer advocacy matters.

2020 Consumer Advocacy Costs

In 2020, the Compact's consumer advocacy costs were minimal and focused on services associated with one proceeding – D.P.U. 15-122, Petition of Eversource Energy ("Eversource") for Approval of its Grid Modernization Plan. The Compact's activity in this proceeding continued from previous years' activity in the proceeding.⁶ In 2020, the costs related to D.P.U. 15-122 were as follows:

Proceeding	2020 Costs	Notes
D.P.U. 15-122	\$2,947	The Compact's shared legal costs were allocated 70% to the energy efficiency budget and 30% to the municipal aggregation budget based on the scope of the energy efficiency and non-energy efficiency issues in the proceeding. The consumer advocacy allocation worksheet for D.P.U. 15-122 documenting this

⁶ See D.P.U 20-50, Appendix 6 at 22-28 for background information on D.P.U. 15-122 and a description of the Compact's consumer advocacy in D.P.U. 15-122 during 2019 and prior years.

		allocation was filed with the Department in D.P.U. 19-136 (Exhibit 1, Appendix B) and D.P.U. 20-50 (Appendix 6, Attachment A).
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2020 Services Related to D.P.U. 15-122

Performance Metrics

In 2020, the Compact continued its efforts from 2019 in the compliance phase of the proceeding. The Compact's activity related to performance metrics, primarily those metrics related to energy storage, by reviewing compliance filings, discovery, and other filings in D.P.U. 15-122. The Compact's participation resulted in direct energy efficiency benefits. As previously described in D.P.U. 20-50, Appendix 6 at 22-28, the Compact participated in this proceeding because the utility projects were designed to educate Eversource and third-party stakeholders on various aspects of battery storage projects. In its comments on Eversource's proposed energy storage performance metrics, the Compact was concerned that the metrics for Eversource's energy storage projects would not accomplish the project's intended purposes from D.P.U. 17-05 (Petition of Eversource Energy for Approval of General Increases in Base Distribution Rates for Electric Service and Approval of a Performance Based Ratemaking Mechanism). The intended purposes were to enable energy storage on a broader scale in Eversource's service territory to help meet much wider climate change goals and the Commonwealth's energy storage target by educating Eversource and third-party storage market participants on all areas of storage, including deployment, interconnection, and dispatch. The Compact's involvement allowed it to learn useful information about battery storage projects that informed its energy efficiency program planning and to ensure that the Department and Eversource considered these broader goals in finalizing the metrics.

Grid Modernization Annual Reports

In 2020, the Compact reviewed Eversource's 2018 supplemental Grid Modernization Annual Report, as well as the Company's 2019 Grid Modernization Annual Report. The Compact's review of these reports provided a direct energy efficiency benefit because the grid modernization annual reports provide useful and meaningful information to the Compact, including on peak demand reduction related to grid modernization and the tracking and reporting on distributed generation. The reporting relates directly to the Compact's planning and design of demand reduction programs in its service territory and the targeted energy efficiency and demand reduction implementation implied by the Department's coordination directive in D.P.U. 14-03. In that proceeding, the Department directed the Compact and Eversource to explore geo-targeting initiatives in an effort to delay infrastructure investment. See Petition of NSTAR Electric

Company for an Exemption to the Zoning of the Town of Mashpee, D.P.U. 14-03, Order at 20 (April 13, 2015). Based on that order, the Compact was actively engaged in exploring the targeted delivery of energy efficiency and demand response initiatives for the purpose of reducing demand, matters which fall within the scope of grid modernization. In response to this directive and as part of its energy efficiency program planning, the Compact is continuously analyzing geo-targeting of energy efficiency measures, renewable energy, and energy storage to delay potential infrastructure investment to support the increasing load and system constraints on Cape Cod and Martha's Vineyard. The provision of that particular information in the annual reports will assist the Compact in those efforts.

Department Order on Distribution Companies' 2021 Grid Modernization Plans

On May 12, 2020, the Department issued an order: (1) extending the current three-year grid modernization plan investment term; and (2) establishing a revised filing date for subsequent grid modernization plans (the "Order"). Eversource filed a letter response to that Order on June 1, 2020. The Compact reviewed the Department's Order and Eversource's letter response, which provided a direct energy benefit because it ultimately led the Compact to file a petition to intervene in D.P.U. 20-74, Eversource's Petition for approval of Supplemental Budgets for its 2018 to 2021 Grid Modernization Plan, its Five-Year Battery Energy Storage Demonstration Program, and its Five-Year Electric Vehicle Charging Infrastructure Program. As noted above, grid modernization issues are an important energy efficiency concern to the Compact with Eversource as the distribution company in the Compact's service territory. Eversource's implementation and evaluation of its grid modernization plan affects Compact energy efficiency and demand response programs. The Compact needs to understand Eversource's grid modernization plans and the potential impacts of such plans on the Compact's energy efficiency offerings.

**APPENDIX CLC-1
CAPE LIGHT COMPACT JPE
TOWN ACTIVITY REPORTS**

The following are the 2020 Town Activity Reports for the Compact.

Energy Efficiency Program Activity by Town

Cape Light Compact JPE
D.P.U. 21-70
Appendix CLC-1
June 4, 2021
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Town Name: All
Program Period: 2020
Current Dates: 12/1/2020 - 12/31/2020
Cumulative Dates: 1/1/2020 - 12/31/2020

Program Initiative	Current Period			Cumulative Period				
	Annual kWh Savings	Actual Expenditures	Participants	Annual kWh Savings	Actual Expenditures	Participants	Budget	Actual % of Budget
A1a - Residential New Homes & Renovations	305,666.34	\$102,029.02	65	1,710,346.04	\$824,292.90	340	\$0.00	0.00%
A2a - Residential Coordinated Delivery	1,950,207.60	\$3,158,639.76	2,188	7,787,605.60	\$12,872,623.04	7,605	\$11,424,232.56	112.68%
A2b - Residential Conservation Services (RCS)	0.00	\$260,984.50	2,019	0.00	\$1,372,463.02	6,715	\$1,749,470.60	78.45%
A2c - Residential Retail	2,007,542.28	\$643,833.01	697	22,347,701.10	\$6,006,608.01	6,610	\$0.00	0.00%
A2d - Residential Behavior	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
A3i - Residential HEAT Loan	0.00	\$271,055.91	337	0.00	\$2,489,010.82	1,752	\$0.00	0.00%
Res Subtotal	4,263,416.22	\$4,436,542.20	5,306.00	31,845,652.74	\$23,564,997.79	23,022	\$13,173,703.16	
Res % of Total	23.95%	70.02%	91.09%	54.38%	75.31%	89.07%	57.96%	
B1a - Income Eligible Coordinated Delivery	143,889.42	\$282,473.49	312	1,169,205.95	\$1,858,165.76	1,715	\$4,352,423.60	42.69%
IE Subtotal	143,889.42	\$282,473.49	312.00	1,169,205.95	\$1,858,165.76	1,715	\$4,352,423.60	
IE % of Total	0.81%	4.46%	5.36%	2.00%	5.94%	6.63%	19.15%	
C1a - C&I New Buildings & Major Renovations	69,438.71	\$7,981.08	4	529,244.56	\$53,828.46	10	\$0.00	0.00%
C1a - C&I New Buildings & Major Renovations – Municipal	242,493.00	\$95,615.00	5	294,617.00	\$139,935.00	13	\$0.00	0.00%
C2a - C&I Existing Building Retrofit	573,493.93	\$433,076.46	84	5,978,902.38	\$3,153,949.71	427	\$5,203,373.15	60.61%
C2a - C&I Existing Building Retrofit - Municipal	163,192.40	\$163,360.09	19	845,858.26	\$935,533.80	89	\$0.00	0.00%
C2b - C&I New & Replacement Equipment	12,346,580.17	\$916,854.62	95	17,899,423.18	\$1,582,414.98	572	\$0.00	0.00%
C&I Subtotal	13,395,198.21	\$1,616,887.25	207.00	25,548,045.37	\$5,865,661.95	1,111	\$5,203,373.15	
C&I % of Total	75.24%	25.52%	3.55%	43.62%	18.75%	4.30%	22.89%	
Total	17,802,503.85	\$6,335,902.94	5,825	58,562,904.06	\$31,288,825.50	25,848	\$22,729,499.91	

*Costs include those costs that has been recorded through this period and are not necessarily representative of all activity through this month

**All information presented is preliminary and subject to change.

Energy Efficiency Program Activity by Town

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Town Name: AQUINNAH
Program Period: 2020
Current Dates: 12/1/2020 - 12/31/2020
Cumulative Dates: 1/1/2020 - 12/31/2020

Program Initiative	Current Period			Cumulative Period				
	Annual kWh Savings	Actual Expenditures	Participants	Annual kWh Savings	Actual Expenditures	Participants	Budget	Actual % of Budget
A1a - Residential New Homes & Renovations	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
A2a - Residential Coordinated Delivery	3,729.50	\$7,532.30	2	13,025.30	\$19,404.96	8	\$14,851.50	130.66%
A2b - Residential Conservation Services (RCS)	0.00	\$416.00	4	0.00	\$2,284.50	9	\$2,274.31	100.45%
A2c - Residential Retail	0.00	\$0.00	0	1,109.10	\$20,192.25	8	\$0.00	0.00%
A2d - Residential Behavior	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
A3i - Residential HEAT Loan	0.00	\$0.00	0	0.00	\$4,605.93	3	\$0.00	0.00%
Res Subtotal	3,729.50	\$7,948.30	6.00	14,134.40	\$46,487.64	28	\$17,125.81	
Res % of Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	57.96%	
B1a - Income Eligible Coordinated Delivery	0.00	\$0.00	0	0.00	\$0.00	0	\$5,658.15	0.00%
IE Subtotal	0.00	\$0.00	0.00	0.00	\$0.00	0	\$5,658.15	
IE % of Total	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	19.15%	
C1a - C&I New Buildings & Major Renovations	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C1a - C&I New Buildings & Major Renovations – Municipal	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C2a - C&I Existing Building Retrofit	0.00	\$0.00	0	0.00	\$0.00	0	\$6,764.39	0.00%
C2a - C&I Existing Building Retrofit - Municipal	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C2b - C&I New & Replacement Equipment	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C&I Subtotal	0.00	\$0.00	0.00	0.00	\$0.00	0	\$6,764.39	
C&I % of Total	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	22.89%	
Total	3,729.50	\$7,948.30	6	14,134.40	\$46,487.64	28	\$29,548.35	

*Costs include those costs that has been recorded through this period and are not necessarily representative of all activity through this month

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Energy Efficiency Program Activity by Town

Cape Light Compact JPE
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Town Name: BARNSTABLE
Program Period: 2020
Current Dates: 12/1/2020 - 12/31/2020
Cumulative Dates: 1/1/2020 - 12/31/2020

Program Initiative	Current Period			Cumulative Period				
	Annual kWh Savings	Actual Expenditures	Participants	Annual kWh Savings	Actual Expenditures	Participants	Budget	Actual % of Budget
A1a - Residential New Homes & Renovations	16,182.84	\$6,336.17	14	146,345.21	\$65,502.32	40	\$0.00	0.00%
A2a - Residential Coordinated Delivery	297,059.60	\$456,096.52	332	1,236,365.20	\$1,948,040.85	1,215	\$2,222,013.23	87.67%
A2b - Residential Conservation Services (RCS)	0.00	\$33,784.00	286	0.00	\$184,764.14	999	\$340,272.03	54.30%
A2c - Residential Retail	585,870.04	\$68,663.23	102	6,191,580.04	\$814,001.77	1,000	\$0.00	0.00%
A2d - Residential Behavior	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
A3i - Residential HEAT Loan	0.00	\$52,561.72	59	0.00	\$472,993.99	319	\$0.00	0.00%
Res Subtotal	899,112.48	\$617,441.64	793.00	7,574,290.45	\$3,485,303.07	3,573	\$2,562,285.26	
Res % of Total	18.45%	63.00%	93.29%	54.89%	74.46%	90.82%	57.96%	
B1a - Income Eligible Coordinated Delivery	13,555.10	\$26,373.84	19	115,180.93	\$164,605.84	149	\$846,546.39	19.44%
IE Subtotal	13,555.10	\$26,373.84	19.00	115,180.93	\$164,605.84	149	\$846,546.39	
IE % of Total	0.28%	2.69%	2.24%	0.83%	3.52%	3.79%	19.15%	
C1a - C&I New Buildings & Major Renovations	33,890.71	\$935.03	2	406,688.56	\$18,113.41	3	\$0.00	0.00%
C1a - C&I New Buildings & Major Renovations – Municipal	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C2a - C&I Existing Building Retrofit	88,025.16	\$61,244.94	17	709,415.81	\$484,361.30	88	\$1,012,056.08	47.86%
C2a - C&I Existing Building Retrofit - Municipal	1,345.34	\$989.76	1	133,526.17	\$154,209.33	11	\$0.00	0.00%
C2b - C&I New & Replacement Equipment	3,837,253.83	\$273,045.25	18	4,859,907.13	\$374,231.75	110	\$0.00	0.00%
C&I Subtotal	3,960,515.05	\$336,214.98	38.00	6,109,537.66	\$1,030,915.79	212	\$1,012,056.08	
C&I % of Total	81.27%	34.31%	4.47%	44.28%	22.02%	5.39%	22.89%	
Total	4,873,182.63	\$980,030.46	850	13,799,009.05	\$4,680,824.70	3,934	\$4,420,887.73	

*Costs include those costs that has been recorded through this period and are not necessarily representative of all activity through this month

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Energy Efficiency Program Activity by Town

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Town Name: BOURNE
Program Period: 2020
Current Dates: 12/1/2020 - 12/31/2020
Cumulative Dates: 1/1/2020 - 12/31/2020

Program Initiative	Current Period			Cumulative Period				
	Annual kWh Savings	Actual Expenditures	Participants	Annual kWh Savings	Actual Expenditures	Participants	Budget	Actual % of Budget
A1a - Residential New Homes & Renovations	7,218.20	\$1,862.72	5	57,814.28	\$27,606.31	19	\$0.00	0.00%
A2a - Residential Coordinated Delivery	99,928.40	\$155,860.61	116	482,416.00	\$683,828.28	422	\$971,059.77	70.42%
A2b - Residential Conservation Services (RCS)	0.00	\$13,815.50	98	0.00	\$71,924.16	341	\$148,705.00	48.37%
A2c - Residential Retail	438,541.06	\$57,039.53	30	2,367,382.62	\$405,438.38	358	\$0.00	0.00%
A2d - Residential Behavior	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
A3i - Residential HEAT Loan	0.00	\$12,020.83	15	0.00	\$88,945.00	73	\$0.00	0.00%
Res Subtotal	545,687.66	\$240,599.19	264.00	2,907,612.90	\$1,277,742.13	1,213	\$1,119,764.77	
Res % of Total	78.31%	78.05%	92.63%	70.39%	72.92%	80.49%	57.96%	
B1a - Income Eligible Coordinated Delivery	2,548.80	\$6,896.60	4	134,353.06	\$136,724.81	219	\$369,956.01	36.96%
IE Subtotal	2,548.80	\$6,896.60	4.00	134,353.06	\$136,724.81	219	\$369,956.01	
IE % of Total	0.37%	2.24%	1.40%	3.25%	7.80%	14.53%	19.15%	
C1a - C&I New Buildings & Major Renovations	0.00	\$0.00	0	0.00	\$2,248.00	1	\$0.00	0.00%
C1a - C&I New Buildings & Major Renovations – Municipal	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C2a - C&I Existing Building Retrofit	14,917.64	\$11,731.36	5	253,409.75	\$185,867.63	29	\$442,286.72	42.02%
C2a - C&I Existing Building Retrofit - Municipal	45,155.65	\$35,480.95	1	86,071.65	\$71,391.21	5	\$0.00	0.00%
C2b - C&I New & Replacement Equipment	88,539.52	\$13,558.84	11	749,392.80	\$78,369.68	40	\$0.00	0.00%
C&I Subtotal	148,612.81	\$60,771.15	17.00	1,088,874.20	\$337,876.52	75	\$442,286.72	
C&I % of Total	21.33%	19.71%	5.96%	26.36%	19.28%	4.98%	22.89%	
Total	696,849.27	\$308,266.94	285	4,130,840.16	\$1,752,343.46	1,507	\$1,932,007.49	

*Costs include those costs that has been recorded through this period and are not necessarily representative of all activity through this month

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Energy Efficiency Program Activity by Town

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Town Name: BREWSTER
Program Period: 2020
Current Dates: 12/1/2020 - 12/31/2020
Cumulative Dates: 1/1/2020 - 12/31/2020

Program Initiative	Current Period			Cumulative Period				
	Annual kWh Savings	Actual Expenditures	Participants	Annual kWh Savings	Actual Expenditures	Participants	Budget	Actual % of Budget
A1a - Residential New Homes & Renovations	14,625.18	\$8,466.99	3	44,625.03	\$23,953.18	12	\$0.00	0.00%
A2a - Residential Coordinated Delivery	108,411.90	\$185,995.18	103	417,587.90	\$739,456.86	344	\$483,245.04	153.02%
A2b - Residential Conservation Services (RCS)	0.00	\$11,963.00	99	0.00	\$68,170.48	318	\$74,002.61	92.12%
A2c - Residential Retail	22,061.90	\$23,133.14	40	816,866.90	\$326,697.41	336	\$0.00	0.00%
A2d - Residential Behavior	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
A3i - Residential HEAT Loan	0.00	\$11,074.89	18	0.00	\$112,360.87	81	\$0.00	0.00%
Res Subtotal	145,098.98	\$240,633.20	263.00	1,279,079.83	\$1,270,638.80	1,091	\$557,247.64	
Res % of Total	95.01%	95.40%	96.69%	79.32%	85.74%	84.25%	57.96%	
B1a - Income Eligible Coordinated Delivery	4,891.90	\$10,547.47	6	80,583.74	\$136,795.72	177	\$184,107.52	74.30%
IE Subtotal	4,891.90	\$10,547.47	6.00	80,583.74	\$136,795.72	177	\$184,107.52	
IE % of Total	3.20%	4.18%	2.21%	5.00%	9.23%	13.67%	19.15%	
C1a - C&I New Buildings & Major Renovations	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C1a - C&I New Buildings & Major Renovations – Municipal	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C2a - C&I Existing Building Retrofit	0.00	\$156.60	1	54,197.93	\$42,180.25	14	\$220,102.68	19.16%
C2a - C&I Existing Building Retrofit - Municipal	0.00	\$0.00	0	1,164.80	\$931.50	1	\$0.00	0.00%
C2b - C&I New & Replacement Equipment	2,724.60	\$900.00	2	197,489.36	\$31,372.14	12	\$0.00	0.00%
C&I Subtotal	2,724.60	\$1,056.60	3.00	252,852.09	\$74,483.89	27	\$220,102.68	
C&I % of Total	1.78%	0.42%	1.10%	15.68%	5.03%	2.08%	22.89%	
Total	152,715.48	\$252,237.27	272	1,612,515.66	\$1,481,918.41	1,295	\$961,457.85	

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Town Name: CHATHAM
Program Period: 2020
Current Dates: 12/1/2020 - 12/31/2020
Cumulative Dates: 1/1/2020 - 12/31/2020

Program Initiative	Current Period			Cumulative Period				
	Annual kWh Savings	Actual Expenditures	Participants	Annual kWh Savings	Actual Expenditures	Participants	Budget	Actual % of Budget
A1a - Residential New Homes & Renovations	11,522.67	\$1,979.40	3	90,656.83	\$31,602.79	11	\$0.00	0.00%
A2a - Residential Coordinated Delivery	83,055.30	\$109,776.82	89	328,565.40	\$534,802.52	269	\$301,599.74	177.32%
A2b - Residential Conservation Services (RCS)	0.00	\$8,602.00	76	0.00	\$54,081.97	245	\$46,186.02	117.10%
A2c - Residential Retail	99,783.70	\$22,123.90	24	819,700.66	\$215,566.34	248	\$0.00	0.00%
A2d - Residential Behavior	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
A3i - Residential HEAT Loan	0.00	\$6,653.71	5	0.00	\$76,498.05	44	\$0.00	0.00%
Res Subtotal	194,361.67	\$149,135.83	197.00	1,238,922.89	\$912,551.67	817	\$347,785.76	
Res % of Total	71.03%	79.02%	95.63%	79.06%	80.67%	93.26%	57.96%	
B1a - Income Eligible Coordinated Delivery	4,460.40	\$3,648.22	3	17,321.50	\$33,033.04	18	\$114,903.98	28.75%
IE Subtotal	4,460.40	\$3,648.22	3.00	17,321.50	\$33,033.04	18	\$114,903.98	
IE % of Total	1.63%	1.93%	1.46%	1.11%	2.92%	2.05%	19.15%	
C1a - C&I New Buildings & Major Renovations	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C1a - C&I New Buildings & Major Renovations – Municipal	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C2a - C&I Existing Building Retrofit	70,752.04	\$35,217.70	4	183,458.31	\$116,460.44	23	\$137,369.05	84.78%
C2a - C&I Existing Building Retrofit - Municipal	0.00	\$0.00	0	68,439.52	\$61,985.35	1	\$0.00	0.00%
C2b - C&I New & Replacement Equipment	4,057.18	\$725.00	2	58,863.65	\$7,120.76	17	\$0.00	0.00%
C&I Subtotal	74,809.22	\$35,942.70	6.00	310,761.48	\$185,566.55	41	\$137,369.05	
C&I % of Total	27.34%	19.04%	2.91%	19.83%	16.41%	4.68%	22.89%	
Total	273,631.30	\$188,726.75	206	1,567,005.86	\$1,131,151.26	876	\$600,058.80	

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Town Name: CHILMARK
Program Period: 2020
Current Dates: 12/1/2020 - 12/31/2020
Cumulative Dates: 1/1/2020 - 12/31/2020

Program Initiative	Current Period			Cumulative Period				
	Annual kWh Savings	Actual Expenditures	Participants	Annual kWh Savings	Actual Expenditures	Participants	Budget	Actual % of Budget
A1a - Residential New Homes & Renovations	0.00	\$0.00	0	6,545.32	\$2,967.76	1	\$0.00	0.00%
A2a - Residential Coordinated Delivery	1,789.70	\$4,549.24	1	33,274.80	\$50,763.10	26	\$42,269.66	120.09%
A2b - Residential Conservation Services (RCS)	0.00	\$721.50	4	0.00	\$6,118.00	25	\$6,473.04	94.52%
A2c - Residential Retail	-6,945.00	\$6,635.25	6	-20,172.60	\$63,043.70	33	\$0.00	0.00%
A2d - Residential Behavior	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
A3i - Residential HEAT Loan	0.00	\$0.00	0	0.00	\$11,733.12	6	\$0.00	0.00%
Res Subtotal	-5,155.30	\$11,905.99	11.00	19,647.52	\$134,625.68	91	\$48,742.70	
Res % of Total	100.00%	100.00%	100.00%	100.00%	99.63%	98.91%	57.96%	
B1a - Income Eligible Coordinated Delivery	0.00	\$0.00	0	0.00	\$0.00	0	\$16,103.97	0.00%
IE Subtotal	0.00	\$0.00	0.00	0.00	\$0.00	0	\$16,103.97	
IE % of Total	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	19.15%	
C1a - C&I New Buildings & Major Renovations	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C1a - C&I New Buildings & Major Renovations – Municipal	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C2a - C&I Existing Building Retrofit	0.00	\$0.00	0	0.00	\$0.00	0	\$19,252.48	0.00%
C2a - C&I Existing Building Retrofit - Municipal	0.00	\$0.00	0	0.00	\$500.00	1	\$0.00	0.00%
C2b - C&I New & Replacement Equipment	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C&I Subtotal	0.00	\$0.00	0.00	0.00	\$500.00	1	\$19,252.48	
C&I % of Total	0.00%	0.00%	0.00%	0.00%	0.37%	1.09%	22.89%	
Total	-5,155.30	\$11,905.99	11	19,647.52	\$135,125.68	92	\$84,099.15	

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Town Name: DENNIS
Program Period: 2020
Current Dates: 12/1/2020 - 12/31/2020
Cumulative Dates: 1/1/2020 - 12/31/2020

Program Initiative	Current Period			Cumulative Period				
	Annual kWh Savings	Actual Expenditures	Participants	Annual kWh Savings	Actual Expenditures	Participants	Budget	Actual % of Budget
A1a - Residential New Homes & Renovations	1,916.39	\$519.19	2	113,081.97	\$115,973.42	24	\$0.00	0.00%
A2a - Residential Coordinated Delivery	213,576.80	\$287,261.41	251	729,724.20	\$1,253,206.91	747	\$698,020.61	179.54%
A2b - Residential Conservation Services (RCS)	0.00	\$27,961.50	228	0.00	\$127,809.82	681	\$106,892.65	119.57%
A2c - Residential Retail	164,251.98	\$33,068.44	47	2,467,952.90	\$509,788.39	566	\$0.00	0.00%
A2d - Residential Behavior	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
A3i - Residential HEAT Loan	0.00	\$23,027.84	35	0.00	\$241,681.57	178	\$0.00	0.00%
Res Subtotal	379,745.17	\$371,838.38	563.00	3,310,759.07	\$2,248,460.11	2,196	\$804,913.26	
Res % of Total	77.66%	81.90%	88.80%	84.11%	84.46%	90.07%	57.96%	
B1a - Income Eligible Coordinated Delivery	24,594.71	\$45,792.10	58	114,185.61	\$136,158.56	176	\$265,933.08	51.20%
IE Subtotal	24,594.71	\$45,792.10	58.00	114,185.61	\$136,158.56	176	\$265,933.08	
IE % of Total	5.03%	10.09%	9.15%	2.90%	5.11%	7.22%	19.15%	
C1a - C&I New Buildings & Major Renovations	35,548.00	\$5,532.30	1	35,548.00	\$5,532.30	1	\$0.00	0.00%
C1a - C&I New Buildings & Major Renovations – Municipal	0.00	\$0.00	0	0.00	\$2,796.00	2	\$0.00	0.00%
C2a - C&I Existing Building Retrofit	36,974.14	\$28,447.54	10	254,181.87	\$199,681.33	27	\$317,926.10	62.81%
C2a - C&I Existing Building Retrofit - Municipal	0.00	\$0.00	0	36,483.36	\$30,649.30	4	\$0.00	0.00%
C2b - C&I New & Replacement Equipment	12,125.12	\$2,396.63	2	185,012.18	\$38,928.62	32	\$0.00	0.00%
C&I Subtotal	84,647.26	\$36,376.47	13.00	511,225.41	\$277,587.55	66	\$317,926.10	
C&I % of Total	17.31%	8.01%	2.05%	12.99%	10.43%	2.71%	22.89%	
Total	488,987.13	\$454,006.95	634	3,936,170.09	\$2,662,206.22	2,438	\$1,388,772.44	

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Town Name: EASTHAM
Program Period: 2020
Current Dates: 12/1/2020 - 12/31/2020
Cumulative Dates: 1/1/2020 - 12/31/2020

Program Initiative	Current Period			Cumulative Period				
	Annual kWh Savings	Actual Expenditures	Participants	Annual kWh Savings	Actual Expenditures	Participants	Budget	Actual % of Budget
A1a - Residential New Homes & Renovations	0.00	\$0.00	0	19,013.28	\$9,438.82	5	\$0.00	0.00%
A2a - Residential Coordinated Delivery	73,446.40	\$146,555.52	88	315,940.40	\$558,137.12	287	\$243,336.15	229.37%
A2b - Residential Conservation Services (RCS)	0.00	\$13,122.00	95	0.00	\$66,897.00	297	\$37,263.72	179.52%
A2c - Residential Retail	-6,412.84	\$39,184.75	30	194,058.34	\$220,792.64	270	\$0.00	0.00%
A2d - Residential Behavior	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
A3i - Residential HEAT Loan	0.00	\$6,819.52	10	0.00	\$87,892.38	54	\$0.00	0.00%
Res Subtotal	67,033.56	\$205,681.79	223.00	529,012.02	\$943,157.96	913	\$280,599.88	
Res % of Total	79.27%	94.48%	96.54%	51.76%	83.09%	94.81%	57.96%	
B1a - Income Eligible Coordinated Delivery	2,384.50	\$4,377.00	3	28,581.50	\$45,231.81	27	\$92,706.62	48.79%
IE Subtotal	2,384.50	\$4,377.00	3.00	28,581.50	\$45,231.81	27	\$92,706.62	
IE % of Total	2.82%	2.01%	1.30%	2.80%	3.98%	2.80%	19.15%	
C1a - C&I New Buildings & Major Renovations	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C1a - C&I New Buildings & Major Renovations – Municipal	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C2a - C&I Existing Building Retrofit	0.00	\$0.00	0	115,258.36	\$30,737.37	8	\$110,831.85	27.73%
C2a - C&I Existing Building Retrofit - Municipal	2,849.00	\$2,849.00	1	97,634.28	\$90,463.70	2	\$0.00	0.00%
C2b - C&I New & Replacement Equipment	12,300.59	\$4,787.50	4	251,572.82	\$25,540.50	13	\$0.00	0.00%
C&I Subtotal	15,149.59	\$7,636.50	5.00	464,465.46	\$146,741.57	23	\$110,831.85	
C&I % of Total	17.91%	3.51%	2.16%	45.44%	12.93%	2.39%	22.89%	
Total	84,567.65	\$217,695.29	231	1,022,058.97	\$1,135,131.34	963	\$484,138.35	

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Town Name: EDGARTOWN
Program Period: 2020
Current Dates: 12/1/2020 - 12/31/2020
Cumulative Dates: 1/1/2020 - 12/31/2020

Program Initiative	Current Period			Cumulative Period				
	Annual kWh Savings	Actual Expenditures	Participants	Annual kWh Savings	Actual Expenditures	Participants	Budget	Actual % of Budget
A1a - Residential New Homes & Renovations	0.00	\$0.00	0	30,044.38	\$24,860.49	3	\$0.00	0.00%
A2a - Residential Coordinated Delivery	52,285.90	\$106,042.51	34	162,655.60	\$297,891.20	130	\$201,066.49	148.16%
A2b - Residential Conservation Services (RCS)	0.00	\$8,172.00	55	0.00	\$38,369.00	162	\$30,790.68	124.61%
A2c - Residential Retail	-4,329.90	\$38,244.25	30	183,201.10	\$224,825.93	130	\$0.00	0.00%
A2d - Residential Behavior	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
A3i - Residential HEAT Loan	0.00	\$35.00	1	0.00	\$44,559.38	23	\$0.00	0.00%
Res Subtotal	47,956.00	\$152,493.76	120.00	375,901.08	\$630,506.00	448	\$231,857.18	
Res % of Total	100.00%	100.00%	100.00%	71.77%	79.86%	90.14%	57.96%	
B1a - Income Eligible Coordinated Delivery	0.00	\$0.00	0	-5,197.50	\$122,106.48	13	\$76,602.66	159.40%
IE Subtotal	0.00	\$0.00	0.00	-5,197.50	\$122,106.48	13	\$76,602.66	
IE % of Total	0.00%	0.00%	0.00%	-0.99%	15.47%	2.62%	19.15%	
C1a - C&I New Buildings & Major Renovations	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C1a - C&I New Buildings & Major Renovations – Municipal	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C2a - C&I Existing Building Retrofit	0.00	\$0.00	0	6,259.98	\$5,842.88	5	\$91,579.37	6.38%
C2a - C&I Existing Building Retrofit - Municipal	0.00	\$0.00	0	11,680.00	\$17,580.00	9	\$0.00	0.00%
C2b - C&I New & Replacement Equipment	0.00	\$0.00	0	135,134.89	\$13,478.18	22	\$0.00	0.00%
C&I Subtotal	0.00	\$0.00	0.00	153,074.87	\$36,901.06	36	\$91,579.37	
C&I % of Total	0.00%	0.00%	0.00%	29.23%	4.67%	7.24%	22.89%	
Total	47,956.00	\$152,493.76	120	523,778.46	\$789,513.54	497	\$400,039.20	

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Energy Efficiency Program Activity by Town

Town Name: FALMOUTH
 Program Period: 2020
 Current Dates: 12/1/2020 - 12/31/2020
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Program Initiative	Current Period			Cumulative Period				
	Annual kWh Savings	Actual Expenditures	Participants	Annual kWh Savings	Actual Expenditures	Participants	Budget	Actual % of Budget
A1a - Residential New Homes & Renovations	109,744.28	\$33,296.63	10	227,947.77	\$79,691.73	41	\$0.00	0.00%
A2a - Residential Coordinated Delivery	251,830.20	\$464,355.89	301	1,041,971.50	\$1,604,007.65	1,043	\$1,550,268.36	103.47%
A2b - Residential Conservation Services (RCS)	0.00	\$29,091.00	231	0.00	\$164,739.83	824	\$237,403.16	69.39%
A2c - Residential Retail	288,536.20	\$84,444.75	95	3,875,884.80	\$794,233.69	895	\$0.00	0.00%
A2d - Residential Behavior	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
A3i - Residential HEAT Loan	0.00	\$43,774.74	54	0.00	\$299,581.64	228	\$0.00	0.00%
Res Subtotal	650,110.68	\$654,963.01	691.00	5,145,804.07	\$2,942,254.54	3,031	\$1,787,671.52	
Res % of Total	21.60%	67.04%	77.03%	52.96%	71.77%	87.17%	57.96%	
B1a - Income Eligible Coordinated Delivery	48,455.61	\$84,713.00	155	208,800.61	\$282,543.98	264	\$590,623.88	47.84%
IE Subtotal	48,455.61	\$84,713.00	155.00	208,800.61	\$282,543.98	264	\$590,623.88	
IE % of Total	1.61%	8.67%	17.28%	2.15%	6.89%	7.59%	19.15%	
C1a - C&I New Buildings & Major Renovations	0.00	\$1,513.75	1	13,463.00	\$7,641.75	2	\$0.00	0.00%
C1a - C&I New Buildings & Major Renovations – Municipal	0.00	\$0.00	0	52,124.00	\$24,215.25	2	\$0.00	0.00%
C2a - C&I Existing Building Retrofit	68,670.00	\$47,530.97	11	1,094,419.15	\$462,046.46	58	\$706,097.74	65.44%
C2a - C&I Existing Building Retrofit - Municipal	0.00	\$10,900.00	15	73,696.06	\$88,607.02	16	\$0.00	0.00%
C2b - C&I New & Replacement Equipment	2,242,232.86	\$177,394.40	24	3,127,610.69	\$292,005.47	104	\$0.00	0.00%
C&I Subtotal	2,310,902.86	\$237,339.12	51.00	4,361,312.91	\$874,515.95	182	\$706,097.74	
C&I % of Total	76.79%	24.29%	5.69%	44.89%	21.33%	5.23%	22.89%	
Total	3,009,469.15	\$977,015.13	897	9,715,917.58	\$4,099,314.47	3,477	\$3,084,393.14	

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Town Name: HARWICH
Program Period: 2020
Current Dates: 12/1/2020 - 12/31/2020
Cumulative Dates: 1/1/2020 - 12/31/2020

Program Initiative	Current Period			Cumulative Period				
	Annual kWh Savings	Actual Expenditures	Participants	Annual kWh Savings	Actual Expenditures	Participants	Budget	Actual % of Budget
A1a - Residential New Homes & Renovations	6,384.65	\$2,884.86	2	101,502.87	\$27,869.54	17	\$0.00	0.00%
A2a - Residential Coordinated Delivery	138,392.00	\$183,865.27	144	450,654.20	\$822,181.05	446	\$602,057.06	136.56%
A2b - Residential Conservation Services (RCS)	0.00	\$17,194.50	136	0.00	\$84,037.48	424	\$92,197.10	91.15%
A2c - Residential Retail	4,538.94	\$22,966.75	37	449,944.36	\$173,531.23	368	\$0.00	0.00%
A2d - Residential Behavior	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
A3i - Residential HEAT Loan	0.00	\$3,925.39	16	0.00	\$121,523.11	98	\$0.00	0.00%
Res Subtotal	149,315.59	\$230,836.77	335.00	1,002,101.43	\$1,229,142.41	1,353	\$694,254.16	
Res % of Total	5.89%	47.20%	96.82%	24.42%	68.37%	94.09%	57.96%	
B1a - Income Eligible Coordinated Delivery	2,731.90	\$7,212.72	4	33,705.90	\$38,029.69	45	\$229,372.72	16.58%
IE Subtotal	2,731.90	\$7,212.72	4.00	33,705.90	\$38,029.69	45	\$229,372.72	
IE % of Total	0.11%	1.47%	1.16%	0.82%	2.12%	3.13%	19.15%	
C1a - C&I New Buildings & Major Renovations	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C1a - C&I New Buildings & Major Renovations – Municipal	242,493.00	\$90,031.00	1	242,493.00	\$90,191.50	2	\$0.00	0.00%
C2a - C&I Existing Building Retrofit	18,986.38	\$12,115.46	4	583,206.71	\$192,035.59	11	\$274,217.77	70.03%
C2a - C&I Existing Building Retrofit - Municipal	0.00	\$0.00	0	8,857.89	\$87,396.40	2	\$0.00	0.00%
C2b - C&I New & Replacement Equipment	2,119,594.79	\$148,885.00	2	2,234,056.41	\$161,080.67	25	\$0.00	0.00%
C&I Subtotal	2,381,074.17	\$251,031.46	7.00	3,068,614.01	\$530,704.16	40	\$274,217.77	
C&I % of Total	94.00%	51.33%	2.02%	74.76%	29.52%	2.78%	22.89%	
Total	2,533,121.67	\$489,080.95	346	4,104,421.35	\$1,797,876.26	1,438	\$1,197,844.65	

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Town Name: MASHPEE
Program Period: 2020
Current Dates: 12/1/2020 - 12/31/2020
Cumulative Dates: 1/1/2020 - 12/31/2020

Program Initiative	Current Period			Cumulative Period				
	Annual kWh Savings	Actual Expenditures	Participants	Annual kWh Savings	Actual Expenditures	Participants	Budget	Actual % of Budget
A1a - Residential New Homes & Renovations	34,803.10	\$9,077.13	9	155,067.09	\$43,793.42	52	\$0.00	0.00%
A2a - Residential Coordinated Delivery	133,654.80	\$109,507.74	145	417,901.90	\$449,587.41	465	\$688,881.22	65.26%
A2b - Residential Conservation Services (RCS)	0.00	\$12,477.50	93	0.00	\$52,861.00	312	\$105,493.08	50.11%
A2c - Residential Retail	75,393.14	\$18,969.84	31	574,880.20	\$165,411.29	359	\$0.00	0.00%
A2d - Residential Behavior	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
A3i - Residential HEAT Loan	0.00	\$25,521.63	31	0.00	\$180,565.86	140	\$0.00	0.00%
Res Subtotal	243,851.04	\$175,553.84	309.00	1,147,849.19	\$892,218.98	1,328	\$794,374.30	
Res % of Total	11.15%	32.57%	92.51%	31.26%	57.71%	90.65%	57.96%	
B1a - Income Eligible Coordinated Delivery	8,172.60	\$8,864.44	8	49,201.60	\$104,088.15	72	\$262,451.14	39.66%
IE Subtotal	8,172.60	\$8,864.44	8.00	49,201.60	\$104,088.15	72	\$262,451.14	
IE % of Total	0.37%	1.64%	2.40%	1.34%	6.73%	4.91%	19.15%	
C1a - C&I New Buildings & Major Renovations	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C1a - C&I New Buildings & Major Renovations – Municipal	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C2a - C&I Existing Building Retrofit	124,890.02	\$118,953.94	9	364,355.68	\$280,239.81	28	\$313,763.40	89.32%
C2a - C&I Existing Building Retrofit - Municipal	113,842.40	\$113,140.38	1	114,861.40	\$113,859.37	2	\$0.00	0.00%
C2b - C&I New & Replacement Equipment	1,696,749.89	\$122,433.00	7	1,995,327.51	\$155,561.78	35	\$0.00	0.00%
C&I Subtotal	1,935,482.31	\$354,527.32	17.00	2,474,544.59	\$549,660.96	65	\$313,763.40	
C&I % of Total	88.48%	65.78%	5.09%	67.40%	35.55%	4.44%	22.89%	
Total	2,187,505.95	\$538,945.60	334	3,671,595.39	\$1,545,968.09	1,465	\$1,370,588.84	

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Town Name: OAK BLUFFS
Program Period: 2020
Current Dates: 12/1/2020 - 12/31/2020
Cumulative Dates: 1/1/2020 - 12/31/2020

Program Initiative	Current Period			Cumulative Period				
	Annual kWh Savings	Actual Expenditures	Participants	Annual kWh Savings	Actual Expenditures	Participants	Budget	Actual % of Budget
A1a - Residential New Homes & Renovations	44,113.20	\$10,787.50	2	96,790.11	\$32,387.67	7	\$0.00	0.00%
A2a - Residential Coordinated Delivery	27,797.90	\$51,299.39	32	132,608.80	\$196,691.64	124	\$222,772.53	88.29%
A2b - Residential Conservation Services (RCS)	0.00	\$7,855.50	48	0.00	\$39,410.50	160	\$34,114.68	115.52%
A2c - Residential Retail	8,495.30	\$12,595.12	8	-13,747.20	\$180,416.42	92	\$0.00	0.00%
A2d - Residential Behavior	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
A3i - Residential HEAT Loan	0.00	\$4,528.97	3	0.00	\$47,344.91	24	\$0.00	0.00%
Res Subtotal	80,406.40	\$87,066.48	93.00	215,651.71	\$496,251.14	407	\$256,887.21	
Res % of Total	79.21%	94.32%	93.00%	49.74%	78.35%	79.80%	57.96%	
B1a - Income Eligible Coordinated Delivery	2,169.20	\$2,002.72	3	20,292.20	\$13,541.07	56	\$84,872.26	15.95%
IE Subtotal	2,169.20	\$2,002.72	3.00	20,292.20	\$13,541.07	56	\$84,872.26	
IE % of Total	2.14%	2.17%	3.00%	4.68%	2.14%	10.98%	19.15%	
C1a - C&I New Buildings & Major Renovations	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C1a - C&I New Buildings & Major Renovations – Municipal	0.00	\$1,738.50	1	0.00	\$6,064.25	1	\$0.00	0.00%
C2a - C&I Existing Building Retrofit	0.00	\$0.00	0	108,627.60	\$97,539.84	19	\$101,465.78	96.13%
C2a - C&I Existing Building Retrofit - Municipal	0.00	\$0.00	0	0.00	\$6,124.00	10	\$0.00	0.00%
C2b - C&I New & Replacement Equipment	18,939.38	\$1,500.00	3	89,001.00	\$13,859.02	17	\$0.00	0.00%
C&I Subtotal	18,939.38	\$3,238.50	4.00	197,628.60	\$123,587.11	47	\$101,465.78	
C&I % of Total	18.66%	3.51%	4.00%	45.58%	19.51%	9.22%	22.89%	
Total	101,514.98	\$92,307.70	100	433,572.52	\$633,379.32	510	\$443,225.25	

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Town Name: ORLEANS
Program Period: 2020
Current Dates: 12/1/2020 - 12/31/2020
Cumulative Dates: 1/1/2020 - 12/31/2020

Program Initiative	Current Period			Cumulative Period				
	Annual kWh Savings	Actual Expenditures	Participants	Annual kWh Savings	Actual Expenditures	Participants	Budget	Actual % of Budget
A1a - Residential New Homes & Renovations	3,538.44	\$2,010.30	2	39,722.62	\$19,652.92	11	\$0.00	0.00%
A2a - Residential Coordinated Delivery	60,499.90	\$126,221.55	74	267,864.80	\$520,423.45	225	\$289,033.08	180.06%
A2b - Residential Conservation Services (RCS)	0.00	\$10,052.50	82	0.00	\$55,072.49	236	\$44,261.61	124.42%
A2c - Residential Retail	36,373.26	\$32,914.00	23	372,938.00	\$190,800.07	225	\$0.00	0.00%
A2d - Residential Behavior	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
A3i - Residential HEAT Loan	0.00	\$11,483.67	13	0.00	\$69,050.98	43	\$0.00	0.00%
Res Subtotal	100,411.60	\$182,682.02	194.00	680,525.42	\$854,999.91	740	\$333,294.69	
Res % of Total	66.57%	73.65%	96.52%	39.99%	69.72%	92.50%	57.96%	
B1a - Income Eligible Coordinated Delivery	10,027.80	\$33,107.72	2	23,460.20	\$84,039.07	16	\$110,116.32	76.32%
IE Subtotal	10,027.80	\$33,107.72	2.00	23,460.20	\$84,039.07	16	\$110,116.32	
IE % of Total	6.65%	13.35%	1.00%	1.38%	6.85%	2.00%	19.15%	
C1a - C&I New Buildings & Major Renovations	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C1a - C&I New Buildings & Major Renovations – Municipal	0.00	\$331.25	1	0.00	\$3,903.50	1	\$0.00	0.00%
C2a - C&I Existing Building Retrofit	29,195.00	\$30,672.29	3	796,661.08	\$260,963.65	23	\$131,645.34	198.23%
C2a - C&I Existing Building Retrofit - Municipal	0.00	\$0.00	0	2,446.08	\$3,414.09	2	\$0.00	0.00%
C2b - C&I New & Replacement Equipment	11,212.41	\$1,250.00	1	198,657.95	\$19,039.78	18	\$0.00	0.00%
C&I Subtotal	40,407.41	\$32,253.54	5.00	997,765.11	\$287,321.02	44	\$131,645.34	
C&I % of Total	26.79%	13.00%	2.49%	58.63%	23.43%	5.50%	22.89%	
Total	150,846.81	\$248,043.28	201	1,701,750.72	\$1,226,360.00	800	\$575,056.35	

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Town Name: PROVNC TOWN
Program Period: 2020
Current Dates: 12/1/2020 - 12/31/2020
Cumulative Dates: 1/1/2020 - 12/31/2020

Program Initiative	Current Period			Cumulative Period				
	Annual kWh Savings	Actual Expenditures	Participants	Annual kWh Savings	Actual Expenditures	Participants	Budget	Actual % of Budget
A1a - Residential New Homes & Renovations	32,595.94	\$17,466.98	8	268,109.82	\$129,703.71	26	\$0.00	0.00%
A2a - Residential Coordinated Delivery	24,325.80	\$39,960.03	23	70,664.20	\$153,451.08	113	\$145,087.75	105.76%
A2b - Residential Conservation Services (RCS)	0.00	\$4,748.00	29	0.00	\$19,973.50	87	\$22,218.28	89.90%
A2c - Residential Retail	-12,917.50	\$34,619.25	22	233,780.10	\$215,970.56	159	\$0.00	0.00%
A2d - Residential Behavior	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
A3i - Residential HEAT Loan	0.00	\$105.00	3	0.00	\$12,604.45	11	\$0.00	0.00%
Res Subtotal	44,004.24	\$96,899.26	85.00	572,554.12	\$531,703.30	396	\$167,306.03	
Res % of Total	51.54%	68.01%	75.22%	71.01%	75.63%	85.71%	57.96%	
B1a - Income Eligible Coordinated Delivery	5,650.30	\$17,455.98	24	21,094.00	\$36,454.92	43	\$55,275.78	65.95%
IE Subtotal	5,650.30	\$17,455.98	24.00	21,094.00	\$36,454.92	43	\$55,275.78	
IE % of Total	6.62%	12.25%	21.24%	2.62%	5.19%	9.31%	19.15%	
C1a - C&I New Buildings & Major Renovations	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C1a - C&I New Buildings & Major Renovations – Municipal	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C2a - C&I Existing Building Retrofit	35,724.20	\$28,123.33	4	105,690.19	\$77,963.84	9	\$66,082.84	117.98%
C2a - C&I Existing Building Retrofit - Municipal	0.00	\$0.00	0	69,505.49	\$52,403.93	3	\$0.00	0.00%
C2b - C&I New & Replacement Equipment	0.00	\$0.00	0	37,449.08	\$4,516.27	11	\$0.00	0.00%
C&I Subtotal	35,724.20	\$28,123.33	4.00	212,644.76	\$134,884.04	23	\$66,082.84	
C&I % of Total	41.84%	19.74%	3.54%	26.37%	19.19%	4.98%	22.89%	
Total	85,378.74	\$142,478.57	113	806,292.88	\$703,042.26	462	\$288,664.65	

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Energy Efficiency Program Activity by Town

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Town Name: SANDWICH
Program Period: 2020
Current Dates: 12/1/2020 - 12/31/2020
Cumulative Dates: 1/1/2020 - 12/31/2020

Program Initiative	Current Period			Cumulative Period				
	Annual kWh Savings	Actual Expenditures	Participants	Annual kWh Savings	Actual Expenditures	Participants	Budget	Actual % of Budget
A1a - Residential New Homes & Renovations	10,230.66	\$3,126.42	1	57,167.13	\$31,450.59	14	\$0.00	0.00%
A2a - Residential Coordinated Delivery	89,891.90	\$146,649.15	114	446,549.70	\$732,813.02	515	\$1,016,756.70	72.07%
A2b - Residential Conservation Services (RCS)	0.00	\$13,311.50	111	0.00	\$89,666.33	437	\$155,702.88	57.59%
A2c - Residential Retail	101,834.52	\$41,122.34	59	874,899.64	\$340,504.81	529	\$0.00	0.00%
A2d - Residential Behavior	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
A3i - Residential HEAT Loan	0.00	\$26,790.18	22	0.00	\$231,920.64	156	\$0.00	0.00%
Res Subtotal	201,957.08	\$230,999.59	307.00	1,378,616.47	\$1,426,355.39	1,651	\$1,172,459.58	
Res % of Total	8.79%	57.98%	94.46%	33.25%	75.34%	93.75%	57.96%	
B1a - Income Eligible Coordinated Delivery	3,794.60	\$14,012.72	9	38,199.50	\$71,389.30	51	\$387,365.70	18.43%
IE Subtotal	3,794.60	\$14,012.72	9.00	38,199.50	\$71,389.30	51	\$387,365.70	
IE % of Total	0.17%	3.52%	2.77%	0.92%	3.77%	2.90%	19.15%	
C1a - C&I New Buildings & Major Renovations	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C1a - C&I New Buildings & Major Renovations – Municipal	0.00	\$3,514.25	2	0.00	\$8,188.50	3	\$0.00	0.00%
C2a - C&I Existing Building Retrofit	3,690.96	\$3,707.51	1	253,485.90	\$196,894.86	22	\$463,100.21	42.52%
C2a - C&I Existing Building Retrofit - Municipal	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C2b - C&I New & Replacement Equipment	2,088,579.93	\$146,175.00	6	2,475,323.96	\$190,390.00	34	\$0.00	0.00%
C&I Subtotal	2,092,270.89	\$153,396.76	9.00	2,728,809.86	\$395,473.36	59	\$463,100.21	
C&I % of Total	91.05%	38.50%	2.77%	65.82%	20.89%	3.35%	22.89%	
Total	2,298,022.57	\$398,409.07	325	4,145,625.83	\$1,893,218.05	1,761	\$2,022,925.49	

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Town Name: TISBURY
Program Period: 2020
Current Dates: 12/1/2020 - 12/31/2020
Cumulative Dates: 1/1/2020 - 12/31/2020

Program Initiative	Current Period			Cumulative Period				
	Annual kWh Savings	Actual Expenditures	Participants	Annual kWh Savings	Actual Expenditures	Participants	Budget	Actual % of Budget
A1a - Residential New Homes & Renovations	0.00	\$0.00	0	85,316.36	\$60,976.56	22	\$0.00	0.00%
A2a - Residential Coordinated Delivery	3,290.10	\$54,259.02	17	104,956.80	\$167,038.75	80	\$194,211.95	86.01%
A2b - Residential Conservation Services (RCS)	0.00	\$5,424.00	31	0.00	\$25,506.50	104	\$29,741.00	85.76%
A2c - Residential Retail	9,853.20	\$27,913.00	15	379,351.70	\$196,604.05	92	\$0.00	0.00%
A2d - Residential Behavior	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
A3i - Residential HEAT Loan	0.00	\$1,382.20	3	0.00	\$35,072.66	22	\$0.00	0.00%
Res Subtotal	13,143.30	\$88,978.22	66.00	569,624.86	\$485,198.52	320	\$223,952.95	
Res % of Total	10.68%	89.74%	95.65%	74.05%	82.38%	90.65%	57.96%	
B1a - Income Eligible Coordinated Delivery	0.00	\$0.00	0	-20,685.00	\$46,170.07	11	\$73,991.20	62.40%
IE Subtotal	0.00	\$0.00	0.00	-20,685.00	\$46,170.07	11	\$73,991.20	
IE % of Total	0.00%	0.00%	0.00%	-2.69%	7.84%	3.12%	19.15%	
C1a - C&I New Buildings & Major Renovations	0.00	\$0.00	0	0.00	\$412.50	1	\$0.00	0.00%
C1a - C&I New Buildings & Major Renovations – Municipal	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C2a - C&I Existing Building Retrofit	0.00	\$0.00	0	76,002.58	\$43,395.62	7	\$88,457.34	49.06%
C2a - C&I Existing Building Retrofit - Municipal	0.00	\$0.00	0	0.00	\$475.00	1	\$0.00	0.00%
C2b - C&I New & Replacement Equipment	109,891.61	\$10,168.00	3	144,330.84	\$13,352.00	13	\$0.00	0.00%
C&I Subtotal	109,891.61	\$10,168.00	3.00	220,333.42	\$57,635.12	22	\$88,457.34	
C&I % of Total	89.32%	10.26%	4.35%	28.64%	9.79%	6.23%	22.89%	
Total	123,034.91	\$99,146.22	69	769,273.28	\$589,003.71	353	\$386,401.50	

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Town Name: TRURO
Program Period: 2020
Current Dates: 12/1/2020 - 12/31/2020
Cumulative Dates: 1/1/2020 - 12/31/2020

Program Initiative	Current Period			Cumulative Period				
	Annual kWh Savings	Actual Expenditures	Participants	Annual kWh Savings	Actual Expenditures	Participants	Budget	Actual % of Budget
A1a - Residential New Homes & Renovations	0.00	\$0.00	0	27,152.00	\$26,503.84	6	\$0.00	0.00%
A2a - Residential Coordinated Delivery	27,317.40	\$78,594.99	18	111,717.90	\$239,228.76	102	\$98,248.40	243.49%
A2b - Residential Conservation Services (RCS)	0.00	\$4,462.50	28	0.00	\$23,656.00	97	\$15,045.45	157.23%
A2c - Residential Retail	14,532.80	\$26,482.42	17	-6,790.90	\$212,582.00	118	\$0.00	0.00%
A2d - Residential Behavior	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
A3i - Residential HEAT Loan	0.00	\$1,708.16	1	0.00	\$22,414.20	12	\$0.00	0.00%
Res Subtotal	41,850.20	\$111,248.07	64.00	132,079.00	\$524,384.80	335	\$113,293.85	
Res % of Total	87.22%	98.98%	96.97%	77.97%	94.58%	95.99%	57.96%	
B1a - Income Eligible Coordinated Delivery	0.00	\$0.00	0	4,567.00	\$11,990.07	2	\$37,430.84	32.03%
IE Subtotal	0.00	\$0.00	0.00	4,567.00	\$11,990.07	2	\$37,430.84	
IE % of Total	0.00%	0.00%	0.00%	2.70%	2.16%	0.57%	19.15%	
C1a - C&I New Buildings & Major Renovations	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C1a - C&I New Buildings & Major Renovations – Municipal	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C2a - C&I Existing Building Retrofit	0.00	\$0.00	0	12,389.18	\$13,966.04	4	\$44,749.01	31.21%
C2a - C&I Existing Building Retrofit - Municipal	0.00	\$0.00	0	0.00	\$0.00	1	\$0.00	0.00%
C2b - C&I New & Replacement Equipment	6,133.62	\$1,150.00	2	20,366.13	\$4,075.00	7	\$0.00	0.00%
C&I Subtotal	6,133.62	\$1,150.00	2.00	32,755.31	\$18,041.04	12	\$44,749.01	
C&I % of Total	12.78%	1.02%	3.03%	19.34%	3.25%	3.44%	22.89%	
Total	47,983.82	\$112,398.07	66	169,401.31	\$554,415.91	349	\$195,473.70	

*Costs include those costs that has been recorded through this period and are not necessarily representative of all activity through this month

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Energy Efficiency Program Activity by Town

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Town Name: WELLFLEET
Program Period: 2020
Current Dates: 12/1/2020 - 12/31/2020
Cumulative Dates: 1/1/2020 - 12/31/2020

Program Initiative	Current Period			Cumulative Period				
	Annual kWh Savings	Actual Expenditures	Participants	Annual kWh Savings	Actual Expenditures	Participants	Budget	Actual % of Budget
A1a - Residential New Homes & Renovations	2,169.20	\$493.88	1	86,170.14	\$41,901.58	10	\$0.00	0.00%
A2a - Residential Coordinated Delivery	22,844.00	\$44,181.98	37	187,625.80	\$282,865.68	147	\$134,805.94	209.83%
A2b - Residential Conservation Services (RCS)	0.00	\$10,036.50	63	0.00	\$41,987.50	189	\$20,643.75	203.39%
A2c - Residential Retail	1,018.20	\$15,387.75	18	120,494.74	\$202,871.15	193	\$0.00	0.00%
A2d - Residential Behavior	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
A3i - Residential HEAT Loan	0.00	\$1,378.94	5	0.00	\$36,482.27	27	\$0.00	0.00%
Res Subtotal	26,031.40	\$71,479.05	124.00	394,290.68	\$606,108.18	566	\$155,449.70	
Res % of Total	84.38%	94.18%	95.38%	60.92%	78.51%	91.88%	57.96%	
B1a - Income Eligible Coordinated Delivery	3,533.00	\$4,224.90	4	24,789.50	\$62,886.74	23	\$51,358.60	122.45%
IE Subtotal	3,533.00	\$4,224.90	4.00	24,789.50	\$62,886.74	23	\$51,358.60	
IE % of Total	11.45%	5.57%	3.08%	3.83%	8.15%	3.73%	19.15%	
C1a - C&I New Buildings & Major Renovations	0.00	\$0.00	0	73,545.00	\$19,880.50	2	\$0.00	0.00%
C1a - C&I New Buildings & Major Renovations – Municipal	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C2a - C&I Existing Building Retrofit	0.00	\$154.10	1	42,555.72	\$32,240.69	9	\$61,399.80	52.51%
C2a - C&I Existing Building Retrofit - Municipal	0.00	\$0.00	0	0.00	\$4,465.00	4	\$0.00	0.00%
C2b - C&I New & Replacement Equipment	1,286.12	\$36.00	1	112,067.68	\$46,461.00	12	\$0.00	0.00%
C&I Subtotal	1,286.12	\$190.10	2.00	228,168.40	\$103,047.19	27	\$61,399.80	
C&I % of Total	4.17%	0.25%	1.54%	35.25%	13.35%	4.38%	22.89%	
Total	30,850.52	\$75,894.05	130	647,248.58	\$772,042.11	616	\$268,208.10	

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Town Name: WEST TISBURY
Program Period: 2020
Current Dates: 12/1/2020 - 12/31/2020
Cumulative Dates: 1/1/2020 - 12/31/2020

Program Initiative	Current Period			Cumulative Period				
	Annual kWh Savings	Actual Expenditures	Participants	Annual kWh Savings	Actual Expenditures	Participants	Budget	Actual % of Budget
A1a - Residential New Homes & Renovations	0.00	\$52.50	1	9,677.90	\$10,071.55	6	\$0.00	0.00%
A2a - Residential Coordinated Delivery	8,965.40	\$8,739.67	12	66,528.60	\$86,329.15	57	\$134,805.94	64.04%
A2b - Residential Conservation Services (RCS)	0.00	\$3,224.00	18	0.00	\$16,188.50	65	\$20,643.75	78.42%
A2c - Residential Retail	94.00	\$1,610.50	6	-15,034.40	\$84,378.69	55	\$0.00	0.00%
A2d - Residential Behavior	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
A3i - Residential HEAT Loan	0.00	\$70.00	2	0.00	\$22,352.61	15	\$0.00	0.00%
Res Subtotal	9,059.40	\$13,696.67	39.00	61,172.10	\$219,320.50	198	\$155,449.70	
Res % of Total	60.02%	94.48%	97.50%	63.91%	92.11%	92.09%	57.96%	
B1a - Income Eligible Coordinated Delivery	0.00	\$0.00	0	8,963.20	\$5,215.42	10	\$51,358.60	10.15%
IE Subtotal	0.00	\$0.00	0.00	8,963.20	\$5,215.42	10	\$51,358.60	
IE % of Total	0.00%	0.00%	0.00%	9.36%	2.19%	4.65%	19.15%	
C1a - C&I New Buildings & Major Renovations	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C1a - C&I New Buildings & Major Renovations – Municipal	0.00	\$0.00	0	0.00	\$321.00	1	\$0.00	0.00%
C2a - C&I Existing Building Retrofit	0.00	\$0.00	0	0.00	\$0.00	0	\$61,399.80	0.00%
C2a - C&I Existing Building Retrofit - Municipal	0.00	\$0.00	0	13,769.00	\$11,954.99	3	\$0.00	0.00%
C2b - C&I New & Replacement Equipment	6,035.71	\$800.00	1	11,805.49	\$1,298.00	3	\$0.00	0.00%
C&I Subtotal	6,035.71	\$800.00	1.00	25,574.49	\$13,573.99	7	\$61,399.80	
C&I % of Total	39.98%	5.52%	2.50%	26.72%	5.70%	3.26%	22.89%	
Total	15,095.11	\$14,496.67	40	95,709.79	\$238,109.91	215	\$268,208.10	

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Town Name: YARMOUTH
Program Period: 2020
Current Dates: 12/1/2020 - 12/31/2020
Cumulative Dates: 1/1/2020 - 12/31/2020

Program Initiative	Current Period			Cumulative Period				
	Annual kWh Savings	Actual Expenditures	Participants	Annual kWh Savings	Actual Expenditures	Participants	Budget	Actual % of Budget
A1a - Residential New Homes & Renovations	10,621.60	\$3,668.35	2	47,595.94	\$18,384.70	13	\$0.00	0.00%
A2a - Residential Coordinated Delivery	228,114.70	\$391,334.97	255	769,006.60	\$1,532,473.60	840	\$1,169,841.41	131.00%
A2b - Residential Conservation Services (RCS)	0.00	\$24,549.50	204	0.00	\$138,944.32	703	\$179,145.79	77.56%
A2c - Residential Retail	186,969.28	\$36,714.80	57	2,479,421.00	\$448,957.24	576	\$0.00	0.00%
A2d - Residential Behavior	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
A3i - Residential HEAT Loan	0.00	\$38,193.52	41	0.00	\$268,827.20	195	\$0.00	0.00%
Res Subtotal	425,705.58	\$494,461.14	559.00	3,296,023.54	\$2,407,587.06	2,327	\$1,348,987.20	
Res % of Total	70.57%	86.09%	94.91%	58.06%	70.37%	83.95%	57.96%	
B1a - Income Eligible Coordinated Delivery	6,919.00	\$13,244.06	10	271,808.40	\$327,161.02	343	\$445,688.18	73.41%
IE Subtotal	6,919.00	\$13,244.06	10.00	271,808.40	\$327,161.02	343	\$445,688.18	
IE % of Total	1.15%	2.31%	1.70%	4.79%	9.56%	12.37%	19.15%	
C1a - C&I New Buildings & Major Renovations	0.00	\$0.00	0	0.00	\$0.00	0	\$0.00	0.00%
C1a - C&I New Buildings & Major Renovations – Municipal	0.00	\$0.00	0	0.00	\$4,255.00	1	\$0.00	0.00%
C2a - C&I Existing Building Retrofit	81,668.40	\$55,020.72	14	965,326.57	\$431,532.11	43	\$532,825.41	80.99%
C2a - C&I Existing Building Retrofit - Municipal	0.00	\$0.00	0	127,722.56	\$139,123.61	11	\$0.00	0.00%
C2b - C&I New & Replacement Equipment	88,923.01	\$11,650.00	6	1,016,053.60	\$111,734.36	47	\$0.00	0.00%
C&I Subtotal	170,591.41	\$66,670.72	20.00	2,109,102.73	\$686,645.08	102	\$532,825.41	
C&I % of Total	28.28%	11.61%	3.40%	37.15%	20.07%	3.68%	22.89%	
Total	603,215.99	\$574,375.92	589	5,676,934.67	\$3,421,393.16	2,772	\$2,327,500.79	

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APPENDIX CLC-2 CAPE LIGHT COMPACT JPE ENERGY EDUCATION OUTREACH ACTIVITIES

The Compact is committed to energy education outreach across Cape Cod and Martha's Vineyard. The Compact continues to support the community's efforts to develop a deeper and broader knowledge of energy efficiency technology and practices, moving towards an energy-literate society. As a result of the COVID-19 pandemic, the Compact, like all Program Administrators, had to change the manner in which its energy education efforts were delivered.

The Compact pivoted from offering mainly in-person, hands-on education to remote offerings. Starting in April, the Compact partnered with the National Energy Education Development Project ("NEED") to offer energy-focused activities. The Compact and NEED developed weekly lesson plans focused on the topic of energy that were broken out by grade range. Each lesson plan included a short reading activity, a worksheet, and additional learning resources. The lessons were posted on the Compact's website.⁴ The materials were shared with the Compact's teacher network, through social media, and through postings in the monthly newsletter. The lessons covered the following topics:

- Energy Sources
- Electricity and Electricity Generation
- Energy Conservation at Home
- Measuring Your Electric Consumption
- Lighting
- Appliances
- Heating and Cooling
- Solar
- Wind
- Geothermal
- Transportation
- Climate Science

In addition to the lesson plans, the Compact provided energy education materials to support our Cape Cod and Martha's Vineyard teachers as follows:

- 398 Energy House kits for students
- 2 Science of Energy kits for teachers

⁴ See, <https://www.capelightcompact.org/parentteacherresources/>

- 2 Energy Management Kits for teachers
- 118 Circuit set bags for students
- 320 Thermometers for student insulation experiments