

Energy Efficiency Data Tables

Overview

National Grid Gas Gas
November 1, 2021

DATA OVERVIEW

The following data tables provide a summary of the Program Administrator's benefits, costs, savings, and cost-effectiveness for 2019 through 2024. The 2019 through 2021 planned values are consistent with each Program Administrator's 2019-2021 Three-Year Plan. The 2019 and 2020 evaluated values are consistent with each Program Administrator's 2019 and 2020 Plan-Year Reports. The 2021 year-to-date data represents the most up-to-date estimated actual values available through through June 30, 2021 (Q2). The 2022-2024 planned values are consistent with each Program Administrator's 2022-2024 Three-Year Plan.

SUPPORTING INFORMATION

The data included in these tables is based on other supporting models. The primary supporting models used by the Program Administrators are the Benefit-Cost Screening model, each Program Administrator's EES calculation support documents, and the Performance Incentive model. These exhibits should be referenced when looking for more detailed analyses, such as measure level detail and EES calculations. High-level summaries for each of these models are provided below, along with information on plan details that are not summarized in the following plan tables.

Benefit-Cost Screening Models

The Benefit-Cost Screening model provides measure level savings and benefits. This model uses the avoided cost values from the 2021 Avoided Energy Supply Cost study prepared by Synapse Energy Economics. The models also provide Program Administrator-specific information, including avoided T&D costs.

GHG

The avoided CO₂e (metric tons) in the savings table (table IV.D.3.2.i) are calculated consistent with the methodology stipulated by the Massachusetts Executive Office of Energy and Environmental Affairs in Letter from Sec. Theoharides, "Greenhouse Gas Emissions Reduction Goal for Mass Save," July 15, 2021. See: <https://www.mass.gov/doc/greenhouse-gas-emissions-reduction-goal-for-mass-save/download>

EM&V Activities

The Evaluation, Monitoring & Verification Section of the Joint Statewide Three-Year Plan describes in detail the EM&V activities planned for 2022-2024.

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. Note that performance incentives are not applicable to the Cape Light Compact.

EES Calculations

Each Program Administrator's Energy Efficiency Surcharge analysis provides supporting information on the EES rates proposed for effect in 2022-2024, including how the rates are calculated for each customer sector, and how revenue is collected from each customer sector.

2022-2024 Plan Data Tables

Template Version: October 27, 2021

PA-Specific Information

FILING INFORMATION

Distribution Company	Gas	
Program Administrator	National Grid Gas	PA-specific
Date of Filing/Draft	November 1, 2021	

FILING DATES AND DOCKETS

Reporting Period	Filing Date	DPU Docket Number
2019 Planned	February 2, 2019	D.P.U. 18-114
2020 Planned	February 2, 2019	D.P.U. 18-114
2021 Planned	February 2, 2019	D.P.U. 18-114
2019 Evaluated	May 29, 2020	D.P.U. 20-50
2020 Evaluated	June 4, 2021	D.P.U. 21-70
2021 YTD	through June 30, 2021 (Q2)	N/A
2022 Planned	November 1, 2021	D.P.U. 21-124
2023 Planned	November 1, 2021	D.P.U. 21-124
2024 Planned	November 1, 2021	D.P.U. 21-124

RATES FOR ADJUSTMENTS

2020 Nominal Discount Rate	2.33%	
2021 Nominal Discount Rate	2.33%	
2023 Nominal Discount Rate	1.98%	
2024 Nominal Discount Rate	1.98%	
2022 Electric LI Rate Subsidy, Resl	44.63%	PA-specific
2022 Electric LI Rate Subsidy, C&I	55.37%	PA-specific
2023 Electric LI Rate Subsidy, Resl	45.72%	PA-specific
2023 Electric LI Rate Subsidy, C&I	54.28%	PA-specific
2024 Electric LI Rate Subsidy, Resl	45.72%	PA-specific
2024 Electric LI Rate Subsidy, C&I	54.28%	PA-specific
Effective Tax Rate	27.32%	PA-specific

Energy Efficiency Guidelines 3.4.6 requires that "Benefits and costs that are projected to occur over the term of each Energy Efficiency Program shall be stated in present value terms, using a discount rate that is equal to a twelve-month average of the historic yields from the ten-year United States Treasury note, using the previous calendar year to determine the twelve-month average." The Program Administrators calculated the discount rate used in the 2022-2024 Plan consistently with this methodology, but averaged interest rates over the previous three years (instead of the previous one year) to account for the anomalous impact of the COVID-19 pandemic on interest rates.

REFERENCED YEARS

Previous Plan Year 1	2019
Previous Plan Year 2	2020
Previous Plan Year 3	2021
Current Plan Year 1	2022
Current Plan Year 2	2023
Current Plan Year 3	2024
GHG Goal Year 1	2025
GHG Goal Year 2	2030

PROGRAM ADMINISTRATORS

PA Name	Distribution Company	2019-2021 Plan Docket	2022-2024 Plan Docket
Cape Light Compact	Electric	D.P.U. 18-116	D.P.U. 21-126
Eversource Electric	Electric	D.P.U. 18-119	D.P.U. 21-129
National Grid Electric	Electric	D.P.U. 18-118	D.P.U. 21-128
Unitil Electric	Electric	D.P.U. 18-117	D.P.U. 21-127
Berkshire	Gas	D.P.U. 18-111	D.P.U. 21-120
Eversource Gas (EGMA)	Gas	D.P.U. 18-110	D.P.U. 21-121
Eversource Gas (NSTAR)	Gas	D.P.U. 18-115	D.P.U. 21-125
National Grid Gas	Gas	D.P.U. 18-114	D.P.U. 21-124
Liberty	Gas	D.P.U. 18-113	D.P.U. 21-123
Unitil Gas	Gas	D.P.U. 18-112	D.P.U. 21-122
Statewide Electric	Electric	Statewide Electric	Statewide Electric
Statewide Gas	Gas	Statewide Gas	Statewide Gas

Slicers for Pivot Tables

Tables with Master Data source

Gas	Berkshire
Electric	Eversource Gas (EGMA)
(blank)	Eversource Gas (NSTAR)
	Liberty
	National Grid Gas
	Statewide Gas
	Unitil Gas
	Cape Light Compact
	Eversource Electric
	National Grid Electric
	Statewide Electric
	Unitil Electric
	(blank)

Tables with Master Sector source

PA-specific

Gas	Berkshire
Electric	Eversource Gas (EGMA)
(blank)	Eversource Gas (NSTAR)
	Liberty
	National Grid Gas
	Statewide Gas
	Unitil Gas
	Cape Light Compact
	Eversource Electric
	National Grid Electric
	Statewide Electric
	Unitil Electric
	(blank)

IV.B. Program Administrator Funding Sources

1. Summary Table

National Grid Gas Gas

November 1, 2021

2022 Gas Ratepayer Funds				
Sector	Total Program Costs	Performance Incentives	Other Funding	Total Ratepayer Funds
A - Residential	114,562,551	3,043,725	-	117,606,276
B - Income Eligible	40,473,552	1,367,834	-	41,841,386
C - Commercial & Industrial	44,721,729	1,970,854	-	46,692,583
Grand Total	199,757,832	6,382,413	-	206,140,245

2023 Gas Ratepayer Funds				
Sector	Total Program Costs	Performance Incentives	Other Funding	Total Ratepayer Funds
A - Residential	124,951,469	3,381,025	-	128,332,494
B - Income Eligible	45,203,907	1,430,163	-	46,634,070
C - Commercial & Industrial	52,386,549	2,188,112	-	54,574,661
Grand Total	222,541,925	6,999,300	-	229,541,225

2024 Gas Ratepayer Funds				
Sector	Total Program Costs	Performance Incentives	Other Funding	Total Ratepayer Funds
A - Residential	137,224,078	3,693,147	-	140,917,226
B - Income Eligible	50,201,756	1,557,312	-	51,759,069
C - Commercial & Industrial	59,845,427	2,410,689	-	62,256,116
Grand Total	247,271,262	7,661,148	-	254,932,410

2022-2024 Gas Ratepayer Funds				
Sector	Total Program Costs	Performance Incentives	Other Funding	Total Ratepayer Funds
A - Residential	376,738,098	10,117,897	-	386,855,996
B - Income Eligible	135,879,215	4,355,309	-	140,234,524
C - Commercial & Industrial	156,953,706	6,569,655	-	163,523,361
Grand Total	669,571,019	21,042,861	-	690,613,880

Notes:

Ratepayer funds for each year are represented in nominal dollars (2022\$, 2023\$, 2024\$).

IV.B. Program Administrator Funding Sources

3.4 Other Funding

National Grid Gas Gas

November 1, 2021

Other Funding Sources, 2022-2024				
Sector	2022	2023	2024	2022-2024
A - Residential	-	-	-	-
B - Income Eligible	-	-	-	-
C - Commercial & Industrial	-	-	-	-
Grand Total	-	-	-	-

Notes:

"Other" Funding are those funds, private or public utility administered or otherwise, that may be available for energy efficiency or demand resources and do not include SBC Funds, FCM Revenue, or RGGI Proceeds. The Program Administrators assume no other funding sources for this plan.

IV.C. Program Administrator Budgets

1. Summary Table

National Grid Gas Gas

November 1, 2021

2022 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	3,660,243	3,095,136	89,548,554	18,053,161	205,457	114,562,551	3,043,725	117,606,276	222.79	1.50
A1 - Residential New Buildings	94,467	52,036	5,518,581	605,095	-	6,270,179	158,545	6,428,724	2,280.07	2.62
A1a - Residential New Homes & Renovations	94,467	52,036	5,518,581	605,095	-	6,270,179	158,545	6,428,724	2,280.07	2.62
A2 - Residential Existing Buildings	2,932,422	2,983,141	82,954,993	13,852,002	1,518	102,724,078	2,885,180	105,609,258	200.84	1.51
A2a - Residential Coordinated Delivery	1,861,848	425,566	58,365,533	2,049,859	-	62,702,806	2,058,004	64,760,810	3,056.79	1.49
A2b - Residential Conservation Services (RCS)	149,810	1,283,061	-	8,784,613	-	10,217,483	-	10,217,483	-	-
A2c - Residential Retail	843,505	1,274,026	24,589,460	654,593	-	27,361,584	708,111	28,069,695	837.74	1.98
A2d - Residential Behavior	77,260	489	-	2,362,937	1,518	2,442,204	119,065	2,561,269	5.33	2.97
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
A3 - Residential Hard-to-Measure	633,354	59,958	1,074,980	3,596,064	203,939	5,568,295	-	5,568,295	-	-
A3a - Residential Statewide Marketing	1,857	6,602	-	-	-	8,458	-	8,458	-	-
A3b - Residential Statewide Database	-	-	-	-	-	-	-	-	-	-
A3c - Residential DOER Assessment	412,541	-	-	-	-	412,541	-	412,541	-	-
A3d - Residential Sponsorships & Subscriptions	52,244	979	-	5,468	2,227	60,918	-	60,918	-	-
A3e - Residential Workforce Development	-	-	-	3,374,770	-	3,374,770	-	3,374,770	-	-
A3f - Residential Evaluation and Market Research	-	-	-	-	201,712	201,712	-	201,712	-	-
A3g - Residential EEAC Consultants	166,712	-	-	-	-	166,712	-	166,712	-	-
A3h - Residential R&D and Demonstration	-	15,000	62,500	114,583	-	192,083	-	192,083	-	-
A3i - Residential HEAT Loan	-	36,278	1,012,480	101,243	-	1,150,000	-	1,150,000	-	-
A3j - Residential Education	-	1,100	-	-	-	1,100	-	1,100	-	-
B - Income Eligible	1,138,237	1,417,962	30,391,526	6,870,280	655,547	40,473,552	1,367,834	41,841,386	23,807.97	1.32
B1 - Income Eligible Existing Buildings	859,752	1,309,079	30,391,526	6,467,315	-	39,027,673	1,367,834	40,395,507	22,957.45	1.37
B1a - Income Eligible Coordinated Delivery	859,752	1,309,079	30,391,526	6,467,315	-	39,027,673	1,367,834	40,395,507	22,957.45	1.37
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	278,484	108,883	-	402,965	655,547	1,445,879	-	1,445,879	-	-
B2a - Income Eligible Statewide Marketing	-	108,531	-	-	-	108,531	-	108,531	-	-
B2b - Income Eligible Statewide Database	11,003	-	-	-	-	11,003	-	11,003	-	-
B2c - Income Eligible DOER Assessment	148,687	-	-	-	-	148,687	-	148,687	-	-
B2d - Income Eligible Sponsorships & Subscriptions	18,794	352	-	1,967	801	21,914	-	21,914	-	-
B2e - Income Eligible Workforce Development	-	-	-	400,998	-	400,998	-	400,998	-	-
B2f - Income Eligible Evaluation and Market Research	-	-	-	-	654,746	654,746	-	654,746	-	-
B2g - Low-Income Energy Affordability Network (LEAN)	100,000	-	-	-	-	100,000	-	100,000	-	-
C - Commercial & Industrial	1,586,641	2,286,392	30,629,730	9,458,982	759,985	44,721,729	1,970,854	46,692,583	20,328.06	2.54
C1 - C&I New Buildings	132,130	525,586	2,337,400	1,693,887	-	4,689,003	339,253	5,028,255	46,890.03	4.43
C1a - C&I New Buildings & Major Renovations	132,130	525,586	2,337,400	1,693,887	-	4,689,003	339,253	5,028,255	46,890.03	4.43
C2 - C&I Existing Buildings	1,175,866	1,641,586	28,121,705	6,043,764	-	36,982,921	1,631,601	38,614,522	17,610.91	2.51
C2a - C&I Existing Building Retrofit	960,119	1,542,022	23,200,557	3,875,063	-	29,577,761	1,256,517	30,834,278	24,648.13	2.57
C2b - C&I New & Replacement Equipment	215,747	99,564	4,921,147	2,168,701	-	7,405,160	375,084	7,780,244	8,227.96	2.25
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
C3 - C&I Hard-to-Measure	278,645	119,220	170,625	1,721,331	759,985	3,049,806	-	3,049,806	-	-
C3a - C&I Statewide Marketing	-	104,220	-	-	-	104,220	-	104,220	-	-
C3b - C&I Statewide Database	-	-	-	10,451	-	10,451	-	10,451	-	-
C3c - C&I DOER Assessment	208,665	-	-	-	-	208,665	-	208,665	-	-
C3d - C&I Sponsorships & Subscriptions	28,028	525	-	2,933	1,195	32,680	-	32,680	-	-
C3e - C&I Workforce Development	-	-	-	1,413,994	-	1,413,994	-	1,413,994	-	-
C3f - C&I Evaluation and Market Research	-	-	-	-	758,790	758,790	-	758,790	-	-
C3g - C&I EEAC Consultants	41,953	-	-	-	-	41,953	-	41,953	-	-
C3h - C&I R&D and Demonstration	-	14,475	170,625	293,953	-	479,053	-	479,053	-	-
Grand Total	6,385,121	6,799,490	150,569,810	34,382,423	1,620,989	199,757,832	6,382,413	206,140,245	385.55	1.69

IV.C. Program Administrator Budgets

1. Summary Table

National Grid Gas Gas

November 1, 2021

2023 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	3,680,671	3,781,522	98,873,431	18,402,192	213,653	124,951,469	3,381,025	128,332,494	242.46	1.45
A1 - Residential New Buildings	85,940	50,021	5,514,315	605,099	-	6,255,376	191,641	6,447,017	2,274.68	2.89
A1a - Residential New Homes & Renovations	85,940	50,021	5,514,315	605,099	-	6,255,376	191,641	6,447,017	2,274.68	2.89
A2 - Residential Existing Buildings	2,955,155	3,682,705	92,307,886	14,227,633	1,579	113,174,958	3,189,384	116,364,341	220.79	1.44
A2a - Residential Coordinated Delivery	1,802,518	446,154	64,653,362	1,900,670	-	68,802,704	2,289,652	71,092,356	3,373.13	1.44
A2b - Residential Conservation Services (RCS)	204,583	1,545,305	-	9,259,046	-	11,008,934	-	11,008,934	-	-
A2c - Residential Retail	871,750	1,690,738	27,654,523	657,675	-	30,874,687	778,728	31,653,415	910.62	1.83
A2d - Residential Behavior	76,304	508	-	2,410,241	1,579	2,488,632	121,003	2,609,636	5.43	2.88
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
A3 - Residential Hard-to-Measure	639,576	48,796	1,051,230	3,569,460	212,074	5,521,135	-	5,521,135	-	-
A3a - Residential Statewide Marketing	1,931	6,866	-	-	-	8,797	-	8,797	-	-
A3b - Residential Statewide Database	-	-	-	-	-	-	-	-	-	-
A3c - Residential DOER Assessment	415,077	-	-	-	-	415,077	-	415,077	-	-
A3d - Residential Sponsorships & Subscriptions	53,812	1,008	-	5,632	2,293	62,745	-	62,745	-	-
A3e - Residential Workforce Development	-	-	-	3,395,502	-	3,395,502	-	3,395,502	-	-
A3f - Residential Evaluation and Market Research	-	-	-	-	209,781	209,781	-	209,781	-	-
A3g - Residential EEAC Consultants	168,756	-	-	-	-	168,756	-	168,756	-	-
A3h - Residential R&D and Demonstration	-	3,500	38,750	67,083	-	109,333	-	109,333	-	-
A3i - Residential HEAT Loan	-	36,278	1,012,480	101,243	-	1,150,000	-	1,150,000	-	-
A3j - Residential Education	-	1,144	-	-	-	1,144	-	1,144	-	-
B - Income Eligible	875,909	2,168,925	33,280,011	8,220,543	658,518	45,203,907	1,430,163	46,634,070	26,590.53	1.18
B1 - Income Eligible Existing Buildings	592,525	2,060,072	33,280,011	7,816,532	-	43,749,141	1,430,163	45,179,303	25,734.79	1.22
B1a - Income Eligible Coordinated Delivery	592,525	2,060,072	33,280,011	7,816,532	-	43,749,141	1,430,163	45,179,303	25,734.79	1.22
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	283,384	108,853	-	404,011	658,518	1,454,766	-	1,454,766	-	-
B2a - Income Eligible Statewide Marketing	-	108,490	-	-	-	108,490	-	108,490	-	-
B2b - Income Eligible Statewide Database	10,995	-	-	-	-	10,995	-	10,995	-	-
B2c - Income Eligible DOER Assessment	153,032	-	-	-	-	153,032	-	153,032	-	-
B2d - Income Eligible Sponsorships & Subscriptions	19,358	363	-	2,026	825	22,572	-	22,572	-	-
B2e - Income Eligible Workforce Development	-	-	-	401,985	-	401,985	-	401,985	-	-
B2f - Income Eligible Evaluation and Market Research	-	-	-	-	657,692	657,692	-	657,692	-	-
B2g - Low-Income Energy Affordability Network (LEAN)	100,000	-	-	-	-	100,000	-	100,000	-	-
C - Commercial & Industrial	4,122,447	2,273,772	38,092,374	7,093,600	804,357	52,386,549	2,188,112	54,574,661	22,926.28	2.23
C1 - C&I New Buildings	127,895	538,587	2,346,044	1,705,865	-	4,718,390	342,861	5,061,252	42,894.46	4.37
C1a - C&I New Buildings & Major Renovations	127,895	538,587	2,346,044	1,705,865	-	4,718,390	342,861	5,061,252	42,894.46	4.37
C2 - C&I Existing Buildings	3,693,424	1,611,655	35,440,080	3,725,227	-	44,470,385	1,845,251	46,315,636	20,446.15	2.16
C2a - C&I Existing Building Retrofit	3,483,018	1,511,558	30,377,498	1,533,214	-	36,905,287	1,457,734	38,363,021	29,524.23	2.17
C2b - C&I New & Replacement Equipment	210,406	100,097	5,062,582	2,192,013	-	7,565,098	387,517	7,952,615	8,178.48	2.11
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
C3 - C&I Hard-to-Measure	301,128	123,530	306,250	1,662,508	804,357	3,197,774	-	3,197,774	-	-
C3a - C&I Statewide Marketing	-	111,290	-	-	-	111,290	-	111,290	-	-
C3b - C&I Statewide Database	11,167	-	-	-	-	11,167	-	11,167	-	-
C3c - C&I DOER Assessment	214,925	-	-	-	-	214,925	-	214,925	-	-
C3d - C&I Sponsorships & Subscriptions	28,868	541	-	3,021	1,230	33,661	-	33,661	-	-
C3e - C&I Workforce Development	-	-	-	1,433,409	-	1,433,409	-	1,433,409	-	-
C3f - C&I Evaluation and Market Research	-	-	-	-	803,126	803,126	-	803,126	-	-
C3g - C&I EEAC Consultants	46,169	-	-	-	-	46,169	-	46,169	-	-
C3h - C&I R&D and Demonstration	-	11,700	306,250	226,077	-	544,027	-	544,027	-	-
Grand Total	8,679,028	8,224,220	170,245,815	33,716,335	1,676,527	222,541,925	6,999,300	229,541,225	428.52	1.58

IV.C. Program Administrator Budgets

1. Summary Table

National Grid Gas Gas

November 1, 2021

2024 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	3,982,176	3,675,739	109,998,229	19,345,758	222,176	137,224,078	3,693,147	140,917,226	266.16	1.35
A1 - Residential New Buildings	199,907	51,091	4,372,460	610,002	-	5,233,460	143,355	5,376,814	2,392.44	2.51
A1a - Residential New Homes & Renovations	199,907	51,091	4,372,460	610,002	-	5,233,460	143,355	5,376,814	2,392.44	2.51
A2 - Residential Existing Buildings	3,131,704	3,576,001	104,584,539	15,216,760	1,642	126,510,647	3,549,793	130,060,439	246.42	1.36
A2a - Residential Coordinated Delivery	1,860,015	464,968	71,527,484	2,359,565	-	76,212,032	2,538,446	78,750,478	3,965.60	1.37
A2b - Residential Conservation Services (RCS)	272,900	1,716,976	-	9,737,348	-	11,727,224	-	11,727,224	-	-
A2c - Residential Retail	922,655	1,393,528	33,057,056	661,354	-	36,034,593	886,565	36,921,159	1,004.24	1.68
A2d - Residential Behavior	76,134	528	-	2,458,492	1,642	2,536,797	124,781	2,661,578	5.54	2.89
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
A3 - Residential Hard-to-Measure	650,566	48,647	1,041,230	3,518,996	220,534	5,479,972	-	5,479,972	-	-
A3a - Residential Statewide Marketing	2,008	7,140	-	-	-	9,149	-	9,149	-	-
A3b - Residential Statewide Database	-	-	-	-	-	-	-	-	-	-
A3c - Residential DOER Assessment	421,335	-	-	-	-	421,335	-	421,335	-	-
A3d - Residential Sponsorships & Subscriptions	55,426	1,038	-	5,801	2,362	64,627	-	64,627	-	-
A3e - Residential Workforce Development	-	-	-	3,358,620	-	3,358,620	-	3,358,620	-	-
A3f - Residential Evaluation and Market Research	-	-	-	-	218,172	218,172	-	218,172	-	-
A3g - Residential EEAC Consultants	171,797	-	-	-	-	171,797	-	171,797	-	-
A3h - Residential R&D and Demonstration	-	3,000	28,750	53,333	-	85,083	-	85,083	-	-
A3i - Residential HEAT Loan	-	36,278	1,012,480	101,243	-	1,150,000	-	1,150,000	-	-
A3j - Residential Education	-	1,190	-	-	-	1,190	-	1,190	-	-
B - Income Eligible	897,893	2,169,596	37,812,404	8,659,395	662,467	50,201,756	1,557,312	51,759,069	29,530.44	1.11
B1 - Income Eligible Existing Buildings	609,993	2,061,105	37,812,404	8,257,079	-	48,740,582	1,557,312	50,297,894	28,670.93	1.14
B1a - Income Eligible Coordinated Delivery	609,993	2,061,105	37,812,404	8,257,079	-	48,740,582	1,557,312	50,297,894	28,670.93	1.14
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	287,900	108,491	-	402,316	662,467	1,461,174	-	1,461,174	-	-
B2a - Income Eligible Statewide Marketing	-	108,118	-	-	-	108,118	-	108,118	-	-
B2b - Income Eligible Statewide Database	10,952	-	-	-	-	10,952	-	10,952	-	-
B2c - Income Eligible DOER Assessment	157,009	-	-	-	-	157,009	-	157,009	-	-
B2d - Income Eligible Sponsorships & Subscriptions	19,939	374	-	2,087	850	23,249	-	23,249	-	-
B2e - Income Eligible Workforce Development	-	-	-	400,229	-	400,229	-	400,229	-	-
B2f - Income Eligible Evaluation and Market Research	-	-	-	-	661,617	661,617	-	661,617	-	-
B2g - Low-Income Energy Affordability Network (LEAN)	100,000	-	-	-	-	100,000	-	100,000	-	-
C - Commercial & Industrial	4,302,709	2,268,470	45,332,398	7,102,090	839,759	59,845,427	2,410,689	62,256,116	26,190.56	1.98
C1 - C&I New Buildings	125,384	526,246	2,346,044	1,744,101	-	4,741,775	348,335	5,090,110	43,107.04	4.33
C1a - C&I New Buildings & Major Renovations	125,384	526,246	2,346,044	1,744,101	-	4,741,775	348,335	5,090,110	43,107.04	4.33
C2 - C&I Existing Buildings	3,865,001	1,616,926	42,745,729	3,750,122	-	51,977,778	2,062,354	54,040,132	23,897.83	1.88
C2a - C&I Existing Building Retrofit	3,657,226	1,516,275	37,543,436	1,534,765	-	44,251,702	1,661,361	45,913,063	35,401.36	1.87
C2b - C&I New & Replacement Equipment	207,775	100,651	5,202,293	2,215,358	-	7,726,076	400,992	8,127,068	8,352.51	1.98
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
C3 - C&I Hard-to-Measure	312,324	125,299	240,625	1,607,867	839,759	3,125,875	-	3,125,875	-	-
C3a - C&I Statewide Marketing	-	116,017	-	-	-	116,017	-	116,017	-	-
C3b - C&I Statewide Database	11,642	-	-	-	-	11,642	-	11,642	-	-
C3c - C&I DOER Assessment	221,372	-	-	-	-	221,372	-	221,372	-	-
C3d - C&I Sponsorships & Subscriptions	29,734	557	-	3,112	1,267	34,671	-	34,671	-	-
C3e - C&I Workforce Development	-	-	-	1,398,868	-	1,398,868	-	1,398,868	-	-
C3f - C&I Evaluation and Market Research	-	-	-	-	838,492	838,492	-	838,492	-	-
C3g - C&I EEAC Consultants	49,576	-	-	-	-	49,576	-	49,576	-	-
C3h - C&I R&D and Demonstration	-	8,725	240,625	205,887	-	455,237	-	455,237	-	-
Grand Total	9,182,779	8,113,805	193,143,031	35,107,244	1,724,403	247,271,262	7,661,148	254,932,410	475.93	1.45

IV.C. Program Administrator Budgets

1. Summary Table

National Grid Gas Gas

November 1, 2021

2022-2024 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	11,323,091	10,552,397	298,420,213	55,801,111	641,286	376,738,098	10,117,897	386,855,996	243.82	1.43
A1 - Residential New Buildings	380,314	153,148	15,405,357	1,820,195	-	17,759,014	493,541	18,252,555	2,310.12	2.68
A1a - Residential New Homes & Renovations	380,314	153,148	15,405,357	1,820,195	-	17,759,014	493,541	18,252,555	2,310.12	2.68
A2 - Residential Existing Buildings	9,019,281	10,241,848	279,847,418	43,296,395	4,740	342,409,682	9,624,356	352,034,038	222.71	1.43
A2a - Residential Coordinated Delivery	5,524,381	1,336,688	194,546,379	6,310,094	-	207,717,543	6,886,102	214,603,645	3,454.57	1.43
A2b - Residential Conservation Services (RCS)	627,293	4,545,342	-	27,781,007	-	32,953,642	-	32,953,642	-	-
A2c - Residential Retail	2,637,910	4,358,292	85,301,039	1,973,622	-	94,270,864	2,373,405	96,644,268	920.18	1.81
A2d - Residential Behavior	229,698	1,525	-	7,231,671	4,740	7,467,633	364,850	7,832,483	5.43	2.92
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
A3 - Residential Hard-to-Measure	1,923,495	157,401	3,167,439	10,684,521	636,547	16,569,402	-	16,569,402	-	-
A3a - Residential Statewide Marketing	5,796	20,608	-	-	-	26,404	-	26,404	-	-
A3b - Residential Statewide Database	-	-	-	-	-	-	-	-	-	-
A3c - Residential DOER Assessment	1,248,952	-	-	-	-	1,248,952	-	1,248,952	-	-
A3d - Residential Sponsorships & Subscriptions	161,482	3,025	-	16,901	6,882	188,290	-	188,290	-	-
A3e - Residential Workforce Development	-	-	-	10,128,892	-	10,128,892	-	10,128,892	-	-
A3f - Residential Evaluation and Market Research	-	-	-	-	629,665	629,665	-	629,665	-	-
A3g - Residential EEAC Consultants	507,265	-	-	-	-	507,265	-	507,265	-	-
A3h - Residential R&D and Demonstration	-	21,500	130,000	235,000	-	386,500	-	386,500	-	-
A3i - Residential HEAT Loan	-	108,834	3,037,439	303,728	-	3,450,000	-	3,450,000	-	-
A3j - Residential Education	-	3,435	-	-	-	3,435	-	3,435	-	-
B - Income Eligible	2,912,040	5,756,484	101,483,942	23,750,219	1,976,532	135,879,215	4,355,309	140,234,524	26,642.98	1.20
B1 - Income Eligible Existing Buildings	2,062,271	5,430,257	101,483,942	22,540,927	-	131,517,396	4,355,309	135,872,705	25,787.72	1.24
B1a - Income Eligible Coordinated Delivery	2,062,271	5,430,257	101,483,942	22,540,927	-	131,517,396	4,355,309	135,872,705	25,787.72	1.24
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	849,769	326,227	-	1,209,292	1,976,532	4,361,819	-	4,361,819	-	-
B2a - Income Eligible Statewide Marketing	-	325,138	-	-	-	325,138	-	325,138	-	-
B2b - Income Eligible Statewide Database	32,950	-	-	-	-	32,950	-	32,950	-	-
B2c - Income Eligible DOER Assessment	458,728	-	-	-	-	458,728	-	458,728	-	-
B2d - Income Eligible Sponsorships & Subscriptions	58,091	1,088	-	6,080	2,476	67,735	-	67,735	-	-
B2e - Income Eligible Workforce Development	-	-	-	1,203,212	-	1,203,212	-	1,203,212	-	-
B2f - Income Eligible Evaluation and Market Research	-	-	-	-	1,974,056	1,974,056	-	1,974,056	-	-
B2g - Low-Income Energy Affordability Network (LEAN)	300,000	-	-	-	-	300,000	-	300,000	-	-
C - Commercial & Industrial	10,011,797	6,828,635	114,054,501	23,654,672	2,404,101	156,953,706	6,569,655	163,523,361	23,183.71	2.22
C1 - C&I New Buildings	385,409	1,590,419	7,029,488	5,143,853	-	14,149,168	1,030,449	15,179,617	44,216.15	4.38
C1a - C&I New Buildings & Major Renovations	385,409	1,590,419	7,029,488	5,143,853	-	14,149,168	1,030,449	15,179,617	44,216.15	4.38
C2 - C&I Existing Buildings	8,734,291	4,870,167	106,307,513	13,519,113	-	133,431,084	5,539,206	138,970,290	20,686.99	2.15
C2a - C&I Existing Building Retrofit	8,100,363	4,569,855	91,121,491	6,943,041	-	110,734,750	4,375,613	115,110,363	29,928.31	2.16
C2b - C&I New & Replacement Equipment	633,928	300,312	15,186,022	6,576,072	-	22,696,334	1,163,593	23,859,927	8,253.21	2.11
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-
C3 - C&I Hard-to-Measure	892,097	368,050	717,500	4,991,707	2,404,101	9,373,454	-	9,373,454	-	-
C3a - C&I Statewide Marketing	-	331,527	-	-	-	331,527	-	331,527	-	-
C3b - C&I Statewide Database	22,808	-	-	10,451	-	33,260	-	33,260	-	-
C3c - C&I DOER Assessment	644,962	-	-	-	-	644,962	-	644,962	-	-
C3d - C&I Sponsorships & Subscriptions	86,630	1,623	-	9,067	3,692	101,012	-	101,012	-	-
C3e - C&I Workforce Development	-	-	-	4,246,271	-	4,246,271	-	4,246,271	-	-
C3f - C&I Evaluation and Market Research	-	-	-	-	2,400,409	2,400,409	-	2,400,409	-	-
C3g - C&I EEAC Consultants	137,697	-	-	-	-	137,697	-	137,697	-	-
C3h - C&I R&D and Demonstration	-	34,900	717,500	725,917	-	1,478,317	-	1,478,317	-	-
Grand Total	24,246,927	23,137,515	513,958,656	103,206,002	5,021,919	669,571,019	21,042,861	690,613,880	430.04	1.57

Notes:
Budgets for each year are represented in nominal dollars (2022\$, 2023\$, 2024\$).
Refer to common definitions for allocation of costs.

IV.C. Program Administrator Budgets

3. Program Planning and Administration

National Grid Gas Gas

November 1, 2021

Program Planning and Administration Expenditures							
Year	Internal Costs	External Costs					Total Program Planning and Administration
	Labor, benefits, employee expenses, materials, and overhead	Legal Services	Assessments	Other Vendor Services	Hard to Measure Sponsorships & Subscriptions	Total External Costs	
2022	\$ 1,363,477	\$ 194,528	\$ 412,541	\$ 1,637,453	\$ 52,244	\$ 2,296,767	\$ 3,660,243
2023	\$ 1,418,016	\$ 187,810	\$ 473,109	\$ 1,547,925	\$ 53,812	\$ 2,262,656	\$ 3,680,671
2024	\$ 1,616,937	\$ 187,961	\$ 550,093	\$ 1,571,759	\$ 55,426	\$ 2,365,239	\$ 3,982,176
Grand Total	\$ 4,398,429	\$ 570,300	\$ 1,435,743	\$ 4,757,137	\$ 161,482	\$ 6,924,662	\$ 11,323,091

Notes:

Assessments include costs associated with the Department of Energy Resource (DOER), Residential Conservation Services (RCS), Energy Efficiency Advisory Council (EEAC) Consultants, and the Low-Income Energy Affordability Network (LEAN).

Other Vendor Services include costs associated with third-party consultants that assist with program planning and administration.

The data included in the Hard to Measure Sponsorship and Subscriptions column is consistent with the hard-to-measure Sponsorships & Subscriptions lines in the Budget table.

IV.C. Program Administrator Budgets

2.2 Budget Historical Comparison

National Grid Gas

November 1, 2021

2019-2024 Residential Program Administrator Budget										
PA Budget Categories	Program Administrator Budget (\$)									
	2019		2020		2021		2022	2023	2024	
	Planned	Evaluated	Planned	Evaluated	Planned	YTD	Planned	Planned	Planned	
Program Planning and Administration	2,879,691	2,558,169	2,965,735	2,526,950	3,017,715	1,638,526	3,660,243	3,680,671	3,982,176	
Marketing and Advertising	3,523,745	2,180,804	3,571,068	2,527,148	3,654,702	562,745	3,095,136	3,781,522	3,675,739	
Participant Incentive	55,037,065	74,175,069	56,585,732	75,619,691	57,813,641	42,743,969	89,548,554	98,873,431	109,998,229	
Sales, Technical Assistance & Training	20,274,139	16,263,985	20,469,810	13,673,501	20,644,999	7,082,620	18,053,161	18,402,192	19,345,758	
Evaluation and Market Research	1,731,913	980,229	1,741,906	1,298,257	1,964,145	595,825	205,457	213,653	222,176	
Performance Incentive	1,820,544	2,234,513	1,876,518	1,928,248	1,951,123	-	3,043,725	3,381,025	3,693,147	
Total Program Administrator Budget	85,267,097	98,392,768	87,210,768	97,573,796	89,046,324	52,623,686	117,606,276	128,332,494	140,917,226	

2019-2024 Income Eligible Program Administrator Budget										
PA Budget Categories	Program Administrator Budget (\$)									
	2019		2020		2021		2022	2023	2024	
	Planned	Evaluated	Planned	Evaluated	Planned	YTD	Planned	Planned	Planned	
Program Planning and Administration	1,126,353	963,430	1,145,816	956,055	1,176,163	568,853	1,138,237	875,909	897,893	
Marketing and Advertising	429,094	147,680	439,837	316,531	450,930	11,334	1,417,962	2,168,925	2,169,596	
Participant Incentive	25,439,278	25,586,607	25,439,278	17,070,970	25,439,278	5,231,905	30,391,526	33,280,011	37,812,404	
Sales, Technical Assistance & Training	5,317,766	5,011,635	5,318,907	3,681,152	5,320,095	1,339,431	6,870,280	8,220,543	8,659,395	
Evaluation and Market Research	710,183	312,579	712,473	495,613	801,571	213,405	655,547	658,518	662,467	
Performance Incentive	613,246	659,320	635,239	363,058	656,245	-	1,367,834	1,430,163	1,557,312	
Total Program Administrator Budget	33,635,919	32,681,252	33,691,551	22,883,378	33,844,282	7,364,928	41,841,386	46,634,070	51,759,069	

2019-2024 Commercial & Industrial Program Administrator Budget										
PA Budget Categories	Program Administrator Budget (\$)									
	2019		2020		2021		2022	2023	2024	
	Planned	Evaluated	Planned	Evaluated	Planned	YTD	Planned	Planned	Planned	
Program Planning and Administration	867,954	987,680	905,772	997,292	923,306	568,457	1,586,641	4,122,447	4,302,709	
Marketing and Advertising	1,978,366	2,067,412	2,099,331	1,783,637	2,122,511	304,629	2,286,392	2,273,772	2,268,470	
Participant Incentive	14,843,338	13,220,096	14,915,926	12,616,687	14,979,100	3,731,820	30,629,730	38,092,374	45,332,398	
Sales, Technical Assistance & Training	5,533,770	6,807,391	5,701,084	6,623,056	5,838,333	3,347,205	9,458,982	7,093,600	7,102,090	
Evaluation and Market Research	1,192,840	1,383,384	1,195,145	1,343,863	1,254,208	597,044	759,985	804,357	839,759	
Performance Incentive	1,180,549	1,193,692	1,239,794	1,005,531	1,290,982	-	1,970,854	2,188,112	2,410,689	
Total Program Administrator Budget	25,596,817	25,659,655	26,057,053	24,370,066	26,408,438	8,549,155	46,692,583	54,574,661	62,256,116	

2019-2024 Total Program Administrator Budget										
PA Budget Categories	Program Administrator Budget (\$)									
	2019		2020		2021		2022	2023	2024	
	Planned	Evaluated	Planned	Evaluated	Planned	YTD	Planned	Planned	Planned	
Program Planning and Administration	4,873,998	4,509,280	5,017,323	4,480,298	5,117,183	2,775,836	6,385,121	8,679,028	9,182,779	
Marketing and Advertising	5,931,205	4,395,896	6,110,236	4,627,316	6,228,143	878,708	6,799,490	8,224,220	8,113,805	
Participant Incentive	95,319,682	112,981,771	96,940,936	105,307,348	98,232,018	51,707,694	150,569,810	170,245,815	193,143,031	
Sales, Technical Assistance & Training	31,125,674	28,083,011	31,489,801	23,977,709	31,803,426	11,769,256	34,382,423	33,716,335	35,107,244	
Evaluation and Market Research	3,634,936	2,676,192	3,649,525	3,137,732	4,019,924	1,406,274	1,620,989	1,676,527	1,724,403	
Performance Incentive	3,614,339	4,087,525	3,751,550	3,296,837	3,898,350	-	6,382,413	6,999,300	7,661,148	
Total Program Administrator Budget	144,499,833	156,733,675	146,959,372	144,827,240	149,299,044	68,537,769	206,140,245	229,541,225	254,932,410	

Notes:

Budgets for each year are represented in nominal dollars (2019\$ through 2024\$).

2019-2021 planned values are from the Program Administrator's 2019-2021 Three-Year Plan, D.P.U. 18-114.

2019 evaluated values are from the Program Administrator's 2019 Plan Year Report, D.P.U. 20-50.

2020 evaluated values are from the Program Administrator's 2020 Plan Year Report, D.P.U. 21-70.

2021 YTD values are estimated actual cost through through June 30, 2021 (Q2).

For supporting information on the 2022-2024 values, see Table IV.C.1.

The Program Administrators have better aligned cost allocations across Program Administrators for this Three-Year Plan, consistent with the Department's directives in the 2016-2018 Three-Year Plan Order (January 31, 2016). As a result, historical budget categories may not be directly comparable for each Program Administrator.

IV.C. Program Administrator Budgets

2.2 Budget Historical Comparison

National Grid Gas

November 1, 2021

PA Budget Categories	2019-2024 Residential Program Administrator Budget									
	Budget Categories as a Percent of Total Program Administrator Budget (%)									
	2019		2020		2021		2022	2023	2024	
	Planned	Evaluated	Planned	Evaluated	Planned	YTD	Planned	Planned	Planned	
Program Planning and Administration	3%	3%	3%	3%	3%	3%	3%	3%	3%	
Marketing and Advertising	4%	2%	4%	3%	4%	1%	3%	3%	3%	
Participant Incentive	65%	75%	65%	77%	65%	81%	76%	77%	78%	
Sales, Technical Assistance & Training	24%	17%	23%	14%	23%	13%	15%	14%	14%	
Evaluation and Market Research	2%	1%	2%	1%	2%	1%	0%	0%	0%	
Performance Incentive	2%	2%	2%	2%	2%	0%	3%	3%	3%	
Total Program Administrator Budget	100%	100%	100%	100%	100%	100%	100%	100%	100%	

PA Budget Categories	2019-2024 Income Eligible Program Administrator Budget									
	Budget Categories as a Percent of Total Program Administrator Budget (%)									
	2019		2020		2021		2022	2023	2024	
	Planned	Evaluated	Planned	Evaluated	Planned	YTD	Planned	Planned	Planned	
Program Planning and Administration	3%	3%	3%	4%	3%	8%	3%	2%	2%	
Marketing and Advertising	1%	0%	1%	1%	1%	0%	3%	5%	4%	
Participant Incentive	76%	78%	76%	75%	75%	71%	73%	71%	73%	
Sales, Technical Assistance & Training	16%	15%	16%	16%	16%	18%	16%	18%	17%	
Evaluation and Market Research	2%	1%	2%	2%	2%	3%	2%	1%	1%	
Performance Incentive	2%	2%	2%	2%	2%	0%	3%	3%	3%	
Total Program Administrator Budget	100%	100%	100%	100%	100%	100%	100%	100%	100%	

PA Budget Categories	2019-2024 Commercial & Industrial Program Administrator Budget									
	Budget Categories as a Percent of Total Program Administrator Budget (%)									
	2019		2020		2021		2022	2023	2024	
	Planned	Evaluated	Planned	Evaluated	Planned	YTD	Planned	Planned	Planned	
Program Planning and Administration	3%	4%	3%	4%	3%	7%	3%	8%	7%	
Marketing and Advertising	8%	8%	8%	7%	8%	4%	5%	4%	4%	
Participant Incentive	58%	52%	57%	52%	57%	44%	66%	70%	73%	
Sales, Technical Assistance & Training	22%	27%	22%	27%	22%	39%	20%	13%	11%	
Evaluation and Market Research	5%	5%	5%	6%	5%	7%	2%	1%	1%	
Performance Incentive	5%	5%	5%	4%	5%	0%	4%	4%	4%	
Total Program Administrator Budget	100%	100%	100%	100%	100%	100%	100%	100%	100%	

PA Budget Categories	2019-2024 Total Program Administrator Budget									
	Budget Categories as a Percent of Total Program Administrator Budget (%)									
	2019		2020		2021		2022	2023	2024	
	Planned	Evaluated	Planned	Evaluated	Planned	YTD	Planned	Planned	Planned	
Program Planning and Administration	3%	3%	3%	3%	3%	4%	3%	4%	4%	
Marketing and Advertising	4%	3%	4%	3%	4%	1%	3%	4%	3%	
Participant Incentive	66%	72%	66%	73%	66%	75%	73%	74%	76%	
Sales, Technical Assistance & Training	22%	18%	21%	17%	21%	17%	17%	15%	14%	
Evaluation and Market Research	3%	2%	2%	2%	3%	2%	1%	1%	1%	
Performance Incentive	3%	3%	3%	2%	3%	0%	3%	3%	3%	
Total Program Administrator Budget	100%	100%	100%	100%	100%	100%	100%	100%	100%	

Notes:

Budgets for each year are represented in nominal dollars (2019\$ through 2024\$).
2019-2021 planned values are from the Program Administrator's 2019-2021 Three-Year Plan, D.P.U. 18-114.
2019 evaluated values are from the Program Administrator's 2019 Plan Year Report, D.P.U. 20-50.
2020 evaluated values are from the Program Administrator's 2020 Plan Year Report, D.P.U. 21-70.
2021 YTD values are estimated actual cost through through June 30, 2021 (Q2).
For supporting information on the 2022-2024 values, see Table IV.C.1.
The Program Administrators have better aligned cost allocations across Program Administrators for this Three-Year Plan, consistent with the Department's directives in the 2016-2018 Three-Year Plan Order (January 31, 2016). As a result, historical budget categories may not be directly comparable for each Program Administrator.

IV.D. Cost-Effectiveness

1. Summary Table

National Grid Gas Gas

November 1, 2021

2022 Total Resource Cost Test (2022\$)							
Program	Benefit-Cost Ratio	Net Benefits	Total TRC Test Benefits	Costs			
				Total Program Costs	Performance Incentive	Participant Costs	Total TRC Test Costs
A - Residential	1.51	70,204,973	208,251,560	114,562,551	3,043,725	20,440,311	138,046,587
A1 - Residential New Buildings	3.72	15,963,043	21,834,199	6,270,179	158,545	(557,568)	5,871,156
A1a - Residential New Homes & Renovations	3.72	15,963,043	21,834,199	6,270,179	158,545	(557,568)	5,871,156
A2 - Residential Existing Buildings	1.47	59,810,224	186,417,361	102,724,078	2,885,180	20,997,879	126,607,137
A2a - Residential Coordinated Delivery	1.64	44,873,102	115,498,645	62,702,806	2,058,004	5,864,733	70,625,543
A2b - Residential Conservation Services (RCS)	0.00	(10,217,483)	-	10,217,483	-	-	10,217,483
A2c - Residential Retail	1.47	20,455,819	63,658,660	27,361,584	708,111	15,133,146	43,202,841
A2d - Residential Behavior	2.83	4,698,786	7,260,056	2,442,204	119,065	-	2,561,269
A2e - Residential Active Demand Reduction		-	-	-	-	-	-
A3 - Residential Hard-to-Measure	0.00	(5,568,295)	-	5,568,295	-	-	5,568,295
B - Income Eligible	2.77	74,015,702	115,857,088	40,473,552	1,367,834	-	41,841,386
B1 - Income Eligible Existing Buildings	2.87	75,461,581	115,857,088	39,027,673	1,367,834	-	40,395,507
B1a - Income Eligible Coordinated Delivery	2.87	75,461,581	115,857,088	39,027,673	1,367,834	-	40,395,507
B1b - Income Eligible Active Demand Reduction		-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	0.00	(1,445,879)	-	1,445,879	-	-	1,445,879
C - Commercial & Industrial	2.47	89,280,330	149,888,872	44,721,729	1,970,854	13,915,959	60,608,542
C1 - C&I New Buildings	4.87	18,195,616	22,896,218	4,689,003	339,253	(327,654)	4,700,602
C1a - C&I New Buildings & Major Renovations	4.87	18,195,616	22,896,218	4,689,003	339,253	(327,654)	4,700,602
C2 - C&I Existing Buildings	2.40	74,134,520	126,992,654	36,982,921	1,631,601	14,243,612	52,858,134
C2a - C&I Existing Building Retrofit	2.19	50,187,579	92,271,036	29,577,761	1,256,517	11,249,179	42,083,458
C2b - C&I New & Replacement Equipment	3.22	23,946,942	34,721,618	7,405,160	375,084	2,994,433	10,774,677
C2c - C&I Active Demand Reduction		-	-	-	-	-	-
C3 - C&I Hard-to-Measure	0.00	(3,049,806)	-	3,049,806	-	-	3,049,806
Grand Total	1.97	233,501,005	473,997,520	199,757,832	6,382,413	34,356,270	240,496,515

IV.D. Cost-Effectiveness

1. Summary Table

National Grid Gas Gas

November 1, 2021

2023 Total Resource Cost Test (2022\$)							
Program	Benefit-Cost Ratio	Net Benefits	Total TRC Test Benefits	Costs			
				Total Program Costs	Performance Incentive	Participant Costs	Total TRC Test Costs
A - Residential	1.48	71,882,905	220,463,508	122,525,465	3,315,380	22,739,759	148,580,604
A1 - Residential New Buildings	3.70	17,881,314	24,502,538	6,133,924	187,921	299,379	6,621,224
A1a - Residential New Homes & Renovations	3.70	17,881,314	24,502,538	6,133,924	187,921	299,379	6,621,224
A2 - Residential Existing Buildings	1.44	59,415,530	195,960,971	110,977,601	3,127,460	22,440,380	136,545,440
A2a - Residential Coordinated Delivery	1.61	46,498,419	122,170,813	67,466,860	2,245,197	5,960,336	75,672,393
A2b - Residential Conservation Services (RCS)	0.00	(10,795,190)	-	10,795,190	-	-	10,795,190
A2c - Residential Retail	1.40	19,095,528	66,614,418	30,275,237	763,609	16,480,044	47,518,890
A2d - Residential Behavior	2.80	4,616,772	7,175,740	2,440,314	118,654	-	2,558,968
A2e - Residential Active Demand Reduction		-	-	-	-	-	-
A3 - Residential Hard-to-Measure	0.00	(5,413,939)	-	5,413,939	-	-	5,413,939
B - Income Eligible	2.57	71,852,444	117,581,086	44,326,247	1,402,395	-	45,728,642
B1 - Income Eligible Existing Buildings	2.65	73,278,965	117,581,086	42,899,726	1,402,395	-	44,302,121
B1a - Income Eligible Coordinated Delivery	2.65	73,278,965	117,581,086	42,899,726	1,402,395	-	44,302,121
B1b - Income Eligible Active Demand Reduction		-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	0.00	(1,426,521)	-	1,426,521	-	-	1,426,521
C - Commercial & Industrial	2.27	88,453,452	158,124,875	51,369,435	2,145,629	16,156,360	69,671,423
C1 - C&I New Buildings	4.88	18,022,308	22,663,067	4,626,780	336,204	(322,225)	4,640,759
C1a - C&I New Buildings & Major Renovations	4.88	18,022,308	22,663,067	4,626,780	336,204	(322,225)	4,640,759
C2 - C&I Existing Buildings	2.19	73,566,831	135,461,808	43,606,967	1,809,424	16,478,585	61,894,977
C2a - C&I Existing Building Retrofit	1.98	50,193,589	101,356,600	36,188,750	1,429,431	13,544,830	51,163,011
C2b - C&I New & Replacement Equipment	3.18	23,373,242	34,105,208	7,418,217	379,993	2,933,755	10,731,966
C2c - C&I Active Demand Reduction		-	-	-	-	-	-
C3 - C&I Hard-to-Measure	0.00	(3,135,687)	-	3,135,687	-	-	3,135,687
Grand Total	1.88	232,188,800	496,169,469	218,221,146	6,863,405	38,896,119	263,980,669

IV.D. Cost-Effectiveness

1. Summary Table

National Grid Gas Gas

November 1, 2021

2024 Total Resource Cost Test (2022\$)							
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	66,664,903	226,095,940	131,947,239	3,551,130	23,932,667	159,431,036
A1 - Residential New Buildings	3.49	12,830,334	17,991,066	5,032,211	137,842	(9,320)	5,160,733
A1a - Residential New Homes & Renovations	3.49	12,830,334	17,991,066	5,032,211	137,842	(9,320)	5,160,733
A2 - Residential Existing Buildings	1.40	59,103,814	208,104,873	121,645,783	3,413,288	23,941,987	149,001,059
A2a - Residential Coordinated Delivery	1.58	47,107,020	128,545,812	73,281,361	2,440,832	5,716,599	81,438,793
A2b - Residential Conservation Services (RCS)	0.00	(11,276,263)	-	11,276,263	-	-	11,276,263
A2c - Residential Retail	1.34	18,491,966	72,218,740	34,648,913	852,473	18,225,388	53,726,774
A2d - Residential Behavior	2.87	4,781,092	7,340,322	2,439,246	119,983	-	2,559,229
A2e - Residential Active Demand Reduction		-	-	-	-	-	-
A3 - Residential Hard-to-Measure	0.00	(5,269,244)	-	5,269,244	-	-	5,269,244
B - Income Eligible	2.47	73,028,288	122,797,004	48,271,289	1,497,427	-	49,768,716
B1 - Income Eligible Existing Buildings	2.54	74,433,274	122,797,004	46,866,303	1,497,427	-	48,363,730
B1a - Income Eligible Coordinated Delivery	2.54	74,433,274	122,797,004	46,866,303	1,497,427	-	48,363,730
B1b - Income Eligible Active Demand Reduction		-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	0.00	(1,404,986)	-	1,404,986	-	-	1,404,986
C - Commercial & Industrial	2.11	86,914,017	164,899,309	57,544,121	2,317,988	18,123,184	77,985,292
C1 - C&I New Buildings	4.93	17,976,769	22,555,174	4,559,434	334,940	(315,969)	4,578,405
C1a - C&I New Buildings & Major Renovations	4.93	17,976,769	22,555,174	4,559,434	334,940	(315,969)	4,578,405
C2 - C&I Existing Buildings	2.02	71,942,920	142,344,136	49,979,015	1,983,048	18,439,153	70,401,216
C2a - C&I Existing Building Retrofit	1.82	49,056,610	108,768,665	42,550,039	1,597,475	15,564,541	59,712,055
C2b - C&I New & Replacement Equipment	3.14	22,886,309	33,575,471	7,428,976	385,573	2,874,613	10,689,161
C2c - C&I Active Demand Reduction		-	-	-	-	-	-
C3 - C&I Hard-to-Measure	0.00	(3,005,672)	-	3,005,672	-	-	3,005,672
Grand Total	1.79	226,607,208	513,792,253	237,762,648	7,366,545	42,055,851	287,185,045

IV.D. Cost-Effectiveness

1. Summary Table

National Grid Gas Gas

November 1, 2021

2022-2024 Total Resource Cost Test (2022\$)							
Program	Benefit-Cost Ratio	Net Benefits	Total TRC Test Benefits	Costs			
				Total Program Costs	Performance Incentive	Participant Costs	Total TRC Test Costs
A - Residential	1.47	208,752,780	654,811,007	369,035,255	9,910,236	67,112,736	446,058,227
A1 - Residential New Buildings	3.64	46,674,690	64,327,802	17,436,314	484,307	(267,510)	17,653,112
A1a - Residential New Homes & Renovations	3.64	46,674,690	64,327,802	17,436,314	484,307	(267,510)	17,653,112
A2 - Residential Existing Buildings	1.43	178,329,568	590,483,205	335,347,462	9,425,928	67,380,246	412,153,636
A2a - Residential Coordinated Delivery	1.61	138,478,541	366,215,270	203,451,028	6,744,033	17,541,667	227,736,728
A2b - Residential Conservation Services (RCS)	0.00	(32,288,937)	-	32,288,937	-	-	32,288,937
A2c - Residential Retail	1.40	58,043,313	202,491,818	92,285,733	2,324,193	49,838,579	144,448,505
A2d - Residential Behavior	2.84	14,096,651	21,776,118	7,321,765	357,702	-	7,679,467
A2e - Residential Active Demand Reduction		-	-	-	-	-	-
A3 - Residential Hard-to-Measure	0.00	(16,251,478)	-	16,251,478	-	-	16,251,478
B - Income Eligible	2.59	218,896,433	356,235,178	133,071,088	4,267,657	-	137,338,744
B1 - Income Eligible Existing Buildings	2.68	223,173,819	356,235,178	128,793,702	4,267,657	-	133,061,359
B1a - Income Eligible Coordinated Delivery	2.68	223,173,819	356,235,178	128,793,702	4,267,657	-	133,061,359
B1b - Income Eligible Active Demand Reduction		-	-	-	-	-	-
B2 - Income Eligible Hard-to-Measure	0.00	(4,277,386)	-	4,277,386	-	-	4,277,386
C - Commercial & Industrial	2.27	264,647,799	472,913,056	153,635,284	6,434,470	48,195,503	208,265,258
C1 - C&I New Buildings	4.89	54,194,693	68,114,458	13,875,217	1,010,397	(965,848)	13,919,766
C1a - C&I New Buildings & Major Renovations	4.89	54,194,693	68,114,458	13,875,217	1,010,397	(965,848)	13,919,766
C2 - C&I Existing Buildings	2.19	219,644,271	404,798,598	130,568,903	5,424,073	49,161,351	185,154,327
C2a - C&I Existing Building Retrofit	1.98	149,437,778	302,396,302	108,316,550	4,283,424	40,358,550	152,958,524
C2b - C&I New & Replacement Equipment	3.18	70,206,493	102,402,297	22,252,353	1,140,649	8,802,801	32,195,803
C2c - C&I Active Demand Reduction		-	-	-	-	-	-
C3 - C&I Hard-to-Measure	0.00	(9,191,165)	-	9,191,165	-	-	9,191,165
Grand Total	1.87	692,297,013	1,483,959,241	655,741,627	20,612,362	115,308,239	791,662,229

Notes:

The Benefit-Cost Ratio is the Total TRC Test Benefits divided by the Total TRC Test Costs.

The Net Benefits are the Total TRC Test Benefits minus the Total TRC Test Costs.

For supporting information on the Total TRC Test Benefits, see Table IV.D.3.1.i. The calculation of program benefits includes calculations of the social value of greenhouse gas emissions reductions except in the cases of conversions from fossil fuel heating and cooling to fossil fuel heating and cooling.

For supporting information on the Total Program Costs, see Table IV.C.1.

For supporting information on the Performance Incentive, refer to the Performance Incentive Model.

The Total TRC Costs are the sum of the Total Program Costs, Performance Incentives, and Participant Costs.

IV.D Cost-Effectiveness

2.3 TRC Cost Historical Comparison

National Grid Gas Gas

November 1, 2021

2019-2024 TRC Costs (2019\$ and 2022\$)												
TRC Costs Categories	TRC Costs (\$)						TRC Cost Categories as a Percent of Total TRC Costs (%)					
	2019 Evaluated	2020 Evaluated	2021 Planned	2022 Planned	2023 Planned	2024 Planned	2019 Evaluated	2020 Evaluated	2021 Planned	2022 Planned	2023 Planned	2024 Planned
A - Residential												
PA Budget	98,392,768	95,352,092	85,037,415	117,606,276	125,840,845	135,498,369	71%	86%	70%	85%	85%	85%
Participant Cost	40,117,661	16,006,163	36,415,490	20,440,311	22,739,759	23,932,667	29%	14%	30%	15%	15%	15%
Residential Total TRC Costs	138,510,429	111,358,255	121,452,904	138,046,587	148,580,604	159,431,036	100%	100%	100%	100%	100%	100%
B - Income Eligible												
PA Budget	32,681,252	22,362,335	32,320,595	41,841,386	45,728,642	49,768,716	100%	100%	100%	100%	100%	100%
Participant Cost	-	-	-	-	-	-	0%	0%	0%	0%	0%	0%
Low-Income Total TRC Costs	32,681,252	22,362,335	32,320,595	41,841,386	45,728,642	49,768,716	100%	100%	100%	100%	100%	100%
C - Commercial & Industrial												
PA Budget	25,659,655	23,815,173	25,219,517	46,692,583	53,515,063	59,862,108	77%	99%	78%	77%	77%	77%
Participant Cost	7,578,098	347,200	7,222,011	13,915,959	16,156,360	18,123,184	23%	1%	22%	23%	23%	23%
C&I Total TRC Costs	33,237,753	24,162,373	32,441,528	60,608,542	69,671,423	77,985,292	100%	100%	100%	100%	100%	100%
Grand Total												
PA Budget	156,733,675	141,529,600	142,577,527	206,140,245	225,084,551	245,129,194	77%	90%	77%	86%	85%	85%
Participant Cost	47,695,758	16,353,363	43,637,501	34,356,270	38,896,119	42,055,851	23%	10%	23%	14%	15%	15%
Grand Total TRC Costs	204,429,434	157,882,963	186,215,028	240,496,515	263,980,669	287,185,045	100%	100%	100%	100%	100%	100%

Notes:

2019 values are from the Program Administrator's 2019 Plan Year Report D.P.U. 20-50, in 2019\$.
2020 values are from the Program Administrator's 2020 Plan Year Report D.P.U. 21-70, in 2019\$.
2021 values are from the Program Administrator's 2019-2021 Three-Year Plan, D.P.U. 18-114, in 2019\$.
For supporting information on the 2022-2024 values, see Table IV.D.1. The 2022-2024 values are in 2022\$.

IV.D Cost-Effectiveness
3.1.i. Benefits Summary Table
National Grid Gas Gas
November 1, 2021

Program	2022 Benefits (\$)								2022 Benefits (\$)					
	Electric Capacity	Electric Energy	Natural Gas	Oil	Propane	Wood	Motor Gasoline	Motor Diesel	Water	Total Resource Benefits	Non-Resource Benefits	Total TRC Test Benefits	Resource Benefits per Participant	Total Environmental Compliance Benefits (Social Cost of Carbon)
A - Residential	6,024,861	578,270	158,488,852	-	-	-	-	-	6,273,414	171,365,397	36,886,162	208,251,560	333	69,432,533
A1 - Residential New Buildings	119,750	416,275	15,870,543	-	-	-	-	-	-	16,406,568	5,427,631	21,834,199	5,966	5,964,914
A1a - Residential New Homes & Renovations	119,750	416,275	15,870,543	-	-	-	-	-	-	16,406,568	5,427,631	21,834,199	5,966	5,964,914
A2 - Residential Existing Buildings	5,905,111	161,995	142,618,309	-	-	-	-	-	6,273,414	154,958,830	31,458,531	186,417,361	303	63,467,618
A2a - Residential Coordinated Delivery	4,170,073	4,075,385	79,070,907	-	-	-	-	-	6,135,482	93,431,847	22,046,798	115,498,645	4,556	38,004,230
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	1,735,038	(3,913,390)	56,287,346	-	-	-	-	-	137,933	54,246,927	9,411,733	63,658,660	1,661	22,559,031
A2d - Residential Behavior	-	-	7,260,056	-	-	-	-	-	-	7,260,056	-	7,260,056	16	2,904,357
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	2,379,937	1,279,185	49,567,038	-	-	-	-	-	397,122	53,623,282	62,233,805	115,857,088	31,543	21,645,570
B1 - Income Eligible Existing Buildings	2,379,937	1,279,185	49,567,038	-	-	-	-	-	397,122	53,623,282	62,233,805	115,857,088	31,543	21,645,570
B1a - Income Eligible Coordinated Delivery	2,379,937	1,279,185	49,567,038	-	-	-	-	-	397,122	53,623,282	62,233,805	115,857,088	31,543	21,645,570
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	2,420,899	(9,724,047)	118,899,319	-	-	-	-	-	1,872,201	113,468,371	36,420,501	149,888,872	51,577	49,896,347
C1 - C&I New Buildings	-	-	20,759,004	-	-	-	-	-	-	20,759,004	2,137,214	22,896,218	207,590	9,948,496
C1a - C&I New Buildings & Major Renovations	-	-	20,759,004	-	-	-	-	-	-	20,759,004	2,137,214	22,896,218	207,590	9,948,496
C2 - C&I Existing Buildings	2,420,899	(9,724,047)	98,140,315	-	-	-	-	-	1,872,201	92,709,367	34,283,287	126,992,654	44,147	39,947,851
C2a - C&I Existing Building Retrofits	2,398,112	(9,416,828)	81,173,721	-	-	-	-	-	1,872,201	76,027,207	16,243,830	92,271,036	63,356	32,061,644
C2b - C&I New & Replacement Equipment	22,786	(307,219)	16,966,593	-	-	-	-	-	-	16,682,160	18,039,458	34,721,618	18,536	7,886,207
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	10,825,697	(7,866,592)	326,955,208	-	-	-	-	-	8,542,738	338,457,051	135,540,469	473,997,520	653	140,974,449

Program	2023 Benefits (\$)								2023 Benefits (\$)					
	Electric Capacity	Electric Energy	Natural Gas	Oil	Propane	Wood	Motor Gasoline	Motor Diesel	Water	Total Resource Benefits	Non-Resource Benefits	Total TRC Test Benefits	Resource Benefits per Participant	Total Environmental Compliance Benefits (Social Cost of Carbon)
A - Residential	6,579,535	(990,348)	168,676,639	-	-	-	-	-	6,529,061	180,794,888	39,668,621	220,463,508	351	72,797,516
A1 - Residential New Buildings	150,747	489,489	17,431,846	-	-	-	-	-	-	18,072,081	6,430,456	24,502,538	6,572	6,279,177
A1a - Residential New Homes & Renovations	150,747	489,489	17,431,846	-	-	-	-	-	-	18,072,081	6,430,456	24,502,538	6,572	6,279,177
A2 - Residential Existing Buildings	6,428,788	(1,479,837)	151,244,793	-	-	-	-	-	6,529,061	162,722,806	33,238,164	195,960,971	317	66,518,338
A2a - Residential Coordinated Delivery	4,565,271	4,266,297	83,924,014	-	-	-	-	-	6,377,582	99,133,163	23,037,649	122,170,813	4,860	40,459,900
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	1,863,518	(5,746,133)	60,145,039	-	-	-	-	-	151,479	56,413,902	10,200,515	66,614,418	1,664	23,134,635
A2d - Residential Behavior	-	-	7,175,740	-	-	-	-	-	-	7,175,740	-	7,175,740	16	2,923,803
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	2,700,189	1,367,474	48,785,243	-	-	-	-	-	396,330	53,249,236	64,331,850	117,581,086	31,323	20,914,955
B1 - Income Eligible Existing Buildings	2,700,189	1,367,474	48,785,243	-	-	-	-	-	396,330	53,249,236	64,331,850	117,581,086	31,323	20,914,955
B1a - Income Eligible Coordinated Delivery	2,700,189	1,367,474	48,785,243	-	-	-	-	-	396,330	53,249,236	64,331,850	117,581,086	31,323	20,914,955
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	3,910,006	(14,680,290)	125,592,278	-	-	-	-	-	1,876,728	116,698,721	41,426,153	158,124,875	51,072	50,522,118
C1 - C&I New Buildings	-	-	20,605,887	-	-	-	-	-	-	20,605,887	2,057,179	22,663,067	187,326	9,854,743
C1a - C&I New Buildings & Major Renovations	-	-	20,605,887	-	-	-	-	-	-	20,605,887	2,057,179	22,663,067	187,326	9,854,743
C2 - C&I Existing Buildings	3,910,006	(14,680,290)	104,986,390	-	-	-	-	-	1,876,728	96,092,834	39,368,974	135,461,808	44,181	40,667,375
C2a - C&I Existing Building Retrofits	3,873,354	(14,213,545)	88,611,128	-	-	-	-	-	1,876,728	80,147,664	21,208,936	101,356,600	64,118	33,251,458
C2b - C&I New & Replacement Equipment	38,652	(466,745)	16,375,263	-	-	-	-	-	-	15,945,170	18,160,038	34,105,208	17,238	7,415,917
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	13,189,731	(14,303,164)	343,054,160	-	-	-	-	-	8,802,119	350,742,845	145,426,624	496,169,469	675	144,234,588

IV.D Cost-Effectiveness
3.1.i Benefits Summary Table
National Grid Gas Gas
November 1, 2021

Program	2024 Benefits (\$)								2024 Benefits (\$)					
	Electric Capacity	Electric Energy	Natural Gas	Oil	Propane	Wood	Motor Gasoline	Motor Diesel	Water	Total Resource Benefits	Non-Resource Benefits	Total TRC Test Benefits	Resource Benefits per Participant	Total Environmental Compliance Benefits (Social Cost of Carbon)
A - Residential	7,139,632	(3,251,589)	175,039,603	-	-	-	-	-	6,743,122	185,670,767	40,425,172	226,095,940	360	74,556,249
A1 - Residential New Buildings	100,293	298,334	12,732,138	-	-	-	-	-	-	13,130,766	4,860,301	17,991,066	6,003	4,380,214
A1a - Residential New Homes & Renovations	100,293	298,334	12,732,138	-	-	-	-	-	-	13,130,766	4,860,301	17,991,066	6,003	4,380,214
A2 - Residential Existing Buildings	7,039,338	(3,549,924)	162,307,465	-	-	-	-	-	6,743,122	172,540,002	35,564,872	208,104,873	336	70,176,035
A2a - Residential Coordinated Delivery	5,074,902	4,425,913	88,706,963	-	-	-	-	-	6,576,319	104,784,097	23,761,715	128,545,812	5,452	42,859,363
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	1,964,437	(7,975,836)	66,260,180	-	-	-	-	-	166,803	60,415,583	11,803,157	72,218,740	1,684	24,354,109
A2d - Residential Behavior	-	-	7,340,322	-	-	-	-	-	-	7,340,322	-	7,340,322	16	2,962,563
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	3,211,573	1,500,549	50,560,884	-	-	-	-	-	395,499	55,668,505	67,128,499	122,797,004	32,746	21,307,162
B1 - Income Eligible Existing Buildings	3,211,573	1,500,549	50,560,884	-	-	-	-	-	395,499	55,668,505	67,128,499	122,797,004	32,746	21,307,162
B1a - Income Eligible Coordinated Delivery	3,211,573	1,500,549	50,560,884	-	-	-	-	-	395,499	55,668,505	67,128,499	122,797,004	32,746	21,307,162
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	5,760,424	(19,717,446)	130,465,869	-	-	-	-	-	1,881,953	118,390,801	46,508,509	164,899,309	51,812	50,430,528
C1 - C&I New Buildings	-	-	20,547,839	-	-	-	-	-	-	20,547,839	2,007,335	22,555,174	186,799	9,796,172
C1a - C&I New Buildings & Major Renovations	-	-	20,547,839	-	-	-	-	-	-	20,547,839	2,007,335	22,555,174	186,799	9,796,172
C2 - C&I Existing Buildings	5,760,424	(19,717,446)	109,918,030	-	-	-	-	-	1,881,953	97,842,962	44,501,174	142,344,136	44,985	40,634,351
C2a - C&I Existing Building Retrofits	5,706,794	(19,088,583)	94,046,235	-	-	-	-	-	1,881,953	82,546,399	26,222,266	108,768,665	66,037	33,650,439
C2b - C&I New & Replacement Equipment	53,630	(628,863)	15,871,796	-	-	-	-	-	-	15,296,563	18,278,908	33,575,471	16,537	6,983,912
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	16,111,629	(21,468,486)	356,066,356	-	-	-	-	-	9,020,574	359,730,073	154,062,180	513,793,253	692	146,293,934

Program	2022-2024 Benefits (\$)								2022-2024 Benefits (\$)					
	Electric Capacity	Electric Energy	Natural Gas	Oil	Propane	Wood	Motor Gasoline	Motor Diesel	Water	Total Resource Benefits	Non-Resource Benefits	Total TRC Test Benefits	Resource Benefits per Participant	Total Environmental Compliance Benefits (Social Cost of Carbon)
A - Residential	19,744,028	(3,663,667)	502,205,093	-	-	-	-	-	19,545,597	537,831,052	116,979,955	654,811,007	348	216,786,297
A1 - Residential New Buildings	370,790	1,204,099	46,034,527	-	-	-	-	-	-	47,609,415	16,718,388	64,327,802	6,193	16,624,306
A1a - Residential New Homes & Renovations	370,790	1,204,099	46,034,527	-	-	-	-	-	-	47,609,415	16,718,388	64,327,802	6,193	16,624,306
A2 - Residential Existing Buildings	19,373,238	(4,867,765)	456,170,567	-	-	-	-	-	19,545,597	490,221,637	100,261,567	590,483,205	319	200,161,991
A2a - Residential Coordinated Delivery	13,810,245	12,767,594	251,701,885	-	-	-	-	-	19,089,383	297,369,107	68,846,162	366,215,270	4,946	121,323,493
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	5,562,993	(17,635,360)	182,692,565	-	-	-	-	-	456,214	171,076,412	31,415,405	202,491,818	1,670	70,047,775
A2d - Residential Behavior	-	-	21,776,118	-	-	-	-	-	-	21,776,118	-	21,776,118	16	8,790,723
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	8,291,699	4,147,208	148,913,165	-	-	-	-	-	1,188,952	162,541,023	193,694,154	356,235,178	31,871	63,867,687
B1 - Income Eligible Existing Buildings	8,291,699	4,147,208	148,913,165	-	-	-	-	-	1,188,952	162,541,023	193,694,154	356,235,178	31,871	63,867,687
B1a - Income Eligible Coordinated Delivery	8,291,699	4,147,208	148,913,165	-	-	-	-	-	1,188,952	162,541,023	193,694,154	356,235,178	31,871	63,867,687
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	12,091,329	(44,121,784)	374,957,466	-	-	-	-	-	5,630,882	348,557,893	124,355,163	472,913,056	51,486	150,848,987
C1 - C&I New Buildings	-	-	61,912,731	-	-	-	-	-	-	61,912,731	6,201,728	68,114,458	193,477	29,599,411
C1a - C&I New Buildings & Major Renovations	-	-	61,912,731	-	-	-	-	-	-	61,912,731	6,201,728	68,114,458	193,477	29,599,411
C2 - C&I Existing Buildings	12,091,329	(44,121,784)	313,044,735	-	-	-	-	-	5,630,882	286,645,163	118,153,435	404,798,598	44,441	121,249,576
C2a - C&I Existing Building Retrofits	11,978,261	(42,718,957)	263,831,083	-	-	-	-	-	5,630,882	238,721,270	83,675,032	302,396,302	64,519	98,963,541
C2b - C&I New & Replacement Equipment	113,068	(1,402,827)	49,213,652	-	-	-	-	-	-	47,923,893	54,478,404	102,402,297	17,427	22,286,035
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	40,127,057	(43,638,242)	1,026,075,724	-	-	-	-	-	26,365,431	1,048,929,969	435,029,272	1,483,959,241	674	431,502,971

IV.D Cost-Effectiveness

3.1.iii. Benefits Historical Comparison

National Grid Gas

November 1, 2021

2019-2024 Benefits (\$)													
Sector	Electric		Natural Gas	Oil	Propane	Wood	Motor Gasoline	Motor Diesel	Water	Total Energy Benefits	Non-Resource Impacts	Total TRC Test Benefits	Total Environmental Compliance Benefits
	Capacity	Electric Energy											
A - Residential													
2019 Evaluated	5,457,144	7,371,790	174,494,370	-	-	-	-	-	5,547,228	192,870,532	49,182,439	242,052,971	50,812,915
2020 Evaluated	4,547,771	5,307,580	150,290,893	-	-	-	-	-	6,104,853	166,251,096	44,319,350	210,570,446	43,192,840
2021 Planned	4,696,010	5,509,752	153,093,059	-	-	-	-	-	3,774,774	167,073,595	37,867,017	204,940,612	43,300,205
2022 Planned	6,024,861	578,270	158,488,852	-	-	-	-	-	6,273,414	171,365,397	36,886,162	208,251,560	69,432,533
2023 Planned	6,579,535	(990,348)	168,676,639	-	-	-	-	-	6,529,061	180,794,888	39,668,621	220,463,508	72,797,516
2024 Planned	7,139,632	(3,251,589)	175,039,603	-	-	-	-	-	6,743,122	185,670,767	40,425,172	226,095,940	74,556,249
B - Income Eligible													
2019 Evaluated	1,529,417	941,973	38,116,416	-	-	-	-	-	232,805	40,820,611	33,594,353	74,414,964	11,070,760
2020 Evaluated	959,309	590,028	21,811,879	-	-	-	-	-	59,188	23,420,404	18,713,455	42,133,860	6,290,026
2021 Planned	1,820,934	1,107,691	33,917,435	-	-	-	-	-	147,072	36,993,132	33,742,211	70,735,342	9,639,554
2022 Planned	2,379,937	1,279,185	49,567,038	-	-	-	-	-	397,122	53,623,282	62,233,805	115,857,088	21,645,570
2023 Planned	2,700,189	1,367,474	48,785,243	-	-	-	-	-	396,330	53,249,236	64,331,850	117,581,086	20,914,955
2024 Planned	3,211,573	1,500,549	50,560,884	-	-	-	-	-	395,499	55,668,505	67,128,499	122,797,004	21,307,162
C - Commercial & Industrial													
2019 Evaluated	-	-	104,180,023	-	-	-	-	-	6,291,345	110,471,368	8,171,192	118,642,560	30,701,341
2020 Evaluated	39,536	22,863	87,799,525	-	-	-	-	-	3,533,664	91,395,589	7,586,143	98,981,732	25,582,702
2021 Planned	19,938	13,820	110,155,184	-	-	-	-	-	3,532,496	113,721,437	6,809,541	120,530,978	32,381,735
2022 Planned	2,420,899	(9,724,047)	118,899,319	-	-	-	-	-	1,872,201	113,468,371	36,420,501	149,888,872	49,896,347
2023 Planned	3,910,006	(14,680,290)	125,592,278	-	-	-	-	-	1,876,728	116,698,721	41,426,153	158,124,875	50,522,118
2024 Planned	5,760,424	(19,717,446)	130,465,869	-	-	-	-	-	1,881,953	118,390,801	46,508,509	164,899,309	50,430,523
Grand Total													
2019 Evaluated	6,986,561	8,313,764	316,790,809	-	-	-	-	-	12,071,378	344,162,512	90,947,984	435,110,496	92,585,016
2020 Evaluated	5,546,616	5,920,471	259,902,297	-	-	-	-	-	9,697,705	281,067,089	70,618,949	351,686,038	75,065,568
2021 Planned	6,536,882	6,631,263	297,165,677	-	-	-	-	-	7,454,342	317,788,164	78,418,768	396,206,932	85,321,494
2022 Planned	10,825,697	(7,866,592)	326,955,208	-	-	-	-	-	8,542,738	338,457,051	135,540,469	473,997,520	140,974,449
2023 Planned	13,189,731	(14,303,164)	343,054,160	-	-	-	-	-	8,802,119	350,742,845	145,426,624	496,169,469	144,234,588
2024 Planned	16,111,629	(21,468,486)	356,066,356	-	-	-	-	-	9,020,574	359,730,073	154,062,180	513,792,253	146,293,934

IV.D Cost-Effectiveness

3.1.iii. Benefits Historical Comparison

National Grid Gas

November 1, 2021

2019-2024 Benefits, Percent of Total TRC Test Benefits (%)													
Sector	Electric		Natural Gas	Oil	Propane	Wood	Motor Gasoline	Motor Diesel	Water	Total Energy Benefits	Non-Resource Impacts	Total TRC Test Benefits	Total Environmental Compliance Benefits
	Capacity	Electric Energy											
A - Residential													
2019 Evaluated	2%	3%	72%	0%	0%	0%	0%	0%	2%	80%	20%	100%	21%
2020 Evaluated	2%	3%	71%	0%	0%	0%	0%	0%	3%	79%	21%	100%	21%
2021 Planned	2%	3%	75%	0%	0%	0%	0%	0%	2%	82%	18%	100%	21%
2022 Planned	3%	0%	76%	0%	0%	0%	0%	0%	3%	82%	18%	100%	33%
2023 Planned	3%	0%	77%	0%	0%	0%	0%	0%	3%	82%	18%	100%	33%
2024 Planned	3%	-1%	77%	0%	0%	0%	0%	0%	3%	82%	18%	100%	33%
B - Income Eligible													
2019 Evaluated	2%	1%	51%	0%	0%	0%	0%	0%	0%	55%	45%	100%	15%
2020 Evaluated	2%	1%	52%	0%	0%	0%	0%	0%	0%	56%	44%	100%	15%
2021 Planned	3%	2%	48%	0%	0%	0%	0%	0%	0%	52%	48%	100%	14%
2022 Planned	2%	1%	43%	0%	0%	0%	0%	0%	0%	46%	54%	100%	19%
2023 Planned	2%	1%	41%	0%	0%	0%	0%	0%	0%	45%	55%	100%	18%
2024 Planned	3%	1%	41%	0%	0%	0%	0%	0%	0%	45%	55%	100%	17%
C - Commercial & Industrial													
2019 Evaluated	0%	0%	88%	0%	0%	0%	0%	0%	5%	93%	7%	100%	26%
2020 Evaluated	0%	0%	89%	0%	0%	0%	0%	0%	4%	92%	8%	100%	26%
2021 Planned	0%	0%	91%	0%	0%	0%	0%	0%	3%	94%	6%	100%	27%
2022 Planned	2%	-6%	79%	0%	0%	0%	0%	0%	1%	76%	24%	100%	33%
2023 Planned	2%	-9%	79%	0%	0%	0%	0%	0%	1%	74%	26%	100%	32%
2024 Planned	3%	-12%	79%	0%	0%	0%	0%	0%	1%	72%	28%	100%	31%
Grand Total													
2019 Evaluated	2%	2%	73%	0%	0%	0%	0%	0%	3%	79%	21%	100%	21%
2020 Evaluated	2%	2%	74%	0%	0%	0%	0%	0%	3%	80%	20%	100%	21%
2021 Planned	2%	2%	75%	0%	0%	0%	0%	0%	2%	80%	20%	100%	22%
2022 Planned	2%	-2%	69%	0%	0%	0%	0%	0%	2%	71%	29%	100%	30%
2023 Planned	3%	-3%	69%	0%	0%	0%	0%	0%	2%	71%	29%	100%	29%
2024 Planned	3%	-4%	69%	0%	0%	0%	0%	0%	2%	70%	30%	100%	28%

Notes:

2019 values are from the Program Administrator's 2019 Plan Year Report D.P.U. 20-50, in 2019S.

2020 values are from the Program Administrator's 2020 Plan Year Report D.P.U. 21-70, in 2019S.

2021 values are from the Program Administrator's 2019-2021 Three-Year Plan, D.P.U. 18-114, in 2019S.

For supporting information on the 2022-2024 values, see Table IV.D.3.1.i. The 2022-2024 values are in 2022S.

IV.D. Cost-Effectiveness

3.2.i. Savings Summary Table

National Grid Gas Gas

November 1, 2021

Program	# of Participants	2022 Net Savings											
		Electric						Natural Gas		Deliverable Fuels			
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (Source MMBTU)		(Therms)		Oil (MMBTU)		Propane (MMBTU)	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	514,210	746	(305)	325	8,625	2,423	56,750	8,735,964	96,145,573	-	-	-	-
A1 - Residential New Buildings	2,750	12	41	153	3,794	1,072	22,267	461,729	10,897,660	-	-	-	-
A1a - Residential New Homes & Renovations	2,750	12	41	153	3,794	1,072	22,267	461,729	10,897,660	-	-	-	-
A2 - Residential Existing Buildings	511,460	734	(346)	173	4,831	1,351	34,483	8,274,235	85,247,912	-	-	-	-
A2a - Residential Coordinated Delivery	20,513	477	204	1,786	33,884	12,597	204,578	2,166,153	45,699,200	-	-	-	-
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	32,661	257	(551)	(1,613)	(29,053)	(11,247)	(170,095)	2,021,088	35,461,718	-	-	-	-
A2d - Residential Behavior	458,286	-	-	-	-	-	-	4,086,995	4,086,995	-	-	-	-
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	1,700	278	12	562	11,236	3,982	69,225	1,571,935	32,081,942	-	-	-	-
B1 - Income Eligible Existing Buildings	1,700	278	12	562	11,236	3,982	69,225	1,571,935	32,081,942	-	-	-	-
B1a - Income Eligible Coordinated Delivery	1,700	278	12	562	11,236	3,982	69,225	1,571,935	32,081,942	-	-	-	-
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	2,200	361	(431)	(5,358)	(80,669)	(37,724)	(499,077)	5,041,919	75,047,886	-	-	-	-
C1 - C&I New Buildings	100	-	-	-	-	-	-	715,027	13,232,656	-	-	-	-
C1a - C&I New Buildings & Major Renovations	100	-	-	-	-	-	-	715,027	13,232,656	-	-	-	-
C2 - C&I Existing Buildings	2,100	361	(431)	(5,358)	(80,669)	(37,724)	(499,077)	4,326,892	61,815,229	-	-	-	-
C2a - C&I Existing Building Retrofit	1,200	358	(426)	(5,207)	(78,103)	(36,660)	(483,335)	3,591,011	50,292,648	-	-	-	-
C2b - C&I New & Replacement Equipment	900	3	(5)	(151)	(2,567)	(1,064)	(15,743)	735,880	11,522,582	-	-	-	-
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	518,110	1,385	(724)	(4,471)	(60,808)	(31,320)	(373,102)	15,349,818	203,275,400	-	-	-	-

Program	# of Participants	2023 Net Savings											
		Electric						Natural Gas		Deliverable Fuels			
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (Source MMBTU)		(Therms)		Oil (MMBTU)		Propane (MMBTU)	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	515,338	765	(502)	(382)	(3,235)	(2,373)	(12,717)	9,063,670	102,708,848	-	-	-	-
A1 - Residential New Buildings	2,750	14	49	182	4,531	1,259	26,309	515,461	12,214,349	-	-	-	-
A1a - Residential New Homes & Renovations	2,750	14	49	182	4,531	1,259	26,309	515,461	12,214,349	-	-	-	-
A2 - Residential Existing Buildings	512,588	751	(551)	(565)	(7,766)	(3,633)	(39,026)	8,548,209	90,494,499	-	-	-	-
A2a - Residential Coordinated Delivery	20,397	494	214	1,859	35,220	12,949	210,201	2,289,771	48,208,385	-	-	-	-
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	33,905	257	(764)	(2,423)	(42,986)	(16,582)	(249,227)	2,171,444	38,199,120	-	-	-	-
A2d - Residential Behavior	458,286	-	-	-	-	-	-	4,086,995	4,086,995	-	-	-	-
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	1,700	297	12	597	11,940	4,194	72,775	1,564,392	31,969,952	-	-	-	-
B1 - Income Eligible Existing Buildings	1,700	297	12	597	11,940	4,194	72,775	1,564,392	31,969,952	-	-	-	-
B1a - Income Eligible Coordinated Delivery	1,700	297	12	597	11,940	4,194	72,775	1,564,392	31,969,952	-	-	-	-
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	2,285	540	(647)	(8,041)	(121,064)	(55,939)	(738,275)	5,306,625	79,083,989	-	-	-	-
C1 - C&I New Buildings	110	-	-	-	-	-	-	708,661	13,105,336	-	-	-	-
C1a - C&I New Buildings & Major Renovations	110	-	-	-	-	-	-	708,661	13,105,336	-	-	-	-
C2 - C&I Existing Buildings	2,175	540	(647)	(8,041)	(121,064)	(55,939)	(738,275)	4,597,963	65,978,653	-	-	-	-
C2a - C&I Existing Building Retrofit	1,250	535	(640)	(7,813)	(117,189)	(54,352)	(714,823)	3,881,126	54,778,862	-	-	-	-
C2b - C&I New & Replacement Equipment	925	5	(7)	(228)	(3,875)	(1,587)	(23,452)	716,837	11,199,791	-	-	-	-
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	519,323	1,603	(1,136)	(7,826)	(112,360)	(54,119)	(678,217)	15,934,686	213,762,789	-	-	-	-

IV.D. Cost-Effectiveness
3.2.i. Savings Summary Table
National Grid Gas Gas
November 1, 2021

Program	2022 Net Savings													
	Other						Total Savings				Electric Energy, no Fuel Switching or ADR (MWh)		Avoided CO2e (Metric Tons)	
	Wood (MMBTU)		Motor Gasoline (MMBTU)		Motor Diesel (MMBTU)		Water (Gallons)		MMBTU		Annual	Lifetime	2025	2030
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime				
A - Residential	-	-	-	-	-	-	26,286,476	363,944,972	876,019	9,671,308	325	8,625	29,232	29,052
A1 - Residential New Buildings	-	-	-	-	-	-	-	-	47,245	1,112,033	153	3,794	3,778	3,757
A1a - Residential New Homes & Renovations	-	-	-	-	-	-	-	-	47,245	1,112,033	153	3,794	3,778	3,757
A2 - Residential Existing Buildings	-	-	-	-	-	-	26,286,476	363,944,972	828,774	8,559,274	173	4,831	25,453	25,296
A2a - Residential Coordinated Delivery	-	-	-	-	-	-	25,752,686	355,938,118	229,213	4,774,498	1,786	33,884	12,434	12,106
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	-	-	-	-	-	-	533,790	8,006,853	190,862	3,376,077	(1,613)	(29,053)	13,019	13,190
A2d - Residential Behavior	-	-	-	-	-	-	-	-	408,699	408,699	-	-	-	-
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	-	-	-	-	-	-	2,186,586	22,981,153	161,175	3,277,419	562	11,236	8,447	8,374
B1 - Income Eligible Existing Buildings	-	-	-	-	-	-	2,186,586	22,981,153	161,175	3,277,419	562	11,236	8,447	8,374
B1a - Income Eligible Coordinated Delivery	-	-	-	-	-	-	2,186,586	22,981,153	161,175	3,277,419	562	11,236	8,447	8,374
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	-	-	-	-	-	-	25,146,098	107,608,624	466,468	7,005,711	(5,358)	(80,669)	31,975	27,997
C1 - C&I New Buildings	-	-	-	-	-	-	-	-	71,503	1,323,266	-	-	5,907	5,847
C1a - C&I New Buildings & Major Renovations	-	-	-	-	-	-	-	-	71,503	1,323,266	-	-	5,907	5,847
C2 - C&I Existing Buildings	-	-	-	-	-	-	25,146,098	107,608,624	394,965	5,682,446	(5,358)	(80,669)	26,069	22,150
C2a - C&I Existing Building Retrofit	-	-	-	-	-	-	25,146,098	107,608,624	322,442	4,545,930	(5,207)	(78,103)	19,641	15,706
C2b - C&I New & Replacement Equipment	-	-	-	-	-	-	-	-	72,524	1,136,516	(151)	(2,567)	6,428	6,445
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	-	-	-	-	-	-	53,619,161	494,534,749	1,503,662	19,954,438	(4,471)	(60,808)	69,654	65,423

Program	2023 Net Savings													
	Other						Total Savings				Electric Energy, no Fuel Switching or ADR (MWh)		Avoided CO2e (Metric Tons)	
	Wood (MMBTU)		Motor Gasoline (MMBTU)		Motor Diesel (MMBTU)		Water (Gallons)		MMBTU		Annual	Lifetime	2025	2030
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime				
A - Residential	-	-	-	-	-	-	27,411,007	379,542,563	903,994	10,258,168	(382)	(3,235)	30,798	30,761
A1 - Residential New Buildings	-	-	-	-	-	-	-	-	52,806	1,247,744	182	4,531	3,778	3,757
A1a - Residential New Homes & Renovations	-	-	-	-	-	-	-	-	52,806	1,247,744	182	4,531	3,778	3,757
A2 - Residential Existing Buildings	-	-	-	-	-	-	27,411,007	379,542,563	851,188	9,010,424	(565)	(7,766)	27,019	27,005
A2a - Residential Coordinated Delivery	-	-	-	-	-	-	26,823,603	370,731,501	241,926	5,031,039	1,859	35,220	13,143	12,867
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	-	-	-	-	-	-	587,404	8,811,063	200,562	3,570,685	(2,423)	(42,986)	13,877	14,137
A2d - Residential Behavior	-	-	-	-	-	-	-	-	408,699	408,699	-	-	-	-
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	-	-	-	-	-	-	2,186,586	22,981,153	160,633	3,269,770	597	11,940	8,414	8,352
B1 - Income Eligible Existing Buildings	-	-	-	-	-	-	2,186,586	22,981,153	160,633	3,269,770	597	11,940	8,414	8,352
B1a - Income Eligible Coordinated Delivery	-	-	-	-	-	-	2,186,586	22,981,153	160,633	3,269,770	597	11,940	8,414	8,352
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	-	-	-	-	-	-	25,554,692	108,061,920	474,723	7,170,124	(8,041)	(121,064)	33,355	29,359
C1 - C&I New Buildings	-	-	-	-	-	-	-	-	70,866	1,310,534	-	-	5,873	5,873
C1a - C&I New Buildings & Major Renovations	-	-	-	-	-	-	-	-	70,866	1,310,534	-	-	5,873	5,873
C2 - C&I Existing Buildings	-	-	-	-	-	-	25,554,692	108,061,920	403,857	5,859,591	(8,041)	(121,064)	27,482	23,486
C2a - C&I Existing Building Retrofit	-	-	-	-	-	-	25,554,692	108,061,920	333,761	4,763,063	(7,813)	(117,189)	21,303	17,281
C2b - C&I New & Replacement Equipment	-	-	-	-	-	-	-	-	70,096	1,096,527	(228)	(3,875)	6,180	6,205
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	-	-	-	-	-	-	55,152,286	510,585,636	1,539,350	20,698,062	(7,826)	(112,360)	72,567	68,472

IV.D. Cost-Effectiveness

3.2.i. Savings Summary Table

National Grid Gas Gas

November 1, 2021

Program	# of Participants	2024 Net Savings											
		Electric						Natural Gas		Deliverable Fuels			
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (Source MMBTU)		(Therms)		Oil (MMBTU)		Propane (MMBTU)	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	515,574	763	(766)	(1,371)	(20,754)	(8,409)	(113,048)	9,282,746	106,249,257	-	-	-	-
A1 - Residential New Buildings	2,188	9	30	113	2,807	729	16,137	389,397	9,125,195	-	-	-	-
A1a - Residential New Homes & Renovations	2,188	9	30	113	2,807	729	16,137	389,397	9,125,195	-	-	-	-
A2 - Residential Existing Buildings	513,387	754	(797)	(1,484)	(23,561)	(9,138)	(129,184)	8,893,349	97,124,063	-	-	-	-
A2a - Residential Coordinated Delivery	19,218	507	221	1,908	36,270	12,449	214,036	2,404,774	50,602,584	-	-	-	-
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	35,883	248	(1,017)	(3,392)	(59,831)	(21,587)	(343,221)	2,401,580	42,434,485	-	-	-	-
A2d - Residential Behavior	458,286	-	-	-	-	-	-	4,086,995	4,086,995	-	-	-	-
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	1,700	326	12	651	13,010	4,298	78,461	1,631,001	33,339,616	-	-	-	-
B1 - Income Eligible Existing Buildings	1,700	326	12	651	13,010	4,298	78,461	1,631,001	33,339,616	-	-	-	-
B1a - Income Eligible Coordinated Delivery	1,700	326	12	651	13,010	4,298	78,461	1,631,001	33,339,616	-	-	-	-
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	2,285	719	(863)	(10,723)	(161,459)	(69,999)	(970,852)	5,496,920	81,680,463	-	-	-	-
C1 - C&I New Buildings	110	-	-	-	-	-	-	704,823	13,028,576	-	-	-	-
C1a - C&I New Buildings & Major Renovations	110	-	-	-	-	-	-	704,823	13,028,576	-	-	-	-
C2 - C&I Existing Buildings	2,175	719	(863)	(10,723)	(161,459)	(69,999)	(970,852)	4,792,097	68,651,887	-	-	-	-
C2a - C&I Existing Building Retrofit	1,250	713	(853)	(10,418)	(156,275)	(68,007)	(939,869)	4,091,733	57,732,410	-	-	-	-
C2b - C&I New & Replacement Equipment	925	6	(10)	(305)	(5,184)	(1,992)	(30,983)	700,364	10,919,477	-	-	-	-
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	519,559	1,808	(1,617)	(11,444)	(169,204)	(74,109)	(1,005,439)	16,410,667	221,269,336	-	-	-	-

Program	# of Participants	2022-2024 Net Savings											
		Electric						Natural Gas		Deliverable Fuels			
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (Source MMBTU)		(Therms)		Oil (MMBTU)		Propane (MMBTU)	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential	1,545,122	2,274	(1,573)	(1,428)	(15,365)	(8,360)	(69,014)	27,082,380	305,103,678	-	-	-	-
A1 - Residential New Buildings	7,688	34	121	448	11,131	3,060	64,713	1,366,587	32,237,204	-	-	-	-
A1a - Residential New Homes & Renovations	7,688	34	121	448	11,131	3,060	64,713	1,366,587	32,237,204	-	-	-	-
A2 - Residential Existing Buildings	1,537,435	2,240	(1,694)	(1,876)	(26,496)	(11,420)	(133,727)	25,715,793	272,866,475	-	-	-	-
A2a - Residential Coordinated Delivery	60,128	1,478	638	5,553	105,374	37,996	628,816	6,860,698	144,510,168	-	-	-	-
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	102,449	762	(2,332)	(7,429)	(131,870)	(49,416)	(762,543)	6,594,111	116,095,323	-	-	-	-
A2d - Residential Behavior	1,374,858	-	-	-	-	-	-	12,260,984	12,260,984	-	-	-	-
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	5,100	902	37	1,809	36,185	12,474	220,461	4,767,328	97,391,509	-	-	-	-
B1 - Income Eligible Existing Buildings	5,100	902	37	1,809	36,185	12,474	220,461	4,767,328	97,391,509	-	-	-	-
B1a - Income Eligible Coordinated Delivery	5,100	902	37	1,809	36,185	12,474	220,461	4,767,328	97,391,509	-	-	-	-
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	6,770	1,620	(1,940)	(24,122)	(363,193)	(163,662)	(2,208,204)	15,845,463	235,812,338	-	-	-	-
C1 - C&I New Buildings	320	-	-	-	-	-	-	2,128,511	39,366,569	-	-	-	-
C1a - C&I New Buildings & Major Renovations	320	-	-	-	-	-	-	2,128,511	39,366,569	-	-	-	-
C2 - C&I Existing Buildings	6,450	1,620	(1,940)	(24,122)	(363,193)	(163,662)	(2,208,204)	13,716,952	196,445,769	-	-	-	-
C2a - C&I Existing Building Retrofit	3,700	1,606	(1,919)	(23,438)	(351,566)	(159,018)	(2,138,027)	11,563,870	162,803,920	-	-	-	-
C2b - C&I New & Replacement Equipment	2,750	14	(22)	(684)	(11,626)	(4,644)	(70,178)	2,153,082	33,641,849	-	-	-	-
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	1,556,992	4,796	(3,476)	(23,741)	(342,372)	(159,548)	(2,056,758)	47,695,171	638,307,526	-	-	-	-

IV.D. Cost-Effectiveness
3.2.i. Savings Summary Table
National Grid Gas Gas
November 1, 2021

Program	2024 Net Savings													
	Other						Total Savings				Electric Energy, no Fuel Switching or ADR (MWh)		Avoided CO2e (Metric Tons)	
	Wood (MMBTU)		Motor Gasoline (MMBTU)		Motor Diesel (MMBTU)		Water (Gallons)		MMBTU		Annual	Lifetime	2025	2030
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime				
A - Residential	-	-	-	-	-	-	28,369,397	392,809,310	919,866	10,511,878	(1,371)	(20,754)	42,683	31,971
A1 - Residential New Buildings	-	-	-	-	-	-	-	-	39,669	928,656	113	2,807	2,800	2,786
A1a - Residential New Homes & Renovations	-	-	-	-	-	-	-	-	39,669	928,656	113	2,807	2,800	2,786
A2 - Residential Existing Buildings	-	-	-	-	-	-	28,369,397	392,809,310	880,197	9,583,222	(1,484)	(23,561)	39,882	29,184
A2a - Residential Coordinated Delivery	-	-	-	-	-	-	27,721,213	383,086,549	252,927	5,274,295	1,908	36,270	13,796	13,579
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	-	-	-	-	-	-	648,184	9,722,761	218,571	3,900,228	(3,392)	(59,831)	15,242	15,605
A2d - Residential Behavior	-	-	-	-	-	-	-	-	408,699	408,699	-	-	10,845	-
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	-	-	-	-	-	-	2,186,586	22,981,153	167,398	3,412,422	651	13,010	8,777	8,725
B1 - Income Eligible Existing Buildings	-	-	-	-	-	-	2,186,586	22,981,153	167,398	3,412,422	651	13,010	8,777	8,725
B1a - Income Eligible Coordinated Delivery	-	-	-	-	-	-	2,186,586	22,981,153	167,398	3,412,422	651	13,010	8,777	8,725
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	-	-	-	-	-	-	25,986,030	108,583,448	479,693	7,197,194	(10,723)	(161,459)	33,799	31,604
C1 - C&I New Buildings	-	-	-	-	-	-	-	-	70,482	1,302,858	-	-	5,852	5,852
C1a - C&I New Buildings & Major Renovations	-	-	-	-	-	-	-	-	70,482	1,302,858	-	-	5,852	5,852
C2 - C&I Existing Buildings	-	-	-	-	-	-	25,986,030	108,583,448	409,211	5,894,336	(10,723)	(161,459)	27,947	25,752
C2a - C&I Existing Building Retrofit	-	-	-	-	-	-	25,986,030	108,583,448	341,166	4,833,372	(10,418)	(156,275)	21,988	19,760
C2b - C&I New & Replacement Equipment	-	-	-	-	-	-	-	-	68,044	1,060,965	(305)	(5,184)	5,958	5,992
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	-	-	-	-	-	-	56,542,013	524,373,911	1,566,957	21,121,494	(11,444)	(169,204)	85,259	72,300

Program	2022-2024 Net Savings													
	Other						Total Savings				Electric Energy, no Fuel Switching or ADR (MWh)		Avoided CO2e (Metric Tons)	
	Wood (MMBTU)		Motor Gasoline (MMBTU)		Motor Diesel (MMBTU)		Water (Gallons)		MMBTU		Annual	Lifetime	2025	2030
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime				
A - Residential	-	-	-	-	-	-	82,066,881	1,136,296,845	2,699,878	30,441,353	(1,428)	(15,365)	102,712	91,784
A1 - Residential New Buildings	-	-	-	-	-	-	-	-	139,719	3,288,433	448	11,131	10,357	10,299
A1a - Residential New Homes & Renovations	-	-	-	-	-	-	-	-	139,719	3,288,433	448	11,131	10,357	10,299
A2 - Residential Existing Buildings	-	-	-	-	-	-	82,066,881	1,136,296,845	2,560,159	27,152,920	(1,876)	(26,496)	92,355	81,485
A2a - Residential Coordinated Delivery	-	-	-	-	-	-	80,297,502	1,109,756,168	724,066	15,079,832	5,553	105,374	39,373	38,553
A2b - Residential Conservation Services (RCS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A2c - Residential Retail	-	-	-	-	-	-	1,769,378	26,540,677	609,995	10,846,990	(7,429)	(131,870)	42,138	42,932
A2d - Residential Behavior	-	-	-	-	-	-	-	-	1,226,098	1,226,098	-	-	10,845	-
A2e - Residential Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B - Income Eligible	-	-	-	-	-	-	6,559,759	68,943,459	489,207	9,959,612	1,809	36,185	25,638	25,451
B1 - Income Eligible Existing Buildings	-	-	-	-	-	-	6,559,759	68,943,459	489,207	9,959,612	1,809	36,185	25,638	25,451
B1a - Income Eligible Coordinated Delivery	-	-	-	-	-	-	6,559,759	68,943,459	489,207	9,959,612	1,809	36,185	25,638	25,451
B1b - Income Eligible Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C - Commercial & Industrial	-	-	-	-	-	-	76,686,820	324,253,992	1,420,884	21,373,029	(24,122)	(363,193)	99,130	88,960
C1 - C&I New Buildings	-	-	-	-	-	-	-	-	212,851	3,936,657	-	-	17,632	17,572
C1a - C&I New Buildings & Major Renovations	-	-	-	-	-	-	-	-	212,851	3,936,657	-	-	17,632	17,572
C2 - C&I Existing Buildings	-	-	-	-	-	-	76,686,820	324,253,992	1,208,033	17,436,373	(24,122)	(363,193)	81,498	71,388
C2a - C&I Existing Building Retrofit	-	-	-	-	-	-	76,686,820	324,253,992	997,369	14,142,365	(23,438)	(351,566)	62,932	52,746
C2b - C&I New & Replacement Equipment	-	-	-	-	-	-	-	-	210,665	3,294,007	(684)	(11,626)	18,566	18,642
C2c - C&I Active Demand Reduction	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	-	-	-	-	-	-	165,313,460	1,529,494,296	4,609,969	61,773,995	(23,741)	(342,372)	227,480	206,195

IV.D Cost-Effectiveness

3.1.iii. Benefits Historical Comparison

National Grid Gas

November 1, 2021

Sector	# of Participants	2019-2024 Net Savings											
		Electric						Natural Gas		Deliverable Fuels			
		Annual Capacity (kW)		Electric Energy (MWh)		Electric Energy (MMBTU)		(Therms)		Oil (MMBTU)		Propane (MMBTU)	
		Summer	Winter	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential													
2019 Evaluated	5,027,883	1,482	1,420	7,685	65,659	26,220	224,028	12,071,457	125,262,506	-	-	-	-
2020 Evaluated	473,391	934	728	4,208	47,590	14,357	162,379	9,423,026	107,296,219	-	-	-	-
2021 Planned	474,287	949	704	4,427	48,941	32,212	322,824	10,205,464	107,361,795	-	-	-	-
2022 Planned	514,210	746	(305)	325	8,625	2,423	56,750	8,735,964	96,145,573	-	-	-	-
2023 Planned	515,338	765	(502)	(382)	(3,235)	(2,373)	(12,717)	9,063,670	102,708,848	-	-	-	-
2024 Planned	515,574	763	(766)	(1,371)	(20,754)	(8,409)	(113,048)	9,282,746	106,249,257	-	-	-	-
B - Income Eligible													
2019 Evaluated	9,259	236	11	460	9,133	1,570	31,160	1,464,585	27,743,949	-	-	-	-
2020 Evaluated	6,613	145	7	284	5,639	970	19,241	818,079	15,730,328	-	-	-	-
2021 Planned	6,613	264	12	514	10,428	3,817	69,679	1,262,703	23,937,173	-	-	-	-
2022 Planned	1,700	278	12	562	11,236	3,982	69,225	1,571,935	32,081,942	-	-	-	-
2023 Planned	1,700	297	12	597	11,940	4,194	72,775	1,564,392	31,969,952	-	-	-	-
2024 Planned	1,700	326	12	651	13,010	4,298	78,461	1,631,001	33,339,616	-	-	-	-
C - Commercial & Industrial													
2019 Evaluated	18,097	-	-	-	-	-	-	5,334,437	78,708,618	-	-	-	-
2020 Evaluated	2,229	8	-	25	373	85	1,273	4,306,833	65,633,626	-	-	-	-
2021 Planned	2,235	4	0	8	129	60	868	5,668,878	82,805,156	-	-	-	-
2022 Planned	2,200	361	(431)	(5,358)	(80,669)	(37,724)	(499,077)	5,041,919	75,047,886	-	-	-	-
2023 Planned	2,285	540	(647)	(8,041)	(121,064)	(55,939)	(738,275)	5,306,625	79,083,989	-	-	-	-
2024 Planned	2,285	719	(863)	(10,723)	(161,459)	(69,999)	(970,852)	5,496,920	81,680,463	-	-	-	-
Grand Total													
2019 Evaluated	5,055,239	1,718	1,431	8,145	74,791	27,790	255,188	18,870,479	231,715,072	-	-	-	-
2020 Evaluated	482,233	1,088	734	4,517	53,603	15,412	182,892	14,547,939	188,660,173	-	-	-	-
2021 Planned	483,135	1,218	716	4,949	59,497	36,089	393,372	17,137,045	214,104,124	-	-	-	-
2022 Planned	518,110	1,385	(724)	(4,471)	(60,808)	(31,320)	(373,102)	15,349,818	203,275,400	-	-	-	-
2023 Planned	519,323	1,603	(1,136)	(7,826)	(112,360)	(54,119)	(678,217)	15,934,686	213,762,789	-	-	-	-
2024 Planned	519,559	1,808	(1,617)	(11,444)	(169,204)	(74,109)	(1,005,439)	16,410,667	221,269,336	-	-	-	-

Notes:

2019 values are from the Program Administrator's 2019 Plan Year Report D.P.U. 20-50.

2020 values are from the Program Administrator's 2020 Plan Year Report D.P.U. 21-70.

2021 values are from the Program Administrator's 2019-2021 Three-Year Plan, D.P.U. 18-114.

For supporting information on the 2022-2024 values, see Table IV.D.3.2.i.

The Program Administrators have developed new participant definitions through the common assumptions working group for this Three-Year Plan. Historical participant numbers may not be comparable.

IV.D Cost-Effectiveness

3.1.iii. Benefits Historical Comparison

National Grid Gas

November 1, 2021

Sector	2019-2024 Net Savings									
	Other								Total Savings	
	Wood (MMBTU)		Motor Gasoline (MMBTU)		Motor Diesel (MMBTU)		Water (Gallons)		MMBTU	
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
A - Residential										
2019 Evaluated	-	-					48,506,082	339,542,576	1,233,366	12,750,279
2020 Evaluated	-	-					27,335,200	380,057,140	956,660	10,892,000
2021 Planned	-	-					33,007,390	231,051,727	1,052,758	11,059,004
2022 Planned	-	-	-	-	-	-	26,286,476	363,944,972	876,019	9,671,308
2023 Planned	-	-	-	-	-	-	27,411,007	379,542,563	903,994	10,258,168
2024 Planned	-	-	-	-	-	-	28,369,397	392,809,310	919,866	10,511,878
B - Income Eligible										
2019 Evaluated	-	-					2,035,692	14,249,844	148,029	2,805,555
2020 Evaluated	-	-					321,383	3,670,953	82,778	1,592,274
2021 Planned	-	-					1,286,030	9,002,210	130,087	2,463,397
2022 Planned	-	-	-	-	-	-	2,186,586	22,981,153	161,175	3,277,419
2023 Planned	-	-	-	-	-	-	2,186,586	22,981,153	160,633	3,269,770
2024 Planned	-	-	-	-	-	-	2,186,586	22,981,153	167,398	3,412,422
C - Commercial & Industrial										
2019 Evaluated	-	-					39,378,838	387,683,533	533,444	7,870,862
2020 Evaluated	-	-					16,845,262	220,142,797	430,768	6,564,635
2021 Planned	-	-					22,550,586	217,580,972	566,948	8,281,384
2022 Planned	-	-	-	-	-	-	25,146,098	107,608,624	466,468	7,005,711
2023 Planned	-	-	-	-	-	-	25,554,692	108,061,920	474,723	7,170,124
2024 Planned	-	-	-	-	-	-	25,986,030	108,583,448	479,693	7,197,194
Grand Total										
2019 Evaluated	-	-	-	-	-	-	89,920,613	741,475,954	1,914,838	23,426,696
2020 Evaluated	-	-	-	-	-	-	44,501,845	603,870,890	1,470,206	19,048,909
2021 Planned	-	-	-	-	-	-	56,844,006	457,634,908	1,749,793	21,803,784
2022 Planned	-	-	-	-	-	-	53,619,161	494,534,749	1,503,662	19,954,438
2023 Planned	-	-	-	-	-	-	55,152,286	510,585,636	1,539,350	20,698,062
2024 Planned	-	-	-	-	-	-	56,542,013	524,373,911	1,566,957	21,121,494

Notes:

2019 values are from the Program Administrator's 2019 Plan Year Report D.P.U. 20-50.

2020 values are from the Program Administrator's 2020 Plan Year Report D.P.U. 21-70.

2021 values are from the Program Administrator's 2019-2021 Three-Year Plan, D.P.U. 18-114.

For supporting information on the 2022-2024 values, see Table IV.D.3.2.i.

The Program Administrators have developed new participant definitions through the common assumptions working group for this Three-Year Plan. Historical participant numbers may not be comparable.

IV.H. Performance Incentive

1. Summary Table

National Grid Gas Gas

November 1, 2021

2022 Performance Incentives					
Sector	Total Program Costs	Pre-Tax		After-Tax	
		Performance Incentives	% of Program Costs	Performance Incentives	% of Program Costs
A - Residential	114,562,551	3,043,725	3%	2,212,179	2%
B - Income Eligible	40,473,552	1,367,834	3%	994,142	2%
C - Commercial & Industrial	44,721,729	1,970,854	4%	1,432,417	3%
Grand Total	199,757,832	6,382,413	3%	4,638,738	2%

2023 Performance Incentives					
Sector	Total Program Costs	Pre-Tax		After-Tax	
		Performance Incentives	% of Program Costs	Performance Incentives	% of Program Costs
A - Residential	124,951,469	3,381,025	3%	2,457,329	2%
B - Income Eligible	45,203,907	1,430,163	3%	1,039,442	2%
C - Commercial & Industrial	52,386,549	2,188,112	4%	1,590,320	3%
Grand Total	222,541,925	6,999,300	3%	5,087,091	2%

2024 Performance Incentives					
Sector	Total Program Costs	Pre-Tax		After-Tax	
		Performance Incentives	% of Program Costs	Performance Incentives	% of Program Costs
A - Residential	137,224,078	3,693,147	3%	2,684,179	2%
B - Income Eligible	50,201,756	1,557,312	3%	1,131,855	2%
C - Commercial & Industrial	59,845,427	2,410,689	4%	1,752,088	3%
Grand Total	247,271,262	7,661,148	3%	5,568,123	2%

2022-2024 Performance Incentives					
Sector	Total Program Costs	Pre-Tax		After-Tax	
		Performance Incentives	% of Program Costs	Performance Incentives	% of Program Costs
A - Residential	376,738,098	10,117,897	3%	7,353,688	2%
B - Income Eligible	135,879,215	4,355,309	3%	3,165,439	2%
C - Commercial & Industrial	156,953,706	6,569,655	4%	4,774,825	3%
Grand Total	669,571,019	21,042,861	3%	15,293,951	2%

Notes:

Performance Incentives for each year are represented in nominal dollars (2022\$, 2023\$, 2024\$).

For supporting information on the Performance Incentive, refer to the Performance Incentive Model.

Performance Incentives are not applicable to the Cape Light Compact.

V.B. Allocation of Funds

1. Low-Income Minimum

National Grid Gas Gas

November 1, 2021

2022 Sector Cost Allocation		
Sector	Program Budget	
	(\$)	(% of Total)
A - Residential	114,562,551	57.4%
B - Income Eligible	40,473,552	20.3%
C - Commercial & Industrial	44,721,729	22.4%
Grand Total	199,757,832	100%

2023 Sector Cost Allocation		
Sector	Program Budget	
	(\$)	(% of Total)
A - Residential	124,951,469	56.1%
B - Income Eligible	45,203,907	20.3%
C - Commercial & Industrial	52,386,549	23.5%
Grand Total	222,541,925	100%

2024 Sector Cost Allocation		
Sector	Program Budget	
	(\$)	(% of Total)
A - Residential	137,224,078	55.5%
B - Income Eligible	50,201,756	20.3%
C - Commercial & Industrial	59,845,427	24.2%
Grand Total	247,271,262	100%

2022-2024 Sector Cost Allocation		
Sector	Program Budget	
	(\$)	(% of Total)

V.B. Allocation of Funds

1. Low-Income Minimum

National Grid Gas Gas

November 1, 2021

A - Residential	376,738,098	56.3%
B - Income Eligible	135,879,215	20.3%
C - Commercial & Industrial	156,953,706	23.4%
Grand Total	669,571,019	100%

Notes:

General Laws c. 25, § 19(c) requires that at least 10 percent of the amount expended for electric energy efficiency programs and at least 20 percent of the amount expended for gas energy efficiency programs be spent on low-income programs.

V.D. Outsourced/Competitively Procured Services

1. Summary Table

National Grid Gas Gas

November 1, 2021

2022-2024 Competitively Procured Services										
Sector	Competitively Procured Services Costs (\$)					Competitively Procured Services Costs as a Percent of Total Sector Costs (%)				
	Total Cost of Services	In-House Activities	Outsourced Activities			Total Cost of Services	In-House Activities	Outsourced Activities		
			Total Outsourced	Competitively Procured	Non-Competitively Procured			Total Outsourced	Competitively Procured	Non-Competitively Procured
2022	48,109,466	9,764,313	38,345,153	26,537,241	11,807,913	100%	20%	80%	55%	25%
A - Residential	24,434,744	1,995,323	22,439,422	19,932,341	2,507,080	100%	8%	92%	82%	10%
B - Income Eligible	9,833,339	2,357,152	7,476,187	1,288,100	6,188,087	100%	24%	76%	13%	63%
C - Commercial & Industrial	13,841,382	5,411,838	8,429,544	5,316,799	3,112,745	100%	39%	61%	38%	22%
2023	51,198,152	11,422,172	39,775,980	27,562,099	12,213,881	100%	22%	78%	54%	24%
A - Residential	25,494,205	2,008,857	23,485,349	20,861,410	2,623,938	100%	8%	92%	82%	10%
B - Income Eligible	11,670,864	3,874,068	7,796,796	1,343,339	6,453,457	100%	33%	67%	12%	55%
C - Commercial & Industrial	14,033,082	5,539,248	8,493,835	5,357,350	3,136,485	100%	39%	61%	38%	22%
2024	53,007,141	11,909,079	41,098,063	28,431,242	12,666,821	100%	22%	78%	54%	24%
A - Residential	26,632,718	2,220,306	24,412,412	21,684,896	2,727,516	100%	8%	92%	81%	10%
B - Income Eligible	12,132,342	3,891,660	8,240,682	1,419,818	6,820,864	100%	32%	68%	12%	56%
C - Commercial & Industrial	14,242,081	5,797,112	8,444,969	5,326,528	3,118,441	100%	41%	59%	37%	22%
Grand Total	152,314,759	33,095,563	119,219,195	82,530,581	36,688,614	100%	22%	78%	54%	24%
A - Residential	76,561,668	6,224,486	70,337,182	62,478,647	7,858,535	100%	8%	92%	82%	10%
B - Income Eligible	33,636,545	10,122,880	23,513,665	4,051,257	19,462,409	100%	30%	70%	12%	58%
C - Commercial & Industrial	42,116,546	16,748,198	25,368,348	16,000,677	9,367,671	100%	40%	60%	38%	22%

Notes:

General Laws c. 25, § 19(a) and (b) requires the Department to ensure that energy efficiency programs use competitive procurement processes to the fullest extent practicable.

Costs for the Competitively Procured Services analysis include Program Planning and Administration; Marketing and Advertising; Sales, Technical Assistance & Training; and Evaluation and Market Research.

Costs for each year in 2016-2018 are represented in nominal dollars (2016\$, 2017\$, 2018\$).

V.D. Outsourced/Competitively Procured Services

3. Historical Comparison

National Grid Gas Gas
November 1, 2021

2019-2024 Competitively Procured Services										
Sector	Competitively Procured Services Costs (\$)					Competitively Procured Services Costs as a Percent of Total Sector Costs (%)				
	Total Cost of Services	In-House Activities	Outsourced Activities			Total Cost of Services	In-House Activities	Outsourced Activities		
			Total Outsourced	Competitively Procured	Non-Competitively Procured			Total Outsourced	Competitively Procured	Non-Competitively Procured
A - Residential	163,001,234	11,287,091	151,714,143	136,410,737	15,303,405	100%	7%	93%	84%	9%
2019	28,409,487	1,641,166	26,768,321	24,319,389	2,448,933	100%	6%	94%	86%	9%
2020	28,748,518	1,704,048	27,044,470	24,570,274	2,474,196	100%	6%	94%	85%	9%
2021	29,281,560	1,717,391	27,564,169	25,042,428	2,521,742	100%	6%	94%	86%	9%
2022	24,434,744	1,995,323	22,439,422	19,932,341	2,507,080	100%	8%	92%	82%	10%
2023	25,494,205	2,008,857	23,485,349	20,861,410	2,623,938	100%	8%	92%	82%	10%
2024	26,632,718	2,220,306	24,412,412	21,684,896	2,727,516	100%	8%	92%	81%	10%
B - Income Eligible	56,585,734	11,983,648	44,602,085	7,040,458	37,561,628	100%	21%	79%	12%	66%
2019	7,583,395	596,705	6,986,690	990,336	5,996,354	100%	8%	92%	13%	79%
2020	7,617,034	619,689	6,997,346	991,846	6,005,499	100%	8%	92%	13%	79%
2021	7,748,759	644,374	7,104,385	1,007,019	6,097,366	100%	8%	92%	13%	79%
2022	9,833,339	2,357,152	7,476,187	1,288,100	6,188,087	100%	24%	76%	13%	63%
2023	11,670,864	3,874,068	7,796,796	1,343,339	6,453,457	100%	33%	67%	12%	55%
2024	12,132,342	3,891,660	8,240,682	1,419,818	6,820,864	100%	32%	68%	12%	56%
C - Commercial & Industrial	71,729,165	26,835,979	44,893,186	28,026,227	16,866,959	100%	37%	63%	39%	24%
2019	9,572,930	3,233,846	6,339,084	3,904,308	2,434,776	100%	34%	66%	41%	25%
2020	9,901,332	3,359,325	6,542,008	4,029,290	2,512,717	100%	34%	66%	41%	25%
2021	10,138,357	3,494,611	6,643,746	4,091,952	2,551,794	100%	34%	66%	40%	25%
2022	13,841,382	5,411,838	8,429,544	5,316,799	3,112,745	100%	39%	61%	38%	22%
2023	14,033,082	5,539,248	8,493,835	5,357,350	3,136,485	100%	39%	61%	38%	22%
2024	14,242,081	5,797,112	8,444,969	5,326,528	3,118,441	100%	41%	59%	37%	22%
Grand Total	291,316,133	50,106,719	241,209,414	171,477,422	69,731,992	100%	17%	83%	59%	24%
2019	45,565,813	5,471,718	40,094,095	29,214,032	10,880,063	100%	12%	88%	64%	24%
2020	46,266,885	5,683,062	40,583,823	29,591,410	10,992,413	100%	12%	88%	64%	24%
2021	47,168,676	5,856,376	41,312,300	30,141,399	11,170,902	100%	12%	88%	64%	24%
2022	48,109,466	9,764,313	38,345,153	26,537,241	11,807,913	100%	20%	80%	55%	25%
2023	51,198,152	11,422,172	39,775,980	27,562,099	12,213,881	100%	22%	78%	54%	24%
2024	53,007,141	11,909,079	41,098,063	28,431,242	12,666,821	100%	22%	78%	54%	24%

Notes:

General Laws c. 25, § 19(a) and (b) requires the Department to ensure that energy efficiency programs use competitive procurement processes to the fullest extent practicable. Costs for the Competitively Procured Services analysis include Program Planning and Administration; Marketing and Advertising; Sales, Technical Assistance & Training; and Evaluation and Market Research. The 2019-2021 costs are from the Program Administrator's 2019-2021 Three-Year Plan, D.P.U. 18-114, in nominal dollars (2019\$, 2020\$, 2021\$). For supporting information on the 2022-2024 values, see Table V.D.1. Costs for each year are represented in nominal dollars (2022\$, 2023\$, 2024\$).

VII. Appendix
B.2. Summary of Activities
National Grid Gas Gas
November 1, 2021

2022-2024 Summary								
Sector	Net Annual Savings							
	Summer Capacity (kW)	Electric Energy (MWh)	Natural Gas (Therms)	Oil (MMBTU)	Propane (MMBTU)	Wood (MMBTU)	Water (Gallons)	Total Savings (MMBTU)
2022	1,385	(4,471)	15,349,818	-	-	-	53,619,161	1,503,662
A - Residential	746	325	8,735,964	-	-	-	26,286,476	876,019
B - Income Eligible	278	562	1,571,935	-	-	-	2,186,586	161,175
C - Commercial & Industrial	361	(5,358)	5,041,919	-	-	-	25,146,098	466,468
2023	1,603	(7,826)	15,934,686	-	-	-	55,152,286	1,539,350
A - Residential	765	(382)	9,063,670	-	-	-	27,411,007	903,994
B - Income Eligible	297	597	1,564,392	-	-	-	2,186,586	160,633
C - Commercial & Industrial	540	(8,041)	5,306,625	-	-	-	25,554,692	474,723
2024	1,808	(11,444)	16,410,667	-	-	-	56,542,013	1,566,957
A - Residential	763	(1,371)	9,282,746	-	-	-	28,369,397	919,866
B - Income Eligible	326	651	1,631,001	-	-	-	2,186,586	167,398
C - Commercial & Industrial	719	(10,723)	5,496,920	-	-	-	25,986,030	479,693
Grand Total	4,796	(23,741)	47,695,171	-	-	-	165,313,460	4,609,969
A - Residential	2,274	(1,428)	27,082,380	-	-	-	82,066,881	2,699,878
B - Income Eligible	902	1,809	4,767,328	-	-	-	6,559,759	489,207
C - Commercial & Industrial	1,620	(24,122)	15,845,463	-	-	-	76,686,820	1,420,884

2022-2024 Summary										
Sector	TRC Benefits (2022\$)							TRC Costs (2022\$)		
	Capacity	Electric Energy	Natural Gas	Deliverable Fuels & Other	Non-Energy Impacts	Environmental Compliance Benefits	Total Benefits	PA Budget	Participant Costs	Total TRC Test Costs
2022	10,825,697	(7,866,592)	326,955,208	8,542,738	135,540,469	140,974,449	473,997,520	206,140,245	34,356,270	240,496,515
A - Residential	6,024,861	578,270	158,488,852	6,273,414	36,886,162	69,432,533	208,251,560	117,606,276	20,440,311	138,046,587
B - Income Eligible	2,379,937	1,279,185	49,567,038	397,122	62,233,805	21,645,570	115,857,088	41,841,386	-	41,841,386
C - Commercial & Industrial	2,420,899	(9,724,047)	118,899,319	1,872,201	36,420,501	49,896,347	149,888,872	46,692,583	13,915,959	60,608,542
2023	13,189,731	(14,303,164)	343,054,160	8,802,119	145,426,624	144,234,588	496,169,469	225,084,551	38,896,119	263,980,669
A - Residential	6,579,535	(990,348)	168,676,639	6,529,061	39,668,621	72,797,516	220,463,508	125,840,845	22,739,759	148,580,604
B - Income Eligible	2,700,189	1,367,474	48,785,243	396,330	64,331,850	20,914,955	117,581,086	45,728,642	-	45,728,642
C - Commercial & Industrial	3,910,006	(14,880,290)	125,592,278	1,876,728	41,426,153	50,522,118	158,124,875	53,515,063	16,156,360	69,671,423
2024	16,111,629	(21,468,486)	356,066,356	9,020,574	154,062,180	146,293,934	513,792,253	245,129,194	42,055,851	287,185,045
A - Residential	7,139,632	(3,251,589)	175,039,603	6,743,122	40,425,172	74,556,249	226,095,940	135,498,369	23,932,667	159,431,036
B - Income Eligible	3,211,573	1,500,549	50,560,884	395,499	67,128,499	21,307,162	122,797,004	49,768,716	-	49,768,716
C - Commercial & Industrial	5,760,424	(19,717,446)	130,465,869	1,881,953	46,508,509	50,430,523	164,899,309	59,862,108	18,123,184	77,985,292
Grand Total	40,127,057	(43,638,242)	1,026,075,724	26,365,431	435,029,272	431,502,971	1,483,959,241	676,353,990	115,308,239	791,662,229
A - Residential	19,744,028	(3,663,667)	502,205,093	19,545,597	116,979,955	216,786,297	654,811,007	378,945,491	67,112,736	446,058,227
B - Income Eligible	8,291,699	4,147,208	148,913,165	1,188,952	193,694,154	63,867,687	356,235,178	137,338,744	-	137,338,744
C - Commercial & Industrial	12,091,329	(44,121,784)	374,957,466	5,630,882	124,355,163	150,848,987	472,913,056	160,069,755	48,195,503	208,265,258

2022-2024 Summary											
Sector	TRC Cost-Effectiveness		Cost of Saved Energy (PA Budget per annual savings unit)					Participants	Avg Measure Life (yrs.)	Avoided CO2e (Metric Tons)	
	B/C Ratio	Net Benefits	Summer Capacity (\$/kW)	Electric Energy (\$/MWh)	Natural Gas Costs (\$/Therm)	Total Savings (\$/MMBTU)	2025			2030	
2022	1.97	233,501,005	148,823	(46,106)	13	137	518,110	13	69,654	65,423	
A - Residential	1.51	70,204,973	157,686	361,333	13	134	514,210	11	29,232	29,052	
B - Income Eligible	2.77	74,015,702	150,266	74,511	27	260	1,700	20	8,447	8,374	
C - Commercial & Industrial	2.47	89,280,330	129,393	(8,715)	9	100	2,200	15	31,975	27,997	
2023	1.88	232,188,800	140,442	(28,761)	14	146	519,323	13	72,567	68,472	
A - Residential	1.48	71,882,905	164,426	(329,214)	14	139	515,338	11	30,798	30,761	
B - Income Eligible	2.57	71,852,444	153,814	76,610	29	285	1,700	20	8,414	8,352	
C - Commercial & Industrial	2.27	88,453,452	99,093	(6,656)	10	113	2,285	15	33,355	29,359	
2024	1.79	226,607,208	135,561	(21,420)	15	156	519,559	13	85,259	72,300	
A - Residential	1.42	66,664,903	177,565	(98,831)	15	147	515,574	11	42,683	31,971	
B - Income Eligible	2.47	73,028,288	152,703	76,500	31	297	1,700	20	8,777	8,725	
C - Commercial & Industrial	2.11	86,914,017	83,229	(5,582)	11	125	2,285	15	33,799	31,604	
Grand Total	1.87	692,297,013	141,022	(28,489)	14	147	1,556,992	13	227,480	206,195	
A - Residential	1.47	208,752,780	166,559	(22,237)	14	140	1,545,122	11	102,712.08	91,783.97	
B - Income Eligible	2.60	218,896,433	152,261	75,874	29	281	5,100	20	25,638.31	25,451.14	
C - Commercial & Industrial	2.29	264,647,799	103,905	(6,984)	10	113	6,770	15	99,129.59	88,960.14	

Calculated Fields

Formulas used in pivot tables

National Grid Gas Gas

November 1, 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('Total Net Lifetime Adjusted (MMBTU)'/Total Net Annual Adjusted (MMBTU)',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 PA Budget (Program + PI)	=Total Program Costs+Performance Incentive
Program Costs / Participant	=Total Program Costs/Participants
Resource Benefit / Program Cost	=Total Resource Benefits/Total Program Costs
Resource Benefit / Participant	=Total Resource Benefits/Participants

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.