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December 17, 2021

Via E-Filing Only

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
400 North Street
Harrisburg, PA 17120

Re: Petition of Philadelphia Gas Works for Approval of Demand Side Management Plan for FY 2016-2020 and Philadelphia Gas Works Universal Service and Energy Conservation Plan for 2014-2016 52 Pa. Code § 62.4 – Request for Waivers – Docket No. P-2014-2459362

Dear Secretary Chiavetta:

On behalf of Philadelphia Gas Works (“PGW”), enclosed for filing please find its Demand Side Management (“DSM”) Program Annual Report Fiscal Year 2021 Results with regard to the above referenced matter. This document is being submitted consistent with the Commission’s final opinion and order entered May 6, 2021, and PGW’s Revised DSM Portfolio Implementation Plan filed June 4, 2021 at this docket. Copies to be served in accordance with the attached Certificate of Service.

Respectfully,

/s/ Craig W. Berry
Craig W. Berry, Esquire

Enclosure

cc: Hon. F. Joseph Brady w/enc.
Certificate of Service w/enc.



CERTIFICATE OF SERVICE

I hereby certify that this day I served a copy of f PGW’s Demand Side Management Program Annual Report FY 2021 upon the persons listed below in the manner indicated in accordance with the requirements of 52 Pa. Code Section 1.54.

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Demand Side Management Program Annual Report

FY 2021 Results

December 2021

Prepared by Philadelphia Gas Works (PGW) with assistance from Green Energy Economics Group, Inc. (GEEG)

TABLE OF CONTENTS

1. Portfolio Overview.....	1
2. Residential Equipment Rebate Program.....	7
3. Commercial & Multifamily Construction and Efficient Building Grants Wind Down.....	9
4. Commercial Equipment Rebates	11
5. Residential Construction Grants.....	13
6. Smart Thermostat Marketplace.....	15
7. Appendix A. Cost Recovery Reconciliation.....	17

LIST OF TABLES

Table 1. FY 2022 DSM Budget Modifications	3
Table 2. DSM Costs and Budgets by Program (Nominal).....	4
Table 3. DSM Costs and Budgets by Category (Nominal).....	4
Table 4. Portfolio-wide Incremental First Year Gas Savings (MMBtu).....	5
Table 5. Portfolio-wide Incremental Lifetime Gas Savings (MMBtu).....	5
Table 6. Non-Gas Benefits	5
Table 7. Total Annual Savings FY 2011 Through FY 2021	6
Table 8. Total Resource Cost (TRC) Test Results for FY 2020 (2020\$) Base Avoided Cost Scenario.....	6
Table 9. Residential Equipment Rebates Results for FY 2021.....	7
Table 10. TRC Test Cost-effectiveness Results for Residential Equipment Rebates for FY 2021 (2020\$).....	8
Table 11. Source of Residential Equipment Rebates Referrals in FY 2021	8
Table 12. Commercial & Multifamily Construction and Efficient Building Grants Wind Down Program Activity for FY 2021	9
Table 13. TRC Test Cost-Effectiveness Results for Commercial & Multifamily Construction and Efficient Building Grants for FY 2021 (2020\$)	10
Table 14. Commercial Equipment Rebates Results for FY 2021.....	11
Table 15. TRC Test Cost-Effectiveness Results for Commercial Equipment Rebates for FY 2021 (2020\$).....	12

Table 16. Residential Construction Grants Program Results for FY 2021..... 13

Table 17. TRC Test Cost-Effectiveness Results for Residential Construction Grants for FY
2021 (2020\$)..... 14

Table 18. Smart Thermostat Marketplace Program Results for FY 2021 15

Table 19. TRC Test Cost-Effectiveness Results for Smart Thermostat Marketplace for FY
2021 (2020\$)..... 15

Table 20. Efficiency Cost Recovery Surcharge Residential and PHA GS Customers
(September 2020 Through August 2021)..... 17

Table 21. Efficiency Cost Recovery Surcharge Commercial and PHA Customers (September
2020 Through August 2021)..... 18

Table 22. Efficiency Cost Recovery Surcharge Industrial Customers (September 2020
Through August 2021)..... 19

1. Portfolio Overview

1.1. Introduction

This report presents and discusses the results from PGW’s implementation of its Demand Side Management (“DSM”) portfolio of energy-efficiency programs in Fiscal Year 2021 (“FY 2021”).¹

PGW’s FY 2021 DSM program budget was approved by Commission Order entered on May 6, 2021 at Docket Number P-2014-2459362. The programs were implemented in accordance with the EnergySense Demand Side Management Portfolio Implementation Plan for Fiscal Years 2021-2023 (“FY 2021-2023 Implementation Plan”) originally filed on May 6, 2020 and revised on June 4, 2021 at Docket Number P-2014-2459362.

PGW committed to filing its annual report four months after the end of the program year to report on program outcomes to date. This report provides quantitative tables of portfolio operations and outcomes for FY 2021 for five DSM programs:

- Residential Equipment Rebates (“RER”);
- Commercial & Multifamily Construction Grants (“CMCG”) and Efficient Building Grants (“EBG”) Wind Down;
- Commercial Equipment Rebates (“CER”);
- Residential Construction Grants (“RCG”); and
- Smart Thermostat Marketplace (“Marketplace”)

A sixth DSM program—the Low Income Smart Thermostat (“LIST”)—was approved as part of the revised FY 2021-2023 Implementation Plan filed on June 4, 2021 and will begin operations in FY 2022.

1.2. Portfolio-Level Updates

Beginning in FY 2021, PGW began to implement a more prescriptive and accessible program approach and revised incentive structure, as described in the FY 2021-2023 Implementation Plan. Among the changes outlined in the Plan were:

- CMCG and EBG were discontinued at the end of FY 2020, with FY 2021 providing a brief wind-down period to pay out grants for projects approved in the previous phase but not completed until FY 2021.
- PGW launched new prescriptive offerings under CER for the most common cost-effective measures that had been pursued in CMCG and EBG projects in previous program years.
- PGW expanded prescriptive offerings under RER to include tankless water heaters and to differentiate between combination boilers and heat-only boilers.

¹ September 1, 2020 through August 31, 2021.

- PGW established a tiered incentive cap structure, so that commercial and multifamily projects that incorporate eligible measures from numerous RER and CER measure categories—including heating, water heating, controls and distribution, commercial cooking, and commercial building envelope—can receive higher incentive caps than projects with measures drawn from just one category. This approach incentivizes customers to pursue deep energy-savings projects and address multiple gas end uses while also providing rebate predictability.
- PGW adjusted the incentive amounts and increased the equipment efficiency requirements for existing prescriptive offerings under both RER and CER.
- PGW instituted a grandfathering policy for RER and CER, whereby customers who purchased qualifying equipment in the previous promotional period were eligible to receive rebates so long as they submitted their rebate applications before the end of calendar year 2020. Grandfathered equipment rebates were issued at the previous term's incentive levels, with applicable savings calculated using the previous term's Technical Resource Manual.
- Beginning in FY 2022, PGW will begin offering targeted low-income incentives, including offering higher rebate amounts for a limited number of low-income customers who participate in RER, as well as the direct installation of no-cost smart thermostats in eligible customers' homes through LIST.

FY 2021 marked the fourth year in which the program's management, administration, rebate processing, marketing, and technical review were administered with the assistance of one vendor (herein called the "program administrator"). The program administrator's familiarity with PGW's DSM programming and operations facilitated the implementation of those change described above.

PGW did not perform any program evaluations in FY 2021.

1.3. COVID-19

In FY 2021, PGW's DSM programs continued to be impacted by the COVID-19 pandemic. Program participation was less than PGW had projected at the beginning of the fiscal year, with some projects canceled or delayed as a result of public health restrictions in Philadelphia, business closures, and customers likely putting off contracted work due to fears of the virus or financial concerns. PGW and the program administrator continued to implement protocols developed in FY2020, with the aim of safeguarding the health and safety of program participants and partners. Such protocols included limiting participation at in-person marketing and outreach events and prioritizing virtual coordination and collaboration with customers, program partners, and trade allies. PGW also continued to implement a hybrid quality assurance strategy, which allowed for both on-site and virtual inspections. On-site verification inspections were performed when and where it was necessary to satisfactorily verify equipment installation.

PGW convened a stakeholder meeting on December 7, 2021 to allow stakeholders to discuss implementation concerns related to the COVID-19 pandemic. During this meeting, PGW proposed the following budget modifications for future DSM programming, which no stakeholder participant opposed.

TABLE 1. FY 2022 DSM BUDGET MODIFICATIONS²

Program	FY 2022			
	DSM Plan Incentives	Revised Incentives	DSM Plan Program Total	Revised Program Total
Residential Equipment Rebates (RER)	\$732,990	\$577,990	\$835,313	\$669,249
Commercial Equipment Rebates (CER)	\$302,845	\$302,845	\$396,425	\$396,425
Residential Construction Grants (RCG)	\$140,000	\$280,000	\$179,305	\$330,367
Smart Thermostat Marketplace	\$125,205	\$125,205	\$233,972	\$233,972
Low Income Smart Thermostat	\$43,510	\$58,510	\$60,000	\$75,000
Total	\$1,344,550	\$1,344,550	\$1,705,014	\$1,705,014

1.4. Summary of Results

In FY 2021, PGW spent \$912,054 on DSM programming, approximately 40 percent of the FY 2021 budget filed by PGW in its FY 2021-2023 Implementation Plan. PGW achieved estimated first year gas savings of 26.2 Billion Btu (“BBtu”) and 516 BBtu over the lifetime of the measures installed. The FY 2021 DSM activities have resulted in present value total resource net benefits of \$1,953,793 (2020\$).

Though overall program participation was lower than projected, portfolio-wide costs were comparable to those of previous fiscal years, largely due to baseline expenses for program management, administration, and infrastructure, which do not vary significantly as a function of participation. In addition, PGW incurred a small amount of administrative start-up costs in FY 2021, to prepare program operations for the changes to program design described in PGW’s FY 2021-2023 Implementation Plan.

² All figures expressed in dollars are rounded to the nearest dollar.

TABLE 2. DSM COSTS AND BUDGETS BY PROGRAM (NOMINAL)³

Program	FY 2021		
	Actual	Goal	%
Residential Equipment Rebates (RER)	\$305,361	\$659,043	46%
Commercial & Multifamily Construction Grants (CMCG) and Efficient Building Grants (EBG) Wind Down	\$16,055	\$212,667	8%
Commercial Equipment Rebates (CER)	\$124,290	\$320,727	39%
Residential Construction Grants (RCG)	\$22,541	\$181,456	12%
Smart Thermostat Marketplace	\$5,172	\$215,446	2%
Portfolio-wide Costs ⁴	\$438,634	\$715,000	61%
Utility Total	\$912,054	\$2,304,338	40%
Participant Costs	\$614,674		
Total	\$1,526,727		

TABLE 3. DSM COSTS AND BUDGETS BY CATEGORY (NOMINAL)

Category	FY 2021		
	Actual	Goal	%
Customer Incentives	\$449,097	\$1,344,550	33%
Administration ⁵	\$355,895	\$533,381	67%
Marketing	\$99,800	\$360,000	28%
Inspection	\$7,262	\$66,406	11%
Evaluation	\$0	\$0	0%
Utility Total	\$912,054	\$2,304,338	40%
Participant Costs	\$614,674		
Total	\$1,526,727		

³ All PGW Efficiency Cost Recovery Surcharge collections are shown in Appendix A.

⁴ Portfolio-wide costs only include costs for the EnergySense portfolio described herein. In the FY 2017 – FY 2020 DSM Phase II Compliance Plan, the Portfolio-wide costs budget category were partially attributed to the Home Comfort program, PGW’s LIURP. Under that plan, costs were allocated proportionally between the EnergySense portfolio and Home Comfort

⁵ Administration costs only include costs for the EnergySense portfolio described herein. In the FY 2017 – FY 2020 DSM Phase II Compliance Plan, the Portfolio-wide costs budget category were partially attributed to the Home Comfort program, PGW’s LIURP. Under that plan, costs were allocated proportionally between the EnergySense portfolio and Home Comfort

TABLE 4. PORTFOLIO-WIDE INCREMENTAL FIRST YEAR GAS SAVINGS (MMBTU)

Program	FY 2021		
	Actual	Goal	%
Residential Equipment Rebates (RER)	6,915	14,590	47%
Commercial & Multifamily Construction Grants (CMCG) and Efficient Building Grants (EBG) Wind Down	1,107	8,088	14%
Commercial Equipment Rebates (CER)	16,971	23,284	73%
Residential Construction Grants (RCG)	913	1,910	48%
Smart Thermostat Marketplace	337	10,692	3%
Portfolio Total	26,243	58,563	45%

TABLE 5. PORTFOLIO-WIDE INCREMENTAL LIFETIME GAS SAVINGS (MMBTU)

Program	FY 2021		
	Actual	Goal	%
Residential Equipment Rebates (RER)	145,888	301,550	48%
Commercial & Multifamily Construction Grants (CMCG) and Efficient Building Grants (EBG) Wind Down	23,710	168,958	14%
Commercial Equipment Rebates (CER)	324,412	420,521	77%
Residential Construction Grants (RCG)	18,266	38,200	48%
Smart Thermostat Marketplace	3,707	117,607	3%
Portfolio Total	515,983	1,046,836	49%

TABLE 6. NON-GAS BENEFITS

Category	FY 2021		
	Actual	Goal	%
First Year Energy Savings Installed (kWh)	44,038	278,386	16%
Lifetime Energy Savings Installed (kWh)	849,656	3,247,914	26%
First Year Water Savings Installed (million gallons)	0.9	9	10%
Lifetime Water Savings Installed (million gallons)	9.6		

TABLE 7. TOTAL ANNUAL SAVINGS FY 2011 THROUGH FY 2021

Cumulative EnergySense Portfolio Savings⁶	
Natural Gas (MMBtu)	573,237
Energy Savings (kWh)	4,693,351
Summer Peak Demand Savings (kW)	1,238
Water Savings (million gallons)	43.84

TABLE 8. TOTAL RESOURCE COST (TRC) TEST RESULTS FOR FY 2020 (2020\$) BASE AVOIDED COST SCENARIO

Program	FY 2021			
	PV of Benefits	PV of Costs	PV of Net Benefits	BCR
Residential Equipment Rebates (RER)	\$977,318	\$662,652	\$314,756	1.48
Commercial & Multifamily Construction Grants (CMCG) and Efficient Building Grants (EBG) Wind Down	\$158,910	\$46,899	\$112,011	3.39
Commercial Equipment Rebates (CER)	\$2,081,199	\$307,518	\$1,773,681	6.77
Residential Construction Grants (RCG)	\$185,128	\$27,847	\$157,281	6.65
Smart Thermostat Marketplace	\$31,122	\$8,956	\$22,166	3.47
All Programs	\$3,433,677	\$1,053,872	\$2,379,895	3.26
Portfolio Wide Costs	\$0	\$426,102	(\$426,102)	-
Portfolio Total	\$3,433,677	\$1,479,884	\$1,953,793	2.32

⁶ Savings include DSM portfolio savings from January 1, 2011 through August 31, 2021. These figures include savings for PGW's LIURP from January 1, 2011 through August 31, 2016, at which point LIURP was moved to PGW's USECP pursuant to PUC Order.

2. Residential Equipment Rebate Program

The Residential Equipment Rebate program offers prescriptive rebates on premium efficiency heating and hot water equipment to increase the penetration of these technologies in the homes of PGW's customers. The program has the following objectives:

- Promote the selection of premium efficiency furnaces, boilers, combination boilers, and tankless water heaters at the time of purchase of residential-sized gas heating and hot water equipment.
- Increase consumers' awareness of the breadth of energy efficiency opportunities in their homes.
- Strengthen PGW's relationship with customers as a partner in energy efficiency.
- Encourage market actors throughout the supply chain to provide and promote high efficiency options.
- Align incentives with other programs.
- Aid in market transformation towards highest-efficiency options.

TABLE 9. RESIDENTIAL EQUIPMENT REBATES RESULTS FOR FY 2021

	FY 2021		
	Actual	Goal	%
PARTICIPATION			
Completed Applications	479	1,250	47%
COSTS (Nominal)			
Non-Incentive Spending	\$18,461	\$56,043	33%
Administration	\$12,331		
Inspections	\$6,130		
Customer Incentives	\$286,900	\$603,000	48%
Total Program Spending	\$305,361	\$659,043	46%
Participant Costs	\$375,092		
Total Costs	\$680,453		
SAVINGS			
First Year MMBtus	6,915	14,590	47%
Lifetime MMBtus	145,816	301,550	48%
First Year kWh	13,300		
Lifetime kWh	266,000		
Measures			
Furnaces	294		
Boilers	87		
Combi Boilers	71		
Tankless Water Heaters	26		

TABLE 10. TRC TEST COST-EFFECTIVENESS RESULTS FOR RESIDENTIAL EQUIPMENT REBATES FOR FY 2021 (2020\$)

Metric	Result
PV of Benefits	\$922,318
PV of Costs	\$662,652
PV of Net Benefits	\$314,756
BCR	1.48

2.1. Notable Program Activities in FY 2021

In FY 2021, there were two hundred ninety-four (294) residential furnaces and one hundred fifty-eight (158) residential boilers installed, including combi boilers. PGW also incentivized the installation of twenty-six (26) residential tankless water heaters – a measure newly introduced to the program. The number of furnaces incentivized declined compared to the previous year, but the number of boilers increased markedly when accounting for both heat-only and combination models. Overall, the program continued to be cost-effective.

In FY 2021, the greatest sources of applications continued to be HVAC contractors and supply houses, as shown in Table 11. PGW continued its outreach to these trade allies through activities similar to those conducted in previous program years, and as a result two-thirds of applications were referrals from this source.

TABLE 11. SOURCE OF RESIDENTIAL EQUIPMENT REBATES REFERRALS IN FY 2021

Source	Percent
Family / Friend	3%
Contractor / Supply House	64%
Website	19%
Gas Bill	5%
Other	9%

Quality Assurance and Verifications

There were 42 rebate verifications performed in FY 2021, accounting for eight percent of all rebate projects. Of these verifications, 1 was conducted on-site, and 41 were performed virtually.

Projects were selected at random for verification, with verifications performed prior to issuing the rebate check. None of the projects selected for verification failed the process.

3. Commercial & Multifamily Construction and Efficient Building Grants Wind Down

The Commercial & Multifamily Construction and Efficient Building Grants programs promoted natural gas energy efficiency new construction and retrofit investments by PGW's multifamily residential, commercial, and industrial customers. The programs provided technical assistance and customized financial incentives for cost-effective gas-saving investments including high-efficiency heating systems, advanced system controls, and building thermal performance enhancements. The programs had the following objectives:

- Save natural gas through cost-effective energy efficiency new construction, gut rehabilitation, and retrofit projects.
- Make comprehensive energy-efficiency retrofits affordable by offering customized financial incentives.
- Promote a better understanding of energy efficiency options available to PGW's nonresidential customers.

TABLE 12. COMMERCIAL & MULTIFAMILY CONSTRUCTION AND EFFICIENT BUILDING GRANTS WIND DOWN PROGRAM ACTIVITY FOR FY 2021

	FY 2021		
	Actual	Goal	%
PARTICIPATION			
Applications	5		
Customers with Installations	1		
COSTS (Nominal)			
Non-Incentive Spending	\$182	\$10,000	2%
Administration	\$37		
Inspections	\$145		
Customer Incentives	\$15,873	\$202,667	8%
Total Program Spending	\$16,055	\$212,667	8%
Participant Costs	\$33,189		
Total Costs	\$49,062		
SAVINGS			
First Year MMBtus	1,107	8,088	14%
Lifetime MMBtus	23,710	168,958	14%
First Year kWh	0		
Lifetime kWh	0		

TABLE 13. TRC TEST COST-EFFECTIVENESS RESULTS FOR COMMERCIAL & MULTIFAMILY CONSTRUCTION AND EFFICIENT BUILDING GRANTS FOR FY 2021 (2020\$)

Metric	Result
PV of Benefits	\$158,910
PV of Costs	\$46,899
PV of Net Benefits	\$112,011
BCR	3.39

3.1. Notable Program Activities in FY 2021

PGW incentivized one (1) project under the wind-down terms of the Commercial & Multifamily Construction and Efficient Building Grants programs in FY 2021. Although PGW signed grant agreements for five (5) projects, only one (1) of the projects was executed within its original scope in order to receive the agreed-upon grant amount. Four (4) of the projects were postponed, and were therefore unable to be paid out before the agreement lapsed. Customers for whom agreements lapsed indicated their intention to seek EnergySense incentives in the future by applying for applicable prescriptive rebates as part of the RER and CER programs.

Quality Assurance and Verifications

There was a single virtual inspection completed to verify the installation of all energy efficiency measures were included in the grant agreement for the wind-down project that was completed in FY 2021.

4. Commercial Equipment Rebates

The Commercial Equipment Rebates program issues prescriptive rebates on premium efficiency gas appliances, heating and hot water equipment, and other building improvements, to increase the penetration of these measures in the facilities of PGW's commercial, industrial, and multifamily customers. The program has the following objectives:

- Promote the selection of premium efficiency models at the time of purchase of commercial- and industrial-sized gas heating and hot water equipment; as well as other gas appliances, building control and distribution upgrades, and building envelope improvements.
- Strengthen PGW's relationship with customers as a partner in energy efficiency.
- Encourage market actors throughout the supply chain to provide and promote high efficiency options.
- Aid in market transformation towards highest-efficiency options.

Eligible customers use certified contractors to install the premium efficiency equipment and other building improvements and receive cash rebates to offset most of the incremental cost of the higher efficiency equipment and building improvements.

TABLE 14. COMMERCIAL EQUIPMENT REBATES RESULTS FOR FY 2021

	FY 2021		
	Actual	Goal	%
PARTICIPATION			
Completed Applications	40	220	18%
COSTS (Nominal)			
Non-Incentive Spending	\$5,326	\$36,858	14%
Administration	\$3,686		
Inspections	\$988		
Customer Incentives	\$118,964	\$283,869	42%
Total Program Spending	\$124,290	\$320,727	39%
Participant Costs	\$195,482		
Total Costs	\$319,772		
SAVINGS			
First Year MMBtus	16,971	23,284	73%
Lifetime MMBtus	346,852	420,521	82%
First Year Water (Gallons)	920,902		
Lifetime Water (Gallons)	9,645,232		
Measures			
Commercial Boilers	12		
Commercial Cooking Equipment	4		
Commercial Water Heaters	18		
Steam Traps	416		

Low-Flow Faucet Aerators	602		
Low-Flow Showerheads	204		

TABLE 15. TRC TEST COST-EFFECTIVENESS RESULTS FOR COMMERCIAL EQUIPMENT REBATES FOR FY 2021 (2020\$)

Metric	Result
PV of Benefits	\$2,081,199
PV of Costs	\$307,518
PV of Net Benefits	\$1,773,681
BCR	6.77

4.1. Notable Program Activities in FY 2021

The Commercial Equipment Rebates program successfully issued rebates to 40 customers for 1,256 pieces of equipment in FY 2021. Spending for customer incentives totaled \$118,964, but despite spending only 42% of the program incentive budget and issuing only 18% of projected rebates, the program achieved 83% of its lifetime savings goal due several high-capacity commercial boilers and water heaters being incentivized, as well as several rebate applications encompassing a large number of heating and hot water distribution upgrades (e.g. steam traps and low-flow faucet aerators showerheads). Overall, CER continues to be a highly cost-effective program for PGW ratepayers.

The program experienced a slight reduction in total participation compared to FY 2020, but this was a result of a significant decline in rebate applications for commercial cooking equipment; all other rebate categories remained steady or saw year-over-year increases. The restaurant industry in Philadelphia was heavily impacted by COVID-19 and related public health restrictions, which may have contributed to the observed decline in cooking equipment rebate applications.

Quality Assurance and Verifications

There were 14 rebate verifications performed in FY 2021, accounting for 35% of rebate projects. Eleven (11) of the verifications were completed virtually and three (3) were completed in-person.

Projects were selected at random for verification, with verifications performed prior to issuing the rebate check. None of the projects selected for verification failed the process.

5. Residential Construction Grants

The Residential Construction Grants program promotes natural gas energy efficiency in the new construction and gut rehab markets for single-family residential projects. The program provides financial incentives for projects that exceed energy code design requirements. Program participants demonstrate the savings by completing an energy model and also submitting a Home Energy Rating System (HERS) report. The program has the following objectives:

- Save natural gas through cost-effective energy efficiency new construction and gut rehabilitation projects.
- Promote a better understanding of energy efficiency options available in the new construction and gut rehabilitation markets.

TABLE 16. RESIDENTIAL CONSTRUCTION GRANTS PROGRAM RESULTS FOR FY 2021

	FY 2021		
	Actual	Goal	%
PARTICIPATION			
Completed Projects	16	100	16%
COSTS (Nominal)			
Non-Incentive Spending	\$141	\$41,456	1%
Administration	\$141		
Inspections	\$0		
Customer Incentives	\$22,400	\$140,000	16%
Total Program Spending	\$22,541	\$181,456	12%
Participant Costs	\$6,999		
Total Costs	\$29,540		
SAVINGS			
First Year MMBtus	913	1,910	48%
Lifetime MMBtus	18,266	38,200	48%
First Year kWh	27,282		
Lifetime kWh	545,640		
First Year Peak Demand kW	24		
First Year Water (Gallons)	0		
Lifetime Water (Gallons)	0		

TABLE 17. TRC TEST COST-EFFECTIVENESS RESULTS FOR RESIDENTIAL CONSTRUCTION GRANTS FOR FY 2021 (2020\$)

Metric	Result
PV of Benefits	\$185,128
PV of Costs	\$27,847
PV of Net Benefits	\$157,281
BCR	6.65

5.1. Notable Program Activities in FY 2021

The Residential Construction Grants program issued \$22,400 in grants for 16 projects during FY 2021. The time required to develop and roll out technical and administrative processes for this program—those required to enable customer intake and project analysis—delayed issuance of the first Residential Construction Grant until late in the fiscal year. However, based on projections developed by the program administrator for new residential construction in the years ahead, a healthy pipeline is expected for new construction projects that will qualify for RCG incentives in FY 2022 and FY 2023 as the economy is expected to continue to emerge from the COVID-19 pandemic.

Quality Assurance and Verifications

A HERS rating completed by a certified third-party rater was submitted and reviewed for each of the 16 projects incentivized in FY 2021, and PGW performed its own HERS rating on one of the projects, which verified the fidelity of the third-party rating.

6. Smart Thermostat Marketplace

The Smart Thermostat Marketplace program provides instant rebates on ENERGY STAR certified smart thermostats to eligible PGW customers. The program promotes natural gas energy efficiency in the retrofit market by offering rebate-discounted thermostats to PGW firm-rate residential and commercial customers seeking to retrofit an existing heating system with a smart thermostat. Thermostats must be purchased from the PGW Marketplace. The program has the following objectives:

- Provide PGW customers access to a low-cost efficiency measure that can be installed in most properties.
- Promote a better understanding of energy efficiency options available in the retrofit market.

TABLE 18. SMART THERMOSTAT MARKETPLACE PROGRAM RESULTS FOR FY 2021

	FY 2021		
	Actual	Goal	%
PARTICIPATION			
Completed Projects	72	2,072	3%
COSTS (Nominal)			
Non-Incentive Spending	\$212	\$100,431	0%
Administration	\$212		
Inspections	\$0		
Customer Incentives	\$4,960	\$115,015	4%
Total Program Spending	\$5,172	\$215,446	2%
Participant Costs	\$4,213		
Total Costs	\$9,385		
SAVINGS			
First Year MMBtus	337	10,692	3%
Lifetime MMBtus	3,707	117,607	3%
First Year kWh	3,456		
Lifetime kWh	38,016		

TABLE 19. TRC TEST COST-EFFECTIVENESS RESULTS FOR SMART THERMOSTAT MARKETPLACE FOR FY 2021 (2020\$)

Metric	Result
PV of Benefits	\$31,122
PV of Costs	\$8,956
PV of Net Benefits	\$22,166
BCR	3.47

6.1. Notable Program Activities in FY 2021

The Smart Thermostat Marketplace program issued \$4,960 in instant rebates for 72 thermostats purchased on PGW's Marketplace platform during FY 2021. The number of smart thermostats sold on the Marketplace platform was lower than projected, in part due to delays in PGW's launch of the Smart Thermostat Marketplace online portal.

7. Appendix A. Cost Recovery Reconciliation

TABLE 20. Efficiency Cost Recovery Surcharge Residential and PHA GS Customers (September 2020 Through August 2021)

Residential & PHA GS

		Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Estimated	Total
RESIDENTIAL & PHA GS		Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	FY2021
FY 2020 Over-Collection	\$ 335,810													
Volume Billed		729,359	917,832	2,250,407	4,629,612	6,482,304	7,370,915	5,013,348	2,691,864	1,439,124	855,305	658,477	603,462	33,642,009
ECR Surcharge		\$ 0.0257	\$ 0.0299	\$ 0.0299	\$ 0.0257	\$ 0.0215	\$ 0.0215	\$ 0.0125	\$ 0.0035	\$ 0.0035	\$ 0.0115	\$ 0.0194	\$ 0.0194	
Revenue Billed		\$ 18,708	\$ 27,443	\$ 67,287	\$ 118,981	\$ 139,370	\$ 158,475	\$ 62,667	\$ 9,422	\$ 5,037	\$ 9,793	\$ 12,774	\$ 11,707	\$ 641,664
RHER	Expense	\$ 638	\$ 58,390	\$ (11,253)	\$ 29,912	\$ 11,518	\$ 105,249	\$ 55,905	\$ 34,856	\$ 7,361	\$ 67,152	\$ 24,410	\$ 50,814	\$ 434,953
RHER	Labor	\$ 3,131	\$ 3,389	\$ 890	\$ 2,556	\$ 3,128	\$ 10,345	\$ 2,669	\$ 4,510	\$ 5,131	\$ 3,599	\$ 4,934	\$ 3,476	\$ 47,757
HECI	Expense	\$ 183	\$ 3,945	\$ (4,128)	\$ 4,375	\$ 2,672	\$ (7,047)	\$ 4,626	\$ 3,612	\$ (8,237)	\$ 3,411	\$ 1,043	\$ 35,744	\$ 40,197
HECI	Labor	\$ 895	\$ 969	\$ (1,865)	\$ 731	\$ 895	\$ (1,626)	\$ 784	\$ 1,326	\$ (2,110)	\$ 529	\$ 408	\$ 3,476	\$ 4,414
CIRI	Expense	\$ 22	\$ 452	\$ (474)	\$ 521	\$ 318	\$ (839)	\$ 551	\$ 451	\$ (1,002)	\$ 852	\$ 744	\$ (1,596)	\$ -
CIRI	Labor	\$ 107	\$ 115	\$ (222)	\$ 87	\$ 106	\$ (194)	\$ 93	\$ 166	\$ (259)	\$ 132	\$ 291	\$ (423)	\$ -
CIER	Expense	\$ 41	\$ 1,997	\$ (2,039)	\$ 4,015	\$ 718	\$ (1,581)	\$ 143	\$ 875	\$ (1,214)	\$ 532	\$ 130	\$ (697)	\$ 2,921
CIER	Labor	\$ 203	\$ 220	\$ (423)	\$ 166	\$ 203	\$ 11	\$ 24	\$ 41	\$ (84)	\$ 33	\$ 40	\$ (113)	\$ 321
TSTAT	Expense	\$ 209	\$ 4,348	\$ (4,557)	\$ 5,005	\$ 3,057	\$ (8,062)	\$ 2,646	\$ 2,066	\$ (4,712)	\$ 1,951	\$ 3,339	\$ 115	\$ 5,405
TSTAT	Labor	\$ 1,025	\$ 1,109	\$ (2,134)	\$ 837	\$ 1,024	\$ (1,860)	\$ 449	\$ 758	\$ (1,207)	\$ 303	\$ 96	\$ 195	\$ 593
Total		\$ 6,454	\$ 74,935	\$ (26,204)	\$ 48,205	\$ 23,640	\$ 94,396	\$ 67,890	\$ 48,660	\$ (6,333)	\$ 78,493	\$ 35,436	\$ 90,990	\$ 536,562
Monthly Over/(Under)		\$ 12,254	\$ (47,492)	\$ 93,492	\$ 70,776	\$ 115,730	\$ 64,079	\$ (5,223)	\$ (39,238)	\$ 11,370	\$ (68,700)	\$ (22,661)	\$ (79,283)	
Cumulative Over/(Under)		\$ 348,064	\$ 300,572	\$ 394,063	\$ 464,839	\$ 580,569	\$ 644,648	\$ 639,424	\$ 600,186	\$ 611,556	\$ 542,856	\$ 520,195	\$ 440,912	

TABLE 2122. Efficiency Cost Recovery Surcharge Commercial and PHA Customers (September 2020 Through August 2021)

Commercial & PHA

		Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Estimated	Total
COMMERCIAL & PHA		Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	FY2021
FY 2020 Over-Collection	\$ 281,639													
Volume Billed		365,158	437,492	781,477	1,403,840	1,690,877	1,939,082	1,427,343	878,567	488,379	412,658	386,063	381,113	10,592,048
ECR Surcharge		\$ (0.0206)	\$ (0.0248)	\$ (0.0248)	\$ 0.0015	\$ 0.0277	\$ 0.0277	\$ 0.0257	\$ 0.0236	\$ 0.0236	\$ 0.0179	\$ 0.0122	\$ 0.0122	
Revenue Billed		\$ (7,522)	\$ (10,850)	\$ (19,381)	\$ 2,036	\$ 46,837	\$ 53,713	\$ 36,611	\$ 20,734	\$ 11,526	\$ 7,387	\$ 4,710	\$ 4,650	\$ 150,450
RHER	Expense	\$ 24	\$ 2,205	\$ 82,421	\$ 1,129	\$ 435	\$ (7,642)	\$ 3,725	\$ 2,322	\$ 2,913	\$ 4,474	\$ 1,626	\$ 3,673	\$ 97,306
RHER	Labor	\$ 118	\$ 128	\$ 12,883	\$ 97	\$ 118	\$ (3,873)	\$ 178	\$ 300	\$ 746	\$ 240	\$ 329	\$ (580)	\$ 10,684
CIRI	Expense	\$ 253	\$ 5,272	\$ (5,525)	\$ 6,069	\$ 3,707	\$ (9,776)	\$ 6,417	\$ -	\$ (6,417)	\$ -	\$ -	\$ 28,571	\$ 28,571
CIRI	Labor	\$ 1,242	\$ 1,345	\$ (2,587)	\$ 1,014	\$ 1,241	\$ (2,256)	\$ 1,088	\$ -	\$ (1,088)	\$ -	\$ -	\$ 3,137	\$ 3,137
CIER	Expense	\$ 277	\$ 13,357	\$ 6,006	\$ 26,853	\$ 4,804	\$ 45,471	\$ 7,947	\$ 48,523	\$ 18,117	\$ 29,516	\$ 7,195	\$ 7,282	\$ 215,348
CIER	Labor	\$ 1,359	\$ 1,472	\$ 215	\$ 1,110	\$ 1,358	\$ 6,150	\$ 1,348	\$ 2,278	\$ 5,648	\$ 1,817	\$ 2,227	\$ (1,336)	\$ 23,645
TSTAT	Expense	\$ 8	\$ 164	\$ (172)	\$ 189	\$ 115	\$ (304)	\$ 100	\$ 78	\$ (178)	\$ 74	\$ 126	\$ (200)	\$ -
TSTAT	Labor	\$ 39	\$ 42	\$ (81)	\$ 32	\$ 39	\$ (70)	\$ 17	\$ 29	\$ (46)	\$ 11	\$ 4	\$ (15)	\$ -
Total		\$ 3,321	\$ 23,984	\$ 93,161	\$ 36,493	\$ 11,818	\$ 27,700	\$ 20,820	\$ 53,530	\$ 19,695	\$ 36,132	\$ 11,507	\$ 40,532	\$ 378,691
Monthly Over/(Under)		\$ (10,843)	\$ (34,834)	\$ (112,542)	\$ (34,457)	\$ 35,020	\$ 26,013	\$ 15,791	\$ (32,796)	\$ (8,169)	\$ (28,745)	\$ (6,797)	\$ (35,882)	
Cumulative Over/(Under)		\$ 270,796	\$ 235,962	\$ 123,420	\$ 88,963	\$ 123,983	\$ 149,996	\$ 165,787	\$ 132,992	\$ 124,822	\$ 96,077	\$ 89,281	\$ 53,399	

TABLE 232. Efficiency Cost Recovery Surcharge Industrial Customers (September 2020 Through August 2021)

Industrial

INDUSTRIAL		Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Estimated	Total
FY 2020 Over-Collection	\$ 35,745	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	FY2021
Volume Billed		31,008	38,199	55,097	107,575	125,361	150,666	112,279	60,471	40,859	32,514	26,700	32,180	812,908
ECR Surcharge		\$ (0.0204)	\$ (0.0337)	\$ (0.0337)	\$ (0.0316)	\$ (0.0294)	\$ (0.0294)	\$ (0.0193)	\$ (0.0091)	\$ (0.0091)	\$ (0.0105)	\$ (0.0119)	\$ (0.0119)	
Revenue Billed		\$ (631)	\$ (1,287)	\$ (1,857)	\$ (3,394)	\$ (3,686)	\$ (4,430)	\$ (2,161)	\$ (550)	\$ (372)	\$ (341)	\$ (318)	\$ (383)	(19,410)
RHER	Expense	\$ 1	\$ 63	\$ (64)	\$ 32	\$ 12	\$ (45)	\$ 48	\$ 30	\$ (78)	\$ 57	\$ 21	\$ (78)	\$ -
RHER	Labor	\$ 3	\$ 4	\$ (7)	\$ 3	\$ 3	\$ (6)	\$ 2	\$ 4	\$ (6)	\$ 3	\$ 4	\$ (7)	
CIER	Expense	\$ 4	\$ 198	\$ (202)	\$ 397	\$ 71	\$ (468)	\$ 85	\$ 520	\$ (605)	\$ 316	\$ 77	\$ (393)	\$ -
CIER	Labor	\$ 20	\$ 22	\$ (42)	\$ 16	\$ 20	\$ (37)	\$ 14	\$ 24	\$ (39)	\$ 19	\$ 24	\$ (43)	\$ -
Total		\$ 28	\$ 286	\$ (314)	\$ 449	\$ 107	\$ (556)	\$ 150	\$ 578	\$ (728)	\$ 396	\$ 126	\$ (522)	\$ -
Monthly Over/(Under)		\$ (659)	\$ (1,573)	\$ (1,542)	\$ (3,843)	\$ (3,793)	\$ (3,874)	\$ (2,311)	\$ (1,128)	\$ 356	\$ (738)	\$ (444)	\$ 139	
Cumulative Over/(Under)		\$ 35,086	\$ 33,513	\$ 31,970	\$ 28,128	\$ 24,335	\$ 20,461	\$ 18,150	\$ 17,022	\$ 17,378	\$ 16,640	\$ 16,196	\$ 16,336	