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December 29, 2022

**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**

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Dear Secretary Chiavetta:

On behalf of Philadelphia Gas Works (“PGW”), enclosed for filing please find a revised copy of PGW’s Demand Side Management (“DSM”) Program Annual Report Fiscal Year 2022 Results with regard to the above referenced matter. PGW identified that the DSM Report filed on December 14, 2022 contained an outdated number for the present value total resource net benefits of PGW’s FY 2022 DSM Activities stated in the text on page 3 of the Report. This filing supersedes and replaces the December 14, 2022 filing. 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 2022 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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/s/ Craig W. Berry  
Craig W. Berry, Esq.



# Demand Side Management Program Annual Report

FY 2022 Results

*December 2022*

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

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## 1. Portfolio Overview

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### 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 2022 (September 1, 2021 – August 31, 2022)(“FY 2022”).<sup>1</sup>

PGW’s FY 2022 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 2022 for five DSM programs:

- Residential Equipment Rebates (“RER”);
- Commercial Equipment Rebates (“CER”);
- Residential Construction Grants (“RCG”);
- Smart Thermostat Marketplace (“Marketplace”); and
- Low Income Smart Thermostat (“LIST”)

### 1.2. Portfolio-Level Updates

In FY 2022, PGW continued to implement a more prescriptive and accessible program approach with a revised incentive structure, as described in the FY 2021-2023 Revised Implementation Plan. Among the changes outlined in the Plan were:

- In FY 2022, PGW began offering direct installation of smart thermostats to self-identified low-income customers. This was done via the Low Income Smart Thermostat (“LIST”) program, which provides and installs the measures in the homes of eligible customers at no cost to the customers. Customers with natural gas heating equipment and household income at or below 150% of the Federal Poverty Limit are eligible to participate in LIST.
- PGW, beginning in FY 2022, established an incentive tier for low-income customers participating in the Residential Equipment Rebates (“RER”) program. Billed as “Affordable EnergySense,” this new incentive tier provides increased rebates to low-income customers who, within the last year, participated in the CRP program, received a UESF grant, or received a LIHEAP grant and assigned it to PGW. Incentives under this tier are also offered to nonprofits and affordable housing agencies installing units in the homes of low-income customers.

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<sup>1</sup> September 1, 2021 through August 31, 2022.

PGW resumed some in-person marketing events as it was safe to do so, coming out of the pandemic. Most notably, PGW partnered with a small, community-based civic engagement firm to assist in outreach. Through this collaboration, EnergySense advertisement/information were translated into seven non-English languages and distributed to 102 locations across Philadelphia. PGW plans to continue this marketing approach in FY23.

FY 2022 marked the fifth 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 a smooth implementation of those changes described above.

PGW did not perform any program evaluations in FY 2022. There were no major programmatic changes since previous evaluations, therefore it was determined that evaluations in FY22 would not yield any new or significant information given the costs of the evaluation. In FY 2023, PGW will be partnering with an external vendor to perform evaluations for CER, Marketplace, and LIST programs.

In 2023 PGW will increase rebate amounts to account for rising inflation, and adapt to changing market conditions.

### **1.3. COVID-19**

In FY 2022, 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 continued fears of various waves and variants of the virus, financial constraints, as well as the supply chain and labor shortage issues. PGW 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 MODIFICATIONS<sup>2</sup>**

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
<b>Total</b>	<b>\$1,344,550</b>	<b>\$1,344,550</b>	<b>\$1,705,014</b>	<b>\$1,705,014</b>

#### 1.4. Summary of Results

In FY 2022, PGW spent \$1,246,819 on DSM programming, approximately 52 percent of the FY 2022 budget filed by PGW in its FY 2021-2023 Implementation Plan. PGW achieved estimated first year gas savings of 23.8 Billion Btu (“BBtu”) and 485 BBtu over the lifetime of the measures installed. The FY 2022 DSM activities have resulted in present value total resource net benefits of \$1,897,203(2020\$).

**TABLE 2. DSM COSTS AND BUDGETS BY PROGRAM (NOMINAL)<sup>3</sup>**

Program	FY 2022		
	Actual	Goal	%
Residential Equipment Rebates (RER)	\$403,607	\$669,249	60%
Commercial Equipment Rebates (CER)	\$154,004	\$396,425	39%
Residential Construction Grants (RCG)	\$139,463	\$330,367	42%
Smart Thermostat Marketplace	\$24,285	\$233,972	10%
Low Income Smart Thermostat (LIST)	\$56,314	\$75,000	75%
Portfolio-wide Costs <sup>4</sup>	\$469,146	\$710,130	66%
<b>Utility Total</b>	<b>\$1,246,819</b>	<b>\$2,415,144</b>	<b>52%</b>
Participant Costs	\$723,375		
<b>Total</b>	<b>\$1,970,194</b>		

<sup>2</sup> All figures expressed in dollars are rounded to the nearest dollar.

<sup>3</sup> All PGW Efficiency Cost Recovery Surcharge collections are shown in Appendix A.

<sup>4</sup> 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.

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

Category	FY 2022		
	Actual	Goal	%
Customer Incentives	\$750,419	\$1,344,550	56%
Administration <sup>5</sup>	\$390,600	\$538,372	73%
Marketing	\$127,925	\$360,000	36%
Inspection	\$12,987	\$67,222	19%
Evaluation	\$0	\$105,000	0%
<b>Utility Total</b>	<b>\$1,246,819</b>	<b>\$2,415,144</b>	<b>52%</b>
Participant Costs	\$723,375		
<b>Total</b>	<b>\$1,970,194</b>		

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

Program	FY 2022		
	Actual	Goal	%
Residential Equipment Rebates (RER)	8,389	13,099	64%
Commercial Equipment Rebates (CER)	9,821	24,015	41%
Residential Construction Grants (RCG)	2,653	3,820	69%
Smart Thermostat Marketplace	1,583	11,699	14%
Low Income Smart Thermostat (LIST)	1,450	1,986	73%
<b>Portfolio Total</b>	<b>23,895</b>	<b>54,619</b>	<b>44%</b>

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

Program	FY 2022		
	Actual	Goal	%
Residential Equipment Rebates (RER)	185,494	271,388	68%
Commercial Equipment Rebates (CER)	212,766	438,311	49%
Residential Construction Grants (RCG)	53,059	76,400	69%
Smart Thermostat Marketplace	17,241	128,685	13%
Low Income Smart Thermostat (LIST)	16,162	21,848	74%
<b>Portfolio Total</b>	<b>484,722</b>	<b>936,632</b>	<b>52%</b>

<sup>5</sup> 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 6. NON-GAS BENEFITS**

Category	FY 2022		
	Actual	Goal	%
First Year Energy Savings Installed (kWh)	133,740	343,885	39%
Lifetime Energy Savings Installed (kWh)	2,357,929	3,898,254	60%
First Year Water Savings Installed (million gallons)	4.8	9	53%
Lifetime Water Savings Installed (million gallons)	47.8		

**TABLE 7. TOTAL ANNUAL SAVINGS FY 2011 THROUGH FY 2022**

Cumulative EnergySense Portfolio Savings <sup>6</sup>	
Natural Gas (MMBtu)	597,132
Energy Savings (kWh)	4,827,091
Summer Peak Demand Savings (kW)	1,296
Water Savings (million gallons)	48.62

**TABLE 8. TOTAL RESOURCE COST (TRC) TEST RESULTS FOR FY 2022 (2020\$) BASE AVOIDED COST SCENARIO**

Program	FY 2022			
	PV of Benefits	PV of Costs	PV of Net Benefits	BCR
Residential Equipment Rebates (RER)	\$1,193,687	\$691,373	\$502,313	1.73
Commercial Equipment Rebates (CER)	\$1,779,580	\$421,849	\$1,357,731	4.22
Residential Construction Grants (RCG)	\$453,031	\$167,357	\$285,674	2.71
Smart Thermostat Marketplace	\$142,788	\$41,195	\$101,593	3.47
Low Income Smart Thermostat (LIST)	\$135,848	\$51,078	\$84,770	2.66
<b>All Programs</b>	<b>\$3,704,934</b>	<b>\$1,372,852</b>	<b>\$2,332,082</b>	<b>2.69</b>
Portfolio Wide Costs	\$0	\$434,878	(\$434,878)	-
<b>Portfolio Total</b>	<b>\$3,704,934</b>	<b>\$1,807,730</b>	<b>\$1,897,203</b>	<b>2.05</b>

<sup>6</sup> Savings include DSM portfolio savings from January 1, 2011 through August 31, 2022. 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

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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 2022**

	FY 2022		
	Actual	Goal	%
<b>PARTICIPATION</b>			
Completed Applications	612	1,095	56%
<b>COSTS (Nominal)</b>			
Non-Incentive Spending	\$20,957	\$91,259	23%
Administration	\$10,532		
Inspections	\$10,426		
Customer Incentives	\$382,650	\$577,990	66%
<b>Total Program Spending</b>	<b>\$403,607</b>	<b>\$669,249</b>	<b>60%</b>
Participant Costs	\$352,502		
<b>Total Costs</b>	<b>\$756,109</b>		
<b>SAVINGS</b>			
First Year MMBtus	8,388	13,099	64%
Lifetime MMBtus	185,495	271,388	68%
<b>Measures</b>			
Furnaces	356		
Boilers	183		
Combi Boilers	66		
Tankless Water Heaters	7		
<b>Income</b>			
Low Income Rebates <sup>7</sup>	97		
Non-Low Income Rebates	515		

**TABLE 10. TRC TEST COST-EFFECTIVENESS RESULTS FOR RESIDENTIAL EQUIPMENT REBATES FOR FY 2022 (2020\$)**

Metric	Result
PV of Benefits	\$1,193,687
PV of Costs	\$691,373
PV of Net Benefits	\$502,313
BCR	1.73

## 2.1. Notable Program Activities in FY 2022

In FY 2022, there were three hundred fifty-six (356) residential furnaces and two hundred forty-nine (249) residential boilers installed, including combi boilers. PGW also incentivized

<sup>7</sup> Of 97 Affordable EnergySense rebates, 96 were for residential furnaces and 1 was for a combi boiler.

the installation of seven (7) residential tankless water heaters. The number of furnaces and boilers incentivized increased compared to the previous year, but the number of tankless water heaters decreased. PGW also issued 97 rebates to low-income customers at the Affordable EnergySense rebate rates. Customers are eligible for larger rebate amounts through Affordable EnergySense rebates if, within the last year, they have been enrolled in CRP, have received a UESF grant, or have received LIHEAP and assigned it to PGW. There were ninety-five (95) residential furnaces incentivized at the Affordable EnergySense rebate rate for Michaels Group’s Wister Preservation apartment building. Overall, the program continued to be cost-effective.

In FY 2022, 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 nearly three-quarters of applications were referrals from this source.

**TABLE 11. SOURCE OF RESIDENTIAL EQUIPMENT REBATES REFERRALS IN FY 2022**

Source	Percent
Family / Friend	2%
Contractor / Supply House	72%
Website	16%
Gas Bill	6%
Other	6%

**Quality Assurance and Verifications**

There were 66 rebate verifications performed in FY 2022, accounting for eight percent of all rebate projects. Of these verifications, 5 were conducted on-site, and 61 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 Equipment Rebates

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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 12. COMMERCIAL EQUIPMENT REBATES RESULTS FOR FY 2022**

	FY 2022		
	Actual	Goal	%
<b>PARTICIPATION</b>			
Completed Applications	45	220	20%
<b>COSTS (Nominal)</b>			
Non-Incentive Spending	\$3,861	\$93,580	4%
Administration	\$1,753		
Inspections	\$2,108		
Customer Incentives	\$150,142	\$302,845	50%
<b>Total Program Spending</b>	<b>\$154,004</b>	<b>\$396,425</b>	<b>39%</b>
Participant Costs	\$305,746		
<b>Total Costs</b>	<b>\$459,750</b>		
<b>SAVINGS</b>			
First Year MMBtus	9,821	24,015	41%
Lifetime MMBtus	212,766	438,311	49%
First Year Water (Gallons)	4,782,255		
Lifetime Water (Gallons)	47,789,277		
<b>Measures</b>			
Commercial Boilers	10		
Commercial Cooking Equipment	2		
Commercial Water Heaters	5		
Roof Insulation	4		
Low-Flow Faucet Aerators	2,292		
Low-Flow Showerheads	1,479		
<b>Participation by Classification</b>			
Small Business	7		
Non-Small Business	38		

**TABLE 13. TRC TEST COST-EFFECTIVENESS RESULTS FOR COMMERCIAL EQUIPMENT REBATES FOR FY 2022 (2020\$)**

Metric	Result
PV of Benefits	\$1,779,580
PV of Costs	\$421,849
PV of Net Benefits	\$1,357,731
BCR	4.22



**TABLE 14. CUSTOMER INCENTIVES AS PERCENTAGE OF TOTAL COSTS**

<b>Metric</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY '21-'22</b>
Customer Incentives	\$ 118,964	\$ 150,142	\$ 269,106
PV of Total Costs	\$ 307,518	\$ 421,849	\$ 729,367
Customer Incentives % of Total Costs	38.7%	35.6%	36.9%

### **3.1. Notable Program Activities in FY 2022**

The Commercial Equipment Rebates program successfully issued rebates to 45 customers for 3,792 pieces of equipment in FY 2022. Spending for customer incentives totaled \$150,142, which accounted for 50% of the program incentive budget. The program also issued 20% of its projected rebates and achieved 49% of its lifetime savings goal.

Seven rebates were issued to small businesses, which are defined as a person, sole proprietorship, partnership, corporation, association or other business whose annual gas consumption does not exceed 300 Mcf. These included rebates for five commercial water heaters and two commercial boilers, totaling \$17,896. Overall, CER continues to be a highly cost-effective program for PGW ratepayers.

Pursuant to the most recent settlement agreement, incentive spending for CER is required to be below 55% of the TRC costs for the DSM continuation period. For FY 2022, incentive spending represented 46.4% of TRC present value costs. In FY 2021, customer incentives were 38.7% of TRC present value costs.

#### **Quality Assurance and Verifications**

There were 19 rebate verifications performed in FY 2022, accounting for 42% of rebate projects. Two (2) of the verifications were completed virtually and seventeen (17) 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.

## 4. 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 15. RESIDENTIAL CONSTRUCTION GRANTS PROGRAM RESULTS FOR FY 2022**

	FY 2022		
	Actual	Goal	%
<b>PARTICIPATION</b>			
Completed Projects	99	200	50%
<b>COSTS (Nominal)</b>			
Non-Incentive Spending	\$862	\$50,367	2%
Administration	\$862		
Inspections	\$0		
Customer Incentives	\$138,600	\$280,000	50%
<b>Total Program Spending</b>	<b>\$139,462</b>	<b>\$330,367</b>	<b>42%</b>
Participant Costs	\$45,048		
<b>Total Costs</b>	<b>\$184,511</b>		
<b>SAVINGS</b>			
First Year MMBtus	2,653	3,820	69%
Lifetime MMBtus	53,059	76,400	69%
First Year kWh	98,380		
Lifetime kWh	1,967,600		
First Year Peak Demand kW	58		

**TABLE 16. TRC TEST COST-EFFECTIVENESS RESULTS FOR RESIDENTIAL CONSTRUCTION GRANTS FOR FY 2022 (2020\$)**

<b>Metric</b>	<b>Result</b>
PV of Benefits	\$453,031
PV of Costs	\$167,357
PV of Net Benefits	\$285,674
BCR	2.71

#### **4.1. Notable Program Activities in FY 2022**

The Residential Construction Grants program issued \$138,600 in grants for 99 projects during FY 2022. The projects incentivized were a direct reflection of the robust pipeline built over the course of FY 2021, which is expected to expand in FY 2023 as the overall economy continues 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 99 projects incentivized in FY 2022, and PGW performed its own HERS rating on two of the projects, which verified the fidelity of the third-party rating.

## 5. 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 17. SMART THERMOSTAT MARKETPLACE PROGRAM RESULTS FOR FY 2022**

	FY 2022		
	Actual	Goal	%
<b>PARTICIPATION</b>			
Completed Projects	333	2,277	15%
<b>COSTS (Nominal)</b>			
Non-Incentive Spending	\$1,456	\$108,767	0%
Administration	\$1,003		
Inspections	\$452		
Customer Incentives	\$22,830	\$125,205	18%
<b>Total Program Spending</b>	<b>\$24,286</b>	<b>\$233,973</b>	<b>10%</b>
Participant Costs	\$20,064		
<b>Total Costs</b>	<b>\$44,349</b>		
<b>SAVINGS</b>			
First Year MMBtus	1,559	11,699	13%
Lifetime MMBtus	17,144	128,685	13%
First Year kWh	15,984		
Lifetime kWh	175,824		

**TABLE 18. TRC TEST COST-EFFECTIVENESS RESULTS FOR SMART THERMOSTAT MARKETPLACE FOR FY 2022 (2020\$)**

Metric	Result
PV of Benefits	\$142,788
PV of Costs	\$41,195
PV of Net Benefits	\$101,593
BCR	3.47

## **5.1. Notable Program Activities in FY 2022**

The Smart Thermostat Marketplace program issued \$22,830 in instant rebates for 333 thermostats purchased on PGW's Marketplace platform during FY 2022. Although participation was lower than projected, FY 2022 saw an increase from the 72 purchased in 2021, which was its introductory year. Moreover, PGW implemented marketing campaigns over the course of the FY that resulted in increased participation relative to the monthly average of the program. PGW expects the program will continue to grow in 2023, and has held a Black Friday sale.

### **Quality Assurance and Verifications**

There were three (3) rebate verifications performed in FY 2022, accounting for 1% of rebate projects. All of the verifications were completed virtually, and none of the projects selected for verification failed the process. PGW experienced a relatively low interest from customers in scheduling post-purchase verifications. This may be due to the limited direct interaction customers have with PGW when making purchases on the Marketplace. Also, PGW did not attempt to schedule verifications until language mandating acceptance of verification had been added to its website. PGW will aim to increase verifications of smart thermostats sold through the Marketplace in FY 2023.

## 6. Low Income Smart Thermostat

The Low Income Smart Thermostat program provides and installs ENERGY STAR certified smart thermostats in the homes of income-qualified PGW customers. The program promotes natural gas energy efficiency by offering free thermostats to PGW firm-rate low-income residential customers seeking to retrofit an existing heating system with a smart thermostat. For eligibility purposes, PGW customers on a residential firm-rate who are at or below 150% of the Federal Poverty Level (“FPL”) are considered low income. Customers must apply for the program and meet its requirements in order to qualify for a free installation. 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 to this customer segment.

**TABLE 19. LOW INCOME SMART THERMOSTAT PROGRAM RESULTS FOR FY 2022**

	FY 2022		
	Actual	Goal	%
<b>PARTICIPATION</b>			
Completed Projects	251	363	69%
<b>COSTS (Nominal)</b>			
Non-Incentive Spending <sup>8</sup>	\$117	\$16,490	1%
Administration	\$117		
Inspections	\$0		
Customer Incentives	\$56,197	\$58,510	96%
Total Program Spending	\$56,314	\$75,000	75%
Participant Costs	\$0		
Total Costs	\$56,314		
<b>SAVINGS</b>			
First Year MMBtus	1,450	1,986	73%
Lifetime MMBtus	15,951	21,848	73%
First Year kWh	19,261		
Lifetime kWh	211,866		
<b>INSTALLATION SCENARIO</b>			
Vendor-Installed Thermostats	251		
Customer Installed Thermostats	0		

<sup>8</sup> Customer incentives include the cost of the thermostat in addition to the cost of installation. The program’s primary vendor for most of FY 2022 did not charge an Admin fee; however, to maximize project completion before the end of FY 2022, PGW added another vendor and that vendor required an admin fee. Therefore, the \$117 is reflective of the new vendor’s admin costs relative to their number of projects.

**TABLE 20. TRC TEST COST-EFFECTIVENESS RESULTS FOR LOW INCOME SMART THERMOSTAT FOR FY 2022 (2020\$)**

<b>Metric</b>	<b>Result</b>
PV of Benefits	\$135,848
PV of Costs	\$51,078
PV of Net Benefits	\$84,770
BCR	2.66

### **6.1. Notable Program Activities in FY 2022**

The Low Income Smart Thermostat program installed 251 thermostats in the homes of eligible PGW customers in FY 2022. All installations were performed by the program vendors. The LIST program witnessed increased interest from customers in FY 2022; however, participation was less than projected due to factors such as the delayed launch of the program and customer attrition in the period between application submission and scheduling. Nonetheless, PGW maintains a healthy pipeline going into FY 2023 that will be used to boost participation.

## 7. Appendix A. Cost Recovery Reconciliation

**TABLE 21. EFFICIENCY COST RECOVERY SURCHARGE RESIDENTIAL AND PHA GS CUSTOMERS (SEPTEMBER 2021 THROUGH AUGUST 2022)**

### Residential & PHA GS

		Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Total	
		Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	FY 22
<b>RESIDENTIAL &amp; PHA GS</b>														
<b>FY 2021 Over-Collection</b>	<b>\$440,912</b>													
<b>Volume Billed</b>		673,328	744,906	2,312,821	4,582,274	6,415,232	6,694,583	4,639,357	3,160,217	1,613,222	788,343	649,018	557,274	32,830,574
<b>ECR Surcharge</b>		\$ 0.0203	\$ 0.0211	\$ 0.0211	\$ 0.0214	\$ 0.0217	\$ 0.0217	\$ 0.0202	\$ 0.0186	\$ 0.0186	\$ 0.0183	\$ 0.0180	\$ 0.0180	
<b>Revenue Billed</b>		\$ 13,635	\$ 15,718	\$ 48,801	\$ 98,061	\$ 139,211	\$ 145,272	\$ 93,483	\$ 58,780	\$ 30,006	\$ 14,427	\$ 11,682	\$ 10,031	
<b>RHER</b>	<b>Expense</b>	\$ (827)	\$ 38,720	\$ 49,174	\$ 38,285	\$ 34,183	\$ 21,678	\$ 133,071	\$ 49,140	\$ 64,136	\$ 837	\$ 108,730	\$ (98,278)	\$ 438,848
<b>RHER</b>	<b>Labor</b>	\$ 2,555	\$ 3,092	\$ 6,756	\$ 3,608	\$ 2,943	\$ 5,271	\$ 1,664	\$ 2,498	\$ 6,687	\$ 2,999	\$ 5,075	\$ (17,396)	\$ 25,752
<b>HECI</b>	<b>Expense</b>	\$ (288)	\$ 8,719	\$ (8,431)	\$ 8,929	\$ 5,015	\$ (13,944)	\$ 3,214	\$ 44,685	\$ 26,423	\$ 123	\$ 6,688	\$ 132,815	\$ 213,948
<b>HECI</b>	<b>Labor</b>	\$ 889	\$ 1,075	\$ (1,964)	\$ 1,255	\$ 1,024	\$ (2,278)	\$ 489	\$ 734	\$ 4,874	\$ 441	\$ 420	\$ 8,414	\$ 15,372
<b>LITSTAT</b>	<b>Expense</b>	\$ (96)	\$ 0	\$ 96	\$ 147	\$ 186	\$ (333)	\$ 9,266	\$ 479	\$ (954)	\$ 31	\$ 11,965	\$ 65,669	\$ 86,456
<b>LITSTAT</b>	<b>Labor</b>	\$ 297	\$ 360	\$ (657)	\$ 420	\$ 342	\$ (762)	\$ 737	\$ 92	\$ (107)	\$ 110	\$ 300	\$ 4,698	\$ 5,829
<b>CIER</b>	<b>Expense</b>	\$ (7)	\$ 479	\$ (472)	\$ 356	\$ 246	\$ (601)	\$ 710	\$ 175	\$ 3,721	\$ 8	\$ 670	\$ 1,193	\$ 6,477
<b>CIER</b>	<b>Labor</b>	\$ 21	\$ 25	\$ (46)	\$ 30	\$ 24	\$ (54)	\$ 15	\$ 23	\$ 340	\$ 27	\$ 41	\$ 30	\$ 476
<b>TSTAT</b>	<b>Expense</b>	\$ (282)	\$ 1,054	\$ 1,020	\$ 7,824	\$ 545	\$ 1,411	\$ 1,908	\$ 3,952	\$ (186)	\$ 70	\$ 3,747	\$ 3,869	\$ 24,933
<b>TSTAT</b>	<b>Labor</b>	\$ 870	\$ 1,052	\$ (1,666)	\$ 1,228	\$ 1,002	\$ (938)	\$ 290	\$ 420	\$ (843)	\$ 252	\$ 99	\$ 817	\$ 2,583
<b>Total</b>		\$ 3,132	\$ 54,577	\$ 43,808	\$ 62,081	\$ 45,510	\$ 9,448	\$ 151,366	\$ 102,197	\$ 104,091	\$ 4,898	\$ 137,737	\$ 101,831	\$ 820,676
<b>Monthly Over/(Under)</b>		\$ 10,503	\$ (38,859)	\$ 4,992	\$ 35,980	\$ 93,701	\$ 135,824	\$ (57,883)	\$ (43,417)	\$ (74,085)	\$ 9,529	\$ (126,054)	\$ (91,800)	
<b>Cumulative Over/(Under)</b>		\$ 451,415	\$ 412,555	\$ 417,548	\$ 453,527	\$ 547,228	\$ 683,052	\$ 625,170	\$ 581,752	\$ 507,668	\$ 517,196	\$ 391,142	\$ 299,342	



**TABLE 22. EFFICIENCY COST RECOVERY SURCHARGE COMMERCIAL AND PHA CUSTOMERS (SEPTEMBER 2021 THROUGH AUGUST 2022)****Commercial & PHA**

<b>COMMERCIAL &amp; PHA</b>		<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Total</b>	
<b>FY 2021 Over-Collection \$ 53,399</b>		<b>Sep-21</b>	<b>Oct-21</b>	<b>Nov-21</b>	<b>Dec-21</b>	<b>Jan-22</b>	<b>Feb-22</b>	<b>Mar-22</b>	<b>Apr-22</b>	<b>May-22</b>	<b>Jun-22</b>	<b>Jul-22</b>	<b>Aug-22</b>	<b>FY 22</b>
<b>Volume Billed *</b>		367,527	440,154	916,803	1,408,018	1,825,272	1,803,600	1,441,091	989,791	586,315	422,270	338,078	338,391	10,877,310
<b>ECR Surcharge</b>		<u>\$ 0.0146</u>	<u>\$ 0.0169</u>	<u>\$ 0.0169</u>	<u>\$ 0.0224</u>	<u>\$ 0.0278</u>	<u>\$ 0.0278</u>	<u>\$ 0.0249</u>	<u>\$ 0.0219</u>	<u>\$ 0.0219</u>	<u>\$ 0.0201</u>	<u>\$ 0.0183</u>	<u>\$ 0.0183</u>	
<b>Revenue Billed</b>		\$ 5,348	\$ 7,439	\$ 15,494	\$ 31,469	\$ 50,743	\$ 50,140	\$ 35,811	\$ 21,676	\$ 12,840	\$ 8,488	\$ 6,187	\$ 6,193	
<b>RHER</b>	<b>Expense</b>	\$ (57)	\$ 2,650	\$ (2,593)	\$ 2,620	\$ 2,339	\$ 8,791	\$ 8,866	\$ 3,274	\$ (3,118)	\$ 56	\$ 7,244	\$ 138,166	\$ 168,238
<b>RHER</b>	<b>Labor</b>	\$ 175	\$ 212	\$ (386)	\$ 247	\$ 201	\$ 1,390	\$ 111	\$ 166	\$ (247)	\$ 200	\$ 338	\$ 8,722	\$ 11,128
<b>CIER</b>	<b>Expense</b>	\$ (409)	\$ 28,799	\$ 31,059	\$ 21,386	\$ 14,772	\$ 16,051	\$ 39,388	\$ 9,715	\$ (31,026)	\$ 422	\$ 37,184	\$ 72,425	\$ 239,768
<b>CIER</b>	<b>Labor</b>	\$ 1,263	\$ 1,528	\$ 5,677	\$ 1,784	\$ 1,455	\$ 3,220	\$ 841	\$ 1,261	\$ (6,386)	\$ 1,515	\$ 2,290	\$ 2,770	\$ 17,218
<b>TSTAT</b>	<b>Expense</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 189	\$ -	\$ 149	\$ (113)	\$ 3	\$ 141	\$ (140)	\$ 229
<b>TSTAT</b>	<b>Labor</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 25	\$ -	\$ 16	\$ (23)	\$ 10	\$ 4	\$ (7)	\$ 24
<b>Total</b>		\$ 972	\$ 33,189	\$ 33,757	\$ 26,037	\$ 18,768	\$ 29,666	\$ 49,205	\$ 14,582	\$ (40,912)	\$ 2,205	\$ 47,201	\$ 221,935	\$ 436,605
<b>Monthly Over/(Under)</b>		\$ 4,375	\$ (25,750)	\$ (18,263)	\$ 5,432	\$ 31,975	\$ 20,474	\$ (13,394)	\$ 7,095	\$ 53,753	\$ 6,283	\$ (41,015)	\$ (215,743)	
<b>Cumulative Over/(Under)</b>		\$ 57,774	\$ 32,023	\$ 13,761	\$ 19,193	\$ 51,168	\$ 71,642	\$ 58,248	\$ 65,343	\$ 119,095	\$ 125,378	\$ 84,364	<b>\$(131,379)</b>	

**TABLE 23. EFFICIENCY COST RECOVERY SURCHARGE INDUSTRIAL CUSTOMERS (SEPTEMBER 2021 THROUGH AUGUST 2022)****Industrial**

		Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Total
		Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	FY 22
<b>INDUSTRIAL</b>														
<b>FY 2021 Over-Collection</b>	<b>\$ 16,336</b>													
<b>Volume Billed</b>		31,390	32,253	64,683	103,724	147,821	146,476	119,709	75,138	45,887	30,861	29,706	31,020	858,666
<b>ECR Surcharge</b>		<u>\$ (0.0107)</u>	<u>\$ (0.0095)</u>	<u>\$ (0.0095)</u>	<u>\$ (0.0112)</u>	<u>\$ (0.0129)</u>	<u>\$ (0.0129)</u>	<u>\$ (0.0098)</u>	<u>\$ (0.0066)</u>	<u>\$ (0.0066)</u>	<u>\$ (0.0061)</u>	<u>\$ (0.0055)</u>	<u>\$ (0.0055)</u>	
<b>Revenue Billed</b>		\$ (336)	\$ (306)	\$ (614)	\$ (1,162)	\$ (1,907)	\$ (1,890)	\$ (1,167)	\$ (496)	\$ (303)	\$ (187)	\$ (163)	\$ (171)	
<b>RHER</b>	<b>Expense</b>	\$ (1)	\$ 29	\$ (28)	\$ 29	\$ 26	\$ (54)	\$ 114	\$ 42	\$ (156)	\$ 1	\$ 93	\$ (79)	\$ 15
<b>RHER</b>	<b>Labor</b>	\$ 2	\$ 2	\$ (4)	\$ 3	\$ 2	\$ (5)	\$ 1	\$ 2	\$ (4)	\$ 3	\$ 4	\$ (7)	\$ (0)
<b>CIER</b>	<b>Expense</b>	\$ (4)	\$ 284	\$ (280)	\$ 211	\$ 146	\$ (356)	\$ 422	\$ 104	\$ (526)	\$ 5	\$ 399	\$ (403)	\$ (0)
<b>CIER</b>	<b>Labor</b>	\$ 12	\$ 15	\$ (28)	\$ 18	\$ 14	\$ (32)	\$ 9	\$ 14	\$ (23)	\$ 16	\$ 25	\$ (41)	\$ (0)
<b>Total</b>		\$ 10	\$ 330	\$ (340)	\$ 260	\$ 188	\$ (447)	\$ 546	\$ 162	\$ (708)	\$ 24	\$ 520	\$ (530)	\$ 14
<b>Monthly Over/(Under)</b>		\$ (346)	\$ (637)	\$ (275)	\$ (1,421)	\$ (2,095)	\$ (1,442)	\$ (1,713)	\$ (658)	\$ 405	\$ (211)	\$ (684)	\$ 359	
<b>Cumulative Over/(Under)</b>		\$ 15,990	\$ 15,354	\$ 15,079	\$ 13,658	\$ 11,563	\$ 10,121	\$ 8,407	\$ 7,750	\$ 8,155	\$ 7,944	\$ 7,260	\$ 7,620	