



GREENHOUSE GAS EMISSIONS REDUCTION REPORT

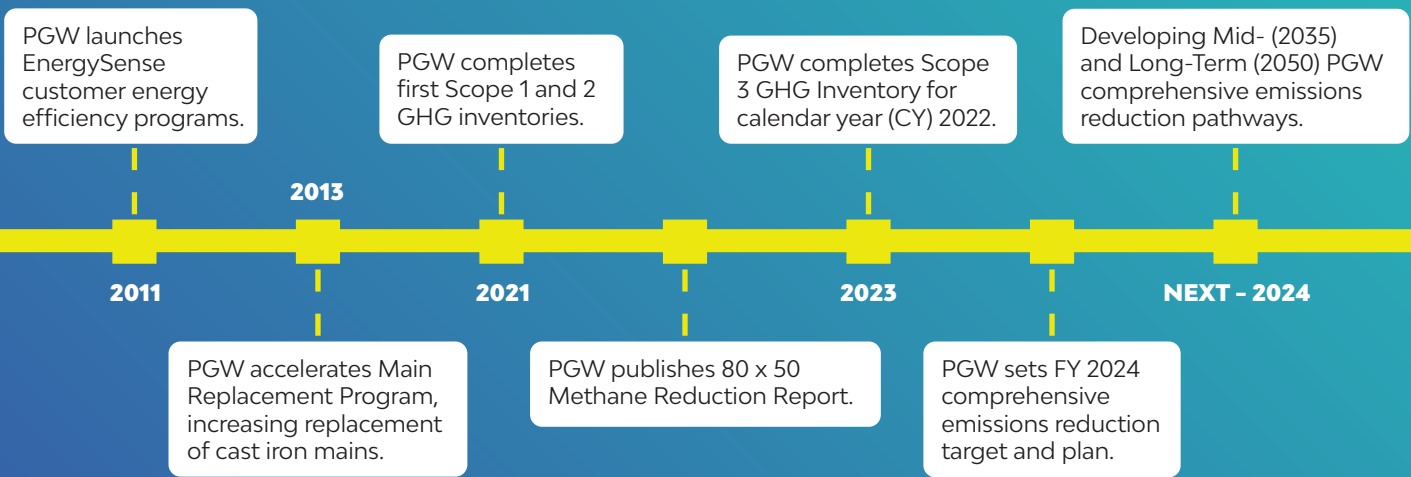
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INTRODUCTION

Philadelphia Gas Works (PGW) is pleased to share its inaugural comprehensive greenhouse gas (GHG) emissions reduction report. PGW's goal for 2024 is a targeted annual emission reduction of 10,000 metric tons of carbon dioxide equivalent (CO₂e), covering Scope 1, 2, and 3 GHG emissions.

PGW has long been a leader in energy innovation and sustainability in Philadelphia, from the time it lit the city's first natural gas street lamps along Second Street in 1836, through its development of EnergySense, Pennsylvania's first voluntary portfolio of natural gas energy efficiency programs in 2011, to today through The Energy Innovation Lab clean energy business incubator.



PGW began compiling its GHG inventories in 2021, which lead to the publication that same year of PGW's Methane Reduction Report. This FY 2024 report builds on these efforts to-date, and represents the company's first public target and plan for achieving actionable comprehensive GHG emission reductions.

PGW has several existing programs actively reducing the company's carbon footprint, and is continuing to pursue new opportunities to further lower emissions. This report highlights updates on PGW's initiatives. All emissions projections within this report are forecasted estimates of incremental annual reductions, based on expected programming between September 1, 2023 and August 31, 2024. This may be subject to change due to scheduling delays, supply chain limitations and/or other circumstances out of PGW's control.

Finally, this FY 2024 report is one more step forward in PGW's sustainability planning. It is a snapshot in time capturing the best analysis and information currently available to PGW. PGW continues to pursue further opportunities for reducing its carbon footprint. Over the course of this coming year, PGW will be developing mid- and long-term emission reduction pathways. Please visit pgworks.com/sustainability to learn more and to share your feedback.

PGW GHG EMISSIONS INVENTORIES

In FY 2023, PGW updated its GHG emissions inventories, capturing the latest Scope 1 and 2 inventories for CY 2019 and CY 2022, and compiled its first Scope 3 inventory for CY 2022. These inventories are critical in providing a thorough understanding of emission sources in order to develop the most impactful reduction plan. These inventories demonstrate that PGW’s main replacement program continues to be the most effective tool for reducing the greatest portion of its Scope 1 and 2 emissions – pipeline fugitives. However, when including Scope 3 emissions, PGW’s downstream customers’ use of natural gas presents the greatest overall opportunity for PGW emission reductions. As of CY 2019, the most recently available city-wide data from the City of Philadelphia’s sustainability office 2019 GHG Inventory reports, PGW’s customers buildings emissions from gas represented just under 14.8% of Philadelphia’s total emissions.

FIGURE 1: PGW SCOPES 1 & 2 CY 2022

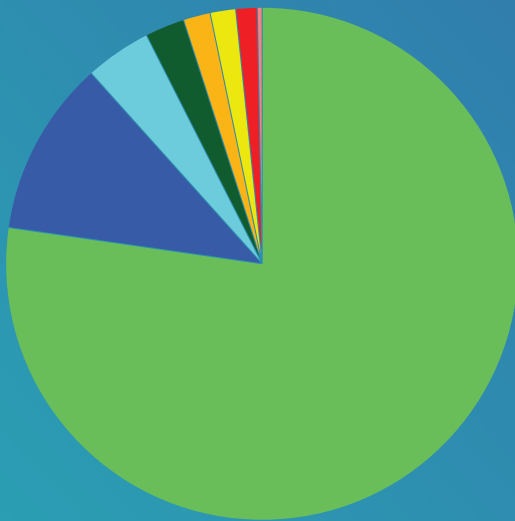


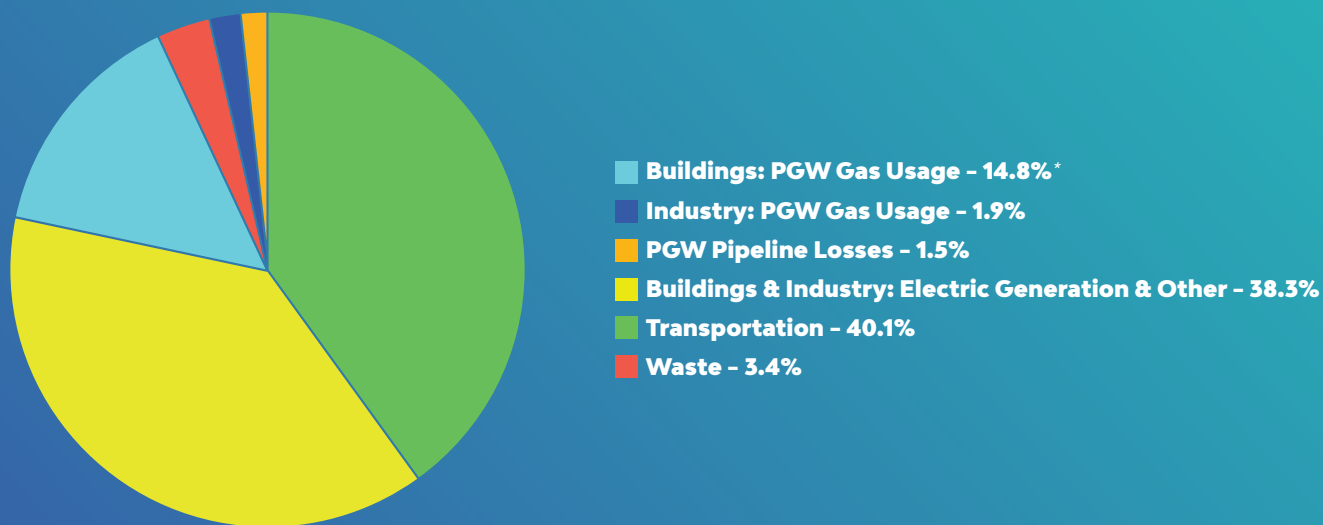
FIGURE 2: PGW ALL EMISSIONS CY 2022



- Scope 1: Pipeline Fugitives - 75.67%
- Scope 1: Gas Releases - 2.96%
- Scope 1: Customer Meters - 11.28%
- Scope 1: Facility Refrigerant Use - 0.03%
- Scope 1: Stationary Combustion Sources - 4.11%
- Scope 1: Mobile Combustion Sources - 1.57%
- Scope 1: LNG Plant - 2.61%
- Scope 1: M&R Station Fugitives - 0.11%
- Scope 2 - 1.67%

- Scope 1 - 5.74%
- Scope 2 - 0.1%
- Scope 3: Purchased Goods & Services - 20.7%
- Scope 3: Fuel & Energy-Related Activities - 0.06%
- Scope 3: Employee Commuting - 0.04%
- Scope 3: Capital Goods - 0.19%
- Scope 3: Waste Generated in Operations - 0.02%
- Scope 3: Use of Sold Products - 73.16%

FIGURE 3: PHILADELPHIA CITY-WIDE COMPREHENSIVE EMISSIONS CY 2019



*THIS DATA IS FROM THE CITY PHILADELPHIA'S SUSTAINABILITY OFFICE 2019 GHG INVENTORY AVAILABLE HERE: [HTTPS://WWW.PHILA.GOV/DOCUMENTS/2019-MUNICIPAL-GREENHOUSE-GAS-INVENTORY/](https://www.phila.gov/documents/2019-municipal-greenhouse-gas-inventory/)

FY 2023 ACCOMPLISHMENTS IN EMISSIONS REDUCTION – SCOPES 1 AND 2

In FY 2023, from September 1, 2022 to August 31, 2023, PGW met its corporate objective for decreasing PGW Scope 1 and 2 emissions by 7,500 metric tons of CO₂e. PGW also quantified Scope 3 GHG footprint for the first time.

Main Replacement Program – Scope 1 Emissions Reduction

PGW's Main Replacement Program is an accelerated effort to replace cast iron mains and unprotected steel services, improving safety and environmental impact by reducing sources of methane leaks. Currently, PGW is on track to eliminate its unprotected steel services inventory by 2038 and cast iron mains inventory by 2058. In FY 2023, PGW replaced 32.2 miles of cast iron main and unprotected steel services, reducing emissions by approximately 6,640 metric tons of CO₂e.

Natural Gas Actuator Upgrades – Scope 1 Emissions Reduction

In June 2022, PGW installed its first retrofitted low-bleed natural gas actuator at its Richmond Gas Processing Plant as a pilot project. Since being fully operational over the past fiscal year, it realized an emissions savings of approximately 140 metric tons of CO₂e that would have otherwise gone to the atmosphere. This pilot is the start of an ongoing program to upgrade PGW's remaining actuators, as described further below in the FY 2024 report.

Electric Vehicle Pilot – Scope 1 Emissions Reduction

In FY 2023, PGW purchased five Chevrolet Bolt EUVs, the first electric vehicles (EVs) to enter the PGW fleet, with funding support from the Alternative Fuels Incentive Grant program. These vehicles will replace older, gasoline-fueled vehicles that have reached their end of life. PGW also received rebates from the Driving PA Forward and PECO Level 2 Commercial Charging Pilot programs to install a new EV charging station at 800 W. Montgomery corporate headquarters. Construction was completed in Fall 2023. With the receipt of the first two Chevy Bolt EUVs in FY 2023, PGW saved a total of 4.5 metric tons of CO₂e emissions.



Exiting of PGW Buildings – Scope 1 and 2 Emissions Reduction

After conducting a comprehensive audit and analysis of PGW customer behavior, PGW announced new customer service initiatives to fit customer behaviors and exited our previous five Customer Service Centers.

Today, every PGW service can be accessed through alternative methods: online, at nearly 200 in-person Pay with Cash locations, and alongside PGW Energy Counselors in-person at one of over a dozen Neighborhood Energy Centers across the city.

The shift to more one-on-one locations, longer, more flexible hours of operation, and more payment locations accounts for additional emissions reductions of nearly 200 metric tons of CO₂e per year due to the drastic reduction of heating and cooling at the five Customer Service Centers.

Lighting Improvements at 800 Montgomery – Scope 2 Emissions Reduction

As part of PGW's Building Consolidation initiative, PGW's corporate headquarters at 800 W. Montgomery Avenue underwent a "restack" in which the building space was rearranged to better meet the needs of PGW and its employees. Several improvements were made in water and energy efficiency, such as the installation of low-flow appliances and motion detection for lighting. In particular, the upgrading to LED lighting provided a significant reduction in Scope 2 emissions, equating to approximately 540 metric tons of CO₂e in FY 2023.

LED Upgrades at Richmond Plant – Scope 2 Emissions Reduction

PGW’s Richmond Plant liquefies and stores liquid natural gas (LNG) that is delivered to customers on high-demand (i.e., cold) days. In FY 2023, PGW began replacing end-of-life multivapor and fluorescent lights at the Richmond Plant with LEDs. PGW will continue gradually replacing remaining multivapor pole lights and fluorescent lights with LEDs on the North and South LNG storage tanks. These upgrades thus far have provided approximately 60 metric tons of emissions reductions.

A summary of the Scope 1 and 2 emissions reductions in FY 2023 is provided in the tables below. PGW reduced 7,581 metric tons of CO₂e reductions, exceeding its target of 7,500.

TABLE 1: SUMMARY OF FY 2023 SCOPE 1 AND 2 EMISSIONS REDUCTIONS

PROGRAM	SCOPE	ANNUAL INCREMENTAL EMISSIONS REDUCTIONS (MT CO ₂ e)
Main Replacement Program	1	6,640
Natural Gas Actuator Upgrades	1	140
Exiting of PGW Buildings (Heating)	1	108
Electric Vehicle Pilot	1	4.5
Exiting of PGW Buildings (Electricity)	2	89
Lighting Improvements at 800 Montgomery	2	539
LED Upgrades at Richmond Plant	2	60

TABLE 2: FY 2023 ANNUAL INCREMENTAL EMISSIONS REDUCTIONS TARGET

FY 2023 Total Scope 1 and 2 Incremental Emissions Savings	7,581 MT CO₂e
FY 2023 Target for Scope 1 and 2	7,500 MT CO₂e
% of Target Reached	101%

TOTAL: 7,581 MT
Target: 7,500

FY 2023 ACCOMPLISHMENTS IN EMISSIONS REDUCTION – SCOPE 3

Beyond Scope 1 and 2 emissions, PGW also quantified the reduction of its Scope 3 emissions in FY 2023, covering those emissions not directly under PGW’s control.

Demand Side Management

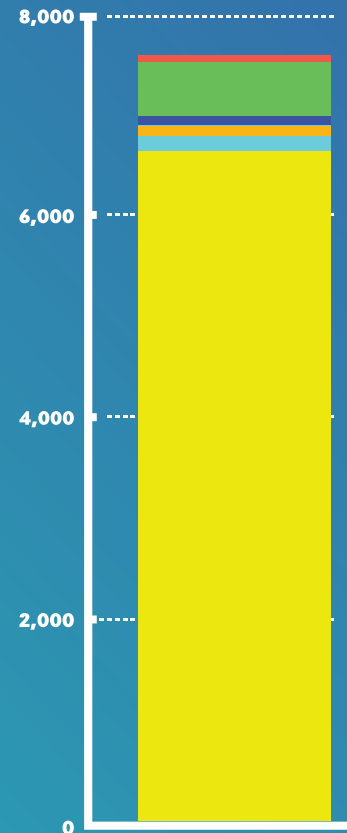
PGW’s greatest source of Scope 3 emissions reductions has been through its Demand Side Management (“DSM”) program and Low Income Usage Reduction Programs (“LIURP”). PGW’s voluntary DSM program, branded as PGW EnergySense, includes five individual programs: Residential Equipment Rebates, Commercial Equipment Rebates, Residential New Construction, Smart Thermostat Marketplace, and the Low Income Smart Thermostat program. PGW’s LIURP offerings include Home Comfort and the Low Income Multifamily Efficiency (“LIME”) program. These two programs offer no-cost energy efficiency upgrades and energy conservation education to income eligible customers in single-family and multifamily homes, respectively. In FY 2023, PGW’s DSM and LIURP saved 3,480 metric tons of CO₂e emissions.

Recycling Program

PGW’s recycling program has been in place since 2008 and continues to be a consistent source of emissions reductions, diverting hundreds of tons of waste a year that would otherwise be landfilled or incinerated as trash. In addition to single-stream recycling, PGW separately recycles office paper, electronics, wood pallets, PET plastic and other materials. In 2020, PGW’s 800 W. Montgomery office became a Zero Waste Partner with the City of Philadelphia, offering an opportunity to report the amount of waste diverted from landfills and offering solutions on how to improve zero waste practices in the future. In FY 2023, PGW diverted approximately 220 metric tons of CO₂e emissions from landfills.

PGW reduced 7,581 metric tons of CO₂e emissions in FY 2023, exceeding its target of 7,500.

FIGURE 4: FY 2023 ANNUAL INCREMENTAL EMISSIONS REDUCTIONS



Annual Emissions Reductions (MT CO₂e)

- **LED Upgrades at Richmond Plant**
- 60 MT CO₂e
- **Lighting Improvements at 800 Montgomery**
- 539 MT CO₂e
- **Exiting of PGW Buildings (Electricity)**
- 89 MT CO₂e
- **Electric Vehicle Pilot**
- 4.5 MT CO₂e
- **Exiting of PGW Buildings (Heating)**
- 108 MT CO₂e
- **Natural Gas Actuator Upgrades**
- 140 MT CO₂e
- **Main Replacement Program**
- 6,640 MT CO₂e

Composting Program

PGW’s new employee composting program at 800 W. Montgomery has also seen great success. The pilot program kicked off in June 2022, with composting containers located in common eating areas. In FY 2023, PGW diverted 5,560 pounds of food waste from landfills, a savings of 1.2 metric tons of CO₂e. Due to the success of the pilot, PGW’s composting program will continue through FY 2024.

TABLE 3: SUMMARY OF FY 23 SCOPE 3 ANNUAL INCREMENTAL EMISSIONS REDUCTIONS

PROGRAM	SCOPE	ANNUAL INCREMENTAL EMISSIONS REDUCTIONS (MT CO ₂ e)
Demand Side Management Programs	3	3,480
Recycling Program	3	220
Composting Program	3	1.2

FY 2024 EMISSIONS REDUCTION REPORT – SCOPES 1, 2, AND 3

PGW will build on these historical achievements in FY 2024 by setting for the first time a comprehensive emission reductions target, covering all scopes and all PGW emissions. In doing so, PGW places itself amongst the vanguard of all U.S. corporations, not just utilities, publishing Scope 3 inventories and reduction reports.

PGW will continue executing its current signature sustainability initiatives, while continuing to pursue new opportunities to reduce PGW’s carbon footprint and positively impact the environment for all Philadelphians. Based on this portfolio of programs, PGW has set a goal for itself of achieving GHG emissions reductions of 10,000 MT CO₂e in FY 2024. A summary of the emissions reduction programs for FY 2024 is listed below.

TABLE 4: SUMMARY OF FY 2024 PROJECTED EMISSIONS REDUCTION PROGRAMS

PROGRAM
Main Replacement Program (Scope 1)
Natural Gas Actuator Upgrades (Scope 1)
Exiting of PGW Buildings (Scopes 1 & 2)
Electric Vehicle Pilot (Scope 1)
Demand Side Management Programs (Scope 3)
Recycling Program (Scope 3)
Composting Program (Scope 3)
FY 2024 Annual Target – Scopes 1, 2, 3:
10,000 MT CO₂e

FY 2024 – SCOPES 1, 2 EMISSIONS REDUCTION PROGRAMS

Main Replacement Program – Scope 1 Emissions Reduction

PGW's ongoing accelerated Main Replacement Program will continue reducing the company's Scope 1 emissions. PGW is targeting the replacement of 30.4 miles of main in FY 2024. Additionally, PGW was awarded a \$10 million Natural Gas Distribution Infrastructure Safety and Modernization (NGDISM) grant from the U.S. Department of Transportation's (DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA) in spring 2023. This grant is expected to allow PGW to replace approximately five additional miles of cast iron main each year. There are several dependencies that will determine the timing of when PGW would be able to leverage the funding. However, even excluding PHMSA grant projections, PGW expects another successful year of main replacement, eliminating at-risk infrastructure, reducing its carbon footprint, and ensuring safe, reliable, and affordable energy for PGW's customers.

Natural Gas Actuator Upgrades – Scope 1 Emissions Reduction

In accordance with PGW's Methane Reduction Report, PGW continues to upgrade its natural gas actuators to low-bleed alternatives that release significantly fewer emissions to the atmosphere. In FY 2024, PGW plans to build on the previous pilot project by installing six new actuator replacements at the Richmond Plant. All the actuators installed to-date have been operated with natural gas; however, PGW is also evaluating the feasibility of installing an electric actuator that is a no-bleed, zero emission alternative. This technology could translate to even greater emissions savings.

Exiting of PGW Buildings – Scope 1 and 2 Emissions Reduction

PGW's ongoing Building Consolidation Initiative also entails combining several PGW operational facilities into a North Operations Center (NOC) and South Operations Center (SOC). PGW's NOC opened in FY 2023 and the company has begun relocating staff from several existing facilities, including the Belfield and Castor stations, the Transportation Building, and the Meter Shop. The facilities are slated to be evacuated in FY 2024, which, similar to the closing of the underutilized Customer Service Centers in FY 2023, will reduce operational, maintenance, and utility expenses and their related emissions.

Electric Vehicles – Scope 1 Emissions Reduction

PGW is anticipating the delivery of three additional Chevy Bolt EUVs in FY 2024. Once received, PGW will have its full initial fleet of EVs. PGW will continue evaluating opportunities to reduce its transportation fleet emissions through its mid- and long-term emissions-reduction planning efforts.

FY 2024 – SCOPE 3 EMISSIONS REDUCTION PROGRAMS

Demand Side Management Programs

PGW has been approved to extend its Demand Side Management (DSM) program, EnergySense, through the end of FY 2024. In FY 2024, PGW EnergySense will continue offering incentives through all five current programs to help motivate customers to pursue energy efficient equipment when making purchasing decisions.

PGW's Low Income Usage Reduction Programs will continue to provide income-eligible customers with whole-home weatherization services through FY 2024. Home Comfort targets low income customers in single-family homes, while the Low Income Multifamily Efficiency program (LIME) will provide services to customers in buildings with three or more dwelling units. All of PGW's energy efficiency programs aim to help customers reduce their GHG emissions by lowering their gas usage via energy efficiency equipment and appliances.

Recycling Program

PGW will continue its recycling program in FY 2024 and pursue opportunities to increase program performance through employee awareness and communication. Corporate recycling trends have reduced annually since 2020, which can likely be attributed to impacts from COVID and an increased remote workforce. Regardless, PGW will continue to support and strengthen its recycling program in order to lower Scope 3 emissions.

Composting Program

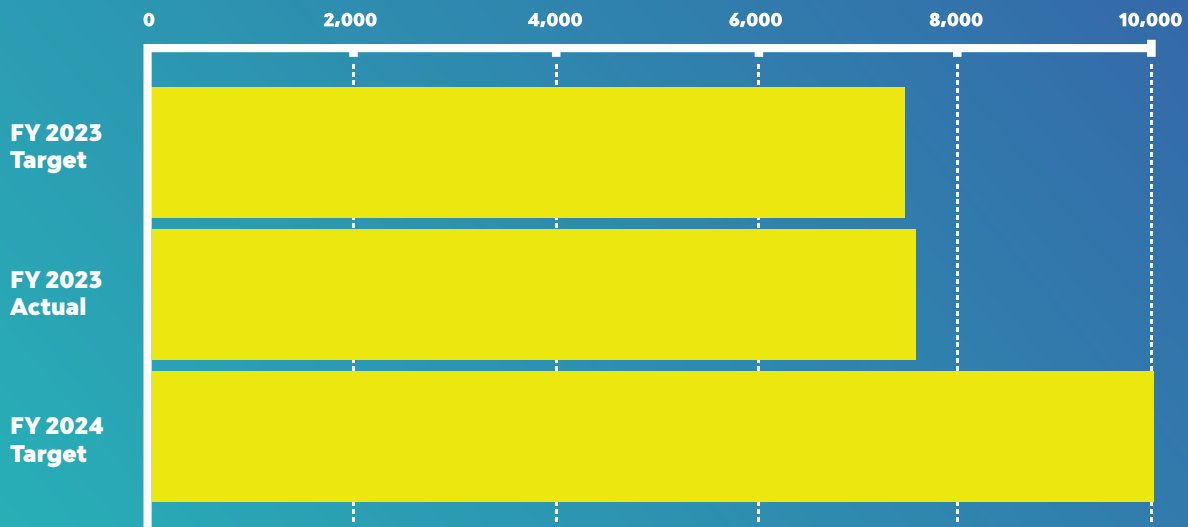
After a successful pilot year in FY 2023, PGW is continuing to develop and implement employee engagement initiatives to maintain and hopefully grow the composting program.

GOING FORWARD

PGW is taking steps to reduce its environmental impact, and as described above, is demonstrating that commitment through this report for reducing its Scope 1, 2, and 3 emissions by 10,000 metric tons of CO₂e in FY 2024. PGW will use the strategies outlined above to continue to drive emissions reductions and will seek new opportunities for further, longer-term emissions reductions. As mentioned above, this FY 2024 report is a snapshot in time, which builds on historical progress to-date, and will be continually refined and enhanced going forward. PGW's immediate next steps will be using this starting point to develop its mid- and long-term emission reduction pathways. PGW invites its customers and stakeholders to join the process.

Please visit PGWorks.com/sustainability to learn more and to share your feedback.

FIGURE 2: PGW INCREMENTAL ANNUAL EMISSIONS REDUCTIONS TARGETS AND ACTUALS (MT CO₂e)



APPENDIX

What are Scopes 1, 2, and 3?

PGW is responsible for three different types of GHG emissions:

- Scope 1: emissions generated by sources under PGW's direct control, such as by combustion of heaters and vehicles;
- Scope 2: indirect emissions generated from the purchase of electricity; and
- Scope 3: indirect emissions upstream and downstream of operations that are outside of PGW's control, such as emissions from purchased good and services and use of sold products.