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Fueling our Future

Natural Gas and our Path to a Clean Energy Future

A REPORT BY THE GREATER PHILADELPHIA ENERGY ACTION TEAM (GPEAT)

We all expect energy to keep our lives, businesses, and the economy moving. Natural gas utilities provide the energy we depend on to fuel everything from household appliances and manufacturing processes to the critical needs of local hospitals and healthcare facilities across our communities. Natural gas is affordable, reliable, and integral to the resiliency of our energy system.

This publication provides a fact-based story of the shared efforts made by five local utilities delivering natural gas to 2.1 million customers in 56 counties across three states.

The aggregated data featured in this publication is the result of voluntary submission by natural gas utilities and documents the collective progress made by local utilities from 2015-2019 to deliver reliable, safe, and affordable energy to the communities they serve. This publication showcases these regional utilities' shared commitment to affordability, sustainability, safety, and economic growth.

The progress made by these companies reaffirms the critical role natural gas utilities are continuing to play in shaping a clean energy future, for all of us.

CHESAPEAKE UTILITIES CORPORATION

PECO
An Exelon Company

PGW

SOUTH JERSEY GAS®

UGI Energy Services

UGI CORPORATION

Serving our Tri-state Community

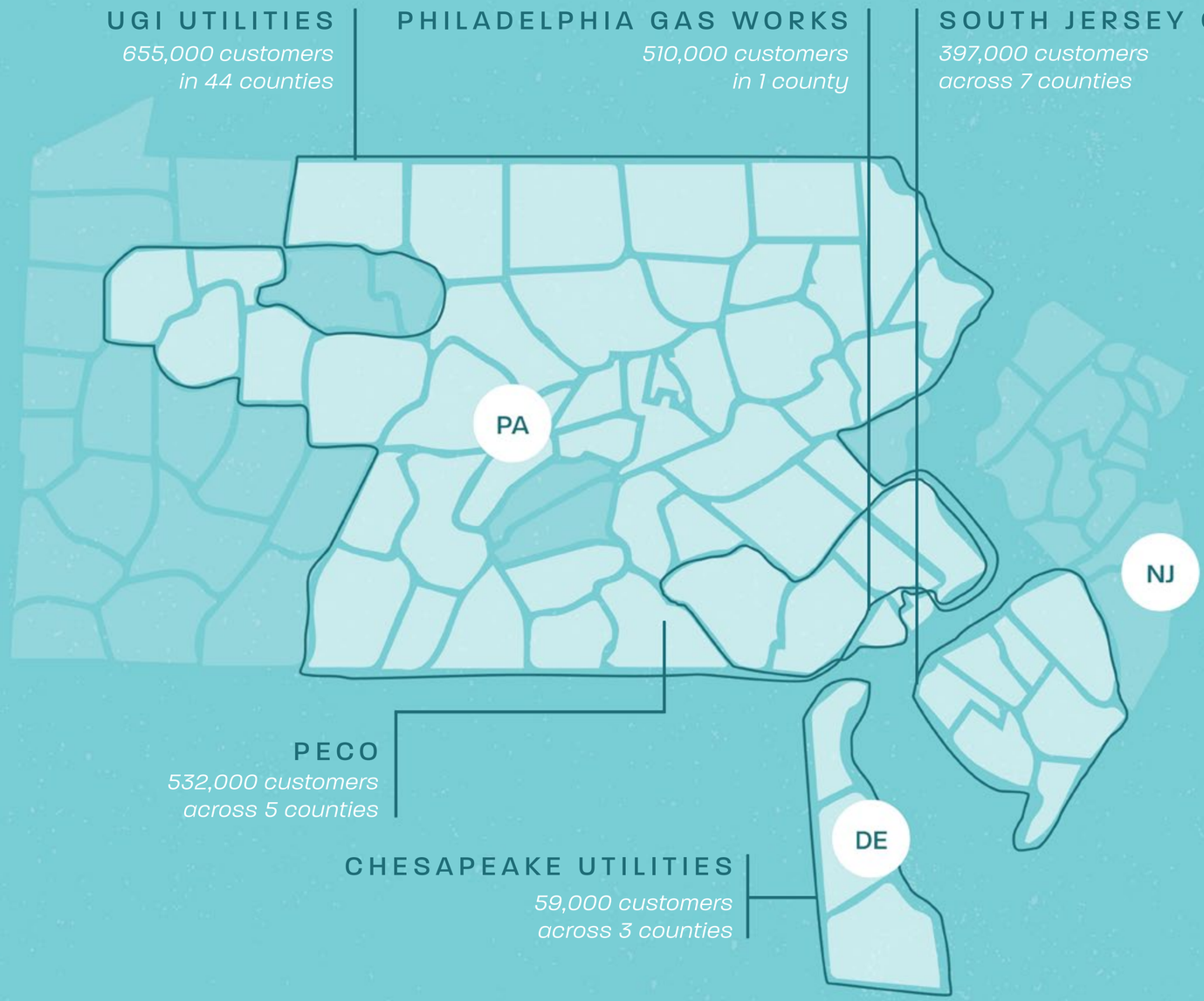
This publication provides a fact-based story of the collective efforts made by five local utilities delivering natural gas to nearly 2 million households and over 171,000 businesses in 56 counties across three states.

2 million

households served by the five local utilities

171,000

business served by the five local utilitiies



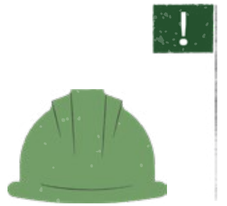
Natural Gas Fast Facts

ENERGIZING THE ECONOMY

Utilities' capital investments from 2015 through 2019 produced $7.4 billion in total economic impact—supporting 42,300 full-time jobs.

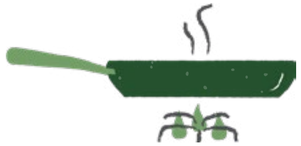
CURBING EMISSIONS

Utilities prevented approximately 36,000 metric tons of methane from entering the atmosphere, which is equivalent to taking more than 195,000 passenger cars off the road for an entire year or planting approximately 15 million trees.



ENHANCING SAFETY

Utilities invested more than $2.2 billion enhancing the safety of over 30,000 miles of natural gas transmission and distribution infrastructure.



KEEPING ENERGY AFFORDABILITY

Utilities invested $380 million in low-income energy assistance programs and collectively converted nearly 61,000 households to natural gas resulting in nearly $61 million in energy cost savings for customers.

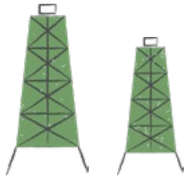
EXPANDING ENERGY EFFICIENCY

Utilities in Pennsylvania and New Jersey have invested over $157 million in energy efficiency programs since 2015, helping customers conserve 31.7 million MCF of natural gas and offsetting 1.7 million metric tons of Co2e.

DRIVING DECARBONIZATION

Utilities supplied 24 public access natural gas fueling stations, offsetting approximately 23,000 metric tons CO2e, equal to removing nearly 4,900 passenger cars off the road for an entire year.

Natural Gas Delivery System



1. NATURAL GAS WELLS

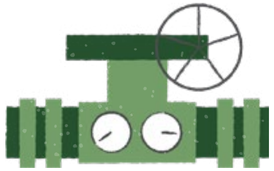
Production companies use wells and pumps that bring the natural gas supply to the surface.

2. COMPRESSOR STATION

Once pumped, the gas is collected and compressed at a compressor station before it moves on to the transmission lines. Natural gas must be highly pressurized to travel through pipelines.

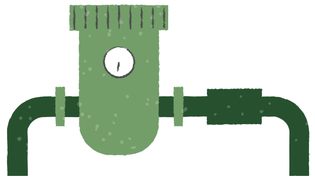
3. TRANSMISSION LINE

Natural gas moves into the transmission system, which can be compared to the nation's interstate highway system for cars. They move large amounts of natural gas thousands of miles from the producing regions to local natural gas utilities.



4. METERING STATION

Metering stations allow pipeline companies and local natural gas utilities to monitor, manage, and track the volume of natural gas in their pipelines.



5. REGULATOR STATION

Regulator stations are placed along the pipeline to reduce pressure of the gas prior to moving into smaller lines and distribution systems.

6. DELIVERED TO HOMES & BUSINESSINESS

Natural gas is delivered to homes and business using a service line.

Energizing the Economy

Natural gas utilities deliver energy and macroeconomic benefits across the communities they operate by employing workers, investing in their operations, attracting new businesses, and growing existing ones. Collectively, the companies' natural gas utility operations employ 5,780 full-time workers.

Companies' ongoing operations and capital investment expenditures on infrastructure improvements, natural gas system modernizations, innovations, and new technologies also generate a significant economic return in terms of output, jobs, and labor income. An economic impact study conducted by Econsult Solutions, Inc, an independent consulting firm, reveals the collective economic impact of the five local utilities' operational spending and capital investments.

GENERAL OPERATIONS

Direct operational spending by regional natural gas utilities creates a multiplier effect in our local and regional economies as procuring goods and services from local businesses creates and supports employment for those vendors. The employees from these companies also support local businesses as they spend their earnings locally. Collectively, the five companies' estimated annual operations generate approximately $1.7 billion in total output, supporting 9,320 direct, indirect, and induced jobs and $390 million in employee compensation across the tri-state area.

$1.7 billion

in total annual economic output across the tri-state area

9,320

direct, indirect, and induced jobs supported annually

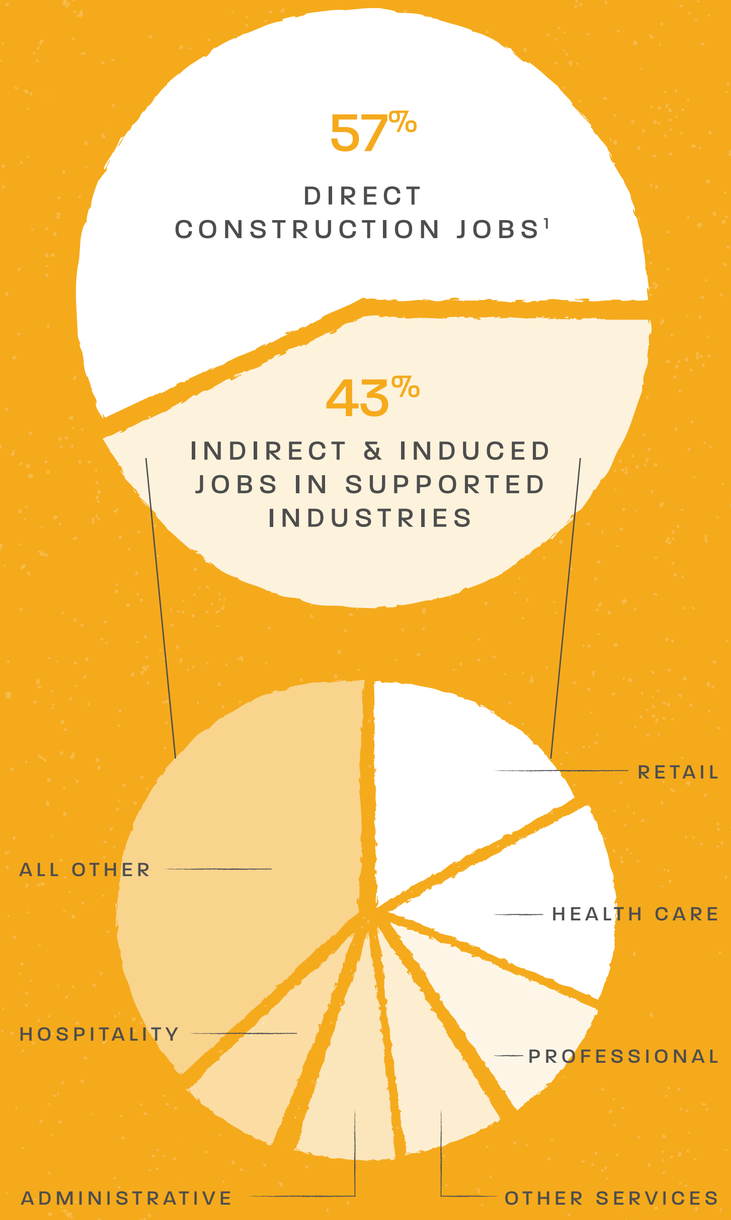
CAPITAL INVESTMENTS

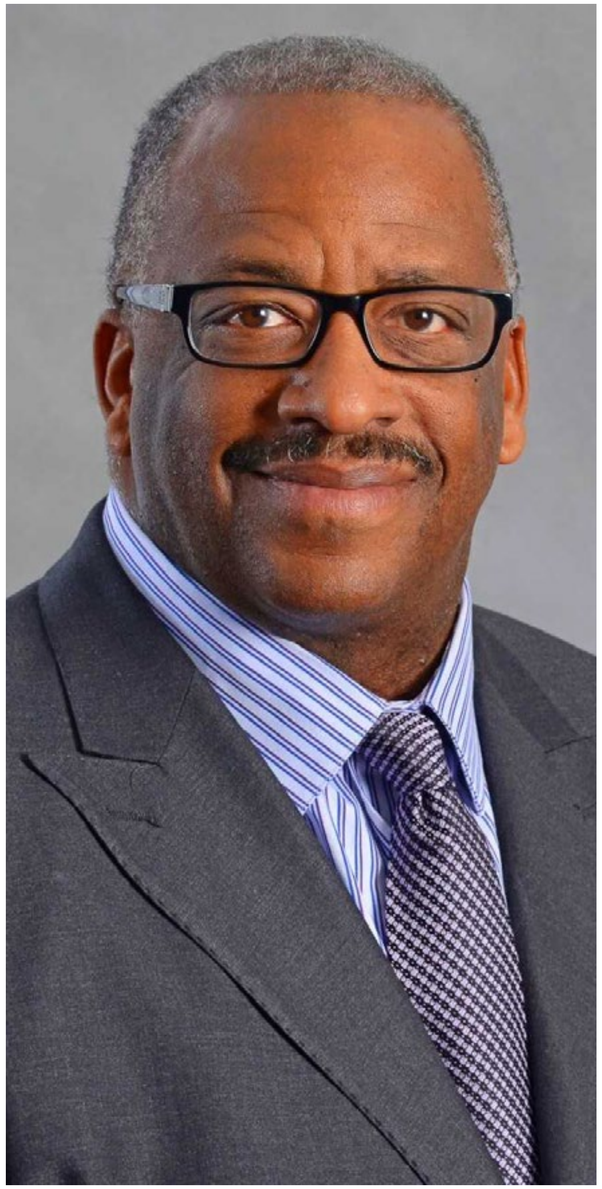
Capital investments by natural gas utilities create a surge of economic activity that ripples throughout the economy. Direct construction activity puts construction workers and their professional service providers to work, who in turn spend a portion of their salaries and wages within the local and regional economies. It also catalyzes the procurement of a wide range of goods and services, translating into new economic opportunities for local and state vendors. The estimated aggregate impact from capital investments from 2015 through 2019 produces $7.4 billion in total impact, supporting 42,300 full-time equivalent jobs and $2.2 billion in labor income in the tri-state area.

A majority of jobs supported by local natural gas utilities' capital investments are in the construction sector. However, the multiplier effect of these construction outlays supports numerous other adjacent industries, such as retail, health care, professional services, and other industries. Hence, about 43 percent of the tri-state employment impact from capital investments is in industries besides construction.

$7.4 billion
in total economic impact

42,300
full-time equivalent jobs supported





“Each year, PECO invests more than $225 million in our natural gas distribution system. These investments not only ensure the safe and reliable delivery of natural gas to our customers, but also provide family-sustaining jobs for company employees and contractors as well as economic support to local suppliers. Many of these local partnerships are developed through the PECO Diverse Business Empowerment Program which seeks to provide opportunity and support for diverse suppliers.”

Ron Bradley

Vice President, Gas, PECO

Keeping Energy Affordable

Utilities are working every day to deliver energy safely, reliably and at an affordable price because access to low-cost energy is critical to the well-being of all households, particularly during the coldest months. **Natural gas continues to be the lowest cost source of energy available to households.**[2]

Energy affordability is critical as nearly one-third of U.S. households report a challenge in paying energy bills or sustaining adequate heating.[3] The cost of energy poses a greater burden for low-income households, with the typical low-income family spending 13 percent of its income on home energy — four times as much as families that fall above the poverty line.[4] As the energy burden grows, natural gas utilities are working to provide critical assistance to families across our communities.

Since 2015, local utilities have invested $380 million in low-income energy assistance programs that provide bill payment assistance, no-cost home energy audits and low-cost or no-cost equipment replacement, and weatherization assistance to help families save energy — and money.[5]

$380 million

provided to low-income residential customers since 2015

33%

of U.S. households report a challenge in paying energy bills

Reducing Emissions Right Now

The best energy is the energy you never use. Encouraging conservation and energy efficiency is the right thing to do now and for the long term. It also happens to be the most cost-effective way to lower emissions.

Utility-sponsored energy efficiency programs provide valuable tools, incentives, and information to help their customers understand and reduce their energy usage.

This includes:

- Low-interest financing, cash rebates, and other financial subsidies for high-efficiency natural gas appliance purchases and whole home or building efficiency improvements.
- Providing home energy audits, weatherization kits and programmable thermostats.
- Supplying information on insulation and high-efficiency appliances.
- Connecting customers with experienced and reliable appliance and service providers.
- Creating easy access to web-based information resources and energy usage calculators.[6]

Currently, New Jersey and Pennsylvania have established natural gas energy efficiency programs. Together, companies in Pennsylvania and New Jersey have invested over $157 million in energy efficiency programs since 2015, helping users conserve 31.7 million MCF of natural gas and offsetting 1.7 million metric tons of Co2e, that's equivalent to offsetting the energy usage of 201,000 homes for one year.

Collectively, 91,814 households and over 1,080 businesses have participated in energy efficiency programs across the companies in Pennsylvania and New Jersey.

31,700,000

MCF OF NATURAL GAS

conserved from energy efficiency programs

1,700,000

METRIC TONS

of Co2e offset from energy efficiency programs

91,814

HOUSEHOLDS

have participated in energy efficiency programs across the companies in PA & NJ

1,080

BUSINESSES

have participated in energy efficiency programs across the companies in PA & NJ

“PGW’s EnergySense is a series of programs, rebates, and financial incentives designed to help customers reduce their energy usage. EnergySense is the longest-running, voluntary demand-side management program for natural gas customers in Pennsylvania. To date, EnergySense has invested over $60 million to weatherize low-income homes and multi-family buildings in the city of Philadelphia and has distributed $9.7 million in grants and rebates on energy efficiency equipment. PGW awarded two new EnergySense grants, totaling $120,000, to National Real Estate Development, LLC for installation of high-efficiency heat and hot water boilers, the use of enhanced insulation, energy-efficient windows, and low-flow fixtures at East Market, a new, mixed-use LEED-certified development which includes natural gas appliances. National Real Estate also installed two 65 kW combined heat and power microturbines.”

Denise Adamucci

Vice President, Regulatory Compliance & Customer Programs,
Philadelphia Gas Works

Making Safety a Top Priority

Safety is a core value for natural gas utilities and the entire energy industry. Together, utilities operate and maintain more than 30,000 miles of natural gas transmission and distribution infrastructure and have invested more than $2.2 billion over the last five years, enhancing the safety of those systems.

30,000 miles

of natural gas transmission and distribution infrastructure, that's the distance of 8 trips across the U.S. coast to coast

$2.2 billion

invested in safety over the last five years

Driving Decarbonization

Natural gas-powered vehicles (NGVs) on the road today help improve air quality by displacing petroleum-powered cars, vans, trucks, and buses. Compressed natural gas (CNG) is cleaner and dramatically less expensive than automotive gasoline—the result, significantly fewer emissions on our roads. Utilities supply 24 public access natural gas fueling stations and have approximately 331 NGV's across their company fleets.

23,000 metric tons

of CO2e offset by the 24 natural gas fueling stations supplied by natural gas utilities since 2015

331

NGV vehicles across the five utilities' company fleets

“Chesapeake Utilities owns and operates the only public fast-fill CNG fueling station on the Delmarva Peninsula. It is centrally located off of Route 1, in Dover, Delaware. Local and regional fleets that deliver goods across the area, regularly use the filling station. Before the station opened in 2018, there was no public fast-fill CNG fueling station available in Delaware. Currently, the station averages around 540 mcf (4,141 GGE) of dispensed fuel monthly.”

Shane Breakie

Vice President, Chesapeake Utilities

Investing in Innovation

Renewable natural gas (RNG), also known as bio-methane or biogas, is produced from existing waste streams and a variety of renewable and sustainable biomass sources, including animal waste, landfills, crop residuals and food waste.[7]

RNG is carbon neutral and can be produced locally and distributed via the existing gas grid, making it an attractive means of supplying existing homes and businesses with renewable heat and renewable gas energy.

Utilities are growing RNG capabilities by:

- Purchasing RNG generation assets.
- Developing pipeline interconnect agreements to be shared with prospective RNG project developers.
- Partnering with RNG companies to distribute RNG to end-use customers.
- Upgrading infrastructure to safely integrate and effectively manage RNG entering the gas distribution system.
- Purchasing renewable natural gas attributes (RNGAs), renewable energy credits generated from the production of renewable natural gas.

“In several U.S. states, turning organic waste, like agricultural waste from farms and excess organics from the restaurant and food production industries, into green energy, known as renewable natural gas (RNG), is a reality. Once produced locally it can be distributed via the existing gas grid, making it an attractive means of supplying existing homes and businesses with renewable energy. RNG produced locally displaces the need to purchase natural gas from other sources.”

Cheryl Martin

Senior Vice President, Regulatory and External Affairs,
Chesapeake Utilities

“Both UGI Utilities and UGI Energy Services have made recent investments in renewable natural gas projects (RNG). UGI Utilities announced an agreement with Archaea Energy to inject RNG from the Keystone Landfill in Dunmore, PA into its local distribution system. Once fully operational, this will be the largest RNG project of its kind in the United States. This project will prevent methane from being released to the atmosphere and represent a reduction of 314,000 tons of carbon dioxide per year or the equivalent of removing 67,000 cars from the road.”

John Walsh

President & CEO, UGI Corporation

Natural Gas, Always Available

Natural gas is available on demand — making it a reliable energy source to complement renewable energy.

Switching coal generation to natural gas reduces greenhouse gas emissions by an average of 53 percent.[8] These utilities supply natural gas to approximately 36 power generation facilities in the PJM grid, totaling 5,990 MW.

Combined heat and power (CHP), also known as cogeneration, is an energy-efficient technology which generates electricity and captures the heat that would otherwise be wasted to provide useful thermal energy such as steam or hot water, used for space heating, cooling, domestic hot water and industrial processes.[9]

Instead of purchasing electricity and then burning fuel in an on-site furnace or boiler to produce thermal energy, a commercial or industrial facility can use CHP to provide these energy services in one energy-efficient step, increasing operational resiliency, reducing energy usage, and lowering emissions.

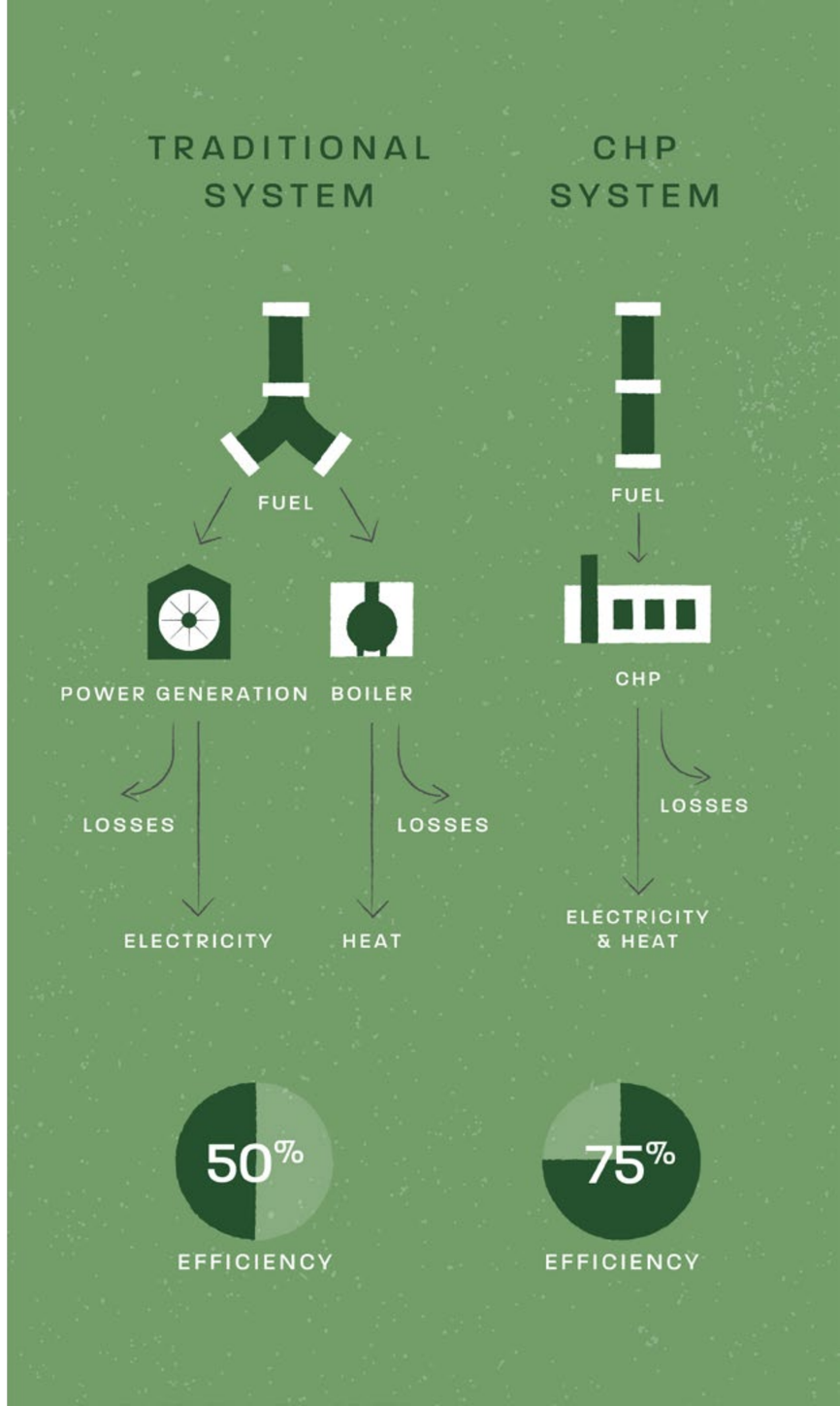
While the traditional method of producing separate heat and power has a typical combined efficiency of 45 percent, CHP systems can operate at efficiency levels as high as 80 percent.[9]

74 CHP

customers served by utilities, totaling 361 MW.

49 MW

of CHP served by utilities are providing affordable, reliable and efficient energy to hospitals and healthcare facilities—where losing power is not an option.



“We work with our customers to deploy new technologies such as combined heat and power (CHP) that are economical, energy efficient, and clean alternatives to traditional equipment. In fact, UGI Utilities installed a CHP plant designed to not only power its headquarters building in Lancaster county, PA, but to also serve as a realistic demonstration of CHP’s potential for small to mid-sized office buildings. This technology is being used to great success at colleges, universities and hospitals, as well as in other industrial, commercial and recreational settings.”

Becky Eshbach

Director of Marketing Programs & Strategy, UGI Utilities

“CHP can also be installed at a smaller scale. For example, Lima Company, which provides plumbing, HVAC, and refrigeration services, installed a 35-kW micro-CHP unit in its Philadelphia headquarters with incentives provided by a Philadelphia Gas Works micro-CHP incentive program. Lima expects that the heat and electricity generated from its micro-CHP unit will reduce its incremental cost of energy by 47.6% when compared to conventional means. Lima’s headquarters will also host a micro-CHP training center.”

Craig White

President & CEO, Philadelphia Gas Works

Cutting Household Emissions

Natural gas utilities are helping connect homes to cleaner, lower-cost energy. Over the past five years, companies have collectively converted approximately 61,000 households to natural gas resulting in nearly $61 million in energy cost savings for customers and offsetting 139,000 metric tons of CO2e, that's the same as offsetting the energy usage of 16,000 homes for an entire year.

61,000 households

converted to natural gas

139,000 metric tons

of Co2e offset converting households to natural gas—the same as offsetting the energy usage of 16,000 homes for an entire year.

“Over the past four years, South Jersey Gas has converted 11,762 homes to natural gas from higher-emitting fuels—lowering energy costs and emissions for each conversion. In conjunction with our Energy Efficiency programs, our customers have the ability to reduce energy consumption, modernize their homes with high-efficiency HVAC systems, and reduce costs through smart thermostats and efficient lighting. South Jersey Gas is committed to delivering safe, reliable, affordable clean energy for a better today and tomorrow.”

Deborah Franco

Vice President, Rates, Regulatory Affairs, and Sustainability,
South Jersey Gas

“Within PECO and across the Exelon utilities, we are on a Path to Clean, building on emission reduction goals currently in place and transitioning to a cleaner future. The collective utilities across Exelon have committed to reducing operations-driven greenhouse gas emissions by at least 50 percent below 2015 levels by 2030. To do this, we’ll modernize our natural gas infrastructure to minimize emissions and enhance safety, increase system energy efficiency, and invest in cleaner equipment and vehicles. Specific to our natural gas distribution system, PECO has been able to reduce its emissions associated with distribution leaks by approximately 25 percent since 2015 and is on track to reduce these emissions by 70 percent by 2036.”

Liz Murphy

Sr. Vice President, Regulatory & External Affairs, PECO

Reducing Methane

Natural gas infrastructure replacement plays a vital role in reducing emissions now and into the future. Utilities continue to work towards more efficient methane management. Since 2015, companies have invested $2.1 billion to reduce emissions throughout their system, preventing approximately 36,000 metric tons of methane from entering the atmosphere.

Multiple utilities participate in EPA's Natural Gas STAR and Methane Challenge program to voluntarily report and reduce system emissions through best practices. The program enables companies to make and track commitments to reduce emissions and showcase their efforts to improve air quality.

36,000 metric tons

of methane prevented from entering the atmosphere, which is equivalent of planting approximately 15 million trees.

“We are committed to being part of the solution in a clean energy future for our State and region. We are significantly expanding energy efficiency programs, providing consumers new tools to reduce energy consumption, and investing in several clean and renewable energy technologies such as renewable natural gas (RNG), green hydrogen and high-efficiency fuel cells. Additionally, we are replacing aging transmission pipes to reduce “fugitive” emissions, upgrading leak detection technologies and completing the conversion of service vehicles to low carbon-density fuels such as compressed natural gas (CNG). In 2020, South Jersey Gas invested more than $80 million in infrastructure replacement to reduce leaks and improve safety and reliability, and our Energy Efficiency programs reduced consumption, eliminating the use of 336,557 MMBTUs of methane.”

Melissa Orsen

Senior Vice President, South Jersey Industries
President and COO, South Jersey Gas

These companies are just getting started.

Learn more about each company's work to shape a clean energy future.

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About The Greater Philadelphia Energy Action Team

The Greater Philadelphia Energy Action Team (GPEAT) brings together 150+ industry leaders committed to delivering affordable energy solutions to benefit the current families and businesses living and operating in Greater Philadelphia while attracting new development and growth opportunities to the region. GPEAT's Steering Committee is led by Co-Chairs John Walsh, President & CEO, UGI Corporation, and Craig E. White, President & CEO, Philadelphia Gas Works.

About the Chamber

The Chamber of Commerce for Greater Philadelphia brings area businesses and civic leaders together to promote growth and create opportunity in our region. Our members represent eleven counties, three states, and roughly 600,000 employees from thousands of member companies and organizations. And by bringing all kinds of businesses and leaders to the table—the new, the established, the big, the small, the growing, the thriving, the perennial, the innovative, and the experimental—we build community and find commonalities among us all. We advocate for regional development, business-friendly public policies, and economic prosperity. We support our members with practical, inspiring programs, resources, and events. And all that we do serves one clear, bold goal: to make Greater Philadelphia a great place for good business.

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