

# Pennsylvania sits on America's second-largest gas supply — and some of its oldest pipe.

The Marcellus makes Pennsylvania the nation's No. 2 gas producer, yet its distribution systems still run on cast iron and bare steel laid generations ago, and Philadelphia Gas Works — the largest municipally owned gas utility in the country — is weighing decarbonization against a replacement backlog measured in decades. Every one of those pressures moves the projects on your list. Invizion helps gas utilities re-sequence a capital portfolio in a click — and defend every decision.

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| <b>#2<sup>1</sup></b><br><br>Pennsylvania's rank among U.S. natural gas producers — about 7.4 trillion cubic feet in 2024, behind only Texas. <sup>1</sup> | <b>~2.9M<sup>2</sup></b><br><br>Residential natural gas customers across Pennsylvania (2024). <sup>2</sup> | <b>6,000+ mi<sup>3</sup></b><br><br>Gas mains and service pipes operated by PGW alone — much of it aging cast iron and bare steel. <sup>3</sup> | <b>~\$312M<sup>4</sup></b><br><br>Columbia Gas of PA's 2025 capital spend to replace aging pipe across 26 counties. <sup>4</sup> |
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## THE PENNSYLVANIA LANDSCAPE

# Four forces are moving your project list at once

Pennsylvania's gas utilities plan against an unusual mix: abundant local supply, unusually old distribution pipe, and a decarbonization debate that lands hardest on the state's biggest municipal system. Each force reshuffles capital priorities on a different clock.

### SYSTEM INTEGRITY — AGING PIPE

#### Cast iron and bare steel, still in the ground

Pennsylvania's distribution systems are among the oldest in the country. Philadelphia Gas Works alone runs more than 6,000 miles of gas mains and service pipes, a large share of it legacy cast iron and unprotected steel.<sup>3</sup> PHMSA's records show why that matters: cast-iron mains in Philadelphia dating to 1928 and 1942 have failed in service, and while national cast-iron mileage has fallen sharply since 2005, the remaining inventory is concentrated in older Eastern cities like Philadelphia.<sup>5</sup>

Pennsylvania pioneered the Distribution System Improvement Charge precisely to accelerate this replacement — but faster replacement means more capital competing for the same window.<sup>6</sup>

### DECARBONIZATION — THE GAS QUESTION

#### A municipal utility weighing its own future

Philadelphia Gas Works, the largest municipally owned gas utility in the U.S., is running a Low Carbon Pathways Study — three long-horizon scenarios modeling energy efficiency, electrification, lower-carbon fuels such as RNG and hydrogen, carbon capture, and thermal energy networks, with results due in fall 2026<sup>7</sup>

It is already testing alternatives: a 2026 feasibility study for a closed-loop networked-geothermal pilot at a Philadelphia school and recreation center put the system at roughly \$19 million, or about \$11.4 million net after incentives that lean on a 40% investment tax credit.<sup>8</sup> Every dollar of decades-long pipe replacement now has to be weighed against the risk that some of that asset base is stranded.

### SUPPLY & RELIABILITY — PRICE SWINGS

#### Sitting on gas, still exposed to volatility

The Marcellus makes Pennsylvania the No. 2 gas-producing state, at roughly 7.4 trillion cubic feet in 2024.<sup>1</sup> Abundant supply does not insulate customers from cost swings: the average residential price fell to about \$13.62 per thousand cubic feet in 2024 from \$15.43 in 2023, then climbed again in 2025.<sup>9</sup>

With about 2.9 million households on the system, winter design-day peaking and interstate-pipeline constraints — sharpest in the state's southeast — keep reliability capital and volatile purchased-gas costs on the planning table at once.<sup>2</sup>

### CAPITAL RECOVERY — RATES

#### Modernize the system without breaking the bill

Pennsylvania's PUC regulates more than 35 natural gas utilities, approving base rates and reviewing each company's Long-Term Infrastructure Improvement Plan.<sup>10</sup> The DSIC, authorized statewide by Act 11 of 2012, lets utilities recover accelerated replacement between rate cases — but the base cases keep coming.<sup>6</sup>

Columbia Gas of PA's December 2025 case approved a \$55.6 million revenue increase, lifting a typical residential bill about 5.34% (from \$138.52 to \$145.92 a month) — a reminder that every modernization dollar shows up on someone's bill.<sup>4</sup>

## WHO DELIVERS PENNSYLVANIA'S GAS

## Five large investor-owned LDCs and the nation's biggest municipal system

Pennsylvania's distribution map is dominated by five investor-owned local distribution companies regulated by the PUC, plus Philadelphia Gas Works — a city-owned utility with no peer in scale among U.S. municipal gas systems. The pressures are shared; the accountability path differs.

## Investor-owned LDCs

Rates & capital recovery regulated by the PA PUC

|                                       |                                                                             |
|---------------------------------------|-----------------------------------------------------------------------------|
| <b>UGI Utilities</b>                  | ~700,000 customers · 45 PA counties <sup>3</sup>                            |
| <b>Peoples Natural Gas</b>            | ~740,000 customers · largest NGDC in PA (Essential Utilities) <sup>11</sup> |
| <b>Columbia Gas of Pennsylvania</b>   | ~450,000 customers · 26 counties (NiSource) <sup>12</sup>                   |
| <b>National Fuel Gas Distribution</b> | 756,000+ customers across NW PA & western NY <sup>14</sup>                  |
| <b>PECO Energy</b>                    | 511,000+ gas customers · suburban Philadelphia (Exelon) <sup>15</sup>       |

These five carry the bulk of the state's roughly 2.9 million residential gas customers,<sup>2</sup> and each recovers modernization capital through base rates and the DSIC.<sup>6</sup>

## Municipal &amp; smaller gas systems

City-owned and small-territory LDCs

|                                     |                                                                                                    |
|-------------------------------------|----------------------------------------------------------------------------------------------------|
| <b>Philadelphia Gas Works (PGW)</b> | ~500,000 customers · City of Philadelphia · largest municipal gas utility in the U.S. <sup>3</sup> |
| <b>Leatherstocking Gas Company</b>  | Small LDC extending service to previously unserved northeastern PA                                 |
| <b>Valley Energy</b>                | Small LDC serving the Sayre / Bradford County area of northern PA                                  |

Pennsylvania's public gas sector is effectively PGW — the state has no large gas cooperatives — and Act 11 explicitly extends DSIC recovery to a “city natural gas distribution operation” so PGW can accelerate cast-iron replacement like the investor-owned LDCs.<sup>6</sup>

## Every capital dollar has to be defensible

Whether the money flows through a base rate case or the DSIC, the PUC asks the same thing of a Pennsylvania gas utility: why this project, why now, why at this cost.

**Pennsylvania PUC** regulates more than 35 natural gas utilities, setting base rates and reviewing each company's Long-Term Infrastructure Improvement Plan (LTIIIP) that governs replacement pace.<sup>10</sup>

**The DSIC (Act 11 of 2012)** — the surcharge mechanism Pennsylvania pioneered — lets water, gas, electric, and city gas utilities recover the cost of accelerated infrastructure replacement between rate cases, provided they keep an approved LTIIIP and have filed a base case within the prior five years.<sup>6</sup>

**Columbia Gas of PA's 2025 rate case** (Docket R-2025-3053499) was approved in December 2025 for a \$55.6 million revenue increase effective January 1, 2026 — about a 5.34% rise for a typical residential customer — to fund continued system modernization.<sup>4</sup>

## Where the capital comes from

Federal grant money for gas distribution is thin in Pennsylvania; the real engine is rate-based recovery. The DSIC that the state invented is doing much of the work, alongside base rate cases and targeted incentives for cleaner alternatives.

**The DSIC surcharge** is the primary between-case funding mechanism for accelerated main replacement — a model Pennsylvania originated and other states copied.<sup>6</sup>

**Base rate recovery:** Columbia Gas of PA alone is investing about \$312 million in 2025 to replace aging pipe, with a \$55.6 million revenue increase approved to support it.<sup>4</sup>

**Clean-energy tax credits:** PGW's geothermal pilot is priced around \$19 million gross but roughly \$11.4 million net, leaning on incentives including a 40% federal investment tax credit — the kind of offset now shaping how alternatives pencil out.<sup>8</sup>

**The affordability ceiling:** with about 2.9 million residential customers, every surcharge and rate increase competes against bill impact — which is the real constraint on how fast capital can flow.<sup>2</sup>

## PENNSYLVANIA GAS, IN BRIEF

# Questions Pennsylvania gas utility leaders are asking

Short, sourced answers — the same facts we dig into with utilities looking at their capital programs.

## Is Pennsylvania a major natural gas producer?

Yes. Marcellus Shale production makes Pennsylvania the second-largest gas-producing state in the country, at roughly 7.4 trillion cubic feet in 2024, behind only Texas.<sup>1</sup>

## What is the biggest infrastructure challenge for Pennsylvania gas utilities?

Aging distribution pipe. The state's systems still contain cast iron and bare steel installed generations ago; PGW alone operates more than 6,000 miles of mains and service pipes, and PHMSA has documented in-service failures of century-old cast-iron mains in Philadelphia.<sup>35</sup>

## What is the DSIC and why does it matter?

The Distribution System Improvement Charge is a surcharge Pennsylvania pioneered and expanded to gas, electric, water, and city gas utilities under Act 11 of 2012. It lets utilities recover the cost of accelerated infrastructure replacement between full rate cases, as long as they maintain an approved Long-Term Infrastructure Improvement Plan.<sup>6</sup>

## How is Philadelphia Gas Works handling decarbonization?

PGW is running a Low Carbon Pathways Study modeling efficiency, electrification, RNG, hydrogen, carbon capture, and thermal energy networks, with results due in fall 2026, and has already studied a networked-geothermal pilot at a Philadelphia school and rec center.<sup>78</sup>

## Who regulates rates, and what do recent cases look like?

The Pennsylvania PUC regulates more than 35 gas utilities. In its December 2025 case, Columbia Gas of PA was approved for a \$55.6 million revenue increase effective January 2026 — about 5.34% on a typical residential bill — to fund modernization.<sup>104</sup>

## How does Invizion help Pennsylvania gas utilities plan capital?

Invizion is scenario-based capital portfolio optimization for utilities. It lets you model how a DSIC cap, a rate-case outcome, a decarbonization decision, or an accelerated cast-iron program reshuffles your whole project list, re-sequence the portfolio automatically against your constraints, and keep a defensible record of every trade-off for the PUC, your board, or City Council.

## REFERENCES

### Sources

Every figure in this briefing is tied to a primary or authoritative source.

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## ABOUT INVIZION

## Capital program optimization for utilities

Invizion is a purpose-built capital lifecycle management platform for utilities. It integrates budgeting, CIP, scenario analysis, and funding-source tracking in one system — so utilities can re-sequence a capital portfolio in a click and demonstrate audit-ready, defensible decisions to regulators, boards, and rating agencies.

**See how utilities keep capital plans current and defensible with Invizion.**

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