

Pennsylvania runs nearly 9,200 water systems — and most of the pipe is old.

Aging mains and one of the largest fleets of water systems in the country, lead service lines and PFAS on a compliance clock, rate scrutiny at the PUC, and a wave of acquisitions reshaping who owns what. Every one of those forces reshuffles the projects on your list. Invizion helps Pennsylvania utilities re-sequence a capital portfolio in a click — and defend every decision.

~9,200¹	\$41.7B²	2.5M³	\$559.4M⁴
Public water systems in Pennsylvania overseen by DEP — among the largest counts of any state.	Estimated 20-year wastewater infrastructure need in Pennsylvania; ASCE graded the state's wastewater a D- .	People served by Pennsylvania American Water alone — the largest PUC-regulated water provider in the state.	PENNVEST's largest-ever single-round water infrastructure award, announced January 2026.

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THE PENNSYLVANIA LANDSCAPE

Four forces are moving your project list at once

None of these is theoretical, and none of them waits for your next budget cycle. Together they mean the capital plan you approved last year may already be the wrong plan.

AGING INFRASTRUCTURE

Old pipe, and a lot of it, across the nation's largest system fleet

Pennsylvania oversees nearly 9,200 public water systems — one of the largest counts of any state — and much of the distribution network dates to the early or mid-20th century.¹ The American Society of Civil Engineers gave Pennsylvania a **D** for drinking water and a **D-** for wastewater in its 2022 report card, citing an estimated \$41.7 billion in 20-year wastewater needs and a roughly \$8.4 billion wastewater funding gap over the next decade alone.²

The scale is real even at a single provider: Pennsylvania American Water maintains about 12,370 miles of water and sewer pipeline and plans to invest roughly \$650–\$800 million a year to renew it.³ Nationally, EPA's 7th Drinking Water Infrastructure Needs Survey put 20-year needs at \$625 billion — renewal that competes for the same dollars as every new mandate.⁵

LEAD SERVICE LINES

Lead replacement is now a funded mandate, not a study

Pennsylvania's older cities carry large inventories of lead service lines, and replacement has moved from planning to execution. Pittsburgh Water (PWSA) began its lead line program in 2016 and is on track to replace all residential lead service lines in its system by 2027.⁶

Under EPA's lead rules, systems statewide must inventory their service lines and fund replacement on a fixed timeline. That is capital work with a deadline attached — and it lands on top of the renewal backlog, not instead of it.

PFAS & WATER QUALITY

Pennsylvania set its own PFAS limits — treatment follows

In January 2023, Pennsylvania's PFAS rule was published in the *Pennsylvania Bulletin*, setting maximum contaminant levels for PFOA and PFOS in drinking water.⁷ For a utility with affected sources, compliance means new treatment, blending, or replacement supply — every one of them a capital project.

PFAS obligations arrive at the same time as lead replacement and renewal. Three mandates, one capital budget, and a board that wants to know which one moves first.

WASTEWATER, CSOS & AFFORDABILITY

Combined sewers, consent decrees, and rising bills

Pennsylvania's legacy cities run combined sewers that overflow in storms. Philadelphia's *Green City, Clean Waters* program — a 25-year effort running from 2011 to 2036 — targets at least an 85% cut in combined-sewer pollution across the roughly 60% of the city served by combined systems.⁸

Those obligations, plus a \$41.7 billion wastewater need statewide, land on ratepayers.² Affordability is now part of every capital conversation: the question is not only whether a project is needed, but whether the rate path to pay for it can survive review.

WHO RUNS PENNSYLVANIA'S WATER

Big municipals, two dominant investor-owned providers, and a long tail of small systems

Pennsylvania's largest cities run their own water and wastewater utilities. Two investor-owned providers — Pennsylvania American Water and Aqua Pennsylvania — serve millions more under PUC rate regulation, and thousands of small systems sit in between. The pressures are shared; the accountability path differs.

Municipal & authority systems

Rates set by city councils & authority boards

Philadelphia Water Department 2M+ people across 4 counties⁹

Pittsburgh Water (PWSA) Nation-watched lead line programs⁶

Allegheny County Sanitary Authority (ALCOSAN) Regional wastewater & CSO program

Municipal authorities statewide Thousands of small & mid-size systems

Pennsylvania has one of the largest counts of public water systems in the country — nearly 9,200 — most of them small¹

Investor-owned utilities

Rates & capital recovery regulated by the PA PUC

Pennsylvania American Water ~2.5M people · 38 counties · ~12,370 miles of pipe³

Aqua Pennsylvania (Essential Utilities) 1.5M people · 33 counties¹⁰

Consolidation underway American Water & Essential agreed to combine (close expected Q1 2027)¹¹

American Water and Essential Utilities — the parents of the two largest regulated water providers in Pennsylvania — agreed to merge into a combined company serving roughly 19.5 million people; the deal is expected to close by the first quarter of 2027, subject to regulatory approvals.¹¹

Every capital dollar has to be defensible

Whether you answer to the Public Utility Commission or a municipal board, the question is the same: why this project, why now, why at this cost? Pennsylvania's oversight framework is asking it harder than ever.

Pennsylvania Public Utility Commission (PUC) regulates rates and capital recovery for more than 150 water and wastewater utilities, including the large investor-owned providers¹²

Act 12 of 2016 (Section 1329) lets an acquiring utility set rate base on the *fair market value* — the appraised value — of an acquired municipal water or sewer system, rather than its depreciated book cost. It has driven a wave of municipal-system sales, and critics tie it to faster rate increases for the customers of acquired systems¹³

Distribution System Improvement Charge (DSIC, Act 11) lets qualifying utilities recover infrastructure-replacement costs between base-rate cases — making the pace and sequencing of renewal a direct rate lever¹³

PA DEP holds Safe Drinking Water Act primacy — PFAS MCLs (2023), lead service line inventories, and the compliance capital that follows.⁷

The money is moving — can your plan absorb it?

Pennsylvania utilities have more capital funding available than they've had in a generation. The constraint is no longer only dollars — it's readiness: which projects are shovel-ready, which qualify, and how the timing lines up with everything else on the list.

PENNVEST administers Pennsylvania's Clean Water and Drinking Water State Revolving Funds — the state's primary low-interest loan and grant channel for water and wastewater projects, including federal Infrastructure Investment and Jobs Act (BIL) supplemental dollars.⁴

\$559.4 million in a single round — PENNVEST's largest-ever single-round award, announced January 2026⁴

Recent PENNVEST rounds ran \$216.3M (Oct 2024), \$288.2M (Jan 2025), and \$222.2M (Jul 2025) — a steady, sizable flow, not a one-time bump.⁴

Private capital adds to the pool: Pennsylvania American Water alone plans roughly \$650–\$800 million a year in system investment recovered through rates³

PENNSYLVANIA WATER, IN BRIEF

Questions Pennsylvania utility leaders are asking

Short, sourced answers — the same facts we'll dig into on a call, in the context of your system.

How many water systems does Pennsylvania have, and why does that matter for capital?

DEP oversees nearly 9,200 public water systems — one of the largest counts of any state, and most of them small. A fragmented fleet of aging systems means renewal, lead, and PFAS obligations are spread across thousands of budgets that were never sized for this much capital at once.

What is Act 12, and why is it controversial?

Act 12 of 2016 added Section 1329 to the Public Utility Code, letting an acquiring utility rate-base the appraised fair market value of an acquired municipal water or sewer system rather than its lower depreciated book costs. It has accelerated the sale of municipal systems to investor-owned providers; critics argue the fair-market-value basis pushes rates up for the customers of acquired systems faster than they otherwise would rise.

Who sets my water utility's rates in Pennsylvania?

The PA PUC regulates rates for investor-owned utilities — Pennsylvania American Water, Aqua Pennsylvania, and others — covering more than 150 water and wastewater utilities in total. Municipal systems such as Philadelphia and Pittsburgh set rates through their own councils and boards. Either way, capital spending has to be justified to a governing body and, increasingly, to ratepayers.

What PFAS and lead obligations do Pennsylvania utilities face?

Pennsylvania published its own PFAS rule in January 2023, setting drinking-water MCLs for PFOA and PFOS. On lead, systems must inventory service lines and replace them on a fixed timeline — Pittsburgh Water expects to finish residential lead line replacement by 2027. Both are funded mandates that stack on top of ordinary renewal.

What funding is available for Pennsylvania water projects?

PENNVEST administers the state's Clean Water and Drinking Water SRFs, including federal BIL supplemental dollars, and its awards have run into the hundreds of millions per round — a record \$559.4 million in a single round in January 2024. The constraint is increasingly readiness and sequencing, not the existence of dollars.

How does Invizion help Pennsylvania water utilities plan capital?

Invizion is scenario-based capital portfolio optimization for water utilities. It lets you model how a lead or PFAS deadline, a PENNVEST award, or an acquisition reshuffles your whole project list, re-sequence the portfolio automatically against your funding and rate constraints, and keep a defensible record of every trade-off for the PUC, your board, or ratepayers. The best next step is a short first meeting to look at it against your own program.

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 water and wastewater 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 what a defensible Pennsylvania capital plan looks like — book a 20-minute first meeting.

Book your first meeting →