

Kentucky loses about a third of its treated water. Your capital plan can't afford to lose the argument.

Aging pipe and high water loss across the commonwealth, a fragmented map of small rural districts, new federal PFAS limits, and a wave of ARPA, SRF, and federal dollars that won't stay on the table forever. For a Kentucky water CFO or capital lead, every one of those forces reshuffles the projects on your list. Invizion helps Kentucky utilities re-sequence a capital portfolio in a click — and defend every decision.

~\$14.5B¹ Kentucky's estimated drinking-water and wastewater infrastructure needs over 20 years.	~30%² Average share of treated water lost to leaks statewide — far higher in some Appalachian systems.	\$250M¹ ARPA dollars committed to Kentucky's Cleaner Water Program for water and sewer grants.	4.0 ppt³ New federal PFOA and PFOS limit — a funded mandate now on every Kentucky system's clock.
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THE KENTUCKY 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 PIPE & WATER LOSS

A third of the treated water never reaches a tap

Kentucky's water systems lose roughly 30% of the water they treat to leaks and breaks, and the state's treatment plants average about 36 years old — drivers behind the C+ grade the state's drinking-water infrastructure carries² In older systems the loss runs far higher, and every leaked gallon is chemicals, energy, and pumping paid for and thrown away.

The oldest networks tell the story plainly: Louisville Water, the commonwealth's first public water provider since 1860, operates roughly 4,300 miles of main serving nearly a million people — some of it more than a century old⁴ Renewal on that scale is a sequencing problem before it is a spending one.

FRAGMENTED SYSTEMS

Hundreds of small districts, and some are running out of runway

The fragility is not abstract. In January 2024, Fleming-Neon in Letcher County ran so low that the governor declared a state of emergency, a failure rooted in aging infrastructure and flood damage as much as drought⁵ Small systems like it lack the rate base to fund renewal on their own.

Kentucky delivers water through a dense patchwork of municipal utilities, county water districts, and small associations; rural water member utilities alone account for more than 95% of the commonwealth's drinking-water and wastewater customers⁶ Consolidation of failing systems — increasingly under the eye of the Public Service Commission — is now an active strategy⁷ For a stronger neighboring utility, the next distressed system may become your acquisition — and your capital problem.

COMPLIANCE — PFAS

New federal limits, on a fixed clock

In April 2024 the EPA finalized the first national drinking-water limits for PFAS, setting enforceable ceilings of 4.0 parts per trillion for PFOA and PFOS and giving systems until the end of the decade to comply.³ The agency paired the rule with roughly \$1 billion in federal funding to help states test and treat.³

For Kentucky utilities the obligation stacks on top of an existing renewal backlog rather than replacing it. Treatment, monitoring, and disposal are all capital and operating commitments — and when a new mandate lands, something else on the list has to move.

WASTEWATER & OVERFLOWS

Consent decrees and combined sewers keep spending non-discretionary

The wastewater side grades worse — a C- — against roughly \$6.2 billion in identified 20-year needs.² Kentucky's largest metros carry combined sewers and long-running federal consent decrees that make major spending non-discretionary.

Louisville MSD, for one, is investing heavily to control overflows and modernize treatment, including a \$97 million WIFIA loan for its Morris Forman biosolids projects.⁴ When a court-ordered project is fixed in time, everything else has to sequence around it.

WHO RUNS KENTUCKY'S WATER

Big municipals and districts, two regulated private providers, and a long tail of small systems

Kentucky's water is dominated by large public utilities and county districts, with investor-owned providers — chiefly Kentucky American Water — rate-regulated by the Public Service Commission. The pressures are shared; the accountability path differs.

Municipal & district utilities

Rates set by local boards and councils · capital approved by governing bodies

Louisville Water Company	~1M served · ~4,300 mi of main · Jefferson, Oldham & Bullitt since 1860s
Northern Kentucky Water District	Boone · Kenton · Campbell counties
Louisville & Jefferson County MSD	Wastewater · federal consent decrees
Warren County Water District	Bowling Green region · PSC-jurisdictional
Hundreds of county districts & small systems	95%+ of customers served by rural-water members

Investor-owned utilities

Rates & capital recovery regulated by the Kentucky PSC

Kentucky American Water	500,000+ people · 100,000+ customers · central KY
Bluegrass Water Utility Operating Co.	Acquires small distressed systems · active PSC cases
Numerous small private & rural systems	Where funding gaps hit hardest
Kentucky American Water reports investing more than \$100 million in infrastructure in recent years across its central-Kentucky service area.	

Every capital dollar has to be defensible

Whether you answer to the Public Service Commission or a local board, the question is the same: why this project, why now, why at this cost? Kentucky's oversight bodies are asking it harder than ever.

Kentucky Public Service Commission regulates rates and capital recovery for investor-owned water utilities such as Kentucky American Water and Bluegrass Water, and for many county water districts — approvals are contested, not automatic⁷

Rate cases are a recurring event. Kentucky American Water has repeatedly sought increases to recover infrastructure investment — a 2018 filing alone requested roughly \$19.8 million, about a 22% rise, affecting more than 100,000 customers¹¹

Municipal & district boards set rates for Louisville Water, MSD, and most public systems — in public, in front of ratepayers, rather than at the PSC.

Kentucky Division of Water (EEC) holds Safe Drinking Water Act primacy — lead service line inventories, PFAS monitoring, and the compliance capital that follows the new 4.0 ppt limits³

Source-water rules are in flux. In 2025 the legislature passed SB 89, narrowing the definition of “waters of the commonwealth” — a change the cabinet warned could affect at least 156 public water systems and 31,000-plus private wells¹²

The money is moving — can your plan absorb it?

Kentucky 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.

Kentucky Infrastructure Authority administers the Clean Water and Drinking Water State Revolving Funds, with construction rates from 1.00% to 2.75% by community income, 30-year terms and principal forgiveness for disadvantaged systems, plus an annual Call for Projects.¹³

\$250M Cleaner Water Program — ARPA dollars committed for water and sewer grants statewide, allocated largely by county population with set-asides for rural and consent-decree systems¹

A proposed \$500M in state water grants — the governor proposed a half-billion dollars for water and wastewater infrastructure in the two-year budget, on top of federal streams⁵

\$97M WIFIA loan to Louisville MSD for its Morris Forman biosolids project, closed in 2021 — the model for low-cost federal financing on large wastewater work.⁸

USDA Rural Development keeps funding small-system water work — recent 2026 awards include \$23.7 million for East Kentucky projects and \$2.4 million for a Harrison County system¹⁴

KENTUCKY WATER, IN BRIEF

Questions Kentucky utility leaders are asking

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

How bad is water loss in Kentucky?

Kentucky systems lose about 30% of treated water on average to leaks and breaks, and treatment plants average roughly 36 years old — part of why the state's drinking-water infrastructure earns a C+ and wastewater a C-. Some older Appalachian systems lose far more. Every lost gallon is treatment, energy, and pumping paid for and never billed²

How much capital does Kentucky's water and wastewater sector need?

Estimates put Kentucky's combined 20-year drinking-water and wastewater needs at roughly \$14.5 billion — on the order of \$8.2 billion for drinking water and \$6.2 billion for wastewater. That backlog is why state and federal programs have moved so much money at once, and why sequencing the work matters as much as funding it.¹²

What funding is available to Kentucky water utilities right now?

Several streams at once: the Kentucky Infrastructure Authority's Clean Water and Drinking Water SRFs with below-market rates and principal forgiveness; the \$250 million ARPA-funded Cleaner Water Program; a proposed \$500 million in state water grants; WIFIA loans such as Louisville MSD's \$97 million award; and USDA Rural Development grants and loans for small systems. The hard part is readiness — matching shovel-ready, eligible projects to the right program on the right timeline.¹³¹¹⁴

Does the Public Service Commission set my utility's rates?

The PSC regulates rates and capital recovery for investor-owned utilities such as Kentucky American Water and Bluegrass Water, and for many county water districts. Large municipal systems — Louisville Water, Northern Kentucky Water District, MSD — set rates through their own boards and councils. Either way, capital spending has to be justified to a governing body and, increasingly, to ratepayers.⁷

What do the new PFAS rules mean for Kentucky systems?

The EPA's April 2024 rule set enforceable limits of 4.0 parts per trillion for PFOA and PFOS, with compliance required later this decade, backed by about \$1 billion in federal funding. Kentucky utilities that detect PFAS above the limits will need monitoring, treatment, and disposal — new capital and operating costs layered on top of an existing renewal backlog³

How does Invizion help Kentucky water utilities plan capital?

Invizion is scenario-based capital portfolio optimization for water utilities. It lets you model how a PFAS deadline, a distressed-system acquisition, a funding award, or a consent-decree milestone reshuffles your whole project list, re-sequence the portfolio automatically against your constraints, and keep a defensible record of every trade-off for the PSC, 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 Kentucky capital plan looks like — book a 20-minute first meeting.

Book your first meeting →