

Tennessee's grid runs on TVA — and TVA's capital spend just jumped 76% in two years.

There is no state PUC here. Wholesale power comes from the federal Tennessee Valley Authority and is delivered by roughly 150 municipal and cooperative distributors. AI data centers, an \$5.6B Ford plant, and a coal-to-gas-and-nuclear transition are all landing on the same capital clock at once. Invizion helps electric utilities re-sequence a capital portfolio in a click — and defend every decision.

\$4.46B² TVA's construction (capital) expenditures in fiscal 2025 — up from \$2.53B in FY2023.	1.2 GW⁵ Projected power draw of xAI's Colossus supercomputer in Memphis at full build-out.	\$5.6B⁴ Ford's BlueOval City investment near Stanton — the largest in Ford's history.	2035³ Year TVA plans to fully retire its coal fleet.
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THE TENNESSEE LANDSCAPE

Four forces are moving your project list at once

None of these is theoretical, and none of them waits for the next TVA budget cycle or your board's next rate review. Together they mean the capital plan approved last year may already be the wrong plan.

DEMAND — LOAD GROWTH**Gigawatts of new load, arriving fast**

xAI's Colossus supercomputer in Memphis went from an 8 MW grid tie to roughly 250 MW inside a year, with TVA approving more than 100 MW in late 2024 and the site projected at 1.2 GW at full build-out.⁵ Ford's \$5.6 billion BlueOval City near Stanton adds a second gigawatt-scale anchor.⁴

TVA's own 10-K now lists AI data centers, cryptocurrency mining, EVs, and new large customer loads as a primary source of demand volatility — each one a capacity commitment competing for the same capital.²

RELIABILITY — WINTER PEAKS**Elliott exposed a winter-peaking system**

During Winter Storm Elliott in December 2022, TVA ordered its first-ever rolling blackouts across the seven-state region as demand set records in extreme cold.⁶

Unlike utilities inside an RTO market, TVA carries resource adequacy largely on its own ~35 GW fleet — there is no neighboring capacity market to lean on when a cold snap hits.³ Tennessee alone counts about 20,605 MW of net summer capacity.¹

GENERATION — THE TRANSITION**Coal out, gas and nuclear in**

TVA is retiring the 2,470 MW Cumberland coal plant (Unit 1 by 2026, Unit 2 by 2028) and replacing it with a 1,450 MW combined-cycle gas plant, and plans to exit coal entirely by 2035.^{10,3}

At the same time the NRC accepted TVA's construction-permit application for a GE Vernova BWRX-300 small modular reactor at Clinch River in July 2025, and TVA has more than 2,500 MW of contracted solar not yet online.^{11,2}

CAPITAL — GRID & HARDENING**Build, expand, and harden at once**

TVA's construction expenditures reached \$4.46 billion in fiscal 2025, up from \$3.28 billion in 2024 and \$2.53 billion in 2023 — a 76% jump in two years.²

DOE has committed up to \$250 million to TVA for grid resilience against extreme weather.¹² New obligations don't replace the backlog. They stack on top of it, and something on the list has to move.

WHO RUNS TENNESSEE'S GRID

A federal wholesaler and ~150 local distributors — no state-regulated IOUs

Tennessee has essentially no state-PUC-regulated investor-owned electric utilities. The federal Tennessee Valley Authority generates and sells power at wholesale to about 150 local power companies — large municipal systems and member-owned cooperatives — that handle distribution and retail rates.

Municipal power companies

Large metro distributors, governed by local boards

Memphis Light, Gas & Water (MLGW) 428,000+ electric customers · TVA's largest customer, ~11% of its load¹

Nashville Electric Service (NES) 450,000+ customers · among the 11 largest U.S. public utilities²

Knoxville Utilities Board (KUB) Electric, gas, water, wastewater & fiber · Knoxville area³

EPB Chattanooga ~180,000 customers · smart grid & gigabit fibers⁴

MLGW and NES together account for roughly 17% of TVA's total operating revenues.²

Federal wholesale power & cooperatives

TVA self-sets wholesale rates; coops governed by members

Tennessee Valley Authority (TVA) Federal; ~35 GW fleet, serving ~10M people via 153 local power companies^{3,2}

Middle Tennessee Electric & peer coops Member-owned distribution cooperatives, part of the 153 LPCs

Municipal & cooperative distributors statewide ~150 LPCs buy wholesale from TVA and set retail rates locally

No state PUC — but every capital dollar is still defensible

Tennessee has no public utility commission setting electric rates. TVA regulates itself; local boards set retail rates. The question a utility answers is the same either way: why this project, why now, why at this cost?

TVA is self-regulated. As a federal corporation, TVA's board sets its own wholesale power rates and is not subject to state public-utility commission or FERC rate regulation³

The Partnership Agreement. As of September 2025, 148 of TVA's 153 local power companies had signed the long-term Partnership Agreement — a rolling 20-year termination notice in exchange for a 3.1% wholesale bill credit²

MLGW is the notable holdout. Memphis Light, Gas & Water keeps a five-year termination notice (not the 20-year commitment) and has repeatedly studied leaving TVA for alternative supply — a live question for the region's largest customer²⁷

Local boards set retail rates. Municipal systems (MLGW, NES, KUB, EPB) answer to city-appointed or elected boards; cooperatives to member-elected boards — public capital decisions made in front of customers.⁸

Generation is planned through TVA's Integrated Resource Plan, which guides how much gas, solar, nuclear, and storage the region builds — the framework behind every LPC's supply picture²

The money is moving — can your plan absorb it?

Between federal grid grants, TVA's self-funded capital ramp, and clean-energy tax credits, there is more grid capital in play than in a generation. The constraint is readiness: which projects qualify, which are shovel-ready, and how the timing lines up.

DOE GRIP: up to \$250M to TVA (2024) to strengthen grid resilience against extreme weather across its seven-state region¹²

\$4.46B TVA construction spend in FY2025 — self-funded through power revenues and bonds, up 76% from FY2023, financing new gas, solar, transmission, and nuclear²

\$1.5B+ in energy efficiency & demand response planned by TVA over 2024–2028, alongside 1,693 MW of demand-response capacity that can shave peaks²

IRA elective-pay (direct-pay) credits let TVA, municipalities, and cooperatives — as public entities — capture federal tax credits on solar, storage, and nuclear they historically could not use.

TENNESSEE'S GRID, IN BRIEF

Questions Tennessee utility leaders are asking

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

How fast is electricity demand growing in the TVA region?

Fast, and concentrated in Tennessee. xAI's Colossus data center in Memphis is projected to reach 1.2 GW, Ford's \$5.6 billion BlueOval City is coming online near Stanton, and TVA's 10-K now flags AI data centers, crypto mining, EVs, and large new loads as a top driver of demand volatility⁵⁴²

Who regulates electric rates in Tennessee?

There is no state public utility commission for electricity. TVA sets its own wholesale rates as a self-regulated federal corporation, and local municipal and cooperative boards set retail rates for their customers³²

What happened during Winter Storm Elliott?

In December 2022, extreme cold pushed demand to records and TVA ordered its first-ever rolling blackouts across its service region — a reminder that Tennessee's grid is winter-peaking and TVA carries resource adequacy largely on its own fleets⁶

What is TVA building to meet the load?

TVA is replacing the 2,470 MW Cumberland coal plant with 1,450 MW of combined-cycle gas, aiming to exit coal by 2035, advancing a GE Vernova BWRX-300 small modular reactor at Clinch River, and bringing on more than 2,500 MW of contracted solar¹⁰³¹¹²

Is Memphis (MLGW) leaving TVA?

MLGW — TVA's largest customer at roughly 11% of its load — has repeatedly studied alternative supply and keeps a five-year termination notice rather than TVA's 20-year Partnership Agreement, so the question remains open even as it stays with TVA today⁷²

How does Invizion help Tennessee electric utilities plan capital?

Invizion is scenario-based capital portfolio optimization for utilities. It lets you model how a data-center load surge, a TVA rate change, a coal retirement date, or a federal grant reshuffles your whole project list, re-sequence the portfolio automatically, and keep a defensible record of every decision for your board and your customers.

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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