

America's most coal-dependent grid, and \$45 billion of data-center load lining up behind it.

West Virginia is legally committed to running its coal fleet into the 2040s just as hyperscale data centers, PJM cost spikes, and a multi-billion-dollar gas build all land on the same capital plan. Every one of those forces reshuffles the projects on your list. Invizion helps electric utilities re-sequence a capital portfolio in a click — and defend every decision to the PSC.

~90%¹ Share of West Virginia's electricity generated from coal — the most coal-dependent grid in the nation, and the highest carbon intensity of any state.	\$45B² Anthropic's six-year commitment to the Monarch Compute Campus near Point Pleasant — roughly 460 MW, a third of a planned 1.3 GW first phase.	\$7.7B³ FirstEnergy's planned new 1,200 MW gas plant plus 70 MW of solar for Mon Power and Potomac Edison.	60 GW⁴ New data-center load PJM projects by 2030 — against just 6–12 GW of new supply expected.
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THE WEST VIRGINIA 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.

DEMAND — LOAD GROWTH

From flat load to a data-center magnet

The 2,000-acre Monarch Compute Campus near Point Pleasant landed a \$45 billion, six-year commitment from Anthropic for roughly 460 MW — about a third of a planned 1.3 GW first phase, with room to reach 8 GW.² FirstEnergy is planning a 1,200 MW gas plant plus 70 MW of solar to help serve the surge.³

Across PJM, data centers could add 60 GW of load by 2030 while only 6–12 GW of new supply is expected.⁴ Under 2025's HB 2014, high-impact data centers must build or procure their own power — often behind-the-meter microgrids — so they don't land on the rate base.⁵⁶

RELIABILITY — PJM & ADEQUACY

The margin depends on projects landing on time

PJM's capacity auction for 2028 fell short of what may be needed to avoid blackouts in extreme conditions, as generators declined to commit at lower prices.⁷ More than 1,600 projects (167.85 GW) sit in PJM's interconnection queue, and a consumer rate cap expires in June 2026.⁴

West Virginia's coal fleet — the most coal-dependent in the country¹ — is a big part of what PJM is leaning on to hold that line, which is exactly why the state has chosen to keep it running.

GENERATION — THE TRANSITION

Coal stays — on a ratepayer-funded clock

Where other states have walked away from money-losing coal, West Virginia has not. An OVEC power contract has passed more than \$328 million in above-market costs to Appalachian Power customers since 2018 and runs through 2040.⁸ Mon Power's \$142 million in ELG wastewater upgrades keep Fort Martin and Harrison running past 2028 (to 2035 and 2040)⁹ and a \$191 million cooling tower keeps the Mitchell plant alive to 2040.¹⁰

Renewables are a rounding error: under SB 583, utilities are building just five solar sites totaling about 50 MW, and the enabling law sunsets at the end of 2025.¹¹

CAPITAL — GRID & HARDENING

A gas build, coal upgrades, and grid work — all at once

FirstEnergy expects to invest about \$5.2 billion in West Virginia through 2029, with an additional \$2.5 billion pending approval, on top of its \$7.7 billion new-generation plans.³ Coal-fleet upgrades keep stacking — \$142 million at Fort Martin and Harrison, \$191 million at Mitchell.^{9,10}

DOE sent Mon Power and Potomac Edison \$50 million to harden and modernize the grid.¹² New obligations don't replace the backlog — they stack on top of it, and something on the list has to move.

WHO RUNS WEST VIRGINIA'S GRID

An investor-owned grid, with a thin cooperative and municipal layer

West Virginia is one of the most investor-owned-dominated grids in the country: two AEP utilities and two FirstEnergy utilities carry nearly all the load, and the state leads the nation in net interstate electricity exports.¹³ The pressures are shared; the accountability path runs through the PSC.

Investor-owned utilities

Rates & capital recovery regulated by the WV PSC

Appalachian Power (AEP) ~1M customers across WV, VA & TN · 57 counties · HQ Charleston¹⁴

Wheeling Power (AEP) Northern panhandle · co-owns the Mitchell plant¹⁰

Mon Power (FirstEnergy) ~395,000 customers · 34 WV counties³

Potomac Edison (FirstEnergy) ~155,000 WV customers · Eastern Panhandle³

FirstEnergy alone expects to invest about \$5.2 billion in West Virginia through 2029, with \$2.5 billion more pending PSC approval.³

Cooperatives & public power

Governed by members & municipalities, not PSC rates

Harrison Rural Electrification Assn. Member-owned coop · 7 north-central counties¹⁵

Rural electric cooperatives Member-governed distribution in rural pockets

Municipal electric systems A handful of city-run utilities

Cooperatives and municipals serve only a small share of West Virginia — the great majority of load, and of the capital, sits with the four PSC-regulated investor-owned utilities.

Every capital dollar has to be defensible

In West Virginia the question in front of the Public Service Commission is the same for every project: why this, why now, why at this cost — especially when the answer keeps coal running.

West Virginia Public Service Commission (PSC) regulates rates, capital-cost recovery, and resource plans for Appalachian Power, Wheeling Power, Mon Power, and Potomac Edison¹⁶

Appalachian Power / Wheeling Power rate case sought roughly a 17% base-rate increase (about \$28 a month), later landing near \$24 a month for the average residential customer amid heavy public opposition — approvals are not a formality¹⁷¹⁸

Coal-fleet cost recovery is now a defining WV feature: ratepayers fund upgrades that keep coal plants running to 2035–2040 — \$142M at Fort Martin and Harrison, \$191M at Mitchell — while an OVEC contract passes \$328M+ in above-market costs to Appalachian Power customers.⁹¹⁰⁸

HB 2014 (2025), the Power Generation and Consumption Act creates a high-impact data-center and certified-microgrid program: data centers bring or procure their own power, and project revenue is split 50% to a personal-income-tax cut, 30% to host counties, 10% to other counties, and 10% to local infrastructure⁵⁶

The money is moving — can your plan absorb it?

West Virginia utilities have more grid and generation capital in motion than they've had in a generation. The constraint is readiness: which projects qualify, which are shovel-ready, and how the timing lines up.

DOE GRIP: \$50M to Mon Power & Potomac Edison (Oct 2024, via the Infrastructure Investment and Jobs Act) to cut storm-driven outage duration and modernize the grid¹²

~\$7.7B FirstEnergy generation plan — a 1,200 MW gas plant plus 70 MW of solar — with roughly \$5.2B of WV investment planned through 2029 and \$2.5B more pending PSC approval³

SB 583 solar program lets utilities build up to 200 MW of solar on former industrial sites; five sites totaling about 50 MW are underway, but the enabling law sunsets Dec. 31, 2025 unless renewed¹¹

IRA clean-energy tax credits (including transferable and direct-pay credits) put utility-scale solar and storage within reach for utilities and cooperatives — where state policy allows them to build it.

WEST VIRGINIA'S GRID, IN BRIEF

Questions West Virginia utility leaders are asking

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

How coal-dependent is West Virginia's grid?

Roughly 90% of West Virginia's electricity comes from coal — the most coal-dependent grid in the nation, with the highest carbon intensity of any state, and West Virginia leads the country in net interstate electricity exports¹¹³

How fast is data-center load growing in West Virginia?

The Monarch Compute Campus near Point Pleasant secured a \$45 billion, six-year deal with Anthropic for about 460 MW, part of a planned 1.3 GW first phase; across PJM, data centers could add 60 GW of load by 2030²⁴

Why is West Virginia keeping its coal plants running?

State law and PSC orders back ratepayer-funded upgrades that keep coal plants running to 2035–2040 — \$142M at Fort Martin and Harrison and \$191M at Mitchell — even as an OVEC contract has cost Appalachian Power customers \$328M+ above market since 2013¹⁰⁸

Why are West Virginia electric bills rising?

PJM's capacity market is tightening as data-center demand outruns new supply, and Appalachian Power sought a base-rate increase of roughly 17% (near \$28 a month) — on top of fuel and coal-upgrade surcharges⁷¹⁷¹⁸

What grid and generation funding is available?

DOE sent Mon Power and Potomac Edison \$50 million in GRIP grid funding, FirstEnergy is planning about \$7.7 billion of new generation, and SB 583 allows up to 200 MW of solar on brownfield sites (about 50 MW underway)¹²³¹¹

How does Invizion help West Virginia electric utilities plan capital?

Invizion is scenario-based capital portfolio optimization for utilities. It lets you model how a data-center load surge, a PJM price spike, a coal-upgrade order, or a new gas plant reshuffles your whole project list, re-sequence the portfolio automatically, and keep a defensible record of every decision for the PSC.

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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