

Alabama Power just lined up a \$4.1 billion federal loan to modernize the grid. Your capital plan is where it gets spent.

Industrial expansion and data-center demand are stacking new load onto a grid that spans Alabama Power in the south, TVA in the north, and dozens of cooperatives in between — all while the fleet shifts toward gas and solar. 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.

\$4.1B¹ DOE-backed loan to Alabama Power (2026) for reliability, transmission, and grid modernization — part of a \$26.5B Southern Company facility.	16 GW¹ New power infrastructure the Southern Company loan helps finance across Alabama and Georgia.	1,766 MW² Carbon-free capacity from Alabama Power's two-unit Farley Nuclear Plant, licensed into the late 2030s and 2040s.	1.5M+³ Homes and businesses Alabama Power serves across the southern two-thirds of the state.
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THE ALABAMA 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

Industry and data centers are stacking new load

Southern Company points to “extraordinary economic development momentum and demand for power” across its footprint, and Alabama is squarely in it.⁴ NERC’s 2025 assessment shows the SERC–Southeast region’s summer peak forecast rising more than 2% in a single year, driven by economic growth and expanding industrial and data-center loads.⁵

Alabama already ranks 6th nationally in electricity generation and is among the top states for direct industrial use of power — so every new large customer is a firm capacity commitment competing for the same capital.⁶

RELIABILITY — PEAKS & WEATHER

Healthy margins that thin under stress

The SERC–Southeast area carries a comfortable anticipated reserve margin today, and NERC rates it “Normal” — but the same assessment warns of reduced thermal capacity and generator performance under extreme heat and cold.⁵

Alabama’s roughly 31,000 MW of summer generating capacity has to keep pace with load growth while riding out the weather.⁶ The margin depends on new projects landing on schedule.

GENERATION — THE TRANSITION

Gas, nuclear, and solar on a capital clock

Natural gas is now Alabama’s leading source of electricity, alongside the Farley nuclear plant and a large hydro fleet.^{6,2}

Alabama Power still operates a major coal fleet — including Plant Miller, historically one of the country’s largest single CO₂ emitters — that is steadily giving way to gas and solar.⁷

The DOE-backed Southern Company loan is sized to help finance about 16 GW of new infrastructure, so the transition and the growth land on the capital plan at the same time.¹

CAPITAL — GRID & HARDENING

Build, modernize, and harden at once

Alabama Power’s \$4.1 billion DOE-backed loan is earmarked for reliability, transmission, and grid modernization.¹ In the north, TVA won up to \$250 million in DOE GRIP funding to harden the grid across the Southeast, Alabama included — advanced conductors, self-healing devices, and faster outage restorations.⁸

Gulf-exposed territory adds hurricane and storm hardening on top of growth. New obligations don’t replace the backlog — they stack on it, and something on the list has to move.

WHO RUNS ALABAMA'S GRID

Alabama Power in the south, TVA in the north, cooperatives in between

Alabama's grid is carried by one large investor-owned utility regulated by the Public Service Commission, the federal Tennessee Valley Authority in the north, and a broad base of generation and distribution cooperatives. The pressures are shared; the accountability path differs.

Investor-owned & PSC-regulated

Rates & capital recovery overseen by the Alabama PSC

Alabama Power (Southern Company) ~1.5M customers · southern two-thirds of the state³

Alabama Power generation fleet ~8,200 MW owned — coal, gas, nuclear & hydro⁷

Farley Nuclear (Southern Nuclear) 1,766 MW carbon-free, operated for Alabama Power²

Alabama Power's \$4.1 billion DOE-backed loan is part of a \$26.5 billion Southern Company financing package.¹

Public power & cooperatives

Governed by TVA, boards & members — not PSC rates

Tennessee Valley Authority (TVA) Serves north Alabama via local power companies; ~35 GW system¹⁰

PowerSouth Energy Cooperative 2,000+ MW; 18 coops & 4 municipals, AL & NW FL⁹

Huntsville Utilities & north-AL municipals TVA local power companies / distributors¹⁰

Distribution cooperatives Cullman, Central Alabama, Baldwin EMC and peers — member-governed

TVA sells power to 153 local utilities across seven states, delivering to roughly 10 million people.¹⁰

Every capital dollar has to be defensible

Whether you answer to the Public Service Commission, TVA, or an elected board, the question is the same: why this project, why now, why at this cost?

Alabama Public Service Commission (PSC) is made up of commissioners *elected statewide* — not appointed — and regulates Alabama Power's rates, capital recovery, and resource decisions¹¹

Rate Stabilization and Equalization (RSE) sets Alabama Power's rates through a formula the PSC reviews on a recurring basis, adjusting revenue to a target return rather than running a traditional adversarial rate case each time¹²

Certificates of Convenience & Necessity — major new generation and the capital behind it require PSC approval, so a resource decision and its cost recovery are decided together¹¹

North Alabama and the cooperatives answer to TVA and to member/municipal boards, not the PSC — capital decisions made in front of the customers who pay for them¹⁰

The money is moving — can your plan absorb it?

Alabama utilities have more grid capital available 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-backed loan: \$4.1B to Alabama Power (2026) for reliability, transmission, and grid modernization — part of a \$26.5 billion Southern Company facility supporting ~16 GW of infrastructure¹

DOE GRIP: up to \$250M to TVA (2024) to harden the grid across the Southeast, including Alabama — advanced conductors, self-healing devices, and faster restoration⁸

IRA direct-pay tax credits put utility-scale solar and storage within reach for public power and cooperatives such as TVA, PowerSouth, and Alabama's distribution coops.

USDA rural energy programs (New ERA / PACE) offer federal clean-energy capital to Alabama's electric cooperatives — grant and low-cost-loan dollars that hinge on project readiness.

ALABAMA'S GRID, IN BRIEF

Questions Alabama utility leaders are asking

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

How fast is Alabama's electricity demand growing?

Southern Company cites "extraordinary economic development momentum and demand for power," and NERC shows the SERC-Southeast summer peak forecast rising more than 2% in a single year on industrial and data-center load⁴⁵

Who regulates Alabama Power's rates?

The Alabama Public Service Commission, whose commissioners are elected statewide, oversees Alabama Power's rates through the Rate Stabilization and Equalization (RSE) formula rather than a conventional rate case each cycle¹¹²

Who provides electricity in north Alabama?

The Tennessee Valley Authority serves north Alabama through local power companies such as Huntsville Utilities; TVA sells power to 153 local utilities across seven states and operates roughly 35 GW of capacity¹⁰

What federal grid funding is available in Alabama?

Alabama Power secured a \$4.1 billion DOE-backed loan for reliability, transmission, and grid modernization, and TVA won up to \$250 million in DOE GRIP funding to harden the Southeast grid, Alabama included¹⁸

What is Alabama's generation mix?

Natural gas is Alabama's leading source of electricity, complemented by the 1,766 MW Farley nuclear plant, a large hydro fleet, and a shrinking coal fleet as solar comes on.⁶²

How does Invizion help Alabama electric utilities plan capital?

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

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.

Explore Invizion →