

Data centers are set to drive 30 of the next 32 gigawatts of demand growth. Your capital plan is where Illinois absorbs it.

ComEd's PJM zone and Ameren's MISO footprint are both facing a demand wave, capacity prices that reset every auction, and a CEJA clean-energy mandate — while a new 765-kV transmission backbone and a nuclear-plus-data-center buildout compete for the same dollars. Each 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.

30 GW¹ Of the 32 GW of demand growth PJM forecasts for 2024–2030, roughly 30 GW is data centers.	\$29.4B² Cost data centers added to consumers in recent PJM capacity auctions, per Illinois' Citizens Utility Board.	\$1.66B³ New 765-kV transmission backbone across Illinois awarded to an Ameren-led consortium by MISO.	5th⁴ Illinois' rank in U.S. electricity net generation — and nuclear is its single largest source.
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THE ILLINOIS 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

Gigawatts of new load, most of it data centers

PJM — the market ComEd sits in — forecasts about 32 GW of demand growth from 2024 to 2030, with roughly 30 GW of it driven by data centers.¹ That load is already showing up in contracts: Constellation has signed about 920 MW of new long-term power agreements starting 2029–2032,⁵ including a 176 MW deal with Walmart that enables a 30 MW uprate at the Dresden plant in Illinois.⁶

New transmission is following the load — the ICC just approved ComEd's Kishwaukee Area Reliability Extension to connect future customers as demand grows.⁷ Every large new customer is a capacity commitment competing for the same capital.

RELIABILITY — CAPACITY & PEAKS

Capacity prices reset every auction

Illinois' Citizens Utility Board estimates data centers cost consumers \$29.4 billion in recent PJM capacity auctions alone, and beginning in June 2027 large-load customers that don't bring their own capacity could face curtailment during grid stress.²

Supply is being lined up but not yet built: PJM accepted 715 new generation projects — about 201.5 GW of nameplate capacity, led by 60 GW of storage and 99.8 GW of gas — into the first cycle of its reformed interconnection process.³ The reliability margin depends on those projects landing on schedule.

GENERATION — THE TRANSITION

Nuclear anchors it; coal exits; clean scales

Illinois is the nation's 5th-largest electricity producer, and nuclear is its single largest source.⁴ Constellation operates six nuclear stations in Illinois and is the country's largest nuclear operator,⁹ with a retired unit set to restart in 2027.⁵

The Climate and Equitable Jobs Act commits Illinois to phase carbon out of the power and transportation sectors.¹⁰ Ameren's Rush Island coal plant retired in 2024,¹¹ and the interconnection queue is overwhelmingly storage, gas, and renewables.⁸

CAPITAL — GRID & TRANSMISSION

Backbone build-out on top of the backlog

MISO selected an Ameren-led consortium to build two 765-kV lines across Illinois — the \$940 million STIW and \$718 million WILL projects, \$1.658 billion combined, targeting 2034.³ On the ComEd side, the ICC approved the KARE 345-kV reliability project,⁷ and DOE GRIP funding is hardening the grid in Illinois.¹²

This stacks on the modernization already underway — ComEd's smart-grid program alone ran about \$2.6 billion.¹³ New obligations don't replace the backlog; something on the list has to move.

WHO RUNS ILLINOIS' GRID

Two big investor-owned utilities, municipals, and cooperatives — split across PJM and MISO

Northern Illinois runs on ComEd inside PJM; central and southern Illinois run on Ameren Illinois inside MISO. Municipal systems and cooperatives fill in the rest. The pressures are shared; the market rules and accountability paths differ.

Investor-owned utilities

Rates & capital recovery regulated by the ICC

Commonwealth Edison (ComEd) >3.8M customers · northern Illinois · Exelon · PJM¹³

Ameren Illinois ~1.2M electric customers · central & southern Illinois · MISO¹¹

MidAmerican Energy Northwest Illinois / Quad Cities area (Berkshire Hathaway Energy)

Mt. Carmel Public Utility Co. Small southeastern Illinois investor-owned utility

ComEd's grid modernization has already run into the billions — its smart-grid rollout alone was about \$2.6 billion.¹³

Public power & cooperatives

Governed by boards & members, not ICC rates

City Water, Light & Power (Springfield) Illinois' largest municipal electric utility

Illinois Municipal Electric Agency (IMEA) Wholesale power to municipal systems · 3% owner of the new 765-kV backbone³

Southern Illinois Power Cooperative Generation & transmission cooperative

Wabash Valley Power / Prairie Power G&T cooperatives serving Illinois member systems

Every capital dollar has to be defensible

Whether you answer to the Illinois Commerce Commission, an RTO planning process, or an elected board, the question is the same: why this project, why now, why at this cost?

Illinois Commerce Commission (ICC) regulates rates, capital recovery, and infrastructure approvals for ComEd and Ameren Illinois — every major line needs a certificate, as with ComEd's KARE 345-kV project approved in 2026⁷

The Climate and Equitable Jobs Act (CEJA) sets Illinois' mandate to phase carbon out of the power and transportation sectors, reshaping utility resource and capital plans¹⁰

Consumer scrutiny is intense. The Citizens Utility Board reports ComEd and Ameren customers lost more than \$2.3 billion to alternative suppliers since 2015¹⁴ and warns that data-center-driven PJM capacity costs are landing on bills²

Transmission runs through the RTOs. ComEd plans inside PJM; Ameren Illinois inside MISO, whose Long-Range Transmission Plan awarded a \$1.658 billion 765-kV Illinois backbone to an Ameren-led consortium.³

The money is moving — can your plan absorb it?

Illinois utilities have more grid capital in motion than they've had in a generation, from federal grants to RTO-backed transmission to private PPAs. The constraint is readiness: which projects qualify, which are shovel-ready, and how the timing lines up.

DOE GRIP: up to \$47M to Switched Source to harden the electric grid across Florida and Illinois, part of 105 GRIP projects nationwide¹²

MISO Long-Range Transmission Plan: \$1.658B of new 765-kV Illinois backbone — the \$940M STIW and \$718M WIL projects — awarded to an Ameren-GridLiance-Dairyland-IMEA consortium³

Private capital via long-term PPAs. Constellation has signed about 920 MW of new long-term power agreements⁵ including a 176 MW Walmart deal enabling a 30 MW uprate at Illinois' Dresden plants⁶

IRA direct-pay tax credits extend utility-scale solar, storage, and nuclear-uprate tax credits to public power and cooperatives that can't use them the traditional way.

ILLINOIS' GRID, IN BRIEF

Questions Illinois 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 Illinois?

PJM — ComEd's market — forecasts roughly 32 GW of demand growth from 2024 to 2030, about 30 GW of it data centers.¹ That load is already under contract; Constellation has signed about 920 MW of new long-term agreements.²

Who sets my utility's rates and approves capital in Illinois?

The Illinois Commerce Commission regulates rates and capital recovery for investor-owned utilities such as ComEd and Ameren Illinois — every major line needs ICC approval.³ Municipal systems and cooperatives are governed by their own boards and members.⁴

What's happening with Illinois nuclear?

Illinois is the nation's 5th-largest power producer and nuclear is its largest source.⁵ Constellation runs six Illinois nuclear stations, is the country's largest nuclear operator,⁶ and is restarting a retired reactor in 2027 while signing corporate and data-center PPAs.⁷

Why are capacity costs rising?

In PJM, the Citizens Utility Board estimates data centers cost consumers \$29.4 billion in recent capacity auctions, and from June 2027 large-load customers that don't bring their own capacity could face curtailment.⁸ Meanwhile 201.5 GW of new supply is still working through interconnections.⁹

What major grid and transmission investment is planned?

MISO awarded a \$1.658 billion 765-kV Illinois backbone to an Ameren-led consortium;¹⁰ the ICC approved ComEd's KARE 345-kV project;¹¹ and DOE GRIP funds are hardening the Illinois grid.¹²

How does Invizion help Illinois electric utilities plan capital?

Invizion is scenario-based capital portfolio optimization for utilities. It lets you model how a data-center load surge, a capacity-price swing, a transmission award, or a nuclear or coal decision reshuffles your whole project list, re-sequence the portfolio automatically, and keep a defensible record of every decision for the ICC, an RTO, 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 →