i2X Webinar

Increasing Data Access, Transparency, and Security

June 2, 2025

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Our Principal Tools

- CEJA (Climate and Equitable Jobs Act), effective 2021. Among the many provisions in the legislation:
  - Phase out carbon emissions
  - Carved out incentives for DERs: EVs, charging infrastructure, solar
- Grid Plans for the two largest IOUs: ComEd and Ameren Illinois

Climate and Equitable Jobs Act (CEJA)

- Enacted in September 2021
- Transition Illinois to clean energy and decarbonization of the power sector
- Promote equity, develop workforce and environmental justice
- Reform energy markets, utility regulation, and grid planning
- Expand distributed energy resource (DER) access through transparency and public participation

Multi-Year Grid Planning

- Mandate: Utilities must submit grid plans every 3 years.
- Purpose: Align investments with clean energy goals, equity, and DER integration.
- One focus area is hosting capacity transparency.
- Data Transparency Requirements: Utilities must publicly share planning data, including: load forecasts and hosting capacity maps.

Multi-Year Grid Plan Requirements

The two largest IOUs (ComEd and Ameren Illinois) must:

- File Integrated Grid Plans every 3 years

- Align investments with CEJA goals, including:
  - Climate resilience
  - Electrification (e.g., transportation, heating)
  - Equitable access to distributed energy resources (DERs)
  - Cost-effectiveness and system efficiency

Hosting Capacity and System Data

Utilities are required to:

- Develop and maintain public-facing hosting capacity maps
- Provide granular distribution system data (voltage, capacity, usage)
- Enable third-party developers, local governments, and community groups to identify interconnection opportunities and constraints

Interconnection Working Group (IWG)

CEJA authorized the Interconnection Working Group, formed to streamline DER interconnection and improve access.

Purpose

- Reform outdated and inconsistent interconnection rules
- Accelerate solar, storage, and other DER deployment
- Create equitable access to grid resources for all Illinoisans

Structure

- Convened by the Illinois Commerce Commission
- Membership includes: Utilities (ComEd, Ameren Illinois), DER developers and aggregators, consumer advocates, and environmental and equity groups

Interconnection Working Group (IWG)

Key Focus Areas

- Process standardization: Clear, consistent rules across utilities
- Timeline enforcement: Faster approval and construction windows
- Cost transparency: Break down and justify interconnection costs
- Pre-application data: Improve hosting capacity maps and publicly available system data
- Queue management: Address backlogs and cancellations

Hosting Capacity

What Is Hosting Capacity?

Hosting capacity is the maximum amount of distributed energy resources (DERs) — such as rooftop solar, battery storage, or electric vehicle charging — that can be added to a specific point on the distribution grid without requiring significant upgrades or compromising grid reliability.

It is typically measured in megawatts (MW) or kilowatts (kW) and varies across different circuits, feeders, and substations.

Hosting Capacity

ComEd:

“Our updated hosting capacity map provides developers every month with near real-time information about solar projects in the development queue, which is key to identifying the best available location to interconnect their project to our grid,” said Mark Baranek, senior vice president of Technical Services, ComEd.

(ComEd Hosting Capacity Map Now Updated Monthly to Enhance Interconnection Process for Solar Developers | ComEd - An Exelon Company) 11/8/24

Hosting Capacity

Ameren Illinois

Ameren: “The hosting capacity map is offered free of charge and correspondingly is not as accurate, detailed, or specific as the results obtained through the Interconnection Application process. The map is developed from available Ameren Illinois data and updated in accordance with policy, and therefore may not reflect current conditions in a given area. The map is being provided for informational purposes only and is not intended to be a substitute for the established interconnection process.”

Hosting Capacity Map – Ameren Illinois, https://www.ameren.com/illinois/residential/supply-choice/renewables/hosting-capacity-map

Ameren Illinois – Distributed hosting capacity map

The **distribution hosting capacity map** provides results for system voltages of 15 kV and lower. Recommended interconnection sizes to evaluate with this map are 5 MVA and below due to the nature of systems operating at this voltage.

Ameren Illinois – Subtransmission hosting capacity map

The **subtransmission hosting capacity map** provides results for system voltages at 34.5 kV and 69 kV represented as areas. Recommended interconnection sizes to evaluate with this map are 10 MVA or greater and no less than 5 MVA due to the cost of interconnection equipment required at these voltages. If multiple values are located within an area, the resulting hosting capacity is averaged and reported on the map.

Grid Modernization (REACTS)

- ComEd is investing in fiber and digital communications as part of its REACTS initiative
- Supports DERMS, real-time grid monitoring, and dynamic system flexibility
- Forms backbone for future dynamic hosting capacity
- Investment plans scaled back in the grid plan review

Grid Modernization

- Ameren Illinois in its initial grid plan proposal included spectrum licenses to enable it to build data networks:
  - Replace obsolete data networks
  - Enable higher speed networks

Comparison: ComEd vs. Ameren Illinois

Feature	**ComEd**	**Ameren Illinois**
Hosting Capacity Map	Updated monthly; near real-time queue data; investigating dynamic hosting capacity	Separate maps for distribution and subtransmission; investigating dynamic hosting capacity
Flexible Interconnection	Pilots with volt-watt, DERMS, LIFO/proportional	No DERMS yet; early talks of flexible interconnection
Queue Transparency	Publicly posted, detailed queue	Basic queue info tied to net metering
Grid Modernization	Scaled back REACTS fiber to use some wireless networks	Scaled back wireless network plans to licensing only