

NASEO Powering Up Data Centers Webinar

Strategic Siting: Locating Data Centers Near Existing Infrastructure

January 26, 2026



About NASEO

- The only national non-profit association for the governor-designated energy officials from each of the 56 states and territories
- Serves as a resource for and about the State Energy Offices through topical committees, regional dialogues, and informational events that facilitate peer learning, best practice sharing, and consensus building
- Advances the interests of the State and Territory Energy Offices before Congress and the Administration
- Learn more at www.naseo.org

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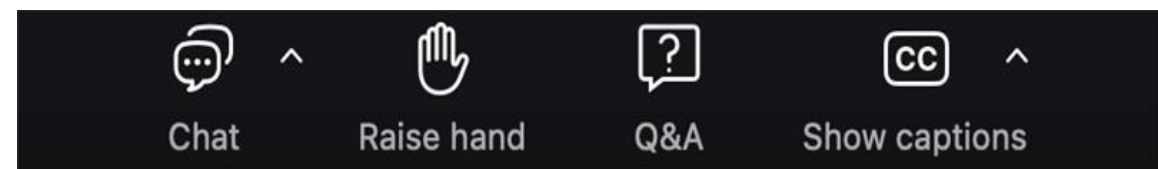
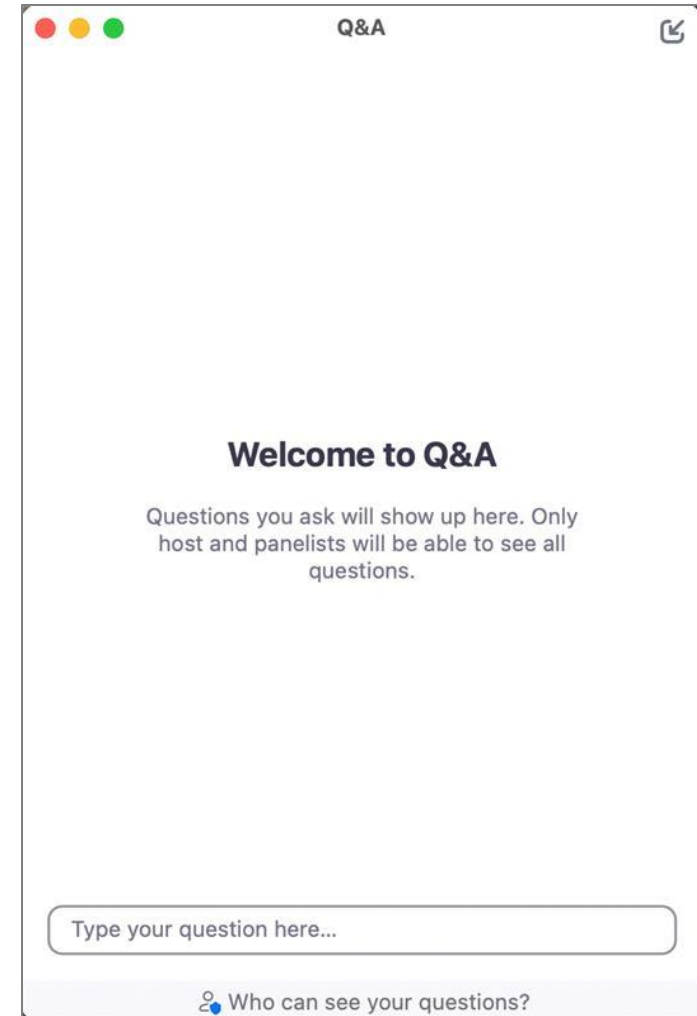
Webinar Housekeeping

Recording

This webinar is being recorded.

Question and Answers

You are automatically muted during the webinar. To ask a question, please enter your question at any point into the Q&A box.





Agenda

1:05-1:10pm ET

Opening Remarks and Perspective from Kentucky

Kenya Stump, Executive Director, Kentucky Office of Energy Policy

1:10-1:20pm ET

Remarks from ICF

Himali Parmar, Vice President, Energy Markets, ICF

1:20-1:30pm ET

Remarks from the National Laboratory of the Rockies

Clayton Barrows, Senior Research Engineer and Group Manager, National Laboratory of the Rockies

1:30-1:40pm ET

Remarks from GridCARE

Liang Min, Co-founder of GridCARE

1:40–1:50pm ET

Moderated Discussion

1:50–2:00pm ET

Audience Q&A

2:00pm ET

Closing Remarks/Wrap-Up



How to find the 'sweet spots' to build all those data centers

NASEO: Powering up data center webinar



Himali Parmar

Vice President, Energy Markets, ICF

1/26/2026

About ICF

- **Global** advisory, technology services provider since 1969
- **9,000+** people
- Publicly traded with nearly **\$2B** in annual revenue
- ICF's energy focus spans from commercial advisory to utility program implementation

15+ years

working with data centers

HQ in Dulles technology corridor

ICF's expertise with data centers

- **Policy design**
- **Community engagement**
- **Impacts assessment**

Development/planning

- Siting
- Optimal power supply
- Regulatory requirements review
- Environmental due diligence
- Permitting
- Tariff & rate design
- Workplace development

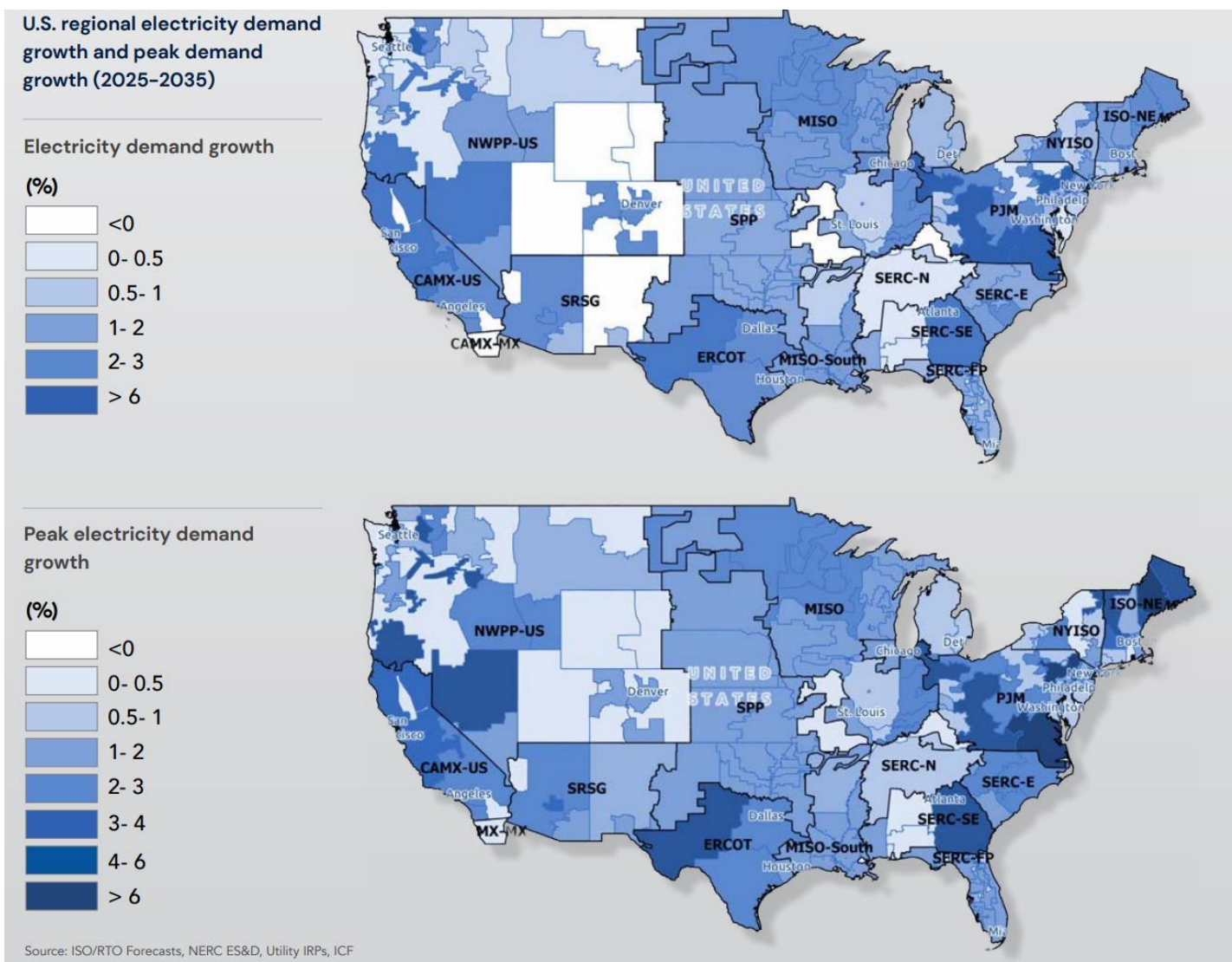
Construction

- Substation design
- Site preparation (monitoring)
- Shell construction (monitoring)
- Commission & testing (monitoring)

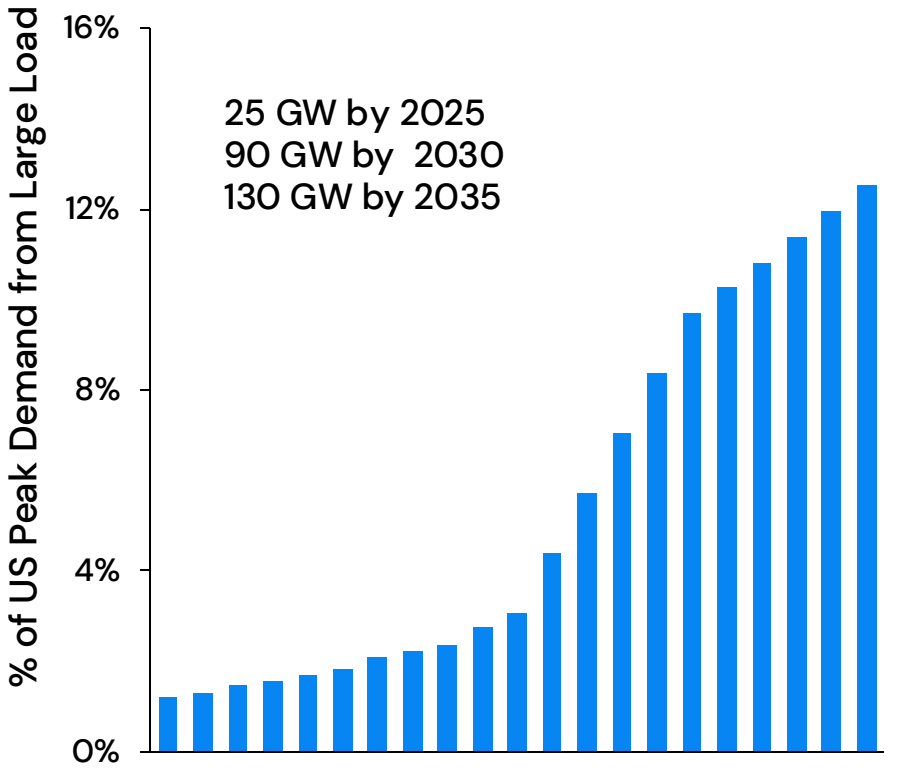
Operations

- Performance monitoring
- Operations optimization (HVAC, IT hardware, etc.)
- Load curtailment strategy/program
- GHG/societal impact

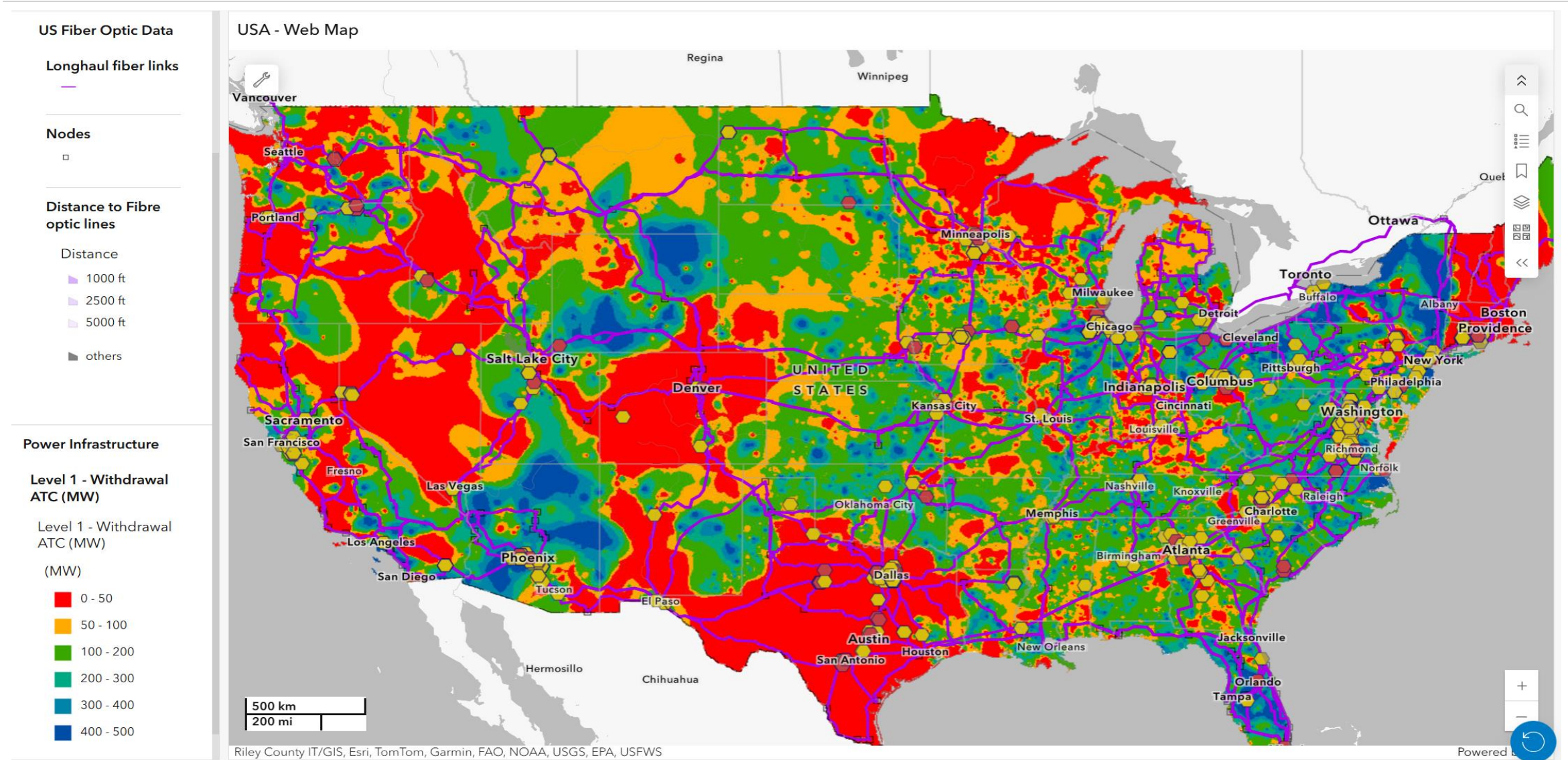
The opportunity: Large load demand continues to increase across all regions



Large load growth remains concentrated in PJM, ERCOT, and the Southeast, while additional expansion is expected across the Midwest, WECC, and NYISO regions.

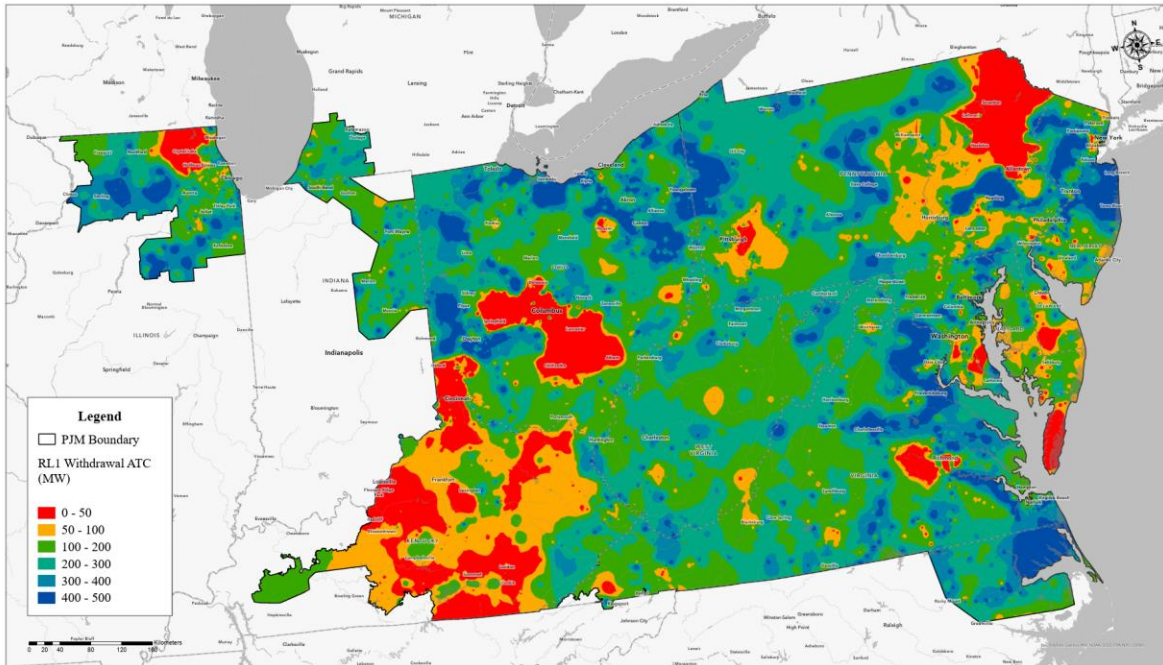


The challenge: Planned Data Centers vs. 2030 Grid Capacity

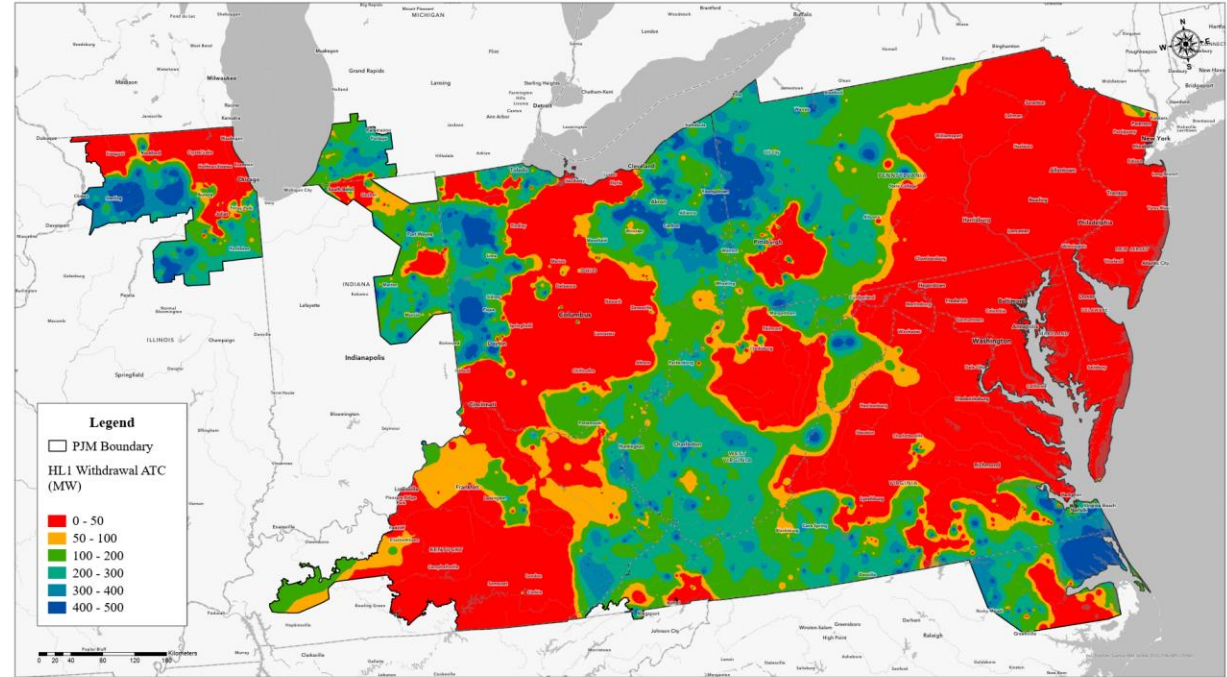


PJM grid capacity (2030 versus 2032)

Incremental withdrawal capacity (MW)
ICF reference case outlook for 2030 PJM



Incremental grid withdrawal capacity (MW)
ICF higher queue case outlook for 2032 PJM



- Limited opportunities for large load to connect to the grid in the near-term without significant expansion of bulk power grid.
- \$2B+ of transmission reinforcements may be required to reliably interconnect 2-4 GW of additional large load beyond what has already been approved in PJM's RTEP.

ICF's Comprehensive Siting Framework

Power & Energy Infrastructure

- **Powered land access:** Do parcels have existing or near-term access to electricity?
- **Grid capacity:** What are the local grid's withdrawal capabilities under near-term scenarios?
- **Grid stability:** Is substation-level reliability and system resilience, measured by voltage stability and short-circuit strength, adequate to ensure operational stability?
- **Interconnection:** What is the large load interconnection process and costs?
- **Gas infrastructure:** Are there natural gas pipelines nearby with available capacity to support paired or backup generation?
- **Power price outlook:** How will regional power market dynamics impact long-term energy procurement costs and contracted generation?

Fiber Optic Infrastructure

- **Proximity to fiber optic network hubs:** Is the site as close as possible to long-distance fiber optic cable?
- **Data center clustering:** Is the site part of a data center cluster (or could it be), which would allow it to benefit from colocation and shared infrastructure?

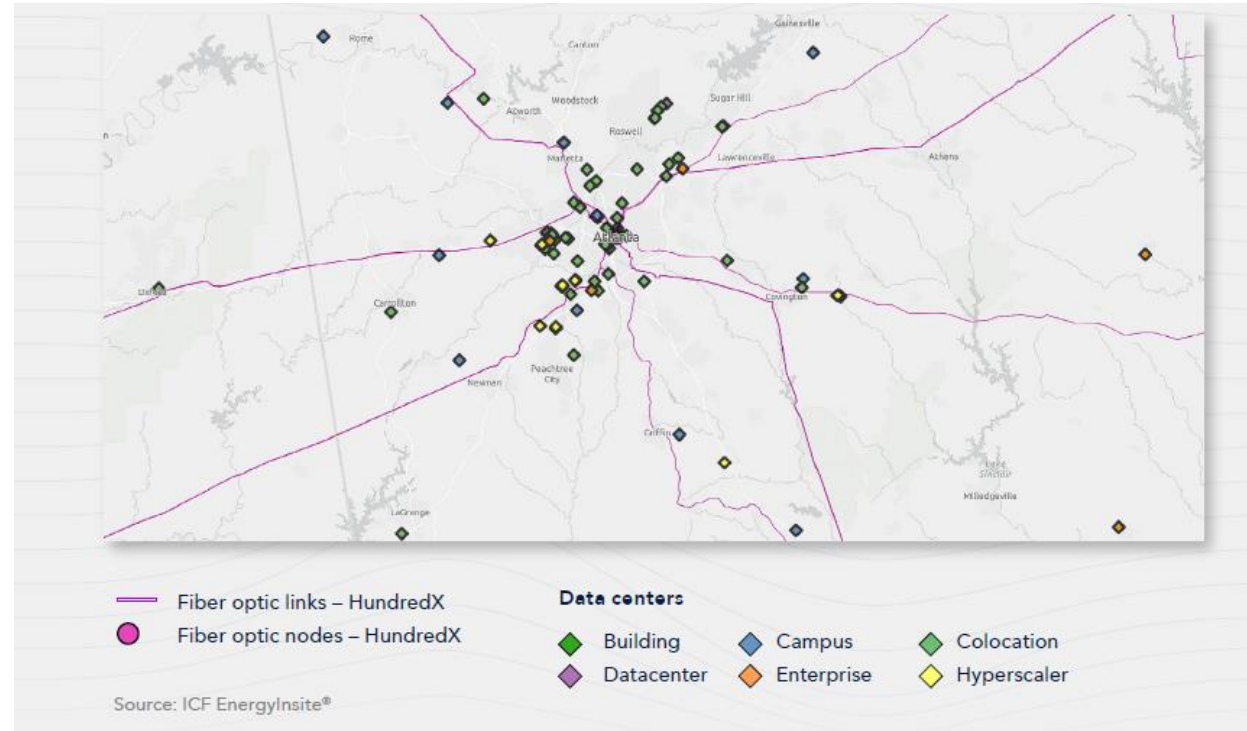


Figure: Fiber Optic Lines and Data centers in Georgia

ICF's Comprehensive Siting Framework

Environmental & Permitting Considerations

- **Water access:** Is there a sustainable source of water available to use for data center and onsite power generation cooling needs?
- **Long-term weather risk:** Are sites at risk from flooding, wildfire exposure, or other extreme weather events—and how are those risks expected to evolve?
- **Ecological impacts:** Does a site include any sensitive habitats like wetlands or threatened or endangered species habitats, which could increase development requirements?
- **Land availability and zoning:** Are suitable land parcels zoned for industrial and mixed use, and do they satisfy local zoning requirements?
- **Permitting complexity:** What are relevant local ordinances and environmental review requirements, and how will they impact project costs and timelines?

Regulatory and Policy Considerations

- **Federal and state drivers:** Are there programs that incentivize data center development at certain sites? Are there relevant policy restrictions related to emissions or noise?
- **Power market structure:** How do ISO or RTO market rules impact the interconnection timeline and energy procurement? Do vertically integrated utilities offer a faster approach for large load interconnection?
- **Tax incentives and financial support:** Does the site offer any location-based benefits, such as certain sales tax exemptions?
- **Local community acceptance:** How close is the site to nearby communities, and do those communities have a history of supporting or opposing data centers?

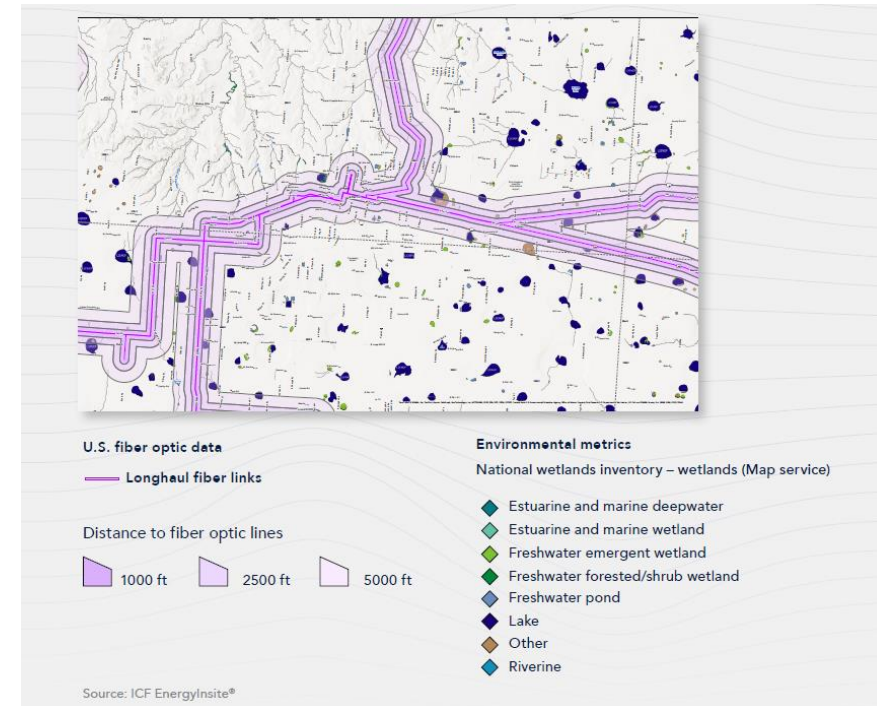
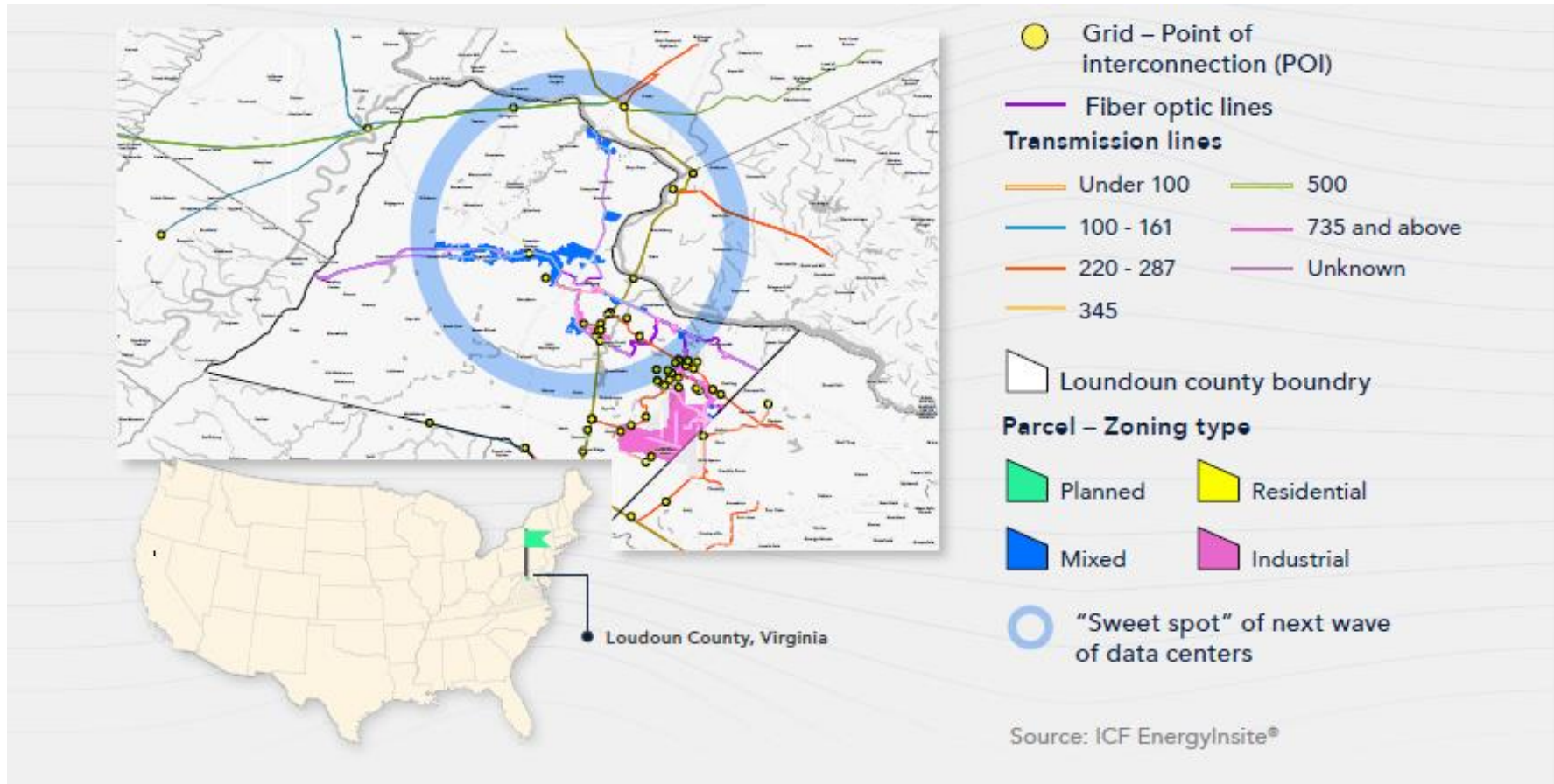


Figure: Texas Panhandle National Wetland Inventory

Bringing It All Together - Loudoun County Example



NOVA Case Study: 580k+ acres of industrial/mixed-zoned parcels in Loudoun County (VA) within 1000 feet of fiber optic line and located close to substations with 100+ MW incremental grid withdrawal capacity. The overlay highlights "sweet spots" where grid capacity (POIs- yellow dots), fiber routes (blue lines), and available land parcels (shaded polygons in blue/pink) align, representing optimal locations for expedited data center development with minimal infrastructure investment.

ICF's EnergyInsite Platform: Data Center Siting Module

EnergyInsite is a comprehensive data and analytics platform that integrates:

- Grid capacity and power infrastructure data across all U.S. markets
- Interconnection queue tracking and transmission planning
- Fiber optic network mapping
- Environmental datasets including wetlands, flood zones, climate risk
- Land parcel data with zoning information
- Policy and incentive databases by state and locality
- Natural gas pipeline infrastructure and capacity



Core capabilities



Forecast

Predict prices, plan smarter: Analyze market shifts, policy impacts, and demand growth to build resilient strategies.



Locate

Identify sites, accelerate potential: Pinpoint optimal project locations using geospatial, infrastructure, and environmental data.



Optimize

Boost efficiency, minimize risk: Assess grid constraints, interconnection costs, and battery storage opportunities with advanced analytics.



Strategize

Leverage expertise, elevate strategy: Collaborate with ICF energy experts to maximize portfolio performance and revenue.

Get in touch:
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Learn more:

[EnergyInsite®](#)
[ICF Data Center Solutions](#)
[Finding the "sweet spot" for Data Center siting](#)



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About ICF

ICF (NASDAQ:ICFI) is a global consulting and digital services company with over 9,000 full- and part-time employees, but we are not your typical consultants. At ICF, business analysts and policy specialists work together with digital strategists, data scientists and creatives. We combine unmatched industry expertise with cutting-edge engagement capabilities to help organizations solve their most complex challenges. Since 1969, public and private sector clients have worked with ICF to navigate change and shape the future.

WEBINAR



Unlock the power of data center load flexibility

February 3, 2026 | 12 - 1 PM ET





Speed to Power

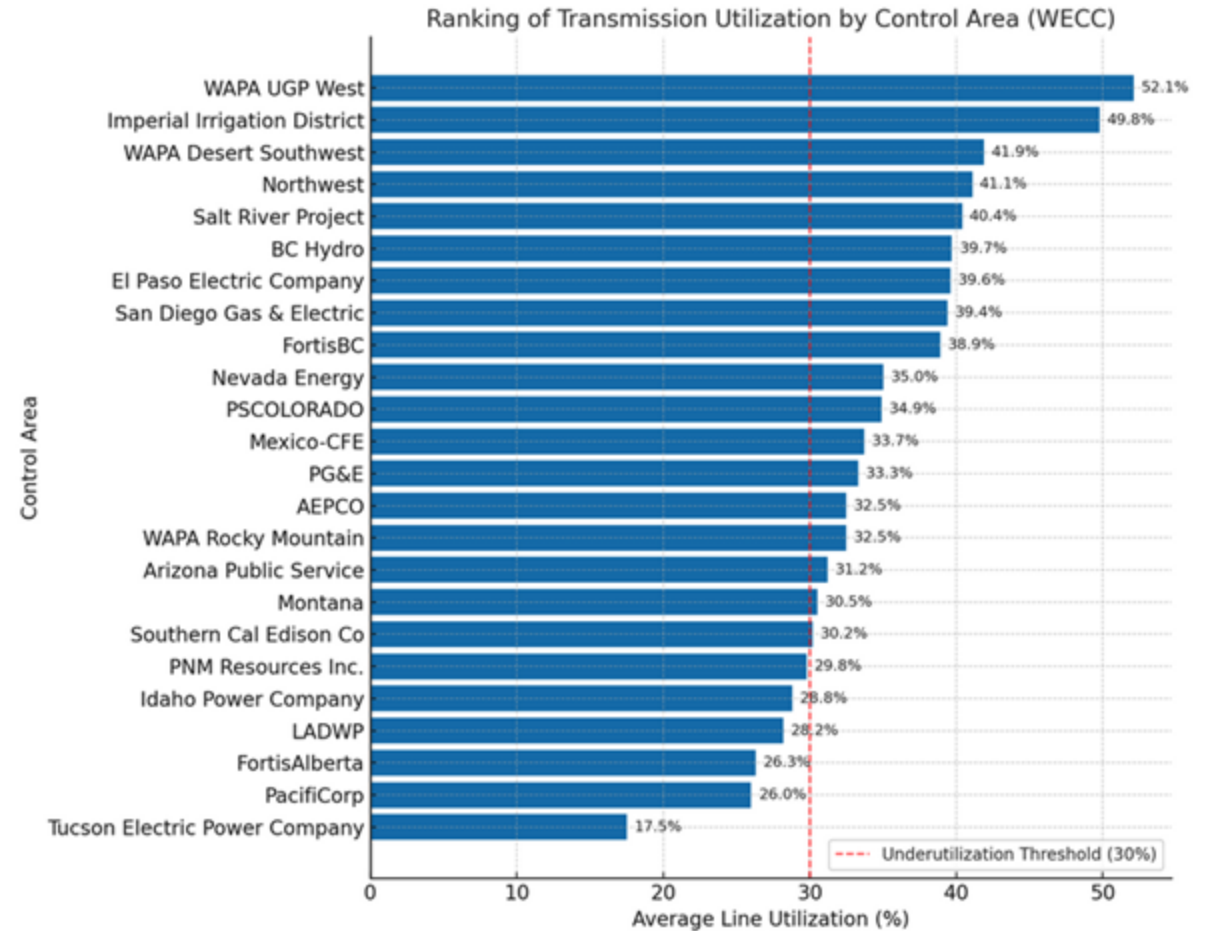
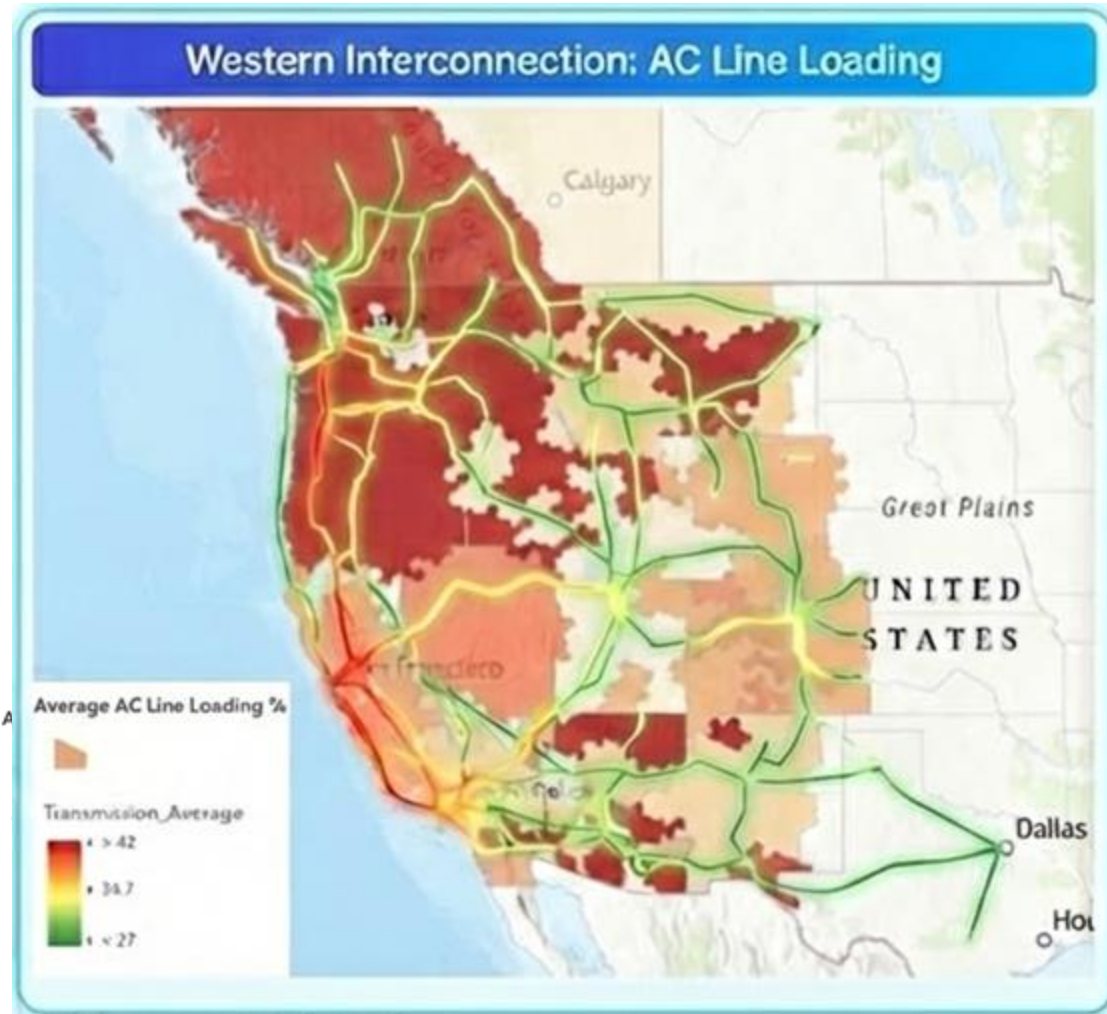
Optimizing the grid for enhanced grid utilization while maintaining affordability

Liang Min
Co-founder, GridCARE
Managing Director, Stanford Bits & Watts Initiative



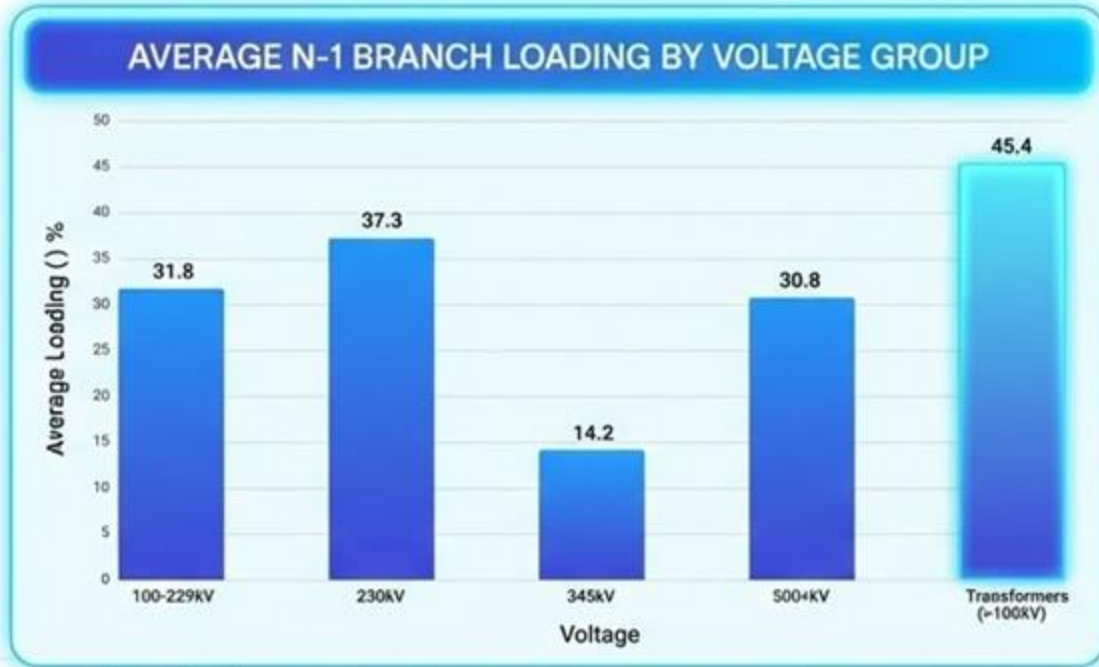
The grid is not congested everywhere, all at once,
but our grid is planned assuming that it is.

The transmission system has a huge amount of untapped capacity



<https://energy.stanford.edu/news/hidden-transmission-capacity-american-west>

A few bottlenecks often cap overall grid utilization



Making better use of existing **infrastructure** is the **fastest** way to bring **new data centers** online.



The state has a major opportunity to **upgrade and harden** its grid to ensure long-term safety and reliability.



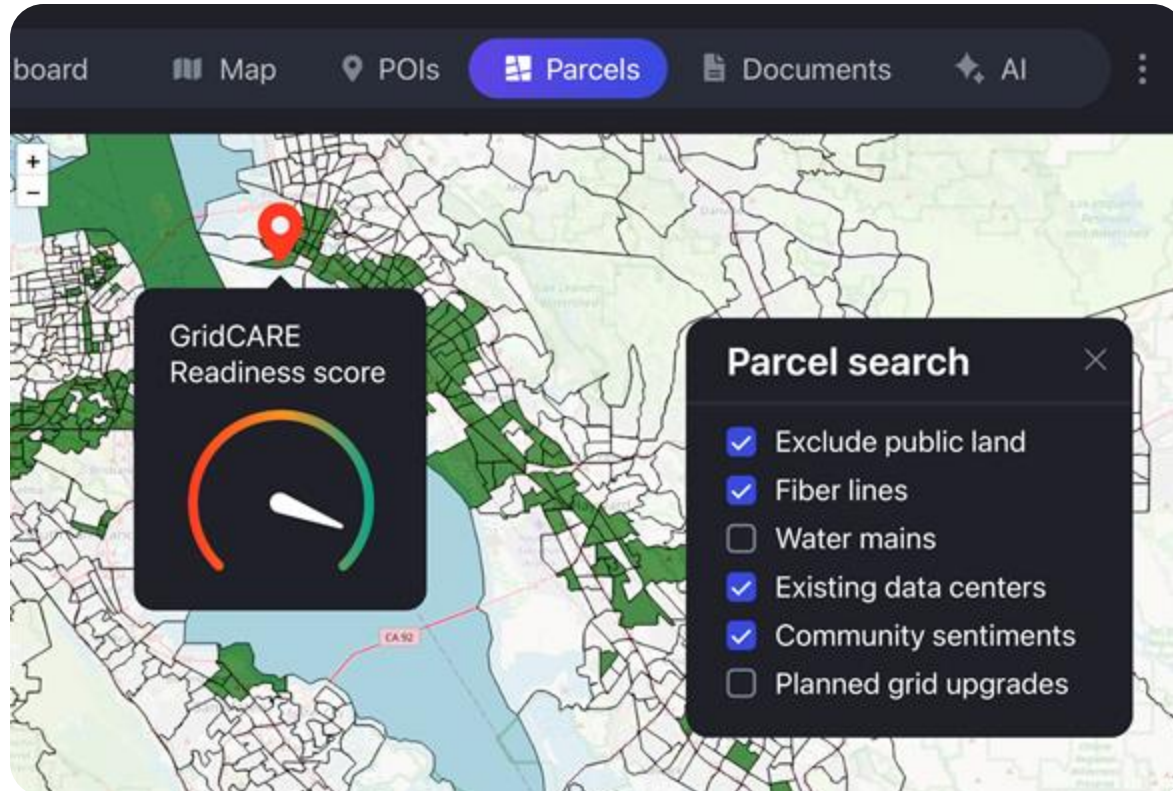
By increasing system utilization and spreading fixed costs, we can help **lower overall customer bills**.

Contributors: Rajanie Prabha and Liang Min /Stanford

GridCARE uses **Grid Physics with Generative AI** to identify transmission capacity and enabling flexible interconnection

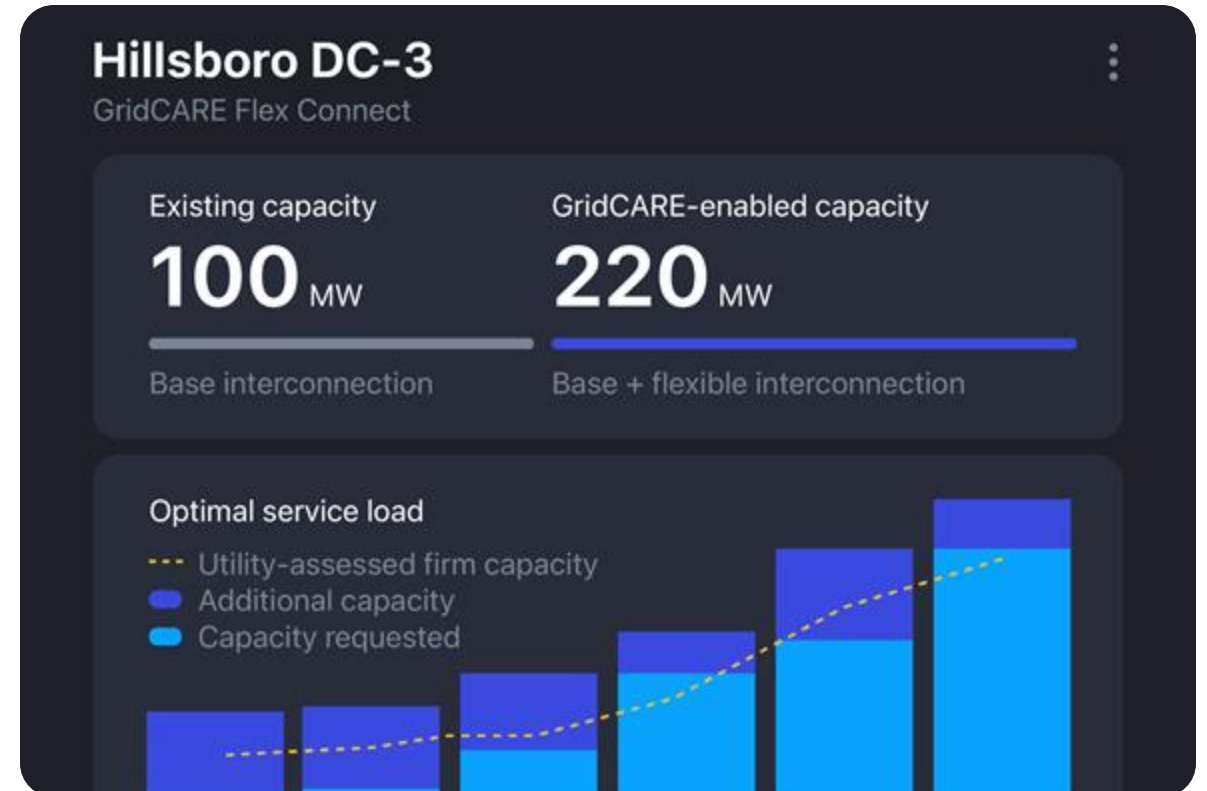
Power development at greenfield sites

Secure GW-scale power at new locations with fiber, water and other relevant criteria



Capacity expansion at existing sites

Expand power limited sites to accommodate high-density AI servers



400 MW unlocked in Hillsboro years ahead of schedule

- 🕒 PGE was unable to serve customers until 2034; customers were required to pay millions upfront
- 🔌 Customers received **80 MW** in 2026 and **400 MW** by 2029
- ↓ **5% reduction in rates or accelerated CapEx for utility**

Reported in GridCARE's successful white paper

\$10B Value to Data centers

UTILITY DIVE

Portland General Electric invests in AI-powered flexibility to speed data center connection

The utility is working with startup GridCARE to help data centers plug into transmission-constrained grids without waiting for new infrastructure, executive, said.

Published Oct. 20, 2025

In a first, a data center is using a big battery to get online faster

Aligned Data Centers will pay to build a 31-megawatt battery, an early example of how AI developers can move fast if they're willing to be flexible.

“We are really excited about our partnership with GridCARE. Right now we have 80 MW unlocked with 400 MW by 2029. GridCARE capabilities to process amounts amounts of data, use modern AI and computational power [of cloud] to account for new technologies such as batteries, and dynamic ratings exceed any other capabilities available.””

Maria Pope, CEO
Portland General Electric (NYSE: POR)
October 31, 2025 Earnings Call

Smart load growth lowers customer costs and funds priority hardening upgrades

Beneficial electrification

Increased utilization of the existing grid means utilities collect additional revenue, enabling lower rates and new grid investment.

● 1GW AI DATA CENTER EXAMPLE

\$142M additional revenue

Lower rates

Reduce rates by **5%** by spreading fixed system costs over a broader energy base

Utility system costs

Utility system load + 1GW

= **5% rate reduction**



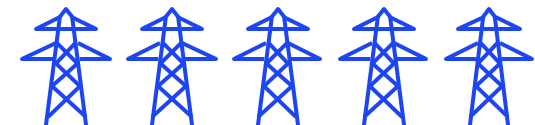
CapEx investment

Invest **\$1.35B** without raising rates with revenue from newly interconnected load

New annual revenue

~10.5% CCR

= **\$1.35B CapEx**



State Policy Levers for data center siting

Assess and Publish Grid Utilization Data

- Collecting grid capacity utilization data can inform system utilization policy goals, and the market needed to realize those goals

Establish Mechanisms to Encourage a “Latency-First” Approach

- Prioritize speed and predictability across planning, interconnection, and operations with clear timelines, standard requirements, and accountability—backed by funding for latency-first pilots and programs.

Explore Performance-Based Incentives

- Reward measurable improvements in time-to-connect, utilization, and customer cost outcomes to align growth with reliability and affordability.

Thanks

Reach us at

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Jessica Hogle, Head of Policy and Reg Affair
jessica@gridcare.ai

Moderated Discussion/Q&A



Resources & Upcoming Events

NASEO Powering Up Data Centers Webinar Series

Links to recordings of previously held webinars [available here](#).

Other NASEO/NARUC Events

- [National Council on Electricity Policy \(NCEP\) Webinar: January 2026 Member Update](#)
 - Monday, January 26, 2026, 3:00 - 4:00 PM ET
- [NASEO National Energy Screening Project Webinar: Introduction to NESP Resources and Tools](#)
 - Wednesday, January 28, 2026, 3:00 – 4:00 PM ET

Thank you!

