Large Load & Grid Flexibility: From Challenge to Opportunity

Midwestern Governor's Association | Indianapolis, IN

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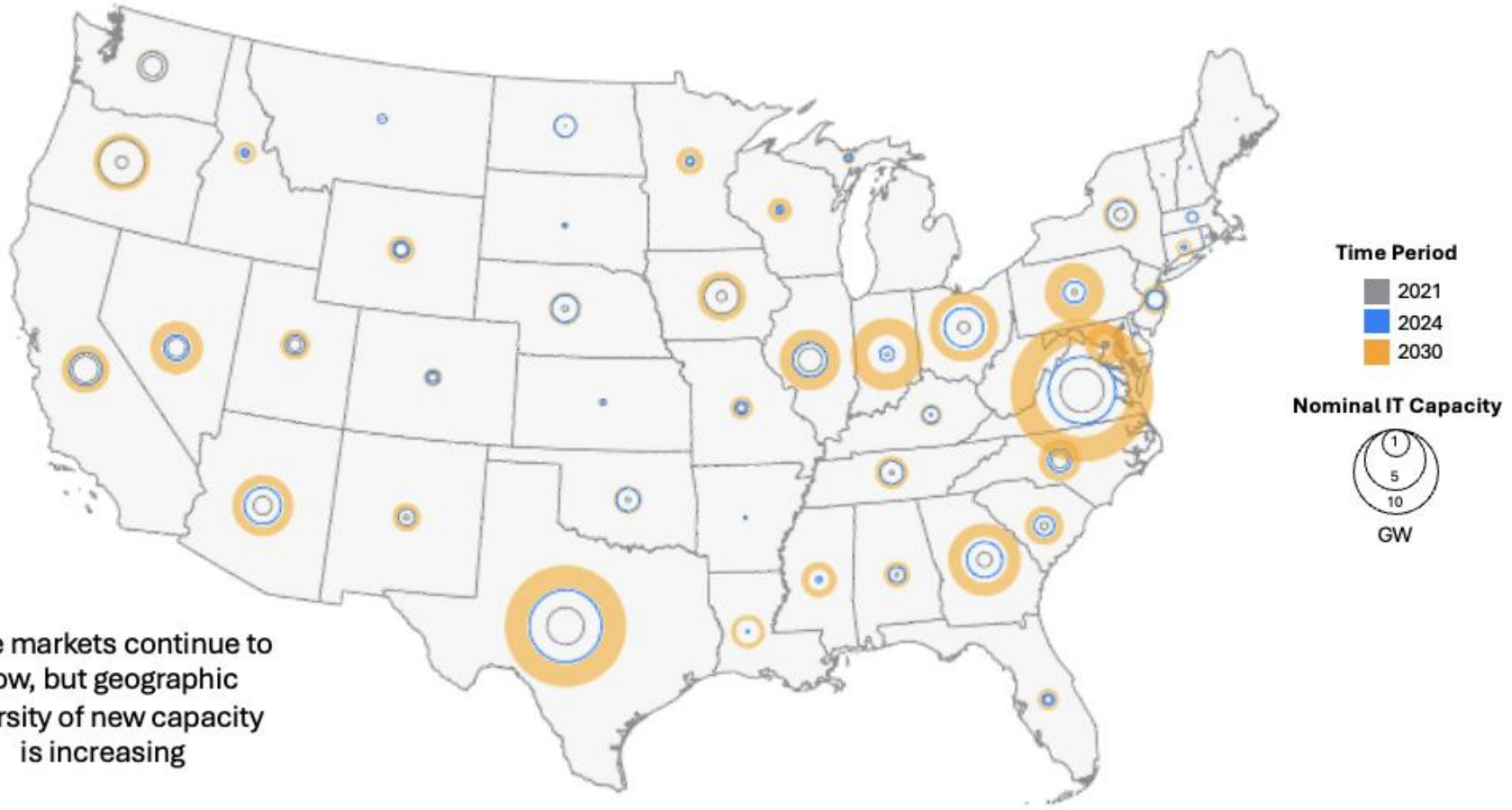
Data Center Capacity by State



Large markets continue to grow, but geographic diversity of new capacity is increasing

- A single large data center (100–1,000 MW) uses about as much electricity as 80,000 to 800,000 homes — roughly the size of a mid-size to large city.
- Using that comparison: Today's data center electricity use is equivalent to the power demand of dozens of large cities combined.
- By 2030, data centers are estimated to add the equivalent of multiple major metro areas' worth of demand.

Source: https://powering-intelligence.epri.com/

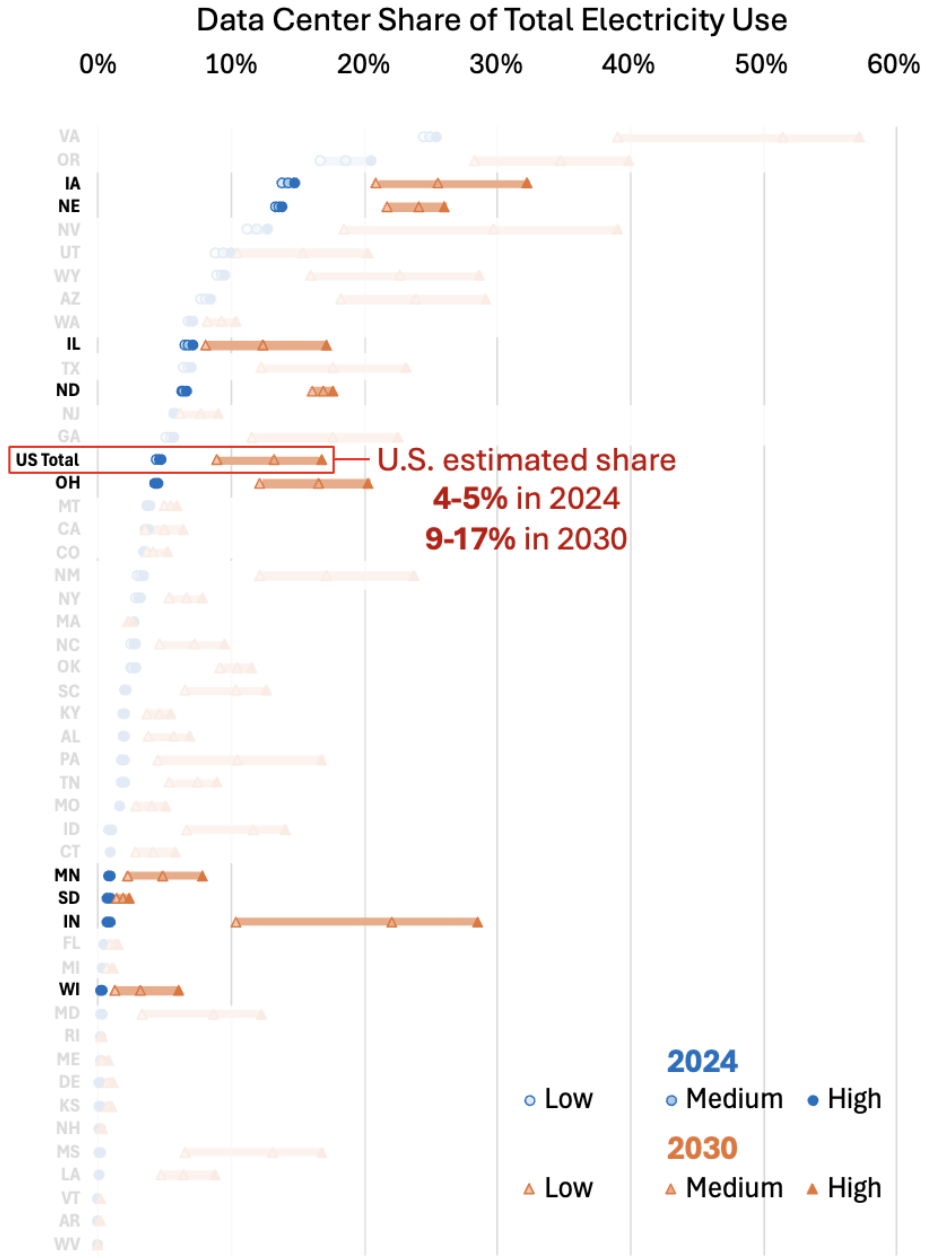
Focus on Midwestern States

Load growth is **highly localized**, creating regional grid challenges.

Today, VA is only state today where data centers exceed **20% of electricity demand,** Projected to reach **39-57% by 2030**

By 2030, up to **seven additional states** could exceed a **20% data center share** under the Medium scenario - OR, IA, IN, NE, NV, WY, AZ.

Indiana is an emerging state with little existing capacity, expected to increase significantly based on new projects



[Source: Powering Intelligence: Figure ES-3. Data center share of total electricity demand by state.]

Headlines portray a Midwest Grid Challenge

Energy

States take aim at data center electric rates. Here's why it won't lower your bill

Feb 26, 2026 at 01:00 PM CST

Keaton Peters

East Idaho legislator pitches bill blocking data centers from raising electricity rates

By **Margaret Carmel - BoiseDev Sr. Reporter**

February 24, 2026 - 4:03 pm

LOCAL

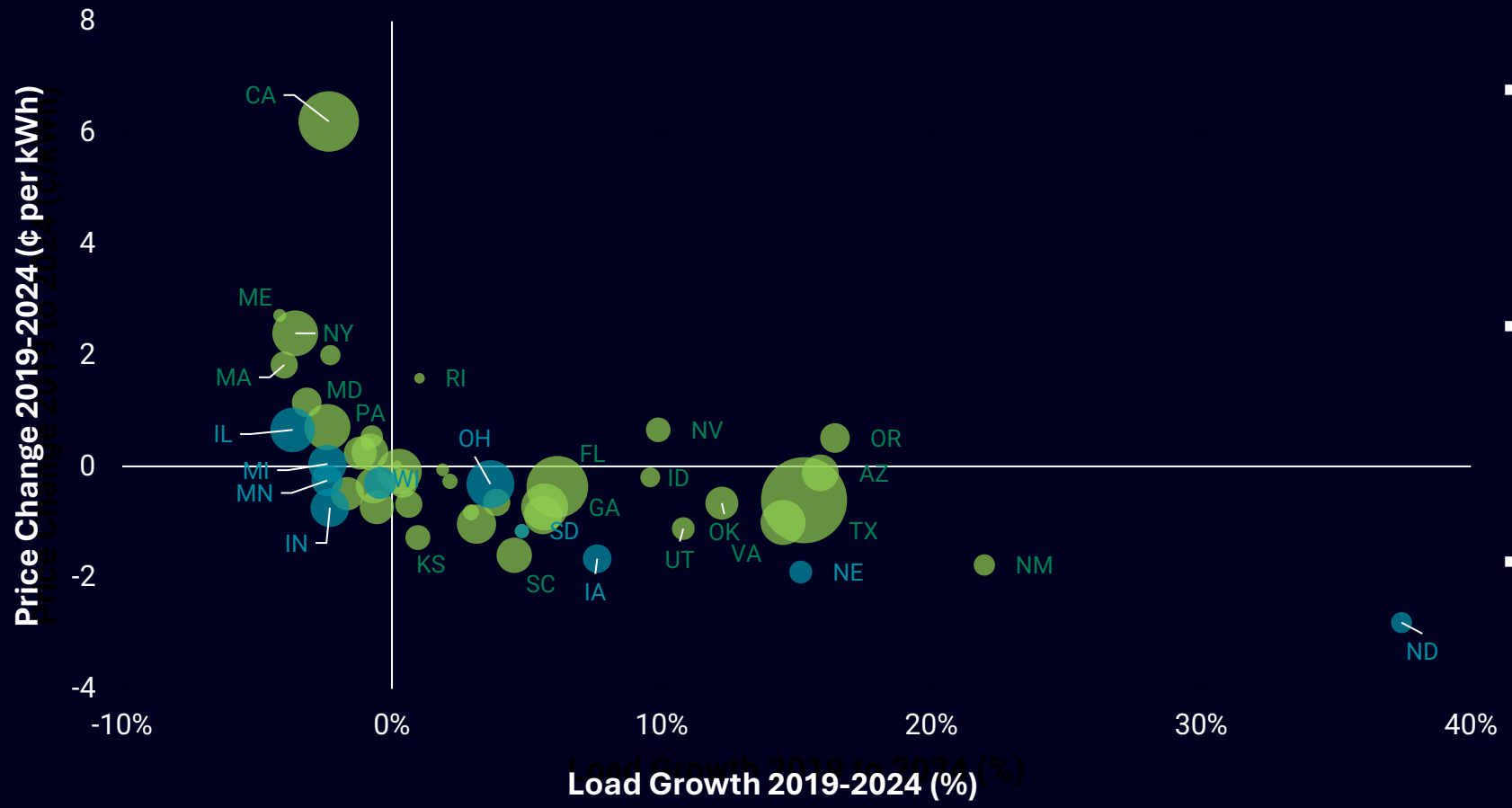
Ohio's data center boom could lead to energy crisis, experts warn

Maria DeVito

Columbus Dispatch

Updated Feb. 26, 2026, 11:49 a.m. ET

Electricity Price Negatively Correlated with Load Growth



- Largest price increases have been in states with zero or negative load growth
- States with largest load growth have had flat or declining prices (adjusted for inflation)
- Correlation does not necessarily imply causation; EPRI analysis is exploring additional factors

Price change shown in 2024$, adjusted for inflation
Circle size reflects total load in 2024
Midwest states shown in blue

See winwin.epri.com for more information

Large load growth has the potential to improve affordability

New electricity demand (data centers, AI, EV, electrification) can lower average retail electricity prices ***when incremental costs are below average system costs***.

Three levers for Win-Wins:

- Planning
- Rate Design
- Demand Flexibility

Source: EPRI, Win-Win Watts , 2026. See winwin.epri.com for more information

The Midwest Grid Challenge Is Real — And Solvable

Community Informed Siting

Electric Grid & Data Center Flexibility

Confrontation to Collaboration

Community Informed Siting

Drivers for Community Opposition

- Air emissions
- Electricity demand & affordability
- Land use opportunity cost & environmental stewardship
- Construction & operational noise and proximity residents
- Water use

Community Acceptance Considerations

- Benefit-sharing
- Community engagement
- Data centers as a grid service
- Transparent metrics and reporting

Case Studies on Community Opposition and Benefits

- U.S. & European profiles on community opposition
- Tech industry community benefit commitments & investments

Lessons Learned

- How can developers build community acceptance?
- How can developers deliver tangible public benefits?

DCFlex Data Center Flexible Load Initiative

9+
demo sites

- ARIZONA, U.S.
- NORTH CAROLINA, U.S.
- PARIS, FRANCE
- VIRGINIA, U.S.
- ILLINOIS, U.S.
- TEXAS, U.S.
- LONDON, U.K.

DCFlex Workstreams

1. Flexible Data Center Design
2. Transformational Utility Programs
3. Grid Planning for Operational Flexibility
4. Data Center Informed Energy Supply
5. Distribution Data Centers

The DCFlex participant panel actively collaborates with regulators, academia, and industry stakeholders – both to share leading practices and insights, and to incorporate diverse perspectives that strengthen the initiative's direction and impact.

Learn More:
dcflex.epri.com

FLEX MOSAIC

Deliver a tiered flexibility framework bridging data center capability to grid needs

Standardizing Large Load Flexibility Characteristics to unlock interconnection

Framework to Accelerate Time to Interconnection

LARGE LOAD

Class-certified large load profile →

Transparent and predictable flexibility capabilities →

UTILITY / OPERATOR

← Transparent performance expectations

← Clear signals regarding what flexibility is needed

Working Group California ISO COMPASS datacenters Dominion Energy DUKE ENERGY ercot Georgia Transmission ieso Connecting Today. Powering Tomorrow. ING NVIDIA Schneider Electric

Partner With EPRI to address the Midwest's Large Load Challenge

Jessica Lin • Technical Executive, Data Centers • EPRI

TOGETHER...SHAPING THE FUTURE OF ENERGY®

Appendix

DCFlex Participants

Developers

COMPASS datacenters

QTS

Hyperscalers

Google

Meta

Microsoft

IPP's

CALPINE

Constellation.

nrg

VISTRA

ISO/RTO

California ISO

CENACE
CENTRO NACIONAL DE CONTROL DE ENERGÍA

ercot
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ieso
Connecting Today. Powering Tomorrow.

smart KPX

MISO

NESO
National Energy System Operator

pjm

SPP Southwest Power Pool

Technology Providers

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JENBACHER
INNIO

KRAKEN

NVIDIA

PADO

Schneider Electric

Advisory & Finance

EY

ING

KPMG

Engineering & Construction

CRIEPI
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QUANTA

Ulteig

wesco

Utilities

aes

Alliant Energy

AMERICAN ELECTRIC POWER

aps

Bonneville POWER ADMINISTRATION

CenterPoint Energy

AEH

Dominion Energy

DTE

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A Touchstone Energy Cooperative

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exelon

Georgia Transmission

ICEPCO

LES

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Nebraska Public Power District
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NEW YORK STATE OF OPPORTUNITY. NY Power Authority

OglethorpePower

PGE

ppl

PSEG

REC RayburnElectric

RTE

RWE

SRP

Southern Company

TVA TENNESSEE VALLEY AUTHORITY

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ABOUT US

Founded in 1972, EPRI is the world's preeminent independent, non-profit energy research and development organization, with offices around the world. EPRI's trusted experts collaborate with more than 450 companies in 45 countries, driving innovation to ensure the public has clean, safe, reliable, affordable, and access to electricity across the globe. Together, we are shaping the future of energy.