



**Lighthouse
Energy Institute**

Indiana University

Data Center Energy Usage, Grid Integration, and Sustainability

October 23, 2026

Who We Are

LEI is an independent, nonpartisan think tank. Our mission is to provide information that improves the quality of energy and environmental institutions and policies.

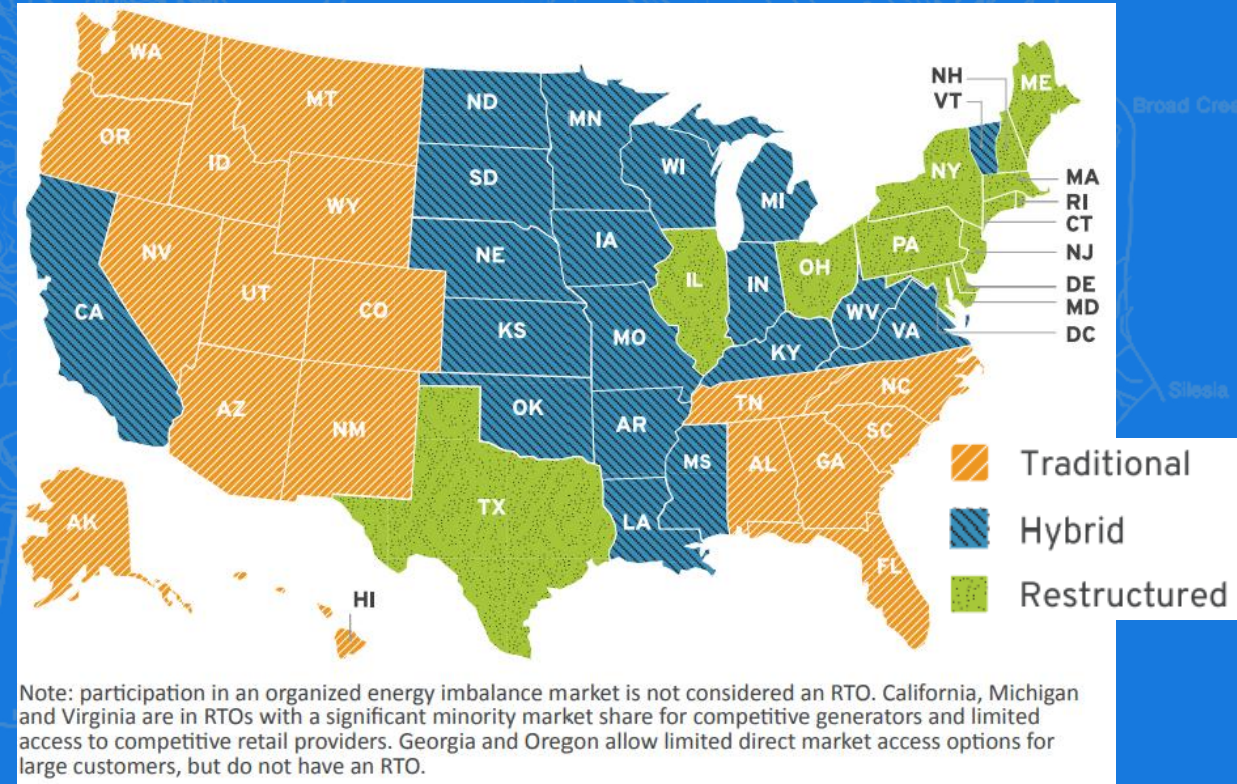
Landscape

Policy Goals

- Speed to market
- Cost & risk management
- Avoid cost shifting between customers
- Support reliability
- Minimize environmental impacts

Enabling Conditions

1. Accurate load forecasting
2. Effective wholesale markets
3. Effective retail markets (customer choice)
4. Economical transmission planning & cost allocation
5. Efficient interconnection
6. Efficient permitting & siting



Sources: Giberson & Hartman (2023)

Conditions leader: Texas (by far)
*Notwithstanding recent moratorium

Improving Supply in Hybrid States (e.g., IN)

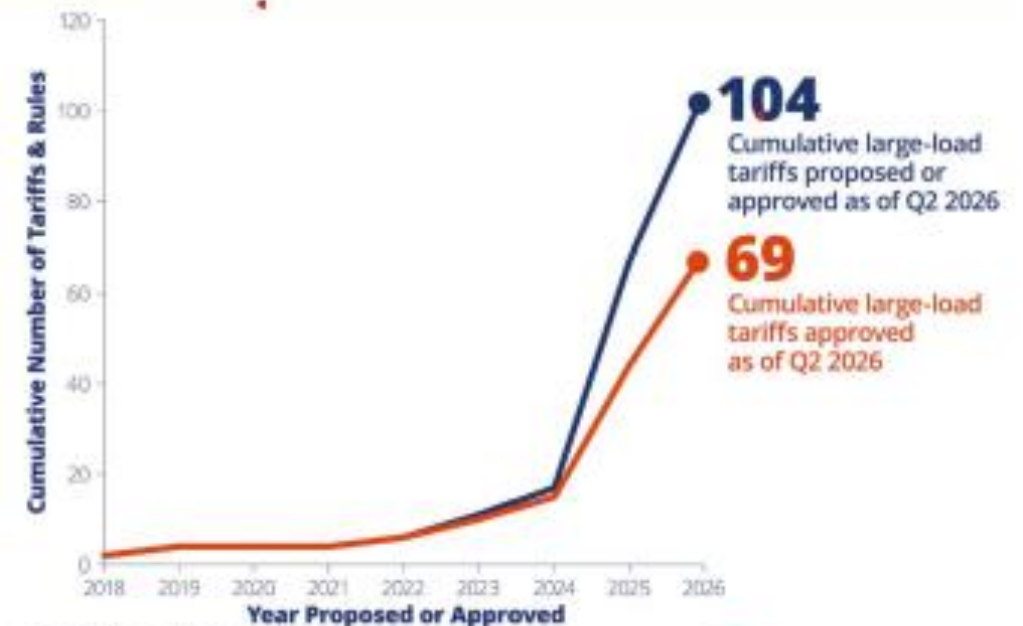
Large Loads

- Huge variance in approaches & quality
- High quality: customer market access
 - Best commercial terms for large loads
 - Insulates non-participating customers
 - Enabled via direct access (ideal) or utility as intermediary (e.g., sleeved PPAs)
- Low quality: “monopoly within a monopoly” (e.g., NIPSCO GenCo)
 - Marks-up costs & risk to large loads
 - Indirect cost & risk to other customer classes (investment on utility books)
 - Compulsory cross-subsidy temptation

Utility regulatory & legislative options

Large-Load Tariff Approvals Are Surging

Approvals surged between 2024 and 2026, while a growing pipeline of proposed tariffs signals continued regulatory change.



Source: SEPA and NC Clean Energy Technology Center, DELTA, Q2 2026. See: sepapower.org/large-load-tariffs-database



Outlook

Commercial Landscape

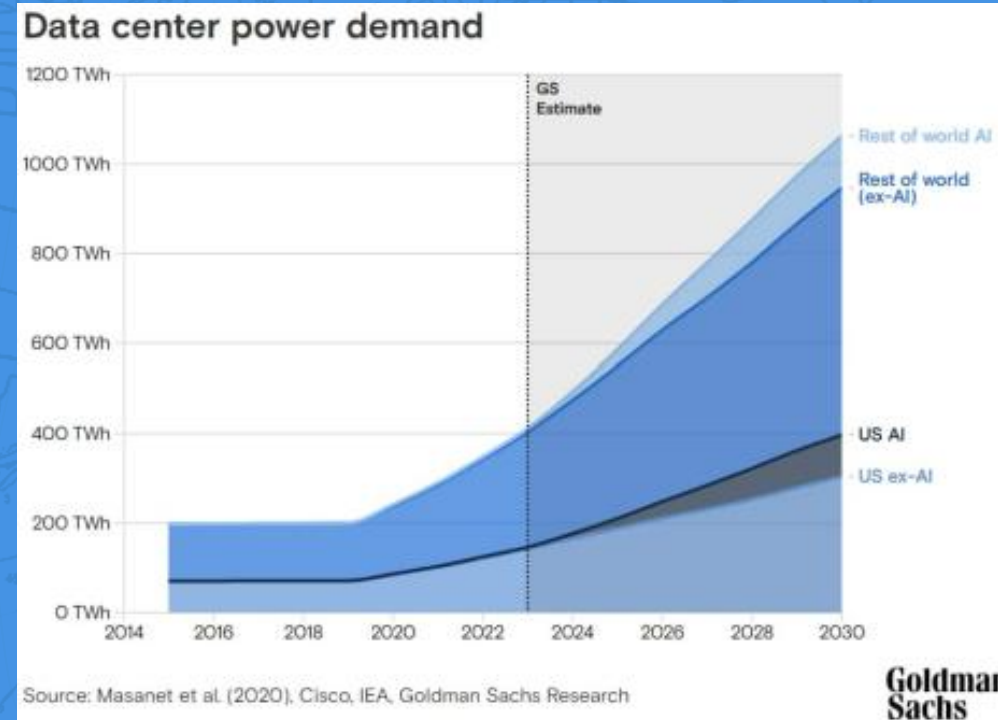
- Interconnection backlogs (process inefficiencies, lack of transmission headroom)
- Supply chain backlogs + restrictive permitting & siting → gen development 2x data center timeline

Today: Speed-to-power desperation

- Suboptimal supply: mobile gas gens, aeroderivative turbines, reciprocating engines
- Transmission/interconnection workarounds:
 - e.g., forced flexible load
 - e.g., off-grid applications

Long-term: Equilibrium

- Transmission expansion + streamlined interconnection
- “Clean firm” investment (2030s delivery)
- Efficient flexible load (price-responsive demand)
- Non-linear emissions trajectories





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Thank you!

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