



---

# **Increasing the Certainty and Transparency of Load Forecasts**

NASEO 2026 Energy Policy Outlook Conference

John D. Wilson, Vice President

**February 2026**

# Two Reports:

---

## Power Demand Forecasts Revised Up for Third Year Running, Led by Data Centers

- November 2025
- Third annual report summarizing utility load forecasts
- Co-authors: John D. Wilson, Sophie Meyer, Zach Zimmerman, and Rob Gramlich

PROJECT SPONSORED BY



## Forecasting for Large Loads: Current Practices and Recommendations

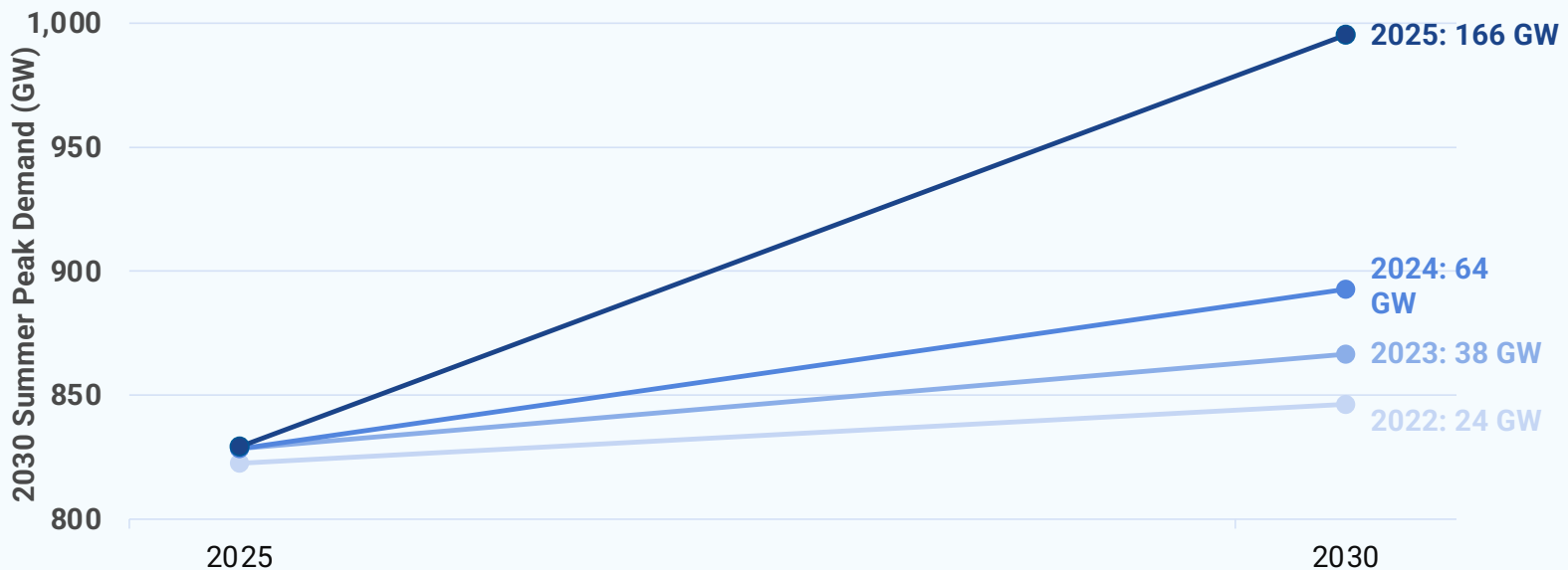
- December 2025
- First of the ESIG Large Load Task Force reports, six more reports forthcoming
- Lead authors: John D. Wilson and Sophie Meyer
- Editing committee had 16 members, representing utilities, research laboratories, regional planning authorities, and consulting firms

<https://gridstrategiesllc.com/project/load-growth-forecast/>

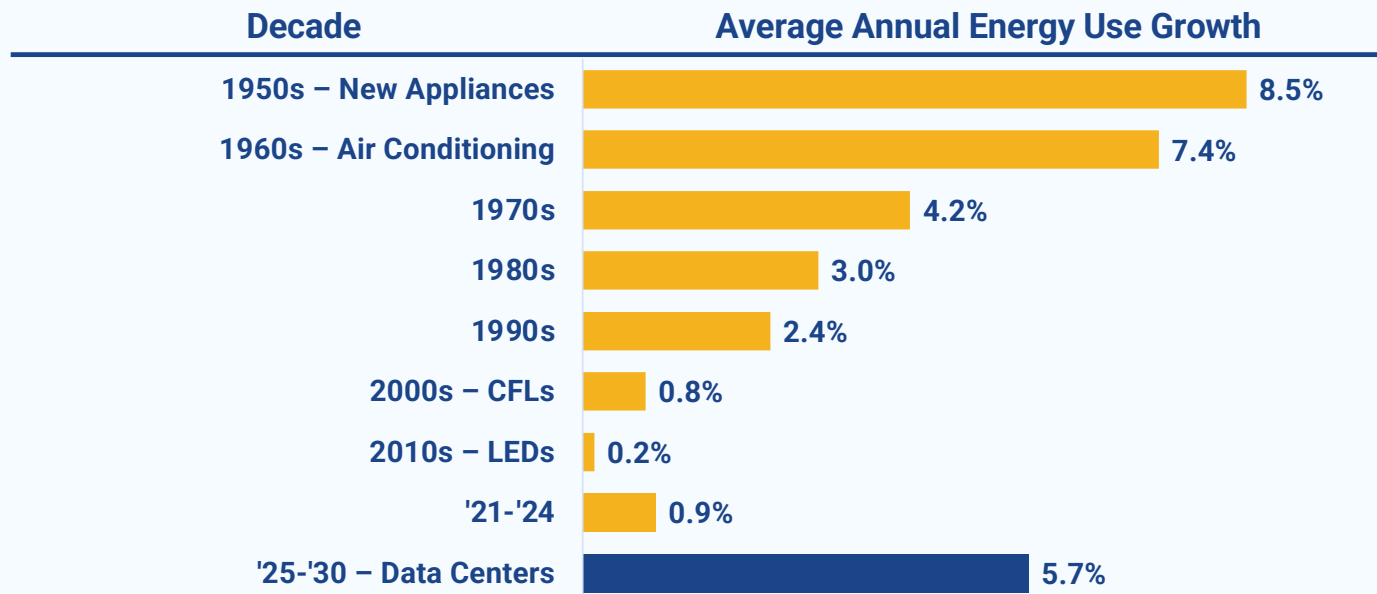


# Five-Year Load Growth Up Six-Fold to 166 Gigawatts

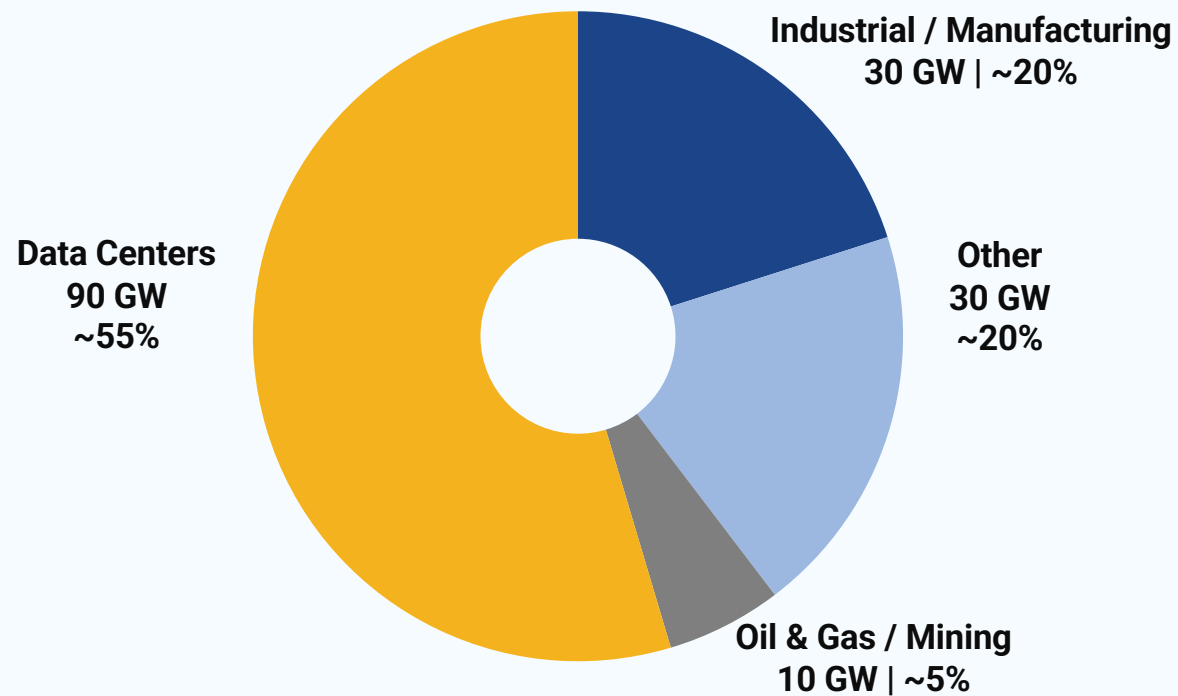
**5-year Nationwide Summer Peak Growth**  
Aggregate of Forecasts Submitted to FERC in 2022-2025



## A Scramble to Respond to Growing Energy Demand

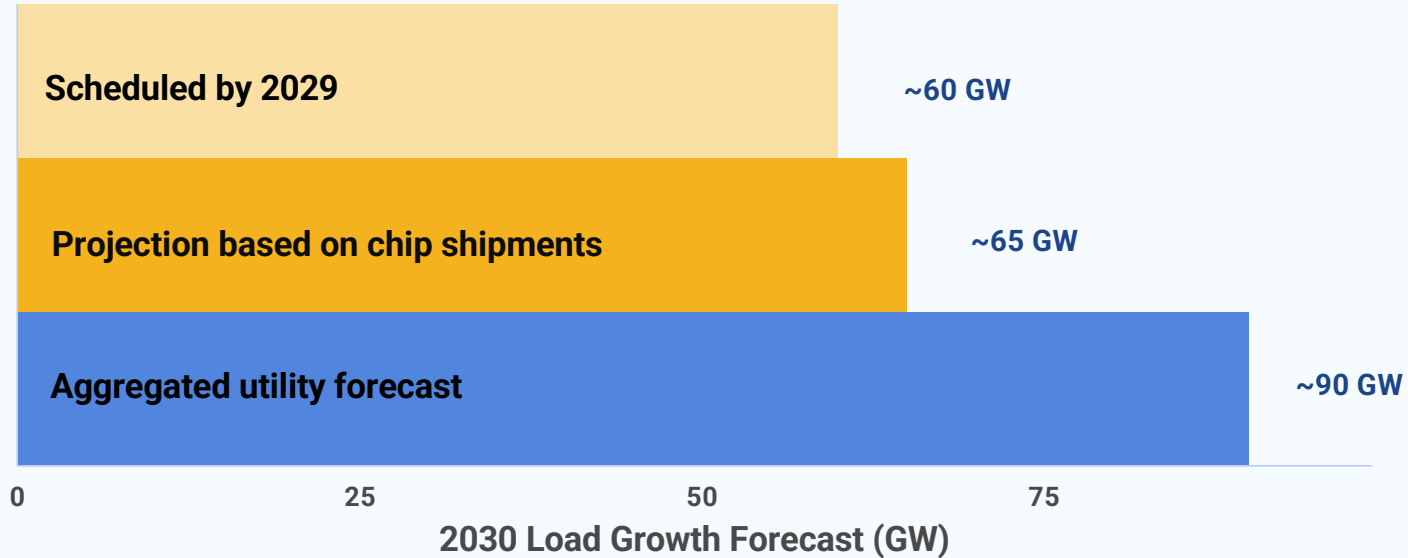


## Data Center Demand Driving Peak Load Growth



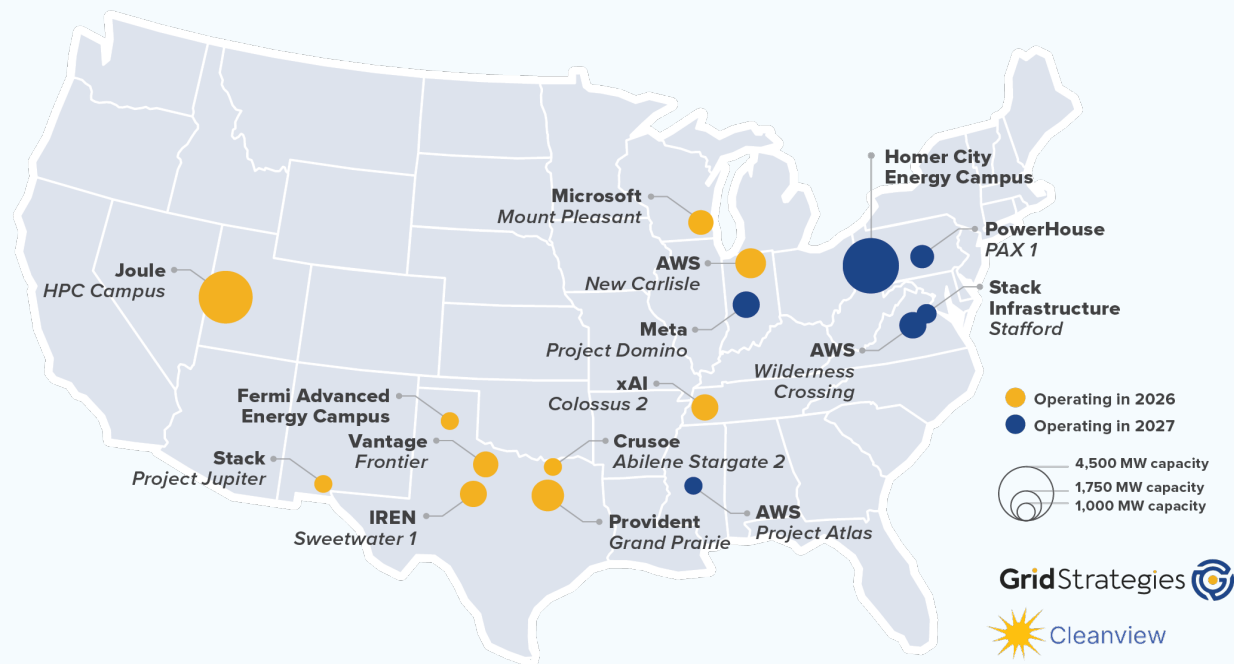
# Benchmarks Suggest Data Center Load Forecast Overstated

## Alternative Benchmarks for Data Center Load Growth

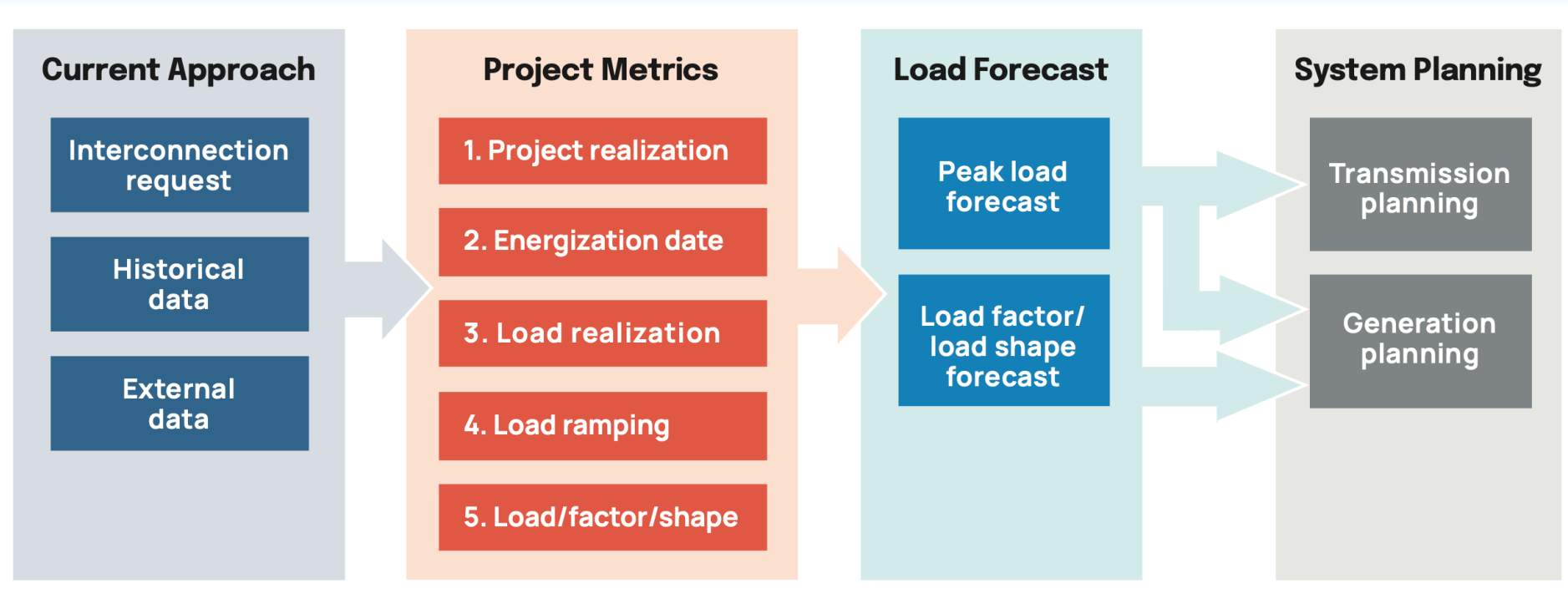


# Rise of GW-Scale Data Centers and On-site Generation

## GW-Scale Data Centers Expected Online 2026-2027



# From Data to Planning





# Large Load Characteristics and Forecast Metrics

Project Realization	Energization Date	Load Realization	Load Ramping	Load factor or load shape
<p>The rate at which projects included in the load forecast are placed in service</p> <ul style="list-style-type: none"><li>• Often presented as a percentage of project requests expected to come to fruition</li></ul>	<p>The beginning of commercial operation by projects, including anticipated delays</p>	<p>The forecast peak load that the project is expected to require once it's fully scaled up</p> <ul style="list-style-type: none"><li>• Often presented as a percentage of requested peak load</li></ul>	<p>The monthly or annual forecast of demand during the startup period of commercial operation</p> <ul style="list-style-type: none"><li>• Often presented as a percentage of requested peak load</li></ul>	<ul style="list-style-type: none"><li>• <b>Load factor:</b> Actual energy use as a proportion of facility capacity</li><li>• <b>Load shape:</b> More detailed information on power needs, for example, an hourly schedule of energy use</li></ul>

# Report Recommendations

---

1. Use all five large load metrics to create a large load forecast.
2. Develop a consistent framework to differentiate among large load types.
3. Account for uncertainty.
4. Increase certainty through large load financial requirements.
5. Reduce uncertainty in regional large load forecast practices.
6. Improve geographic detail.
7. Seek continuous improvement through forecast validation.
8. Collect large load forecast data in a shared database.
9. Apply consistent load weighting and modeling practices.
10. Adopt forecast standards for load flexibility.

# Load Forecasting: What's Going Well

**Large load forecasts are almost never the same as the large load pipeline**

... there may be exceptions at smaller utilities

Large load forecasting practices are almost all under active reform

... new practices, in most cases just a few years old

In many cases, forecast practices are aligned with large load type

... industrial and data center loads are forecast differently

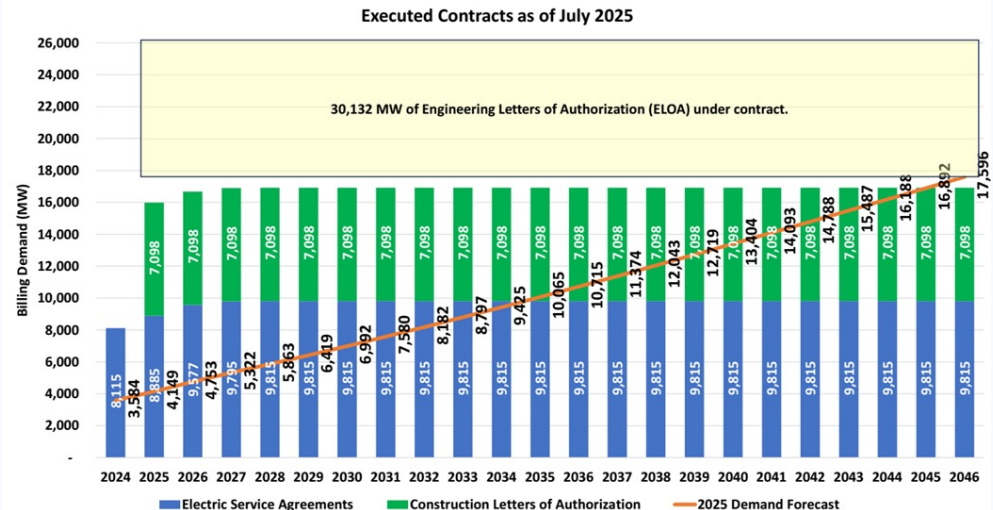
Substantial investments in studying data center loads

... top priority is operational risk, but front-end planning risk is also a priority

Utility rate tariff reforms are helping to reduce uncertainty

... these reforms do not reduce all sources of risk

## Dominion Energy Virginia 2025 Large Load Forecast



# Load Forecasting: What's Going Well

Large load forecasts are almost never the same as the large load pipeline

... there may be exceptions at smaller utilities

**Large load forecasting practices are almost all under active reform**

**... new practices, in most cases just a few years old**

In many cases, forecast practices are aligned with large load type

... industrial and data center loads are forecast differently

Substantial investments in studying data center loads

... top priority is operational risk, but front-end planning risk is also a priority

Utility rate tariff reforms are helping to reduce uncertainty

... these reforms do not reduce all sources of risk



## STRATEGIC ISSUE

Develop and implement strategy to mitigate load forecast risk and its influence on system planning

## KEY IMPACT

- The Load Forecasting Task Force has developed a strategy which seeks to:
- Increase consistency between forecasts used for Resource Adequacy and Transmission Planning purposes
- Increase consistency and transparency in forecasting practices among Load Responsible Entities (LREs)
- Develop in-house load forecasting expertise to better understand quality and accuracy of LRE-submitted forecasts

1

# Load Forecasting: What's Going Well

Large load forecasts are almost never the same as the large load pipeline

... there may be exceptions at smaller utilities

Large load forecasting practices are almost all under active reform

... new practices, in most cases just a few years old

**In many cases, forecast practices are aligned with large load type**

**... industrial and data center loads are forecast differently**

Substantial investments in studying data center loads

... top priority is operational risk, but front-end planning risk is also a priority

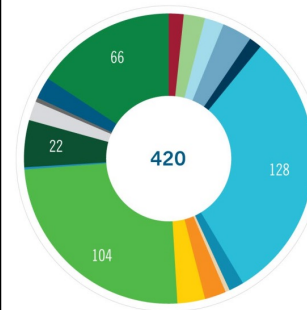
Utility rate tariff reforms are helping to reduce uncertainty

... these reforms do not reduce all sources of risk

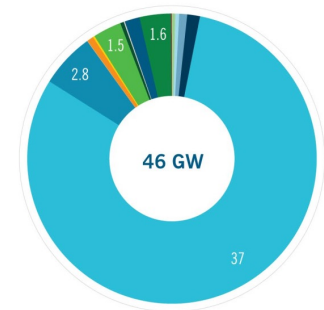
## Carolinas Economic Development Pipeline

as of October 8, 2025

Project Count



Estimated GW



Note: The Economic Development Pipeline includes all currently active inquiries related to service in the Carolinas, including those that are more speculative in nature as well as projects that are performing competitive multi-state searches for what will be a single project. For resource planning purposes, the Companies assume only a small subset of such projects progress to receive service. Slide 11 describes the methodology applied to incorporate economic development projects in the load forecasts used for resource planning purposes.



Large Load Electric Additions | 4

# Load Forecasting: What's Going Well

Large load forecasts are almost never the same as the large load pipeline

... there may be exceptions at smaller utilities

Large load forecasting practices are almost all under active reform

... new practices, in most cases just a few years old

In many cases, forecast practices are aligned with large load type

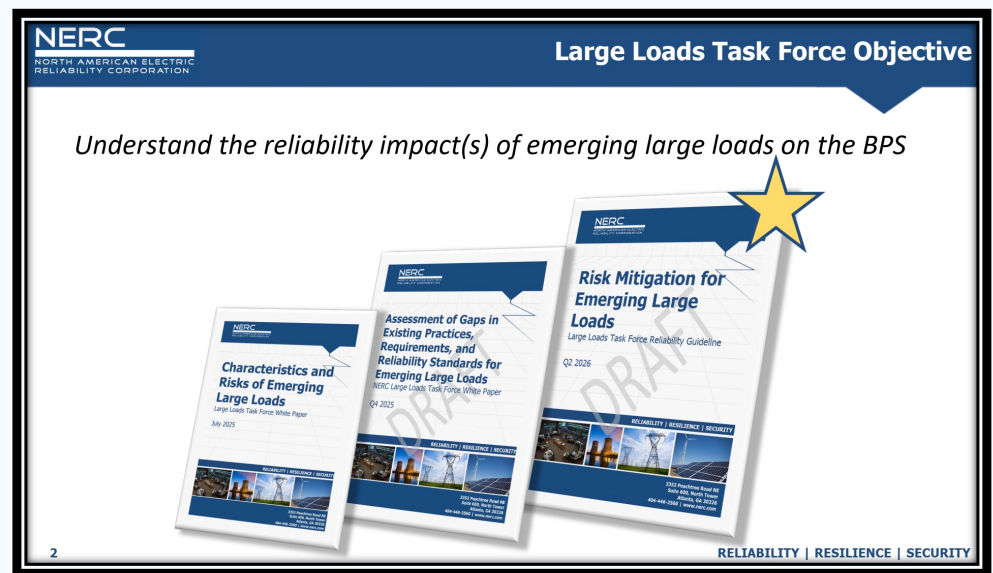
... industrial and data center loads are forecast differently

**Substantial investments in studying data center loads**

**... top priority is operational risk, but front-end planning risk is also a priority**

Utility rate tariff reforms are helping to reduce uncertainty

... these reforms do not reduce all sources of risk



## Load Forecasting: What's Going Well

Large load forecasts are almost never the same as the large load pipeline

... there may be exceptions at smaller utilities

Large load forecasting practices are almost all under active reform

... new practices, in most cases just a few years old

In many cases, forecast practices are aligned with large load type

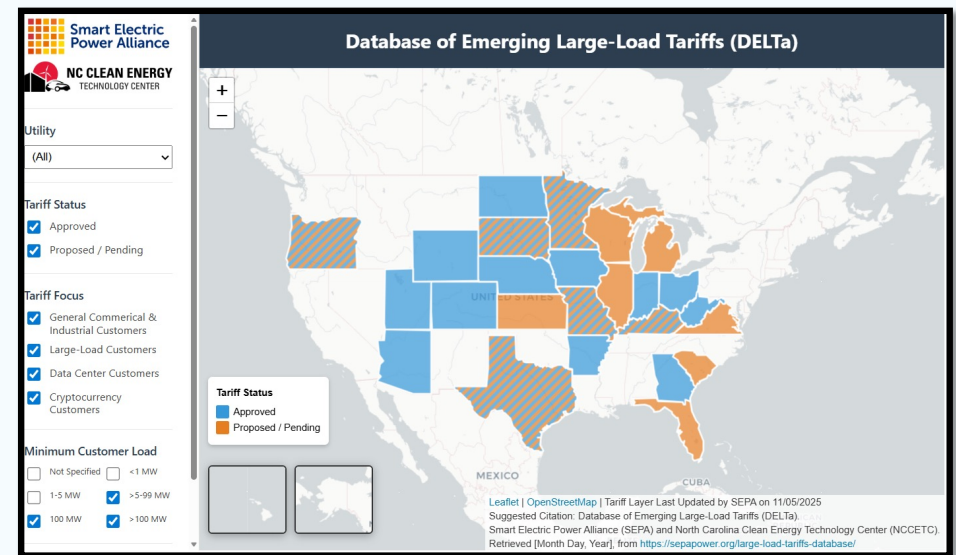
... industrial and data center loads are forecast differently

Substantial investments in studying data center loads

... top priority is operational risk, but front-end planning risk is also a priority

**Utility rate tariff reforms are helping to reduce uncertainty**

... these reforms do not reduce all sources of risk



# Load Forecasting: What Needs Improvement

---

## Transparency and consistency

- Large loads are not described or assessed in a consistent manner in load forecasts.

## Insufficient data

- Particularly an issue for data centers – from multi-tenant to AI
- Early-process customer-supplied data are unreliable in certain respects
- Difficult for many utilities to obtain useful historical data, especially if they don't have a strong history with data centers

## Alternative site data not shared

- Planners are only beginning to request information on this topic
- Practices for interpreting these data are probably not yet developed.

## Load flexibility is not included

- No forecasts include load flexibility for future large loads
- Load flexibility planning practices may be complicated



# Thank you!

John D. Wilson

Vice President

[jwilson@gridstrategiesllc.com](mailto:jwilson@gridstrategiesllc.com)

We offer research and advising on



Clean Energy  
Integration



Business & Policy  
Solutions



Regulatory  
Engagement

Founded in 2017, Grid Strategies works on policy to enable decarbonization and an affordable, reliable electricity system.