

# NERC

NORTH AMERICAN ELECTRIC  
RELIABILITY CORPORATION

*ercot* 

 **TEXAS RE**  
Ensuring electric reliability for Texans

## NERC & ERCOT Reliability Assessments

**Pete Warnken (ERCOT)**  
**Mark Olson (NERC)**

**February 23, 2026**

# Antitrust Admonition

**Because this event brings together market participants who may be viewed as actual or potential competitors, we must be mindful to conduct it in a manner that is consistent with the antitrust and competition laws. Participants should not disclose non-public, proprietary, or competitively sensitive information.**

**Attendees should exercise independent judgment and avoid even the appearance of discussions of agreements or concerted actions that may be viewed as restraining competition. Any questions on Texas RE's Antitrust Compliance Corporate Policy may be directed to Texas RE's General Counsel.**



# Upcoming Texas RE Events



March 10, 2026

Regional Risk Series:  
Artificial Intelligence



March 17, 2026

Regional Risk Series:  
Supply Chain



March 24, 2026

Cold Weather Risk



# Upcoming Texas RE Events



February 25, 2026

Q1 MRC, AGR&F, and Board Meetings



April 1, 2026

Spring Standards, Security, & Reliability Workshop



August 19, 2025

Winter Weatherization Workshop



# Upcoming ERO Enterprise Events



Date	Event
February 24-24, 2026	<u><a href="#">WECC Grid Fundamentals</a></u>
February 24-25, 2025	<u><a href="#">RF Internal Controls Workshop</a></u>
February 25-26, 2026	<u><a href="#">2026 ERO Women's Leadership Conference</a></u>
March 3, 2026	<u><a href="#">MRO Long-Term Reliability Webinar</a></u>
March 10, 2026	<u><a href="#">SERC Regional Risk Webinar</a></u>
March 12, 2026	<u><a href="#">SERC 2026 Long-Term Reliability Webinar</a></u>



#TXRE

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## Texas Reliability Entity, “Talk with Texas RE”

Winter 2025-26 Overview

Dec. 2025 Capacity, Demand & Reserves Report

Reliability Standard Support Activity Update

*Pete Warnken*

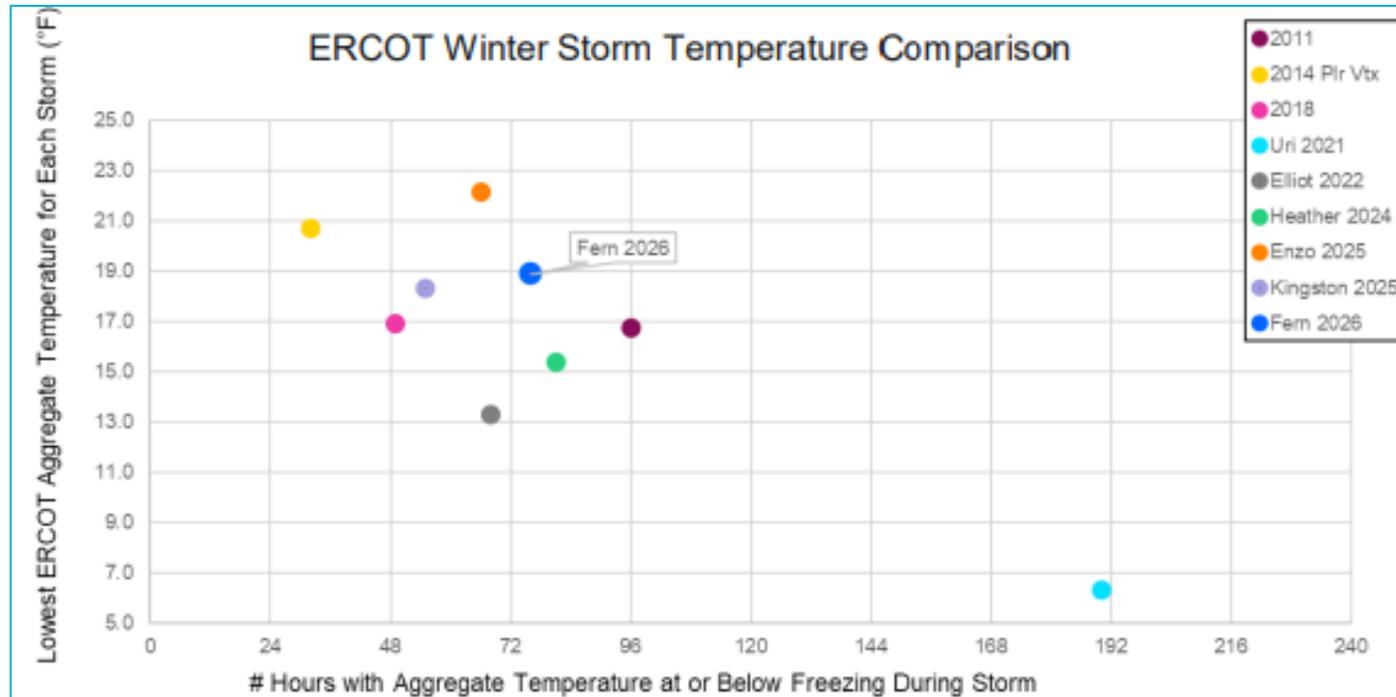
Director, Resource Adequacy

January 23, 2026

# Winter 2025-26 Overview

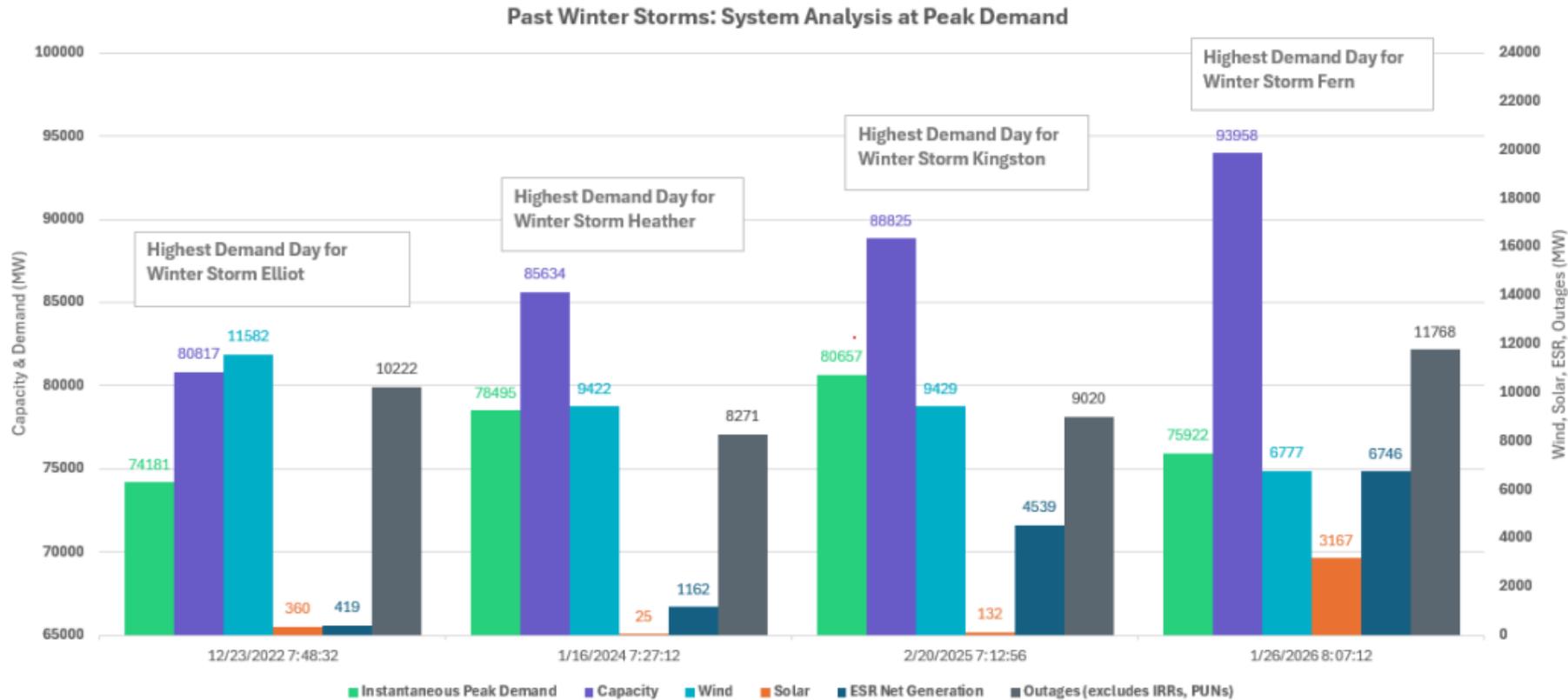
## Winter Highlights – Dominated by Winter Storm Fern

- The ERCOT region performed well for the winter, including during WS Fern (January 23-26) with only a local transmission emergency issued
  - Mitigations successfully prevented rotating outages during the emergency



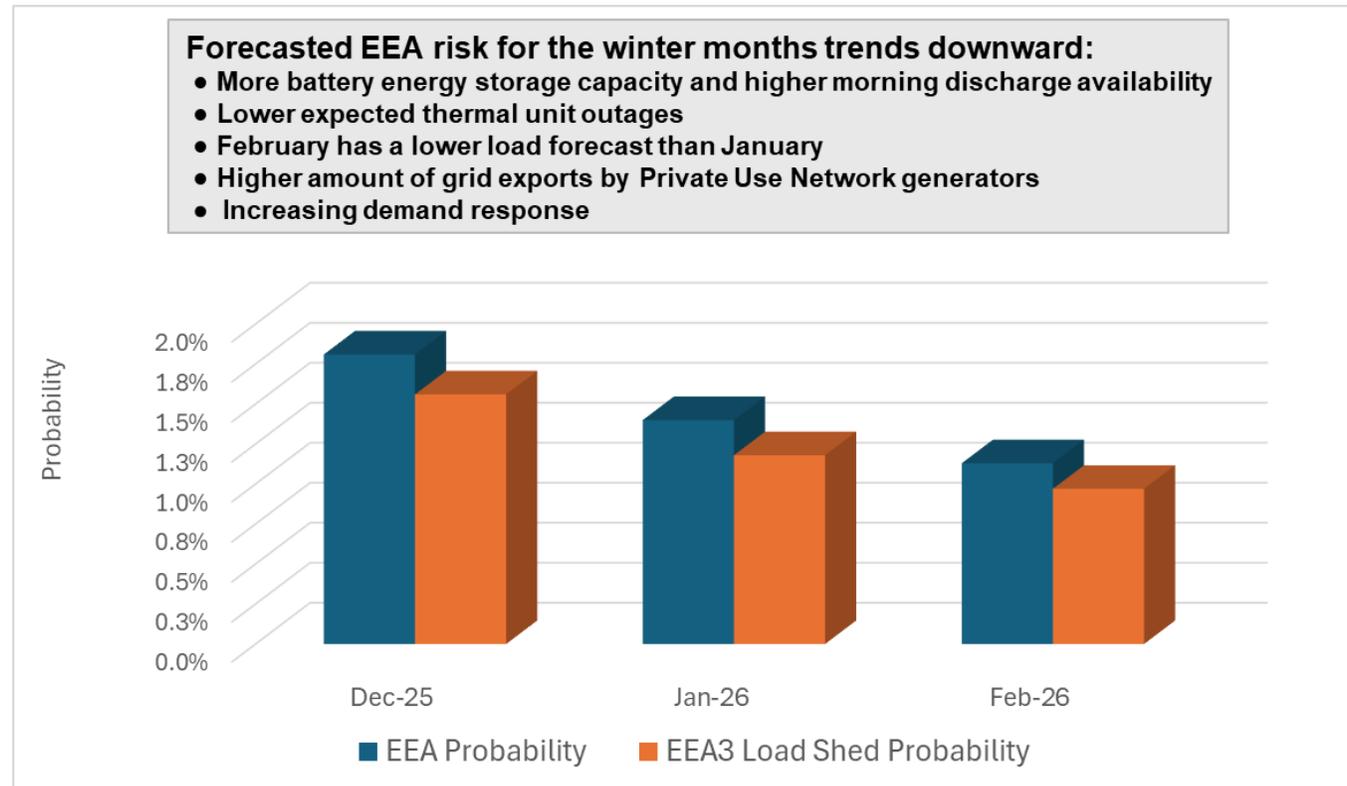
- The winter peak load, so far, occurred on January 26
  - 75,572 MW, based on preliminary settlement data
  - The record winter peak, 80,560 MW, occurred during WS Kingston, January 20, 2025

# Storm Event Comparison: Demand vs. Resources



## Monthly Outlook for Resource Adequacy, Forecasted EEA Risk by Winter Month

- Monthly risk profiles (developed two months ahead of the forecast month) based on a probabilistic model that estimates hourly Energy Emergency Alert probabilities for the expected peak load day
- The highest-risk hour is hour-ending 8:00 a.m. for the three winter months, shown below



# December 2025 *Capacity, Demand and Reserves* Report

# Summer Load Forecasts, 2026-2029

## Peak and Net Peak Load Hours

Year	Load for the peak Load hour		Load for the peak Net Load hour (Load minus wind and solar generation)	
	Base Summer Forecast	Summer Peak Load Hour (Hour Ending)	Base Summer Forecast	Summer Peak Net Load Hour (Hour Ending)
2026	94,159	5:00 p.m.	81,411	9:00 p.m.
2027	103,725	5:00 p.m.	91,088	9:00 p.m.
2028	120,875	5:00 p.m.	108,314	9:00 p.m.
2029	127,905	5:00 p.m.	115,532	9:00 p.m.
2030	138,010	5:00 p.m.	126,198	9:00 p.m.

## Large Loads

Large Load Type	New TSP-Reported Loads Added to the April 2025 ERCOT Adjusted Load Forecast Cumulative MW					
	Summer 2026	Summer 2027	Summer 2028	Summer 2029	Summer 2030	Avg. Annual Growth Rate (%)
Contracted Loads*	4,894	8,654	15,336	17,130	19,560	41%
TSP Officer Letter Loads**	2,733	7,420	16,792	21,233	28,223	79%
<b>Total</b>	<b>7,627</b>	<b>16,074</b>	<b>32,128</b>	<b>38,362</b>	<b>47,783</b>	<b>58%</b>

\* Contracted Loads: All planned loads with signed interconnection agreements reported to ERCOT by the loads' Transmission Service Providers

\*\* All planned loads documented in a TSP officer letter. (An officer letter is an attestation indicating confidence that loads are expected to be interconnected even though the interconnection agreement has not been signed yet.)

## Planned Resource Additions

- The table below reports cumulative planned capacity additions, as of the start of each summer, for generating units that qualify to be included in the CDR based on certain criteria\*

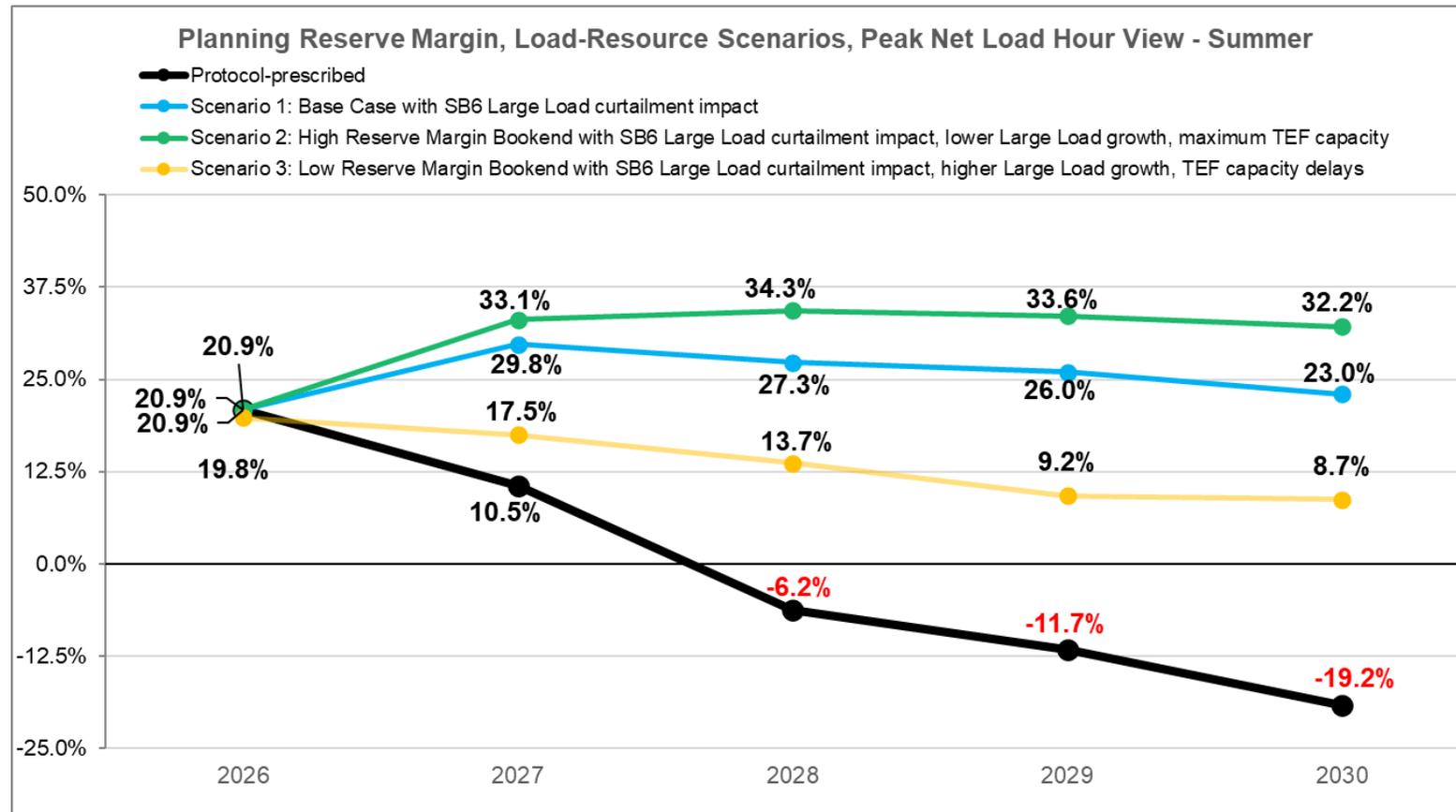
Planned Generation Capacity Additions by Summer Season (Projects that met CDR Eligibility Criteria and based on Summer Seasonal Ratings)						
	Summer 2026	Summer 2027	Summer 2028	Summer 2029	Summer 2030	Trend
Thermal (Natural Gas and Diesel)	1,119	1,335	2,009	3,309	3,309	
Battery Energy Storage	5,074	13,236	19,914	22,913	22,913	
<b>Dispatchable Total</b>	<b>6,193</b>	<b>14,571</b>	<b>21,922</b>	<b>26,221</b>	<b>26,221</b>	
Solar	3,959	14,857	24,869	28,929	29,441	
Wind	148	1,340	4,553	4,793	4,793	
<b>Non-Dispatchable Total</b>	<b>4,107</b>	<b>16,198</b>	<b>29,422</b>	<b>33,722</b>	<b>34,234</b>	
<b>Total</b>	<b>10,300</b>	<b>30,769</b>	<b>51,345</b>	<b>59,943</b>	<b>60,456</b>	

CDR eligibility criteria:

- Signed Interconnection agreement
- Written notice from the transmission service provider that the developer has provided notice to proceed with interconnection construction
- Developer has provided the TSP with sufficient financial security to fund the interconnection facilities
- For thermal units, provision of requisite air emission permits.

## Load-Resource Scenarios

- The CDR provides forecasted Planning Reserve Margin scenario trajectories for seasonal peak load and peak net load hours; the chart below shows the spread in PRMs for the summer peak net load based on Senate Bill 6 large load curtailment and Texas Energy Fund capacity assumptions:

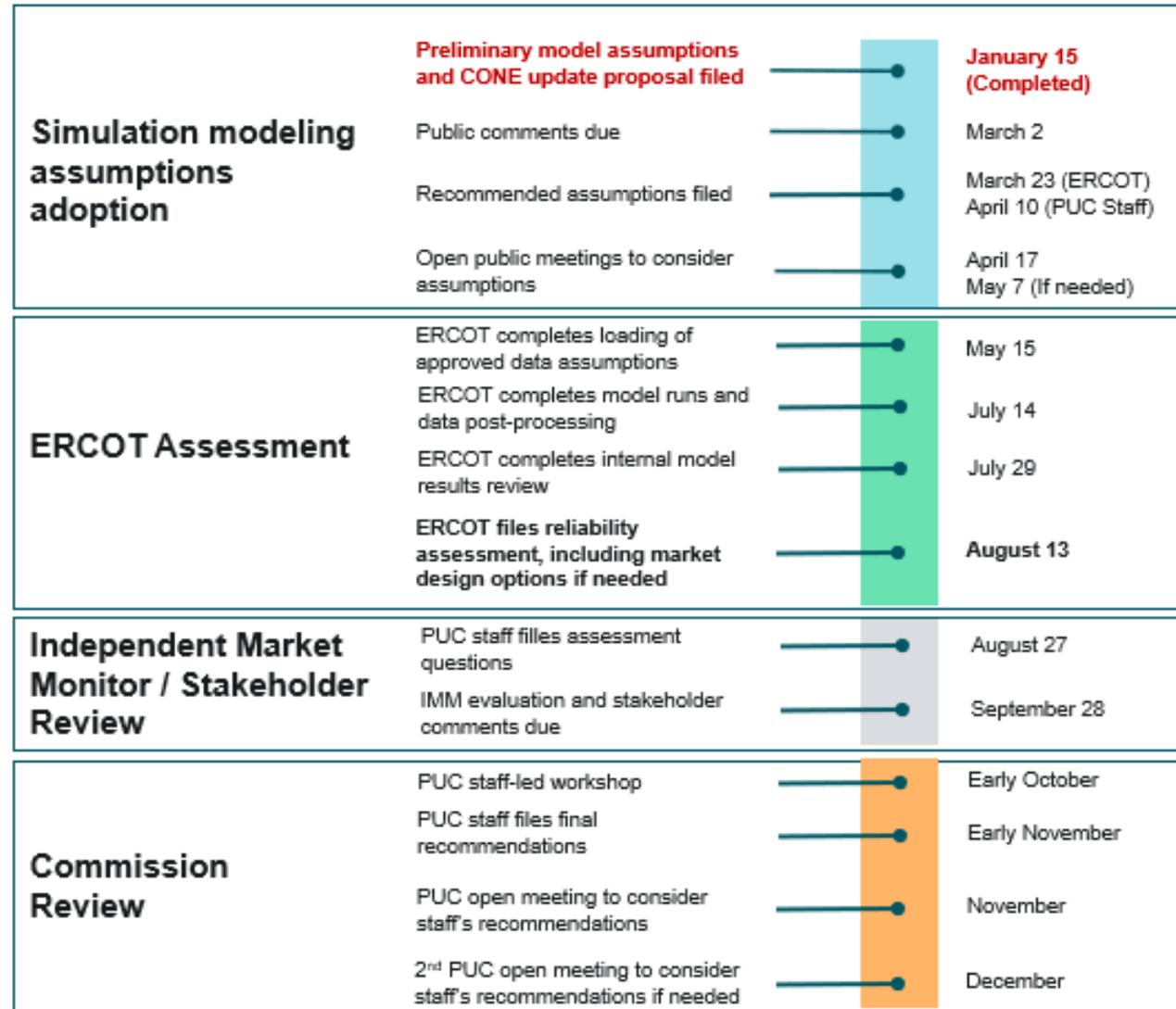


# Reliability Standard Support Activity Update

## Reliability Standard Overview

- To be compliant with the PUCT's new Reliability Standard, the ERCOT Region must meet compliance thresholds for three reliability criteria based on probabilistic reliability simulations for the current year and three years out.
- The standard's three metrics capture the facets of energy reliability risk: the frequency, magnitude and duration of loss-of-load events covering all hours of a simulation year.
- An assessment must be conducted at least once every three years starting in 2026. (The study years are 2026 and 2029 for this year's assessment.)
- ERCOT is required to propose modeling assumptions prior to the start of the reliability assessment; these undergo a public review process preceding finalization and Commission approval.
- After conducting a reliability assessment, failure to meet the Standard requires ERCOT to provide "a menu of proposed recommended market design changes, including a primary recommendation" for consideration by the PUCT.
- The independent market monitor is charged with reviewing the ERCOT proposed design changes.

# Reliability Assessment Milestones



## 2025 Reliability Assessment SERVM\* Support Projects

- Improved representation of weather-related thermal outage durations
- Statistical adjustments to shift winter storm risk to January to account for under-representation caused by recent severe storms occurring in December and February
- Weather-year “reweighting” to account for increasing weather volatility
- More conservative weatherization standard effectiveness assumptions
- 2026 trial simulations with modeling assumption changes:

Cumulative Assumption Changes	LOLE (events / year)	1% Exceedance Duration	1% Exceedance Depth
<b>Reliability Standard (Benchmark)</b>	<b>0.1</b>	<b>12 hours</b>	<b>14 GW</b>
2026 Base Case	0.146	12 hours	15 GW
Event Duration Update + January Reliability Risk Shift	0.156	12 hours	15 GW
Reduced Weatherization Benefit	0.382	16 hours	29 GW
Weather Years Reweighted	0.308	16 hours	30 GW

- Assessment of dividing ERCOT into multiple modeled zones with transfer limits

\* Strategic Energy & Risk Valuation Model

**NERC**

NORTH AMERICAN ELECTRIC  
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# 2025 Winter and Long-Term Reliability Assessments

Mark Olson, Manager, Reliability Assessment

*Talk with Texas RE*

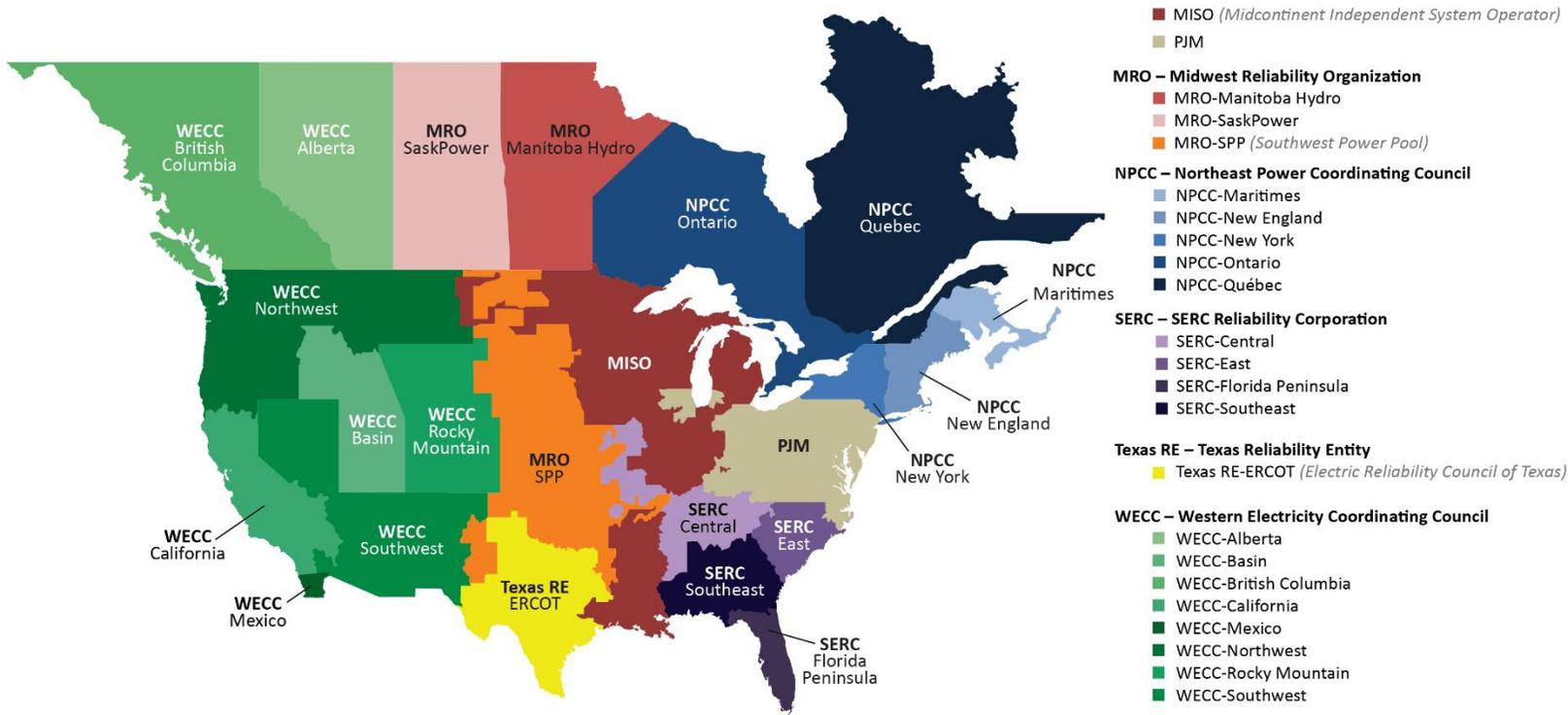
February 23, 2026

RELIABILITY | RESILIENCE | SECURITY

# About the Long-Term Reliability Assessment (LTRA)

- 10-year assessment of resource capacity and energy risks
- Uses industry's demand and generation forecasts and transmission projections

- Data is scrutinized by Regional Entities and through industry peer-review
- Some Regional Entities also perform region-specific assessments and publish separately



## NERC Assessments and Analysis Reports

- Long-Term Reliability Assessment
- Seasonal Reliability Assessments
- Special Reliability Assessments
- Annual State of Reliability Report
- Event Analysis Reports
- Event Analysis Lessons Learned

# 2025 LTRA Key Findings

- Assessment** Resource adequacy concerns are expanding to more areas and growing more acute
- Assessment** Resource growth projections are marked by uncertainty and fall short of escalating demand and projected generator retirements
- Assessment** Risk of supply shortfalls is increasing as generators retire and the resource mix becomes more weather dependent
- Trend** Demand growth is rising rapidly driven by data centers, industrial loads, and electrification
- Trend** Transmission development is increasing, with more projects in planning



**Near-term improvement compared to 2024 LTRA**  
**Winter risk driven by large variability in demand**  
**Demand growth from large loads contributes to rising risks in summer and shoulder months in later years**

**Table 5: Texas RE-ERCOT Base-Case Summary of Results**

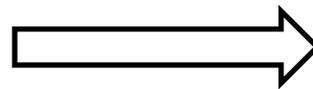
	2026*	2027	2029
EUE (MWh)	11,090	5,865	17,053
NEUE (ppm)	18.95	8.70	18.84
LOLH (hours per Year)	1.57	0.95	3.64
Category	Elevated	Elevated	High

\*Provides the 2024 Proba Results for Comparison

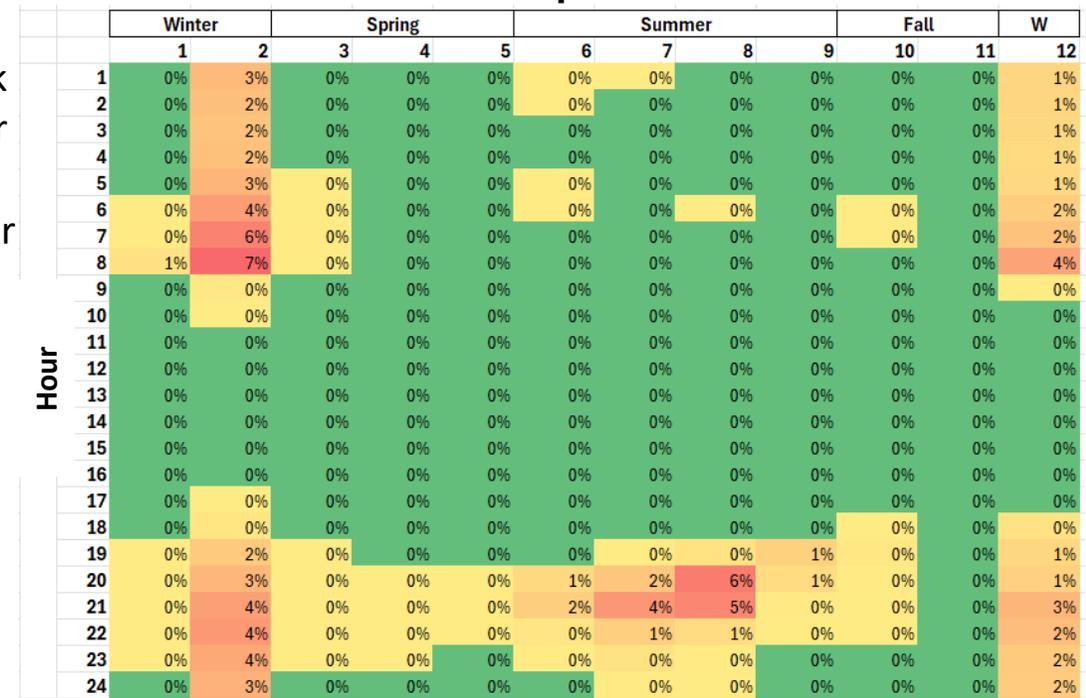
**2027 Proba Heat Map for Texas RE-ERCOT**



- New periods of risk emerge in shoulder months
- Summer and winter risk hours expand

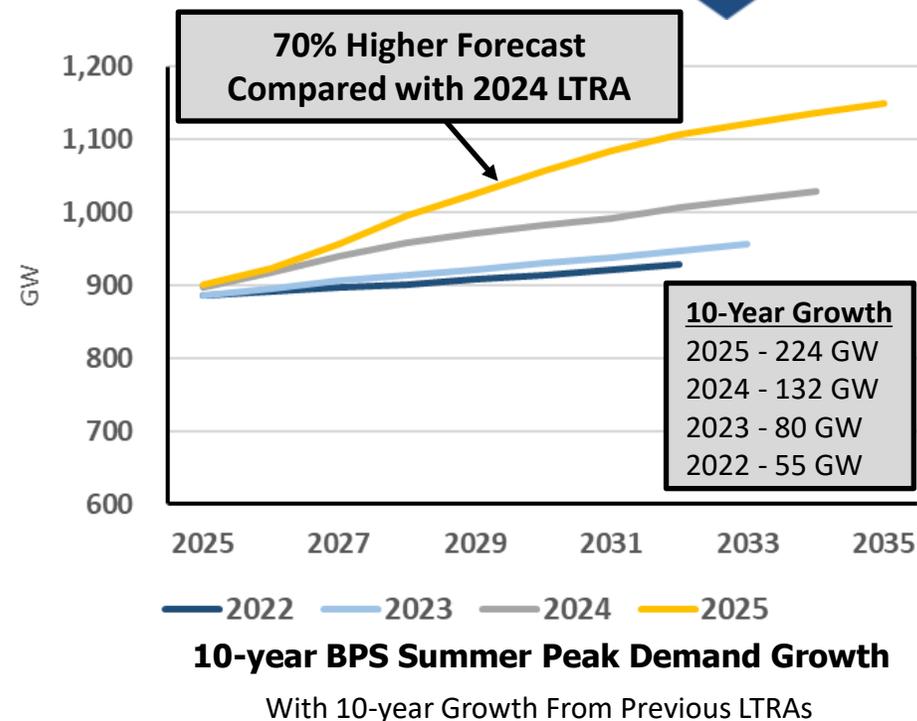


**2029 Proba Heat Map for Texas RE-ERCOT**



# Demand Forecasts Continue Rapid Ascent

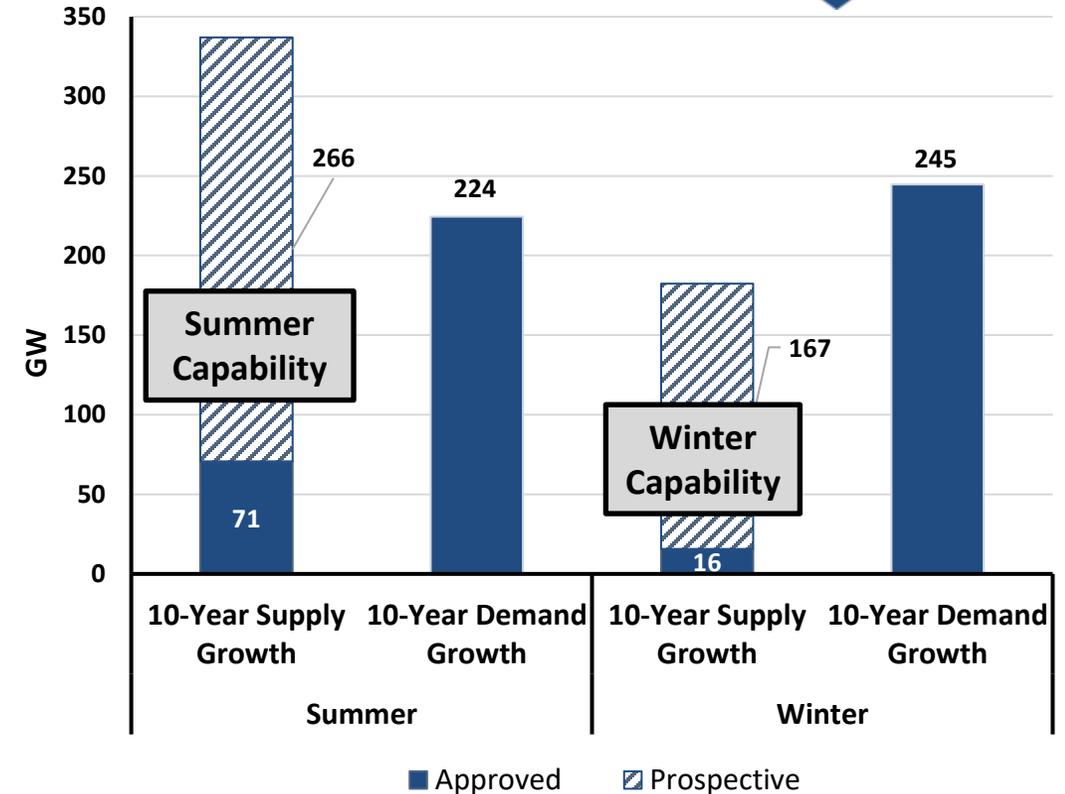
- Assessment area summer peak demand is forecast to rise by over 224 GW (24% increase from 2025 peak demand)
- New data centers are the main source of load growth followed by other large industrial loads and electrification
- Winter peak demand growth continues to exceed summer growth (Rising 245 GW over 10 years)
- Data centers and large industrial loads drive the demand forecasts and increase forecast volatility



Load forecasts submitted to NERC for the LTRA are from the first half of 2025. Some newer forecasts are beginning to emerge. In ERCOT and PJM, new load forecasts indicate lower growth projections in the next few years due to data center project delays or cancellations but continued increases in later years.

# Shortfall Between Projected Resources and Demand

- High level of sustained resource growth over the 10-year period is needed to meet demand forecasts
- BPS resource capacity fell short of 2024 LTRA projections due to unanticipated generator retirements and delays in connecting new resources
- Expedited resource programs help prioritize interconnection of critical resources
- More winter capacity is needed to meet future demand



**Projected Growth in Demand and Resources (10-years)**

**Approved** Resources with Interconnection Agreements or in an approved Integrated Resource Plan (Tier 1)  
**Prospective** Resources In earlier planning (Tier 2)

# Recommendations

Integrated Resource Planners, market operators, and regulators | **Expedite new resources to meet growing demand and carefully manage generator deactivations**

NERC, industry, and regulators | **Understand and manage reliability risks from large loads and leverage their flexibility during times of grid stress**

NERC, Regional Entities, and industry | **Improve the LTRA with new analysis and criteria to inform stakeholders of future reliability risks**

Regulators and Policymakers | **Streamline siting and permitting to remove barriers to resource and transmission development**

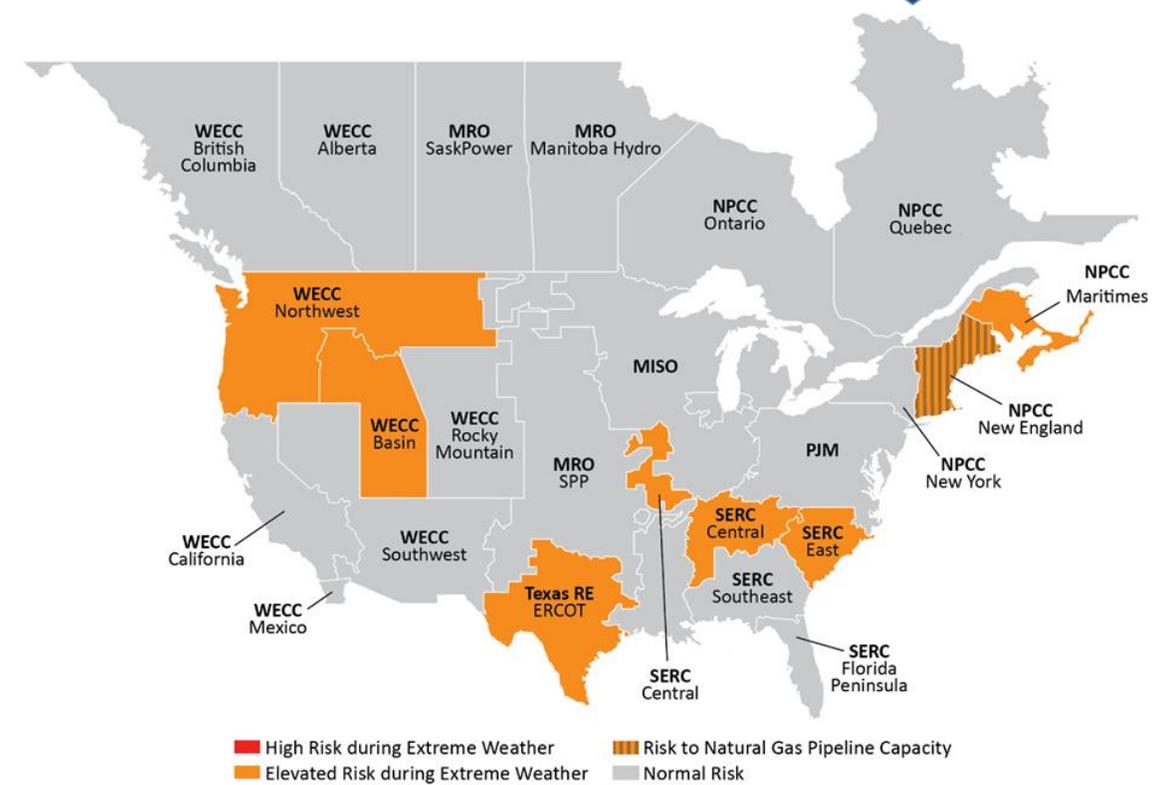
Regulators, electric industry, and gas industry | **Continue implementing solutions for addressing the operating and planning needs of the gas-electric system**

ISOs/RTOs, regulators | **Continue steps to ensure sufficient Essential Reliability Services**



# 2025-2026 Winter Reliability Assessment Highlights

- Resources are adequate across North America for expected peak conditions
- Extreme winter conditions pose familiar challenges for Bulk Power System reliability
  - High electricity demand and forecasting challenges
  - Generator performance issues
  - Fuel supply issues
- Resource adequacy is stretched by rising electricity demand and a changing mix of resources
- Natural gas production and supply infrastructure will again strongly affect the Bulk Power System

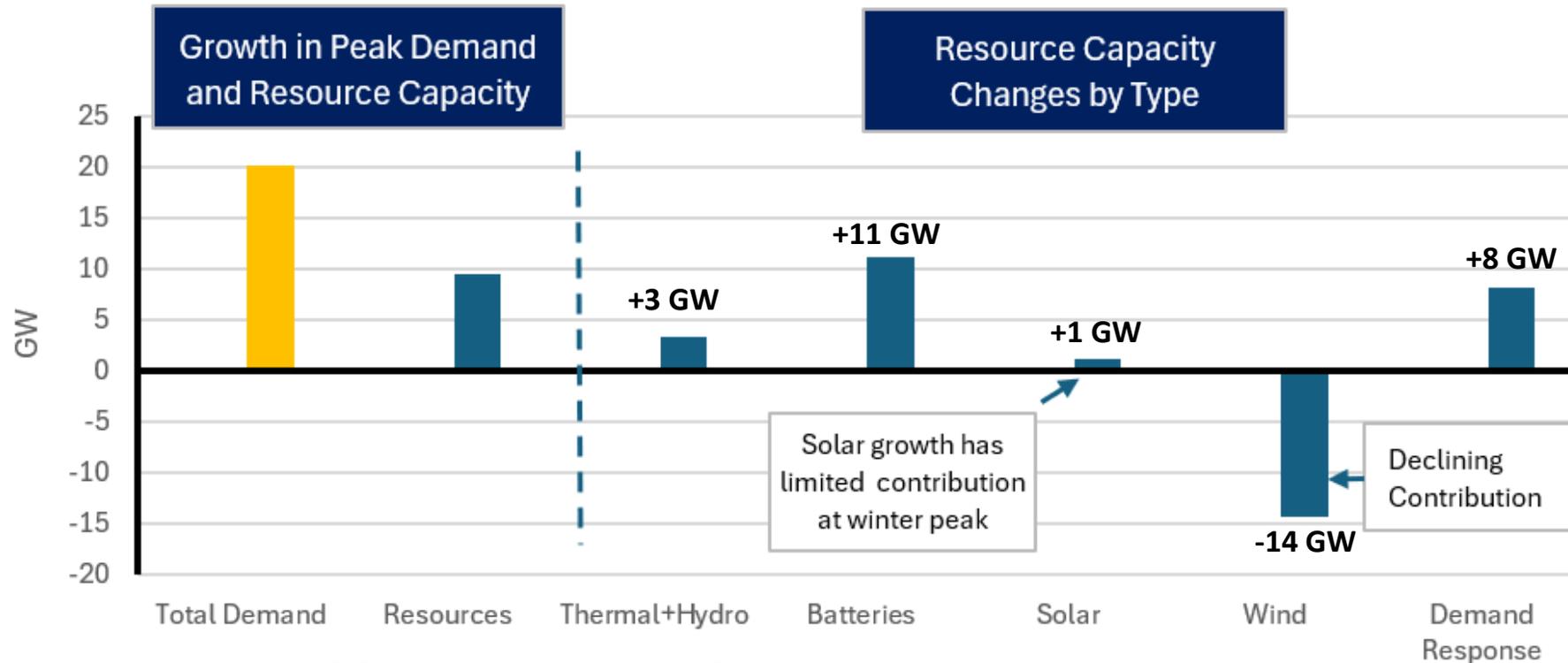


Seasonal Risk Assessment Summary	
<b>High</b>	Potential for insufficient operating reserves in normal peak conditions
<b>Elevated</b>	Potential for insufficient operating reserves in above-normal conditions
<b>Normal</b>	Sufficient operating reserves expected

*Extreme conditions include 90/10 demand scenarios, historical high generator outage rates, and low variable energy resource scenarios*

# Resource Gains Fall Short of Rising Winter Demand

- Since last winter:
  - Aggregate peak demand +20 GW (2.5%) for all assessment areas
  - Total BPS resources + 9.4 GW (net change)
- An increasingly complex resource mix brings additional challenges for operators



**Electricity Demand and Supply Resource Changes Since Last Winter**



# Questions and Answers