TEXAS RE

Summer Outlook

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May 20, 2025

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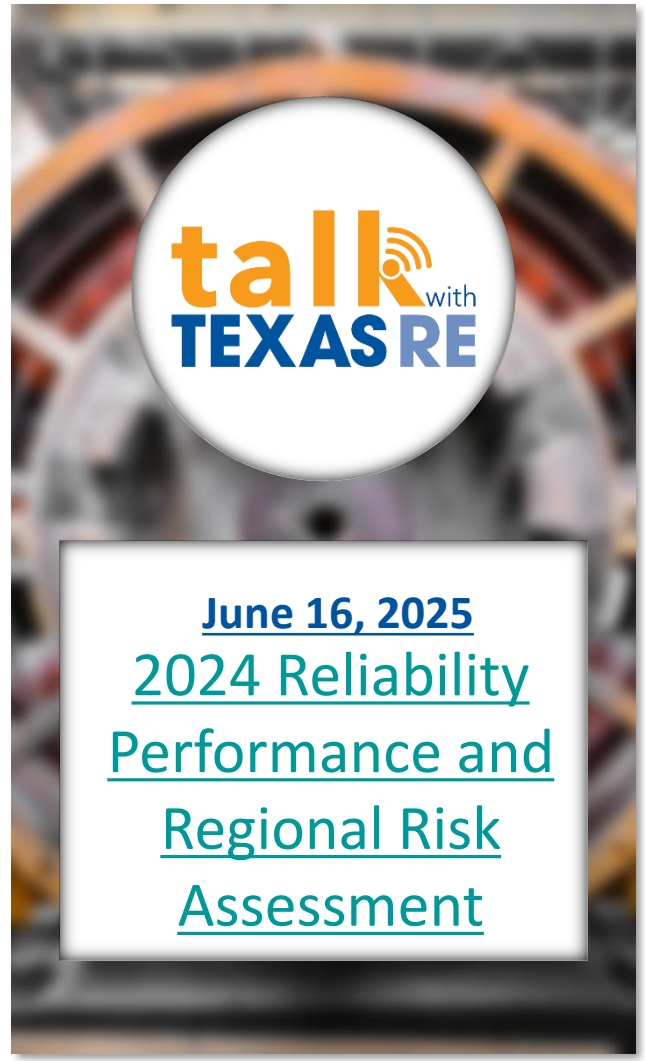
Upcoming Texas RE Events

May 28, 2025

GOP Functions and Third-Party Control Centers

June 11, 2025

Artificial Intelligence in the Electricity Industry



June 16, 2025

2024 Reliability Performance and Regional Risk Assessment

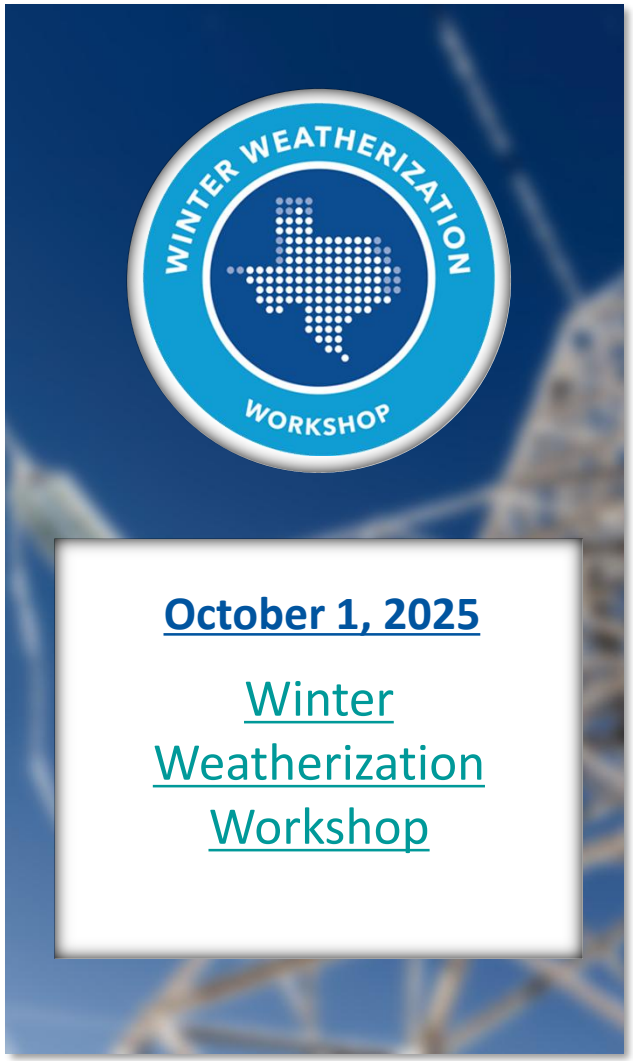
Upcoming Texas RE Events

July 16, 2025

Evolving Grid Workshop

September 17, 2025

Q3 MRC, AGR&F, and Board Meetings



October 1, 2025

Winter Weatherization Workshop

Upcoming ERO Enterprise Events

Date	Event
May 20-21	Reliability, Security, and CMEP Summit (MRO)
June 2	Summer Assessment Report & Summer Weather Review (SERC)
June 4	Reliability in the West: Large Load System Performance (WECC)
June 16	Technical Talk with RF (RF)
June 19	Reliability & Security Monthly Update (WECC)

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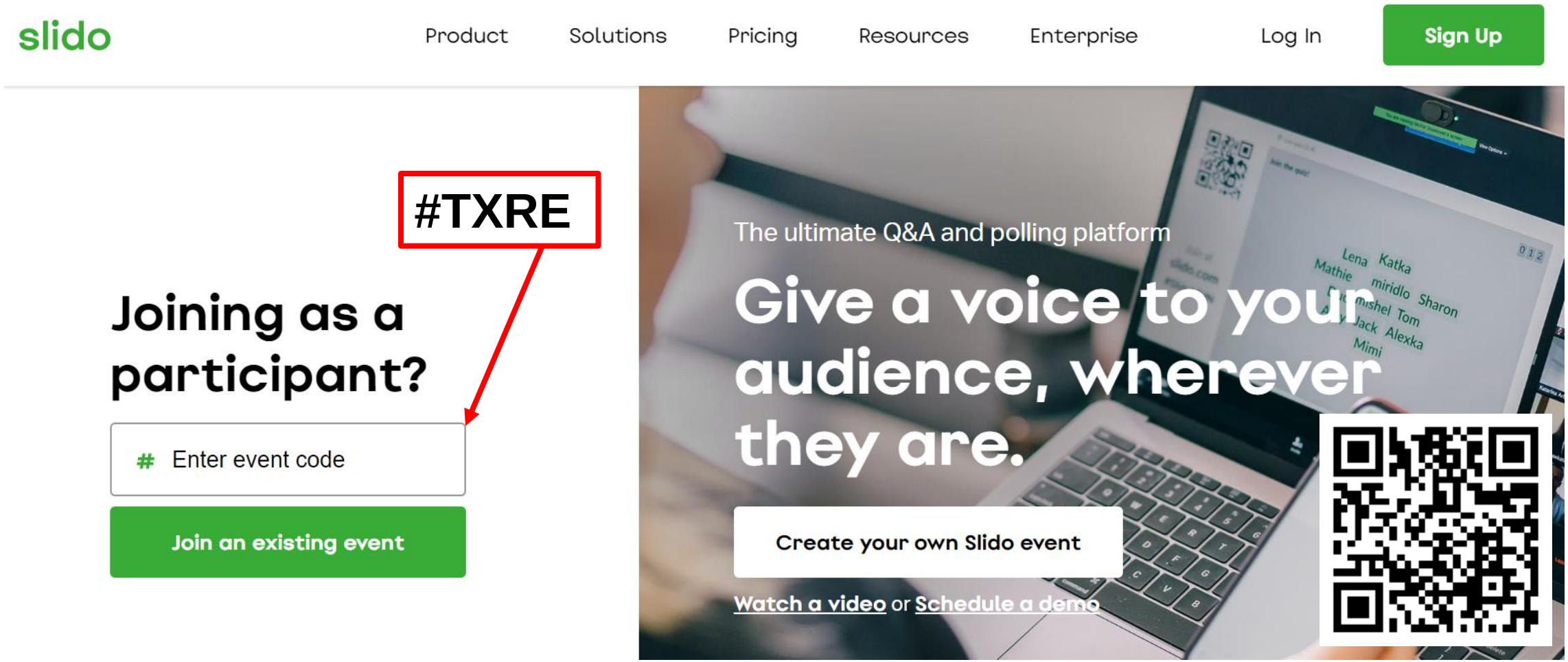
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Topics

Recent Trends	Takeaways from Last Summer	2025 Outlook
Demand Growth	Capacity Reserves	Peak Hour
Risk Hour	2025 Summer Reliability Risk Map	South Texas Interconnection Operating Limit (IROL)

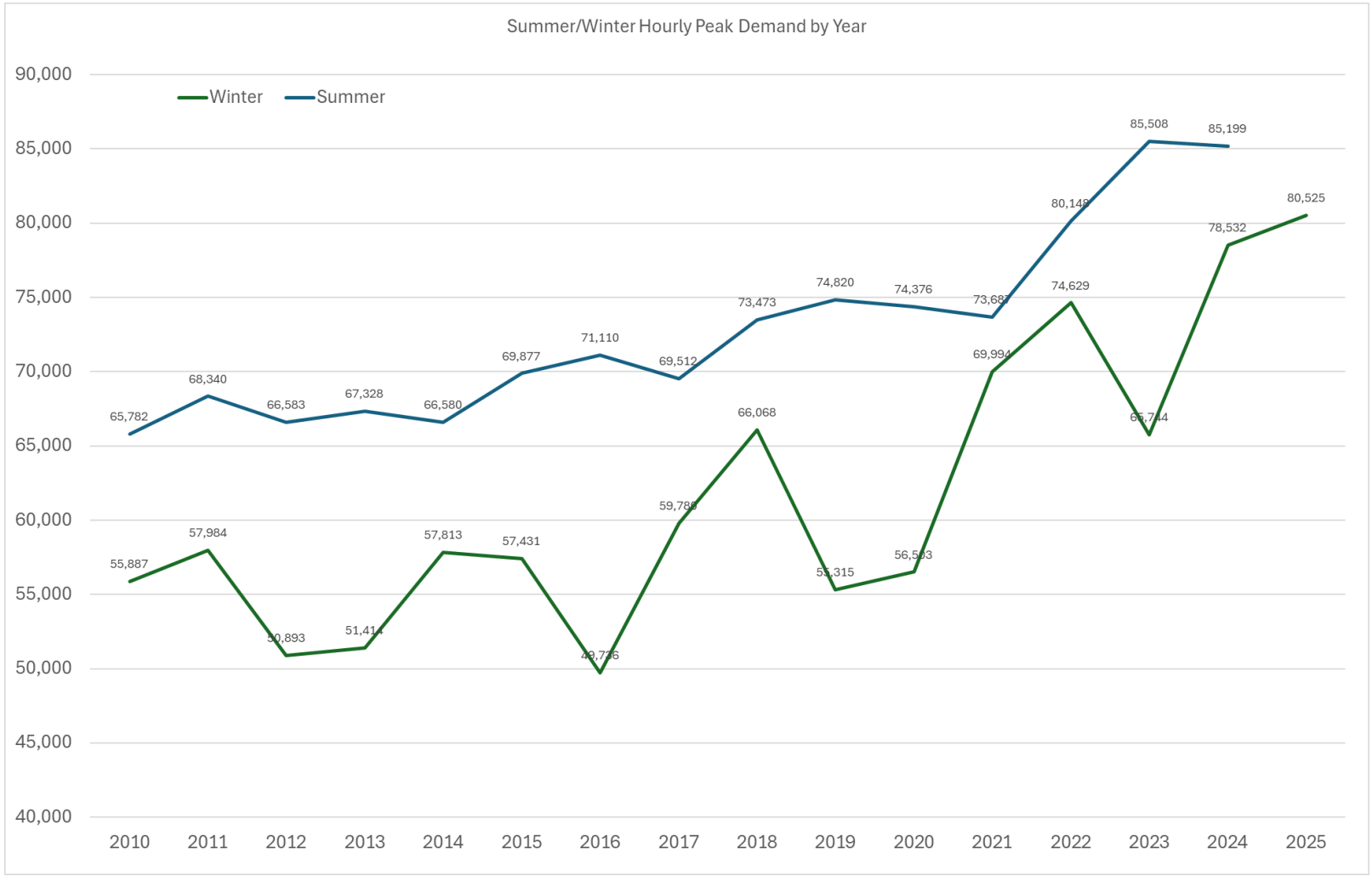
Recent Trends

Demand

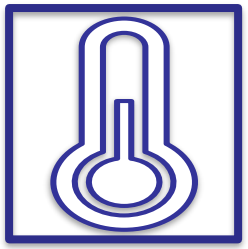
- All-time hourly peak demand record was set on August 10, 2023: 85,508 MW
- There has been a 15.6% increase in summer peak demand from 2021 to 2024

Generation

- New solar generation record
  - September 8, 2024: 21,667 MW
- New wind generation record
  - June 17, 2024: 27,881 MW
- New renewables summer record
  - July 30, 2024: 38,846 MW



Takeaways from Last Summer



6th hottest summer on record for Texas based on average temperatures since 1895. Minimum temperature ranked 4th warmest of all-time.

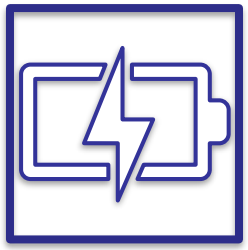
Despite cooler summer temperatures compared to 2023, load levels remained like 2023, signifying increased demand growth.

More rain than usual. Category 1 Hurricane Beryl with sustained winds of 80 mph, heavy rainfall, and widespread flooding and power outages across Southeast Texas.

No Energy Emergency Events observed.

The peak load did not occur on the hottest day of the summer, due to load management.

The hourly up and down ramping of solar generation was higher than 10 GW. The hourly net load ramping neared 6.5 GW.



Storage resources mostly contributed during solar ramp-down and before ramp-up hours, while charging at night and during high periods of solar generation.

Wind and Solar generation records were set this summer.

Summer Highlights

- Adequate Resources for Normal Demand
- Increase in Aggregate Peak Demand
- Resource Shortage in Extreme Temperatures
- Aging Generation Facilities
- Supply Chain Issues
- Wildfire Risks

Courtesy: NERC 2025 SRA

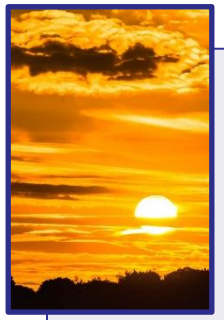
Summer Highlights for Texas

Above normal temperatures and drought conditions

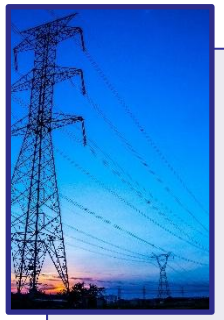
Modest growth in demand (0.7%) include voltage sensitive large loads

Robust growth in resources (14.7%) mainly in solar and energy storage

Sufficient operating reserves under normal conditions



Low risk of energy emergency in early evening hours

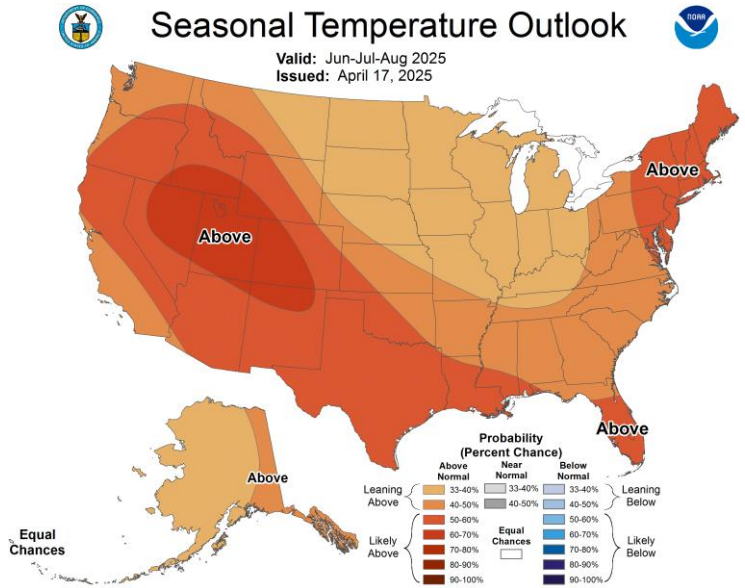


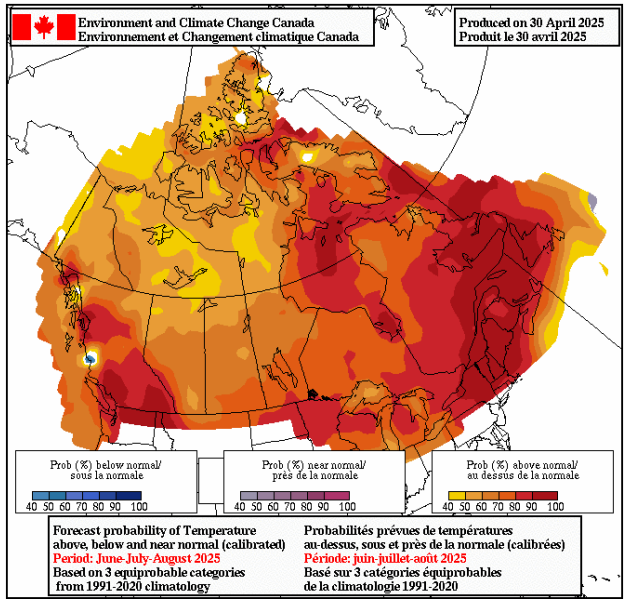
South Texas Interconnection Reliability Operating Limit (IROL)

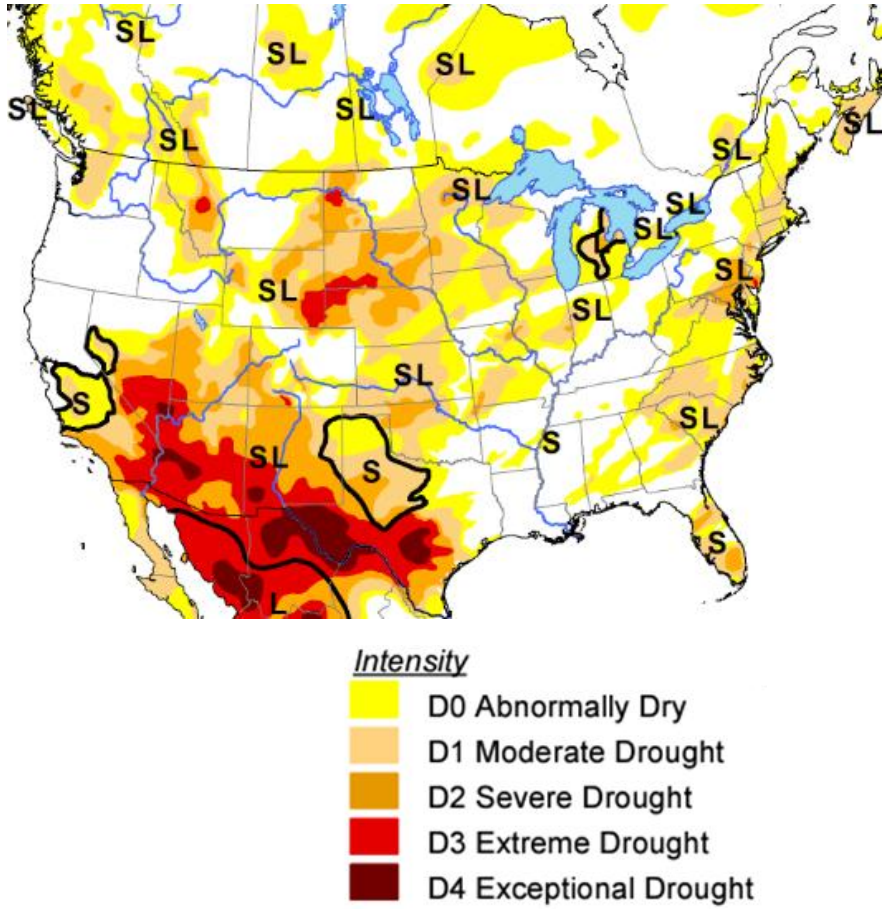
Weather Outlook

Above average temperatures expected across North America

Drought conditions across Canada and in the U.S. Southwest can contribute to high temperatures and impact generation and transmission







Courtesy: 3-Month Temperature Outlook (U.S. National Weather Service, Environment and Climate Change Canada) and April North American Drought Monitor (NADM)

Courtesy: NERC 2025 SRA

Weather Outlook

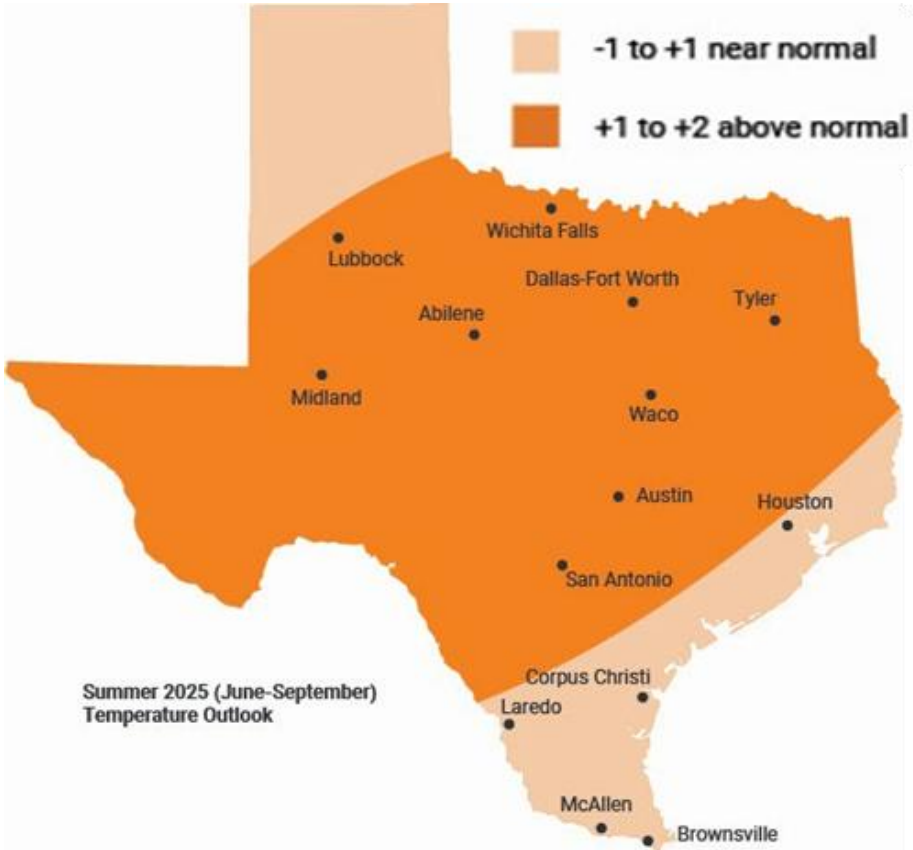
The past three summers ranked in the top six hottest summers since 1895

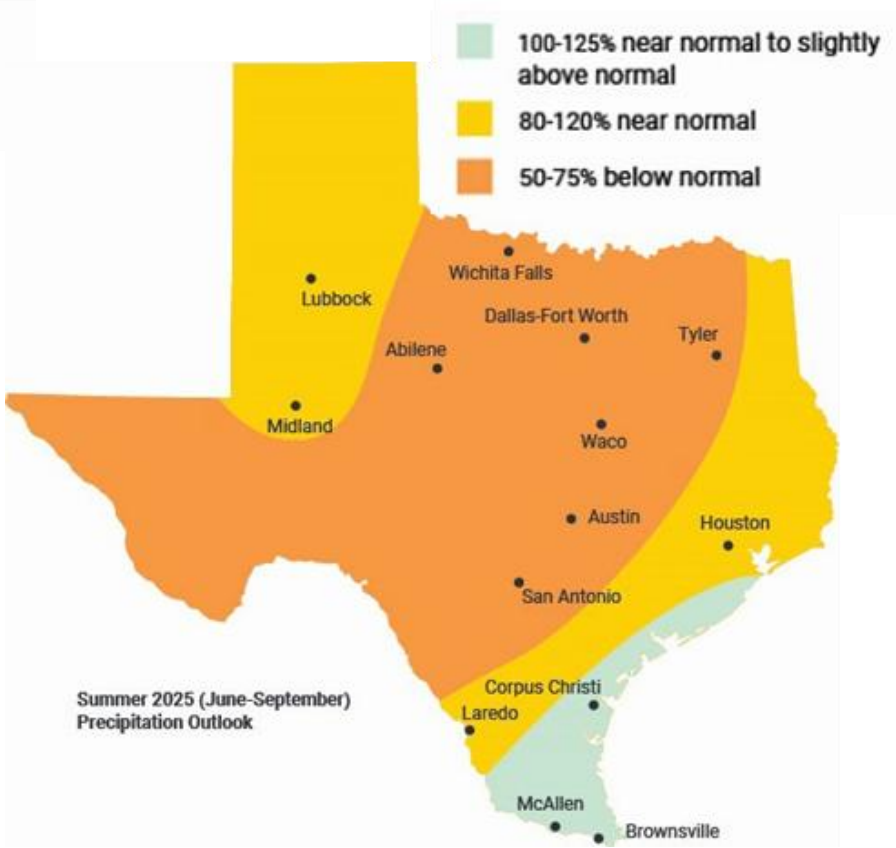
This summer could be be among the hottest on record for Texas

Drought is likely to continue through the summer

The 2025 Atlantic hurricane season should again be active

ERCOT's weather forecast webpage will be updated during the last week of May

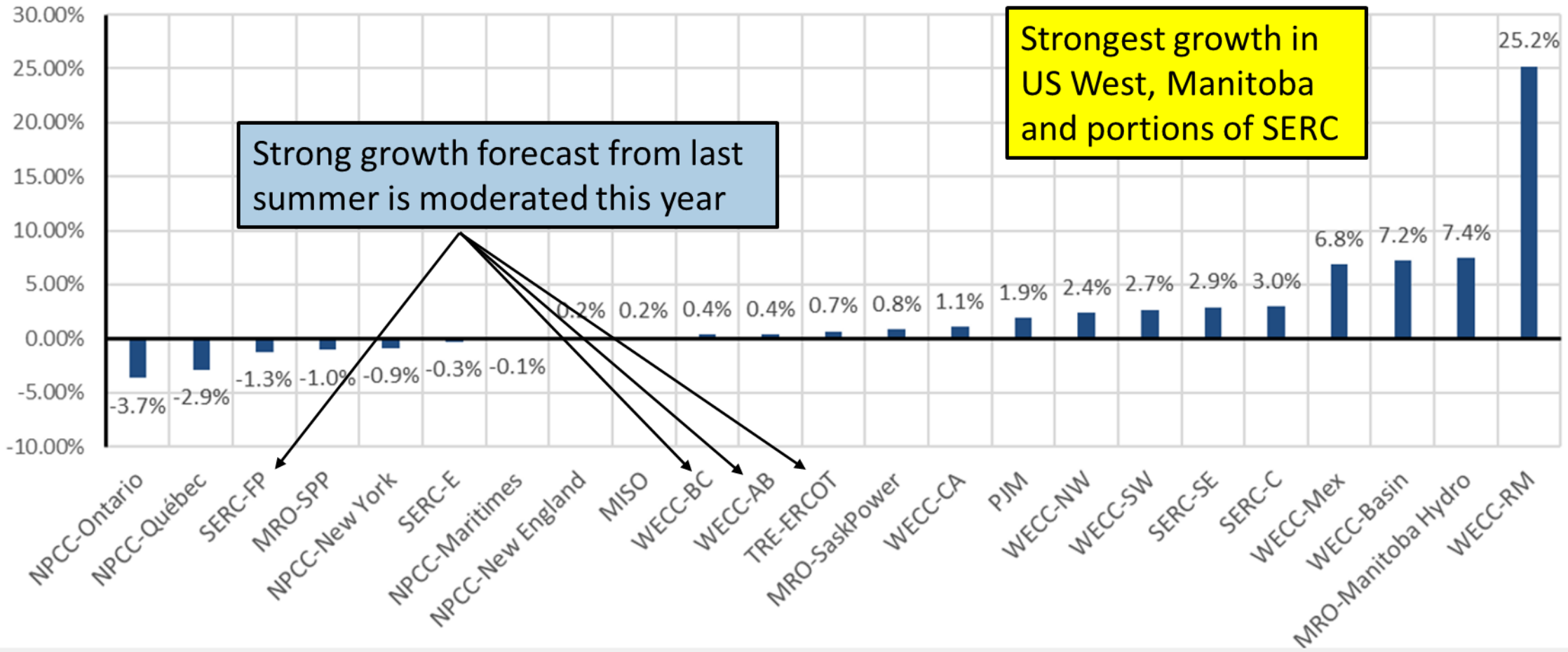




Courtesy: ERCOT Weather Forecast

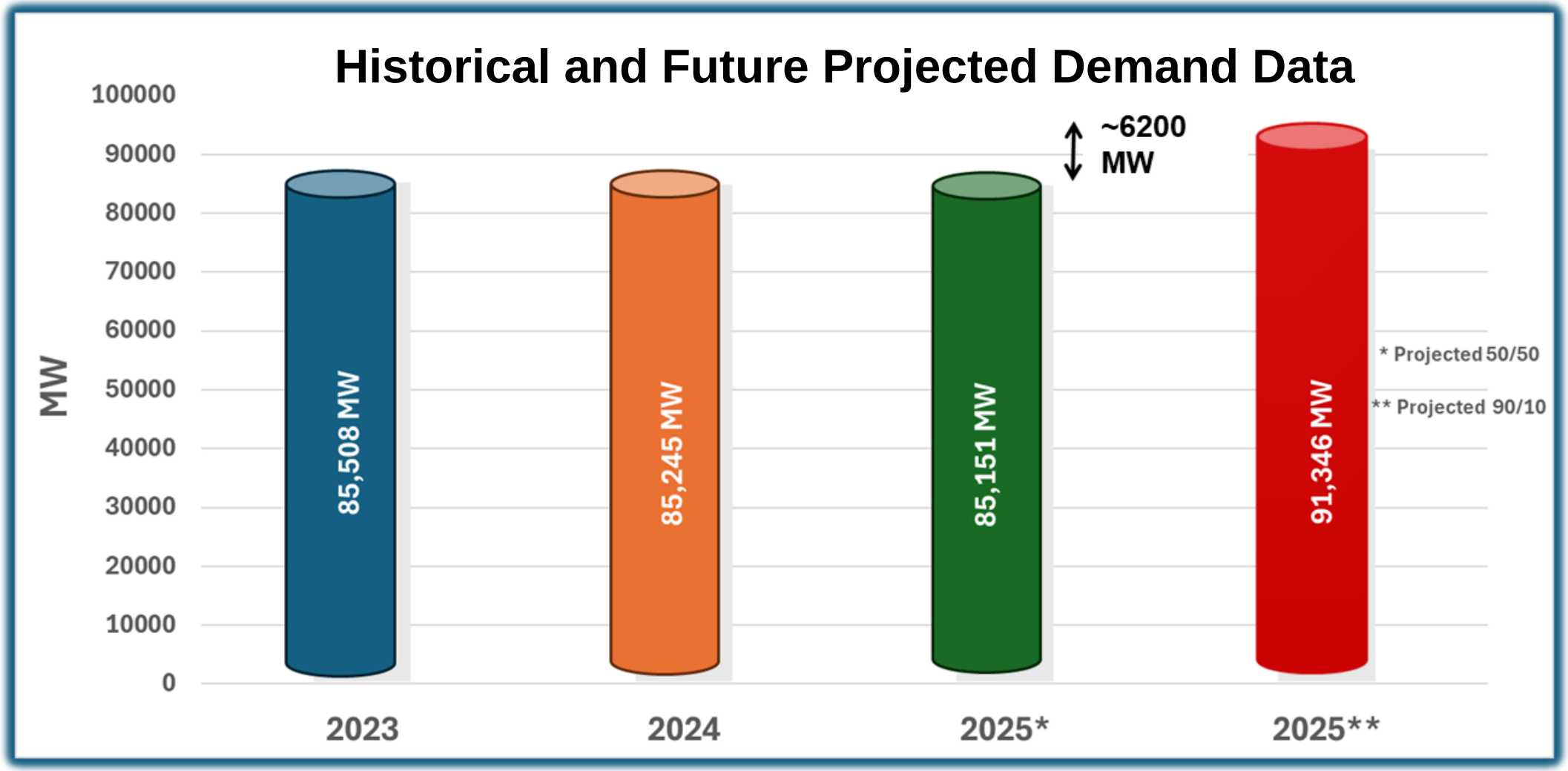
Demand Growth

Peak demand growth across all areas doubles that of 2023-24



Courtesy: NERC 2025 SRA

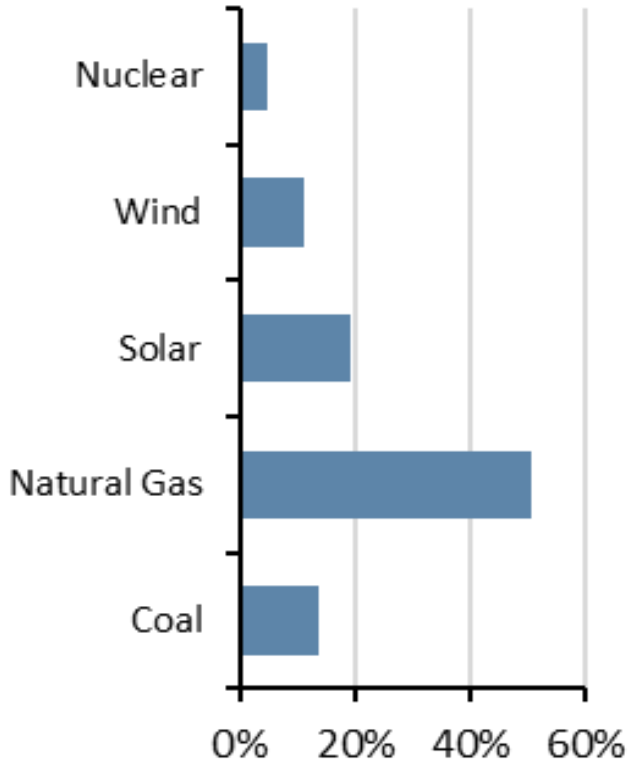
Demand Growth



Summer Peak Demand vs. Resources

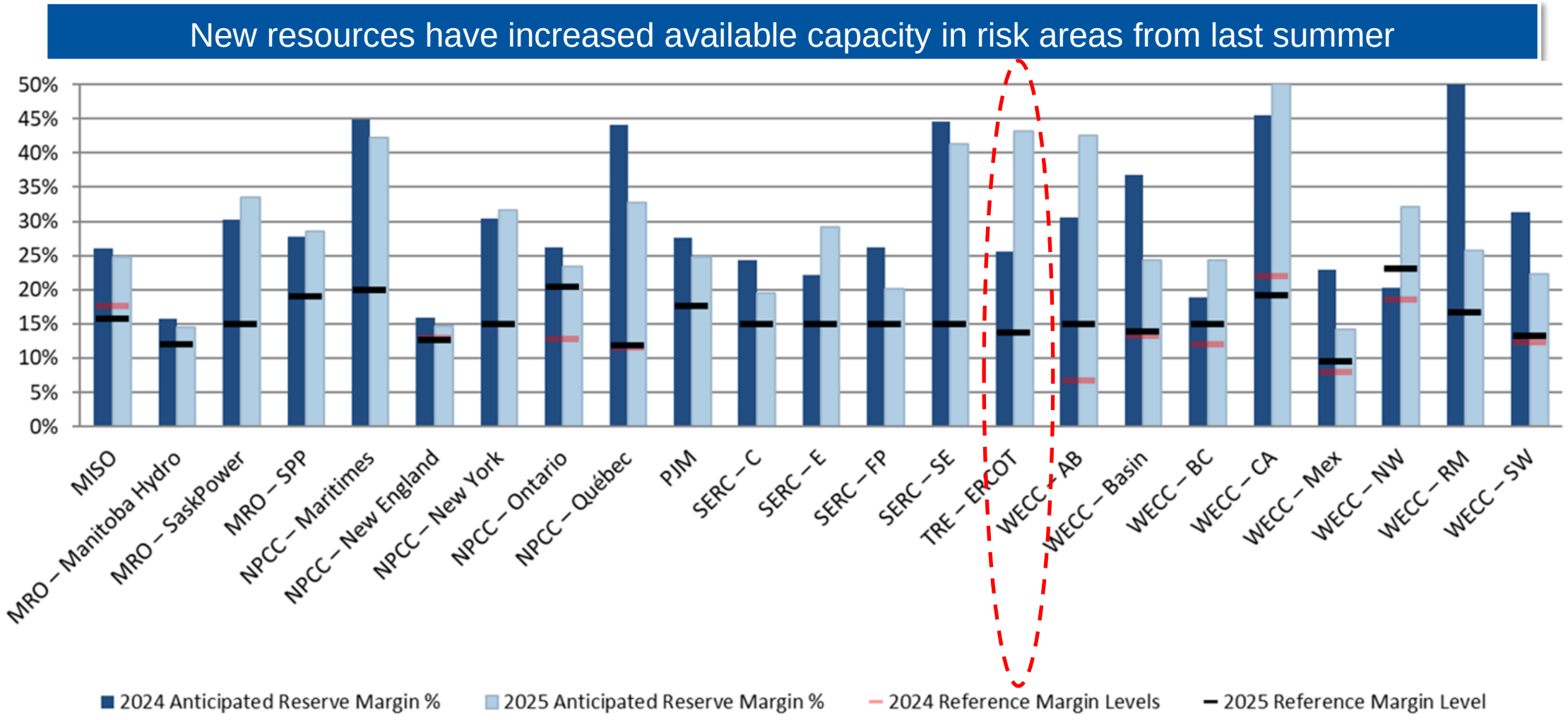
Demand, Resource, and Reserve Margins	2024 SRA	2025 SRA	*2024 vs. 2025 SRA*
Demand Projections	**MW**	**MW**	***Net Change (%)***
Total Internal Demand (50/50)	84,818	85,151	*0.4%*
Demand Response: Available	3,496	3,292	*-5.8%*
Net Internal Demand	81,323	81,859	*0.7%*
Resource Projections	**MW**	**MW**	***Net Change (%)***
Existing-Certain Capacity	99,541	112,321	*12.8%*
Tier 1 Planned Capacity	2,578	4,854	*88.3%*
Net Firm Capacity Transfers	20	20	*0.0%*
Anticipated Resources	102,139	117,195	*14.7%*
Existing-Other Capacity	0	0	-
Prospective Resources	102,167	117,770	*15.3%*
Reserve Margins	**Percent (%)**	**Percent (%)**	***Annual Difference***
Anticipated Reserve Margin	25.6%	43.2%	*17.6*
Prospective Reserve Margin	25.6%	43.9%	*18.2*
Reference Margin Level	13.75%	13.75%	*0.0*

On-Peak Fuel Mix



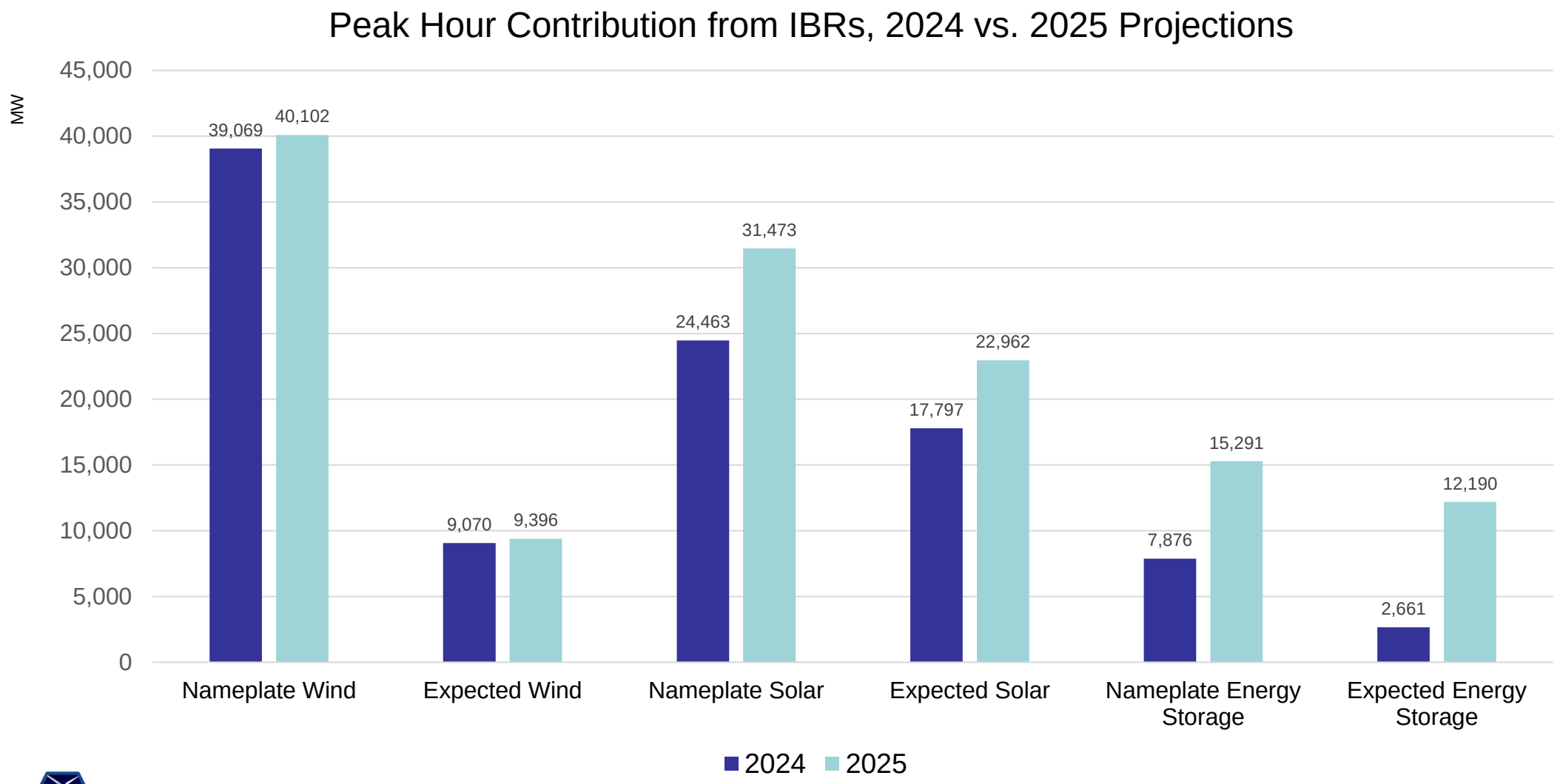
Courtesy: NERC 2025 SRA

Capacity Reserves

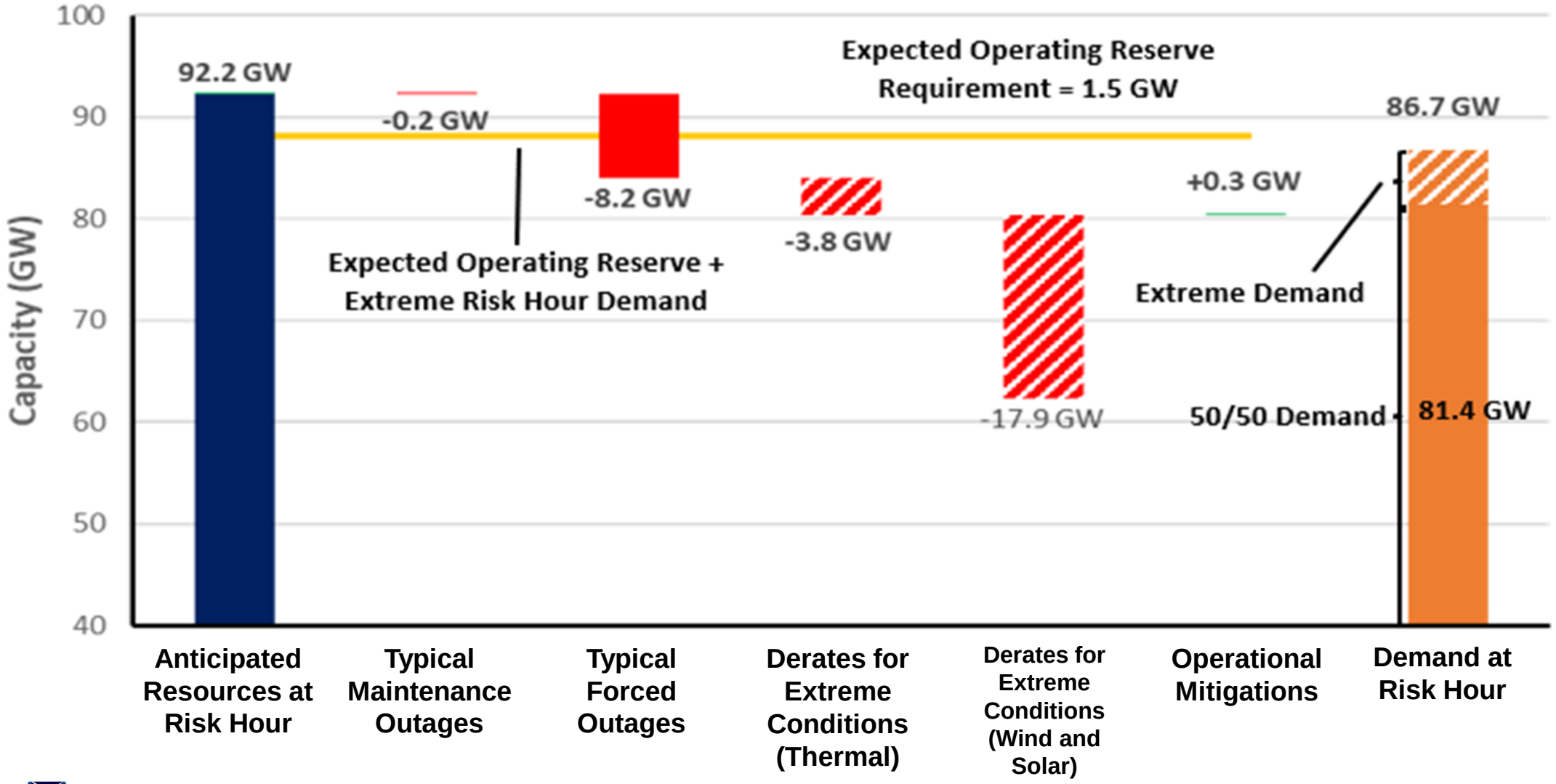


Courtesy: NERC 2025 SRA

Peak Hour Contribution from Inverter Based Resources (IBRs)

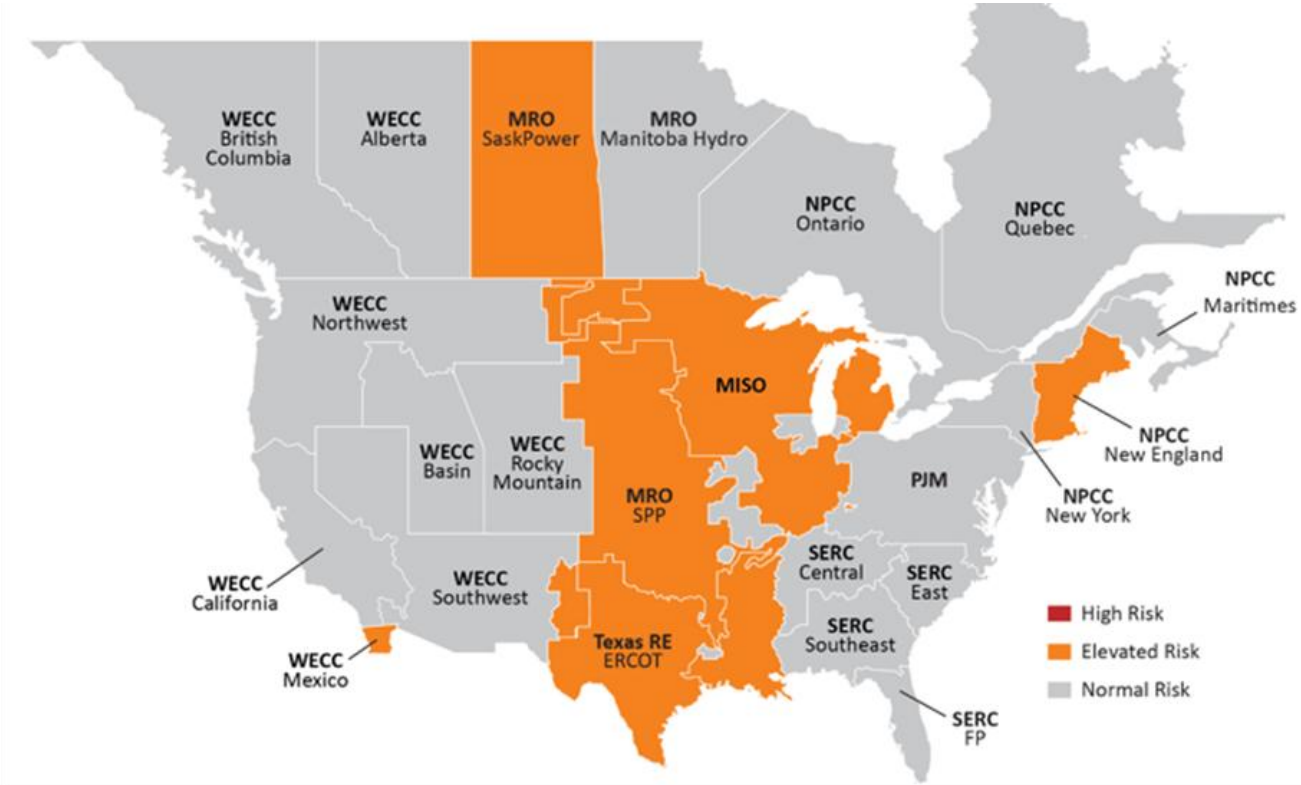


Summer Risk Hour Scenario (9:00 p.m. Local Time)



Courtesy: NERC 2025 SRA

2025 Summer Reliability Risk Map



2025 Summer Reliability Risk Map

Seasonal Risk Assessment Summary	
High	Potential for insufficient operating reserves in normal peak conditions
Elevated	Potential for insufficient operating reserves in extreme conditions
Normal	Sufficient operating reserves expected

Assessed extreme conditions include 90/10 demand, historical high generator outages, and low wind and solar scenarios

Supply shortages anticipated during extreme summer conditions

Other inputs for risk assessment:

- On-peak reserve margins
- Operational risk analysis
- Probabilistic energy metrics

Courtesy: NERC 2025 SRA

Summer Risk Hour Analysis – June, July

JUNE	Chance of Normal System Conditions	EMERGENCY LEVEL	
		Chance of an Energy Emergency Alert	Chance of Ordering Controlled Outages
Hour Ending (CDT)	Probability of CAFOR being above 3,000 MW	Probability of CAFOR being less than 2,500 MW	Probability of CAFOR being less than 1,500 MW
1 a.m.	100.00%	0.00%	0.00%
2 a.m.	100.00%	0.00%	0.00%
3 a.m.	100.00%	0.00%	0.00%
4 a.m.	100.00%	0.00%	0.00%
5 a.m.	100.00%	0.00%	0.00%
6 a.m.	100.00%	0.00%	0.00%
7 a.m.	100.00%	0.00%	0.00%
8 a.m.	100.00%	0.00%	0.00%
9 a.m.	100.00%	0.00%	0.00%
10 a.m.	100.00%	0.00%	0.00%
11 a.m.	100.00%	0.00%	0.00%
12 p.m.	100.00%	0.00%	0.00%
1 p.m.	100.00%	0.00%	0.00%
2 p.m.	100.00%	0.00%	0.00%
3 p.m.	100.00%	0.00%	0.00%
4 p.m.	100.00%	0.00%	0.00%
5 p.m.	100.00%	0.00%	0.00%
6 p.m.	100.00%	0.00%	0.00%
7 p.m.	100.00%	0.00%	0.00%
8 p.m.	99.78%	0.04%	0.03%
9 p.m.	99.06%	0.35%	0.25%
10 p.m.	99.68%	0.12%	0.07%
11 p.m.	99.95%	0.00%	0.00%
12 a.m.	100.00%	0.00%	0.00%

Note: Probabilities are not additive.

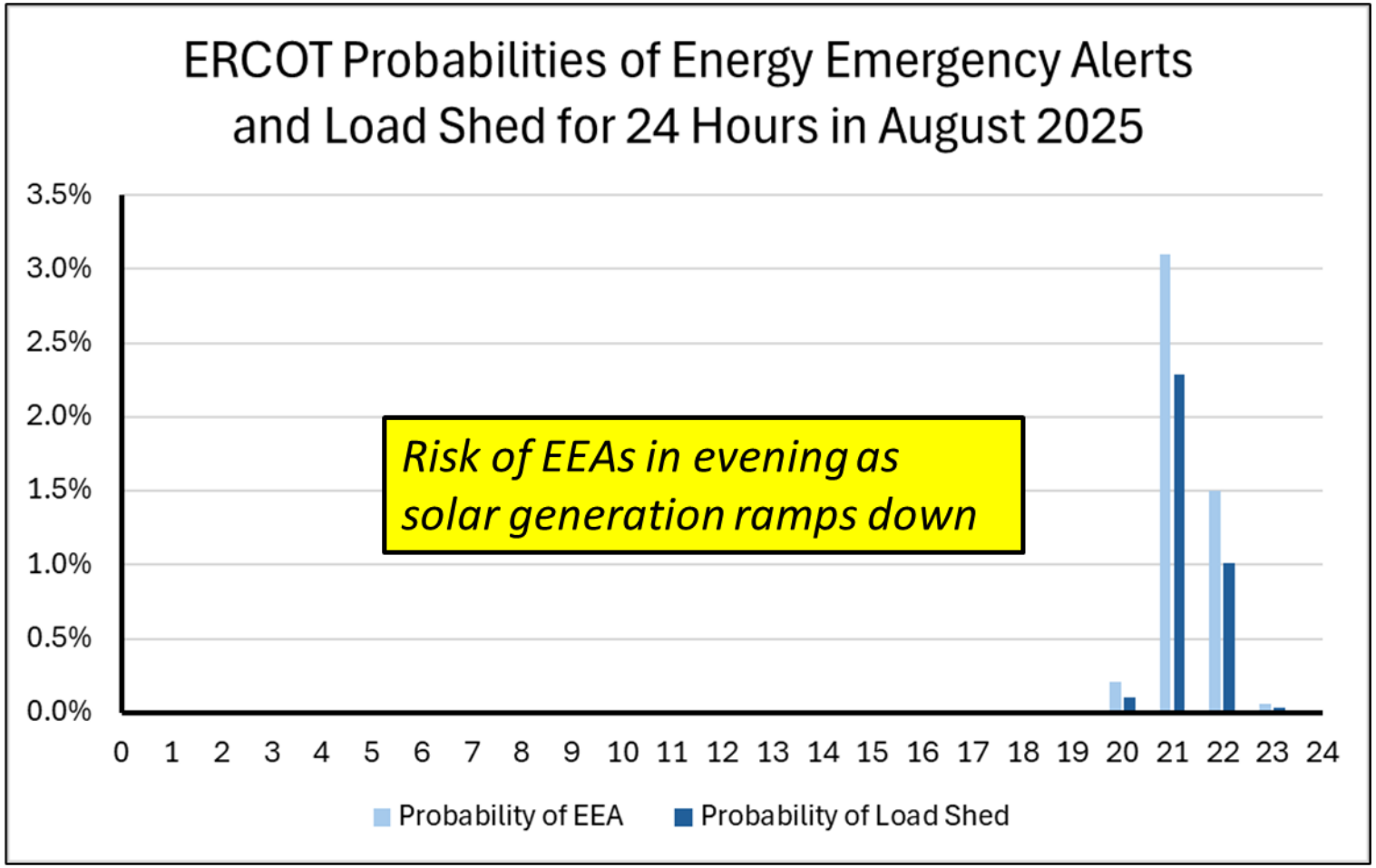
JULY	Chance of Normal System Conditions	EMERGENCY LEVEL	
		Chance of an Energy Emergency Alert	Chance of Ordering Controlled Outages
Hour Ending (CDT)	Probability of CAFOR being above 3,000 MW	Probability of CAFOR being less than 2,500 MW	Probability of CAFOR being less than 1,500 MW
1 a.m.	100.00%	0.00%	0.00%
2 a.m.	100.00%	0.00%	0.00%
3 a.m.	100.00%	0.00%	0.00%
4 a.m.	100.00%	0.00%	0.00%
5 a.m.	100.00%	0.00%	0.00%
6 a.m.	100.00%	0.00%	0.00%
7 a.m.	100.00%	0.00%	0.00%
8 a.m.	100.00%	0.00%	0.00%
9 a.m.	100.00%	0.00%	0.00%
10 a.m.	100.00%	0.00%	0.00%
11 a.m.	100.00%	0.00%	0.00%
12 p.m.	100.00%	0.00%	0.00%
1 p.m.	100.00%	0.00%	0.00%
2 p.m.	100.00%	0.00%	0.00%
3 p.m.	100.00%	0.00%	0.00%
4 p.m.	100.00%	0.00%	0.00%
5 p.m.	100.00%	0.00%	0.00%
6 p.m.	100.00%	0.00%	0.00%
7 p.m.	100.00%	0.00%	0.00%
8 p.m.	99.98%	0.00%	0.00%
9 p.m.	99.33%	0.31%	0.14%
10 p.m.	99.64%	0.10%	0.05%
11 p.m.	99.94%	0.02%	0.01%
12 a.m.	100.00%	0.00%	0.00%

Note: Probabilities are not additive.

Riskiest hour for experiencing emergency conditions is 9:00 p.m. (CDT) for both months, driven by the down ramp of solar generation and continued elevated loads

Courtesy: ERCOT

Summer Risk Hour Analysis – August



Source: ERCOT Preliminary Projections for August 2025

ERCOT's probability of EEA at the risk hour is expected to fall from 18% to 3% in 2025, with batteries and demand response helping to alleviate energy risks

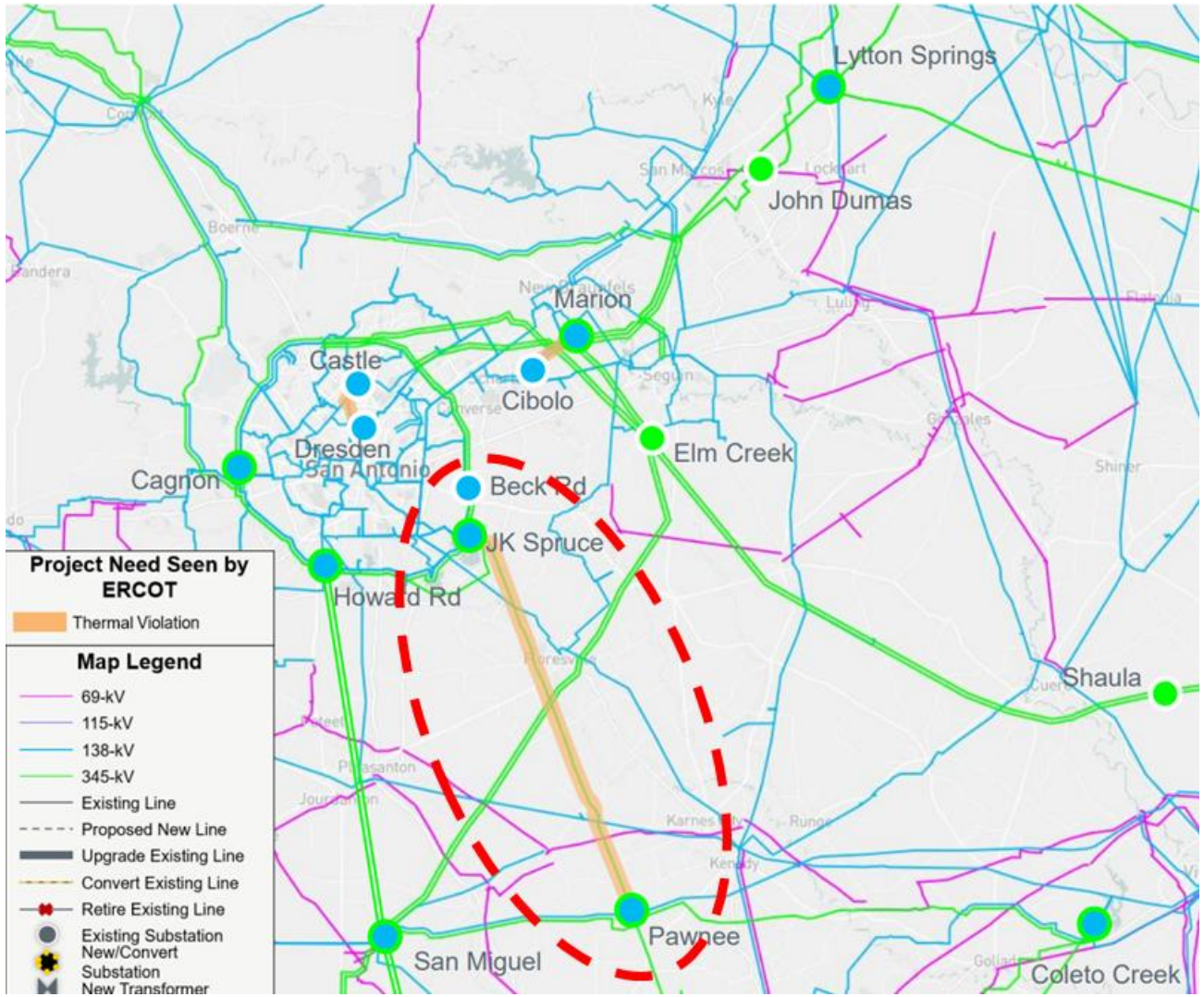
Courtesy: NERC 2025 SRA

South Texas Interconnection Operating Limit (IROL)

The IROL presents a system constraint that under specific unlikely conditions could require system operators to direct load shedding to prevent cascading load-loss

ERCOT mitigation steps include:

- Risk Assessment
- Cascading Assessment
- Increased Transmission Line Clearance
- Reliability Must Run Contract
- Mobile Generators
- San Antonio South Reliability II Project, in Service by Summer 2027



Courtesy: ERCOT

Summary

- 2025 potentially among the hottest and the driest summers on record
- Modest load growth and significant IBR growth since 2024
- Under expected peak conditions, the ERCOT system has enough reserves
- The ERCOT system may experience energy shortage during early evening hours
- ERCOT probability of EEA at the risk hour expected to fall from 18% (2024) to 3% (2025)

Contact Us

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