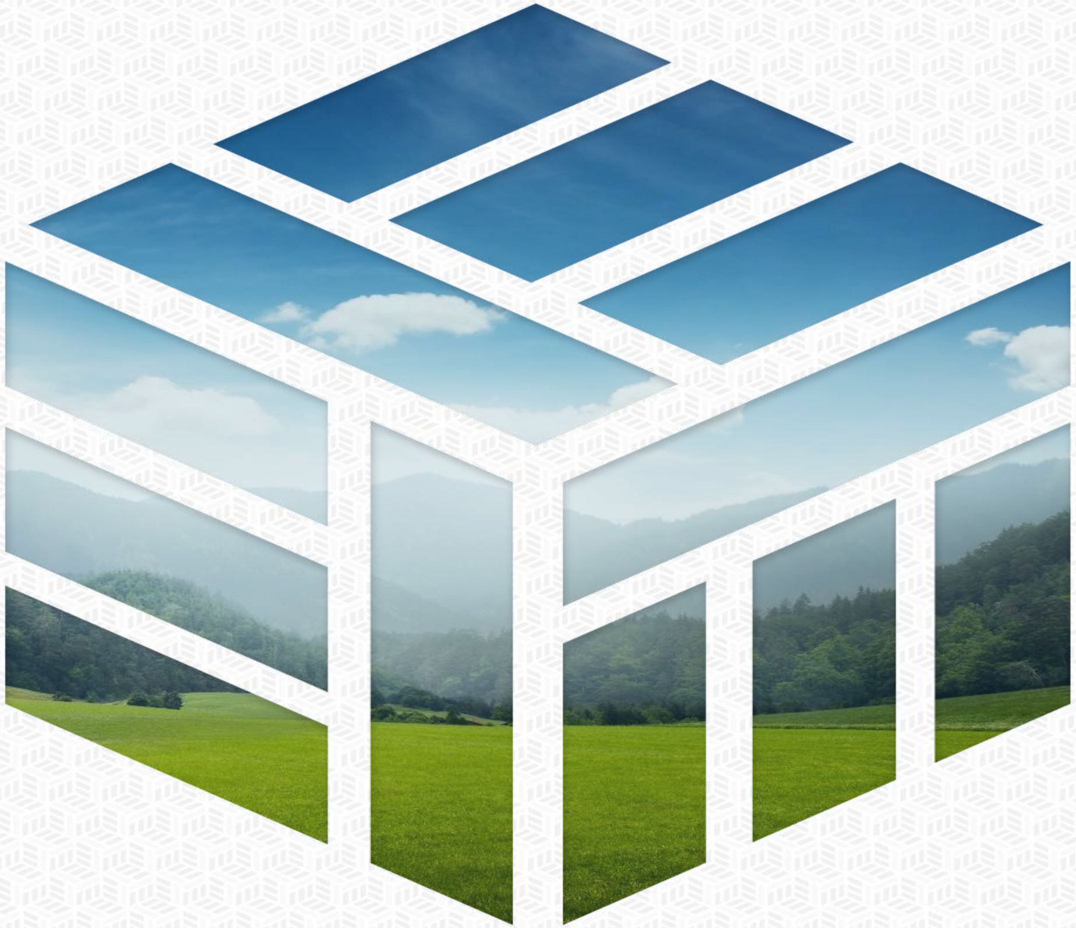
ENERGY EDGE
strategic energy solutions



ERCOT Market Update

September 2025

Introduction: Energy Edge

- Founded in 2009
- Serves a wide range of businesses and institutions
- Team of energy professionals with diverse background in the power and gas industries
- Actively working with all major retail suppliers and generation developers across the U.S.
- Serving clients in markets across the U.S. and Canada

SERVING CLIENTS in 24 competitive *electricity* and *natural gas* markets

36 TWh of electricity

12.9 Bcf of natural gas

$2.8 Billion Under Management

4,800 MW of renewable energy purchases

1,000 MW of demand response and customer generation

12,000 Client Locations

proud member TEMA

TIPS AWARDED VENDOR

PLANO Independent School District

COLLIN COLLEGE

Rockwall Independent School District

HARRIS COUNTY TEXAS

ERCOT in Transition: Key Market Drivers, 2021 - 2025

A Grid Tested, A Market Transformed

2021 – Winter Storm Uri: A watershed moment that reshaped forward curves and forced ERCOT to prioritize reliability

2022 – Global Gas Shock: The Russia-Ukraine war amplified volatility in global natural gas markets heightening cost uncertainty

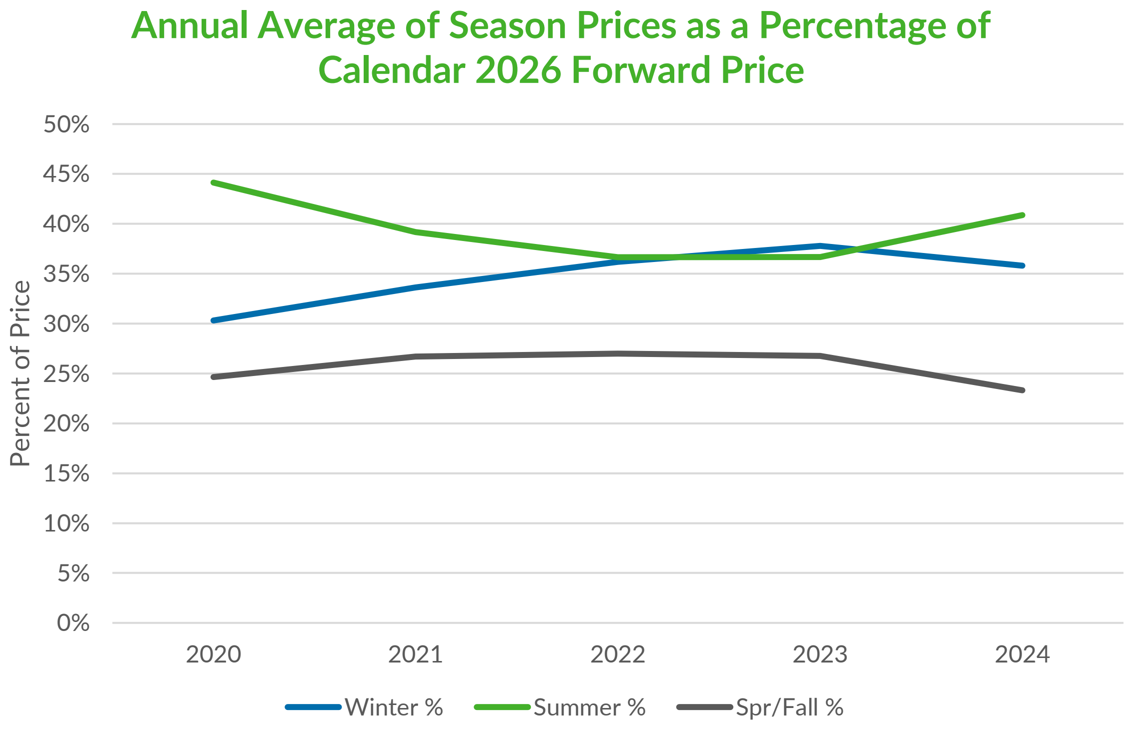
2023 – Extreme Texas Summer: Record-breaking heat and demand pushed the grid to its limits underscoring the urgency of resilience and resource adequacy

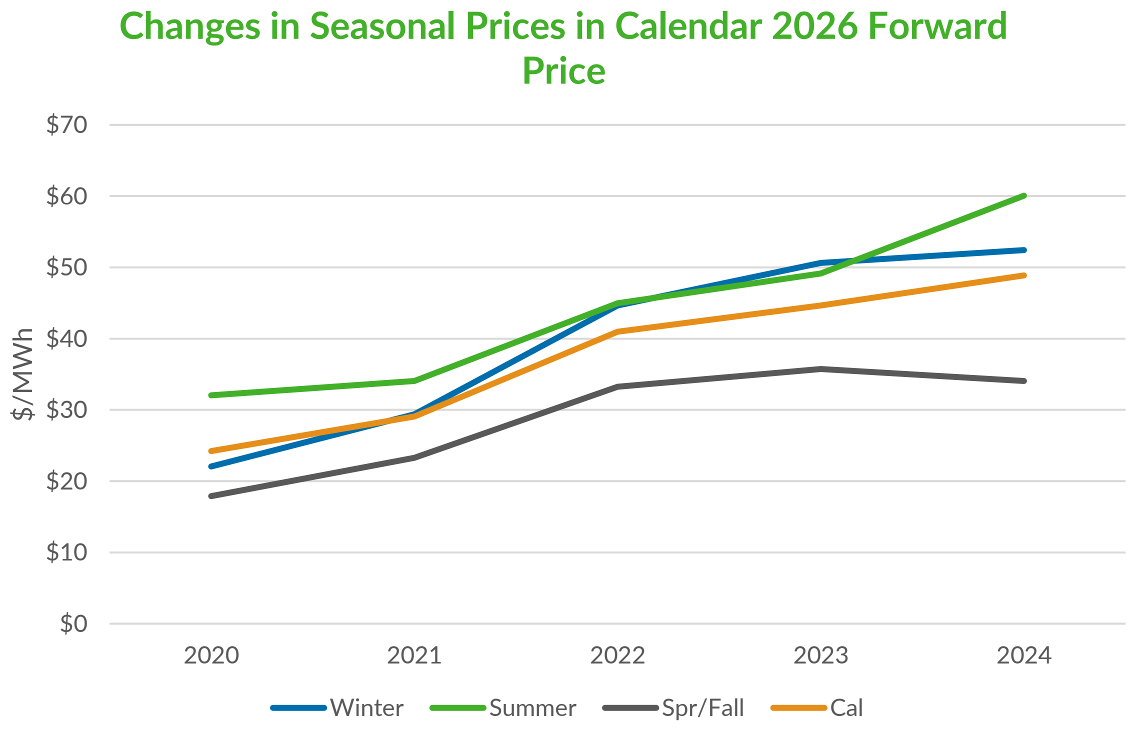
2024 – Mild Texas Summer: A reprieve from extremes, with lower stress on the system offering a contrast to recent volatility

2025 Renewable Expansion: Accelerated growth in solar and battery resources is reshaping ERCOT's supply mix even as another mild summer softens near-term pressures

ERCOT Shifts Price Focus to Both Summer and Winter Peaks

Forward prices in ERCOT have seen significant increases in winter premiums over the last few years. In ERCOT, the Summer has always been the risk due to the multiple 100+ degree days in Texas in July and August each year. However, the Winter (Nov-Feb) and the Summer (Jun-Sep) seasons have been trading at almost identical prices since late 2021.



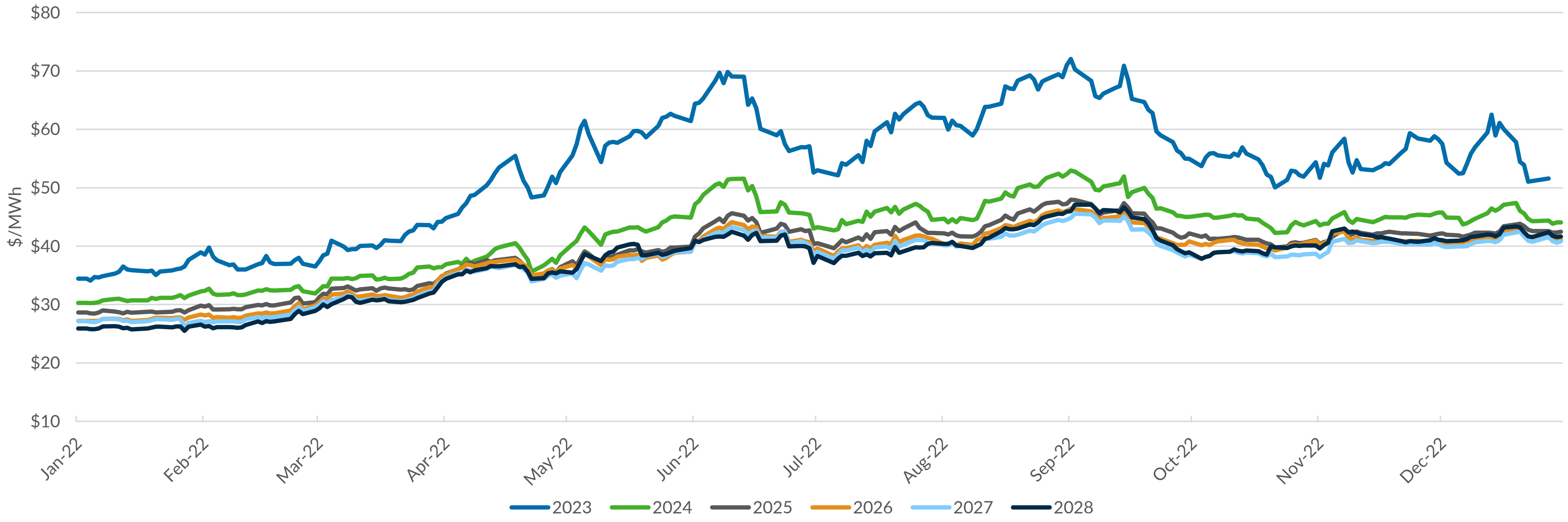


Increased Cost for End Consumers

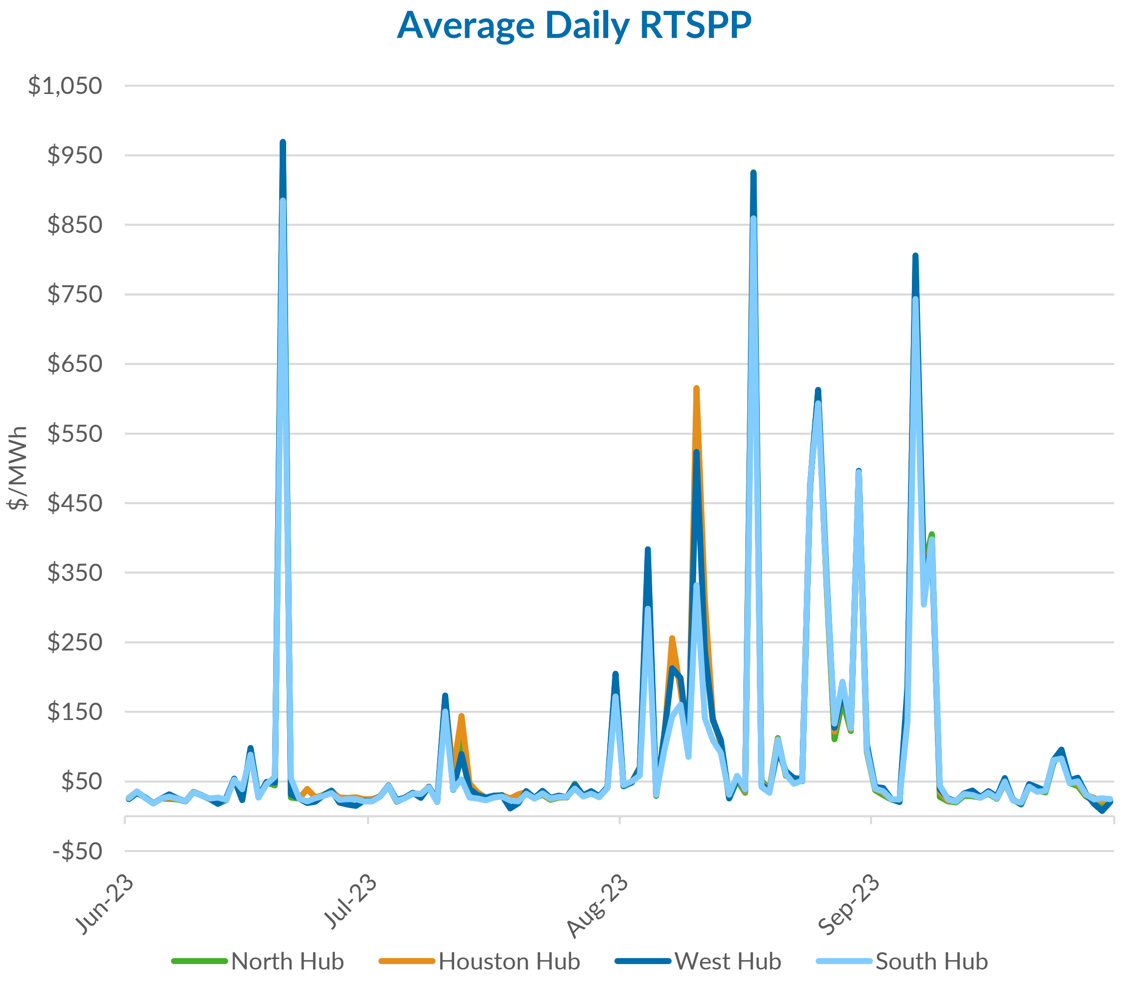
Increased Procurement of Traditional Ancillary Services	Non-Bypassable Securitization Costs	Firm Fuel Supply Service Charge (FFSS)	ERCOT Contingency Reserve Service Charge (ECRS)
Effective Date: July 2021 **Annual/Seasonal:** Annual **Duration:** Reassessed annually **Description:** ▪ Increase in volume of traditional ancillary services that LSEs are obligated to purchase on behalf of their customers (specifically, Non-Spinning and Responsive Reserve) **Cost:** ▪ $1.00-$2.00/MWh	**Effective Date:** Q1 2022 **Annual/Seasonal:** Annual **Duration:** 30 years **Description:** ▪ Costs associated with market participant defaults **(Default Securitization Charge)** and extraordinary costs incurred by LSEs during URI **(Securitization Uplift Charges)** (1) **Cost:** ▪ Def. Secur.: $0.01-0.02/MWh ▪ Secur. Uplift: $0.30-0.60/MWh	**Effective Date:** Nov. 15, 2022 **Annual/Seasonal:** Nov. – Mar. **Duration:** Reassessed annually **Description:** ▪ Incentivizes gas generation units with firm on-site storage to be available in the winter period to enhance system reliability in the event of extreme cold that could impact the grid **Cost:** ▪ Nov. & March: $0.21/MWh ▪ Dec. Feb.: $0.41/MWh	**Effective Date:** June 10, 2023 **Annual/Seasonal:** Annual **Duration:** Reassessed annually **Description:** ▪ Ancillary service sized to recover frequency following a large unit trip and to help cover net load forecast errors ▪ Supplied by capacity that can respond within 10 minutes **Cost:** ~$1.00/MWh to fix in current retail contracts

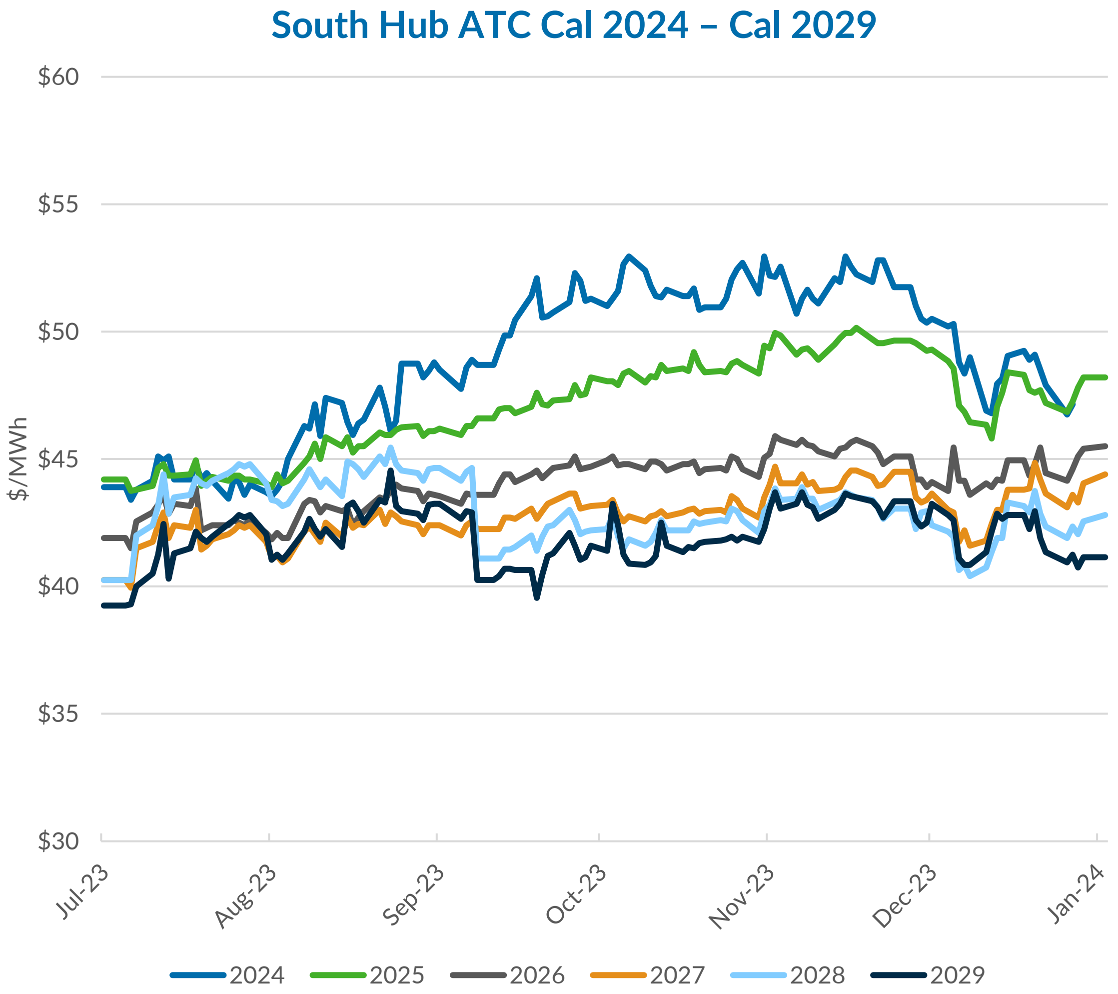
Impact of Global Gas Market: South Hub ATC Prices Cal 2024 – Cal 2028

In 2022, ERCOT power prices surged as natural gas demand outpaced supply coming out of the COVID era. The war in Ukraine and expectations of a colder winter drove U.S. LNG exports higher, linking domestic prices more directly to the global market. This convergence created unprecedented volatility in U.S. natural gas, which translated into significant price increases in power markets like ERCOT.

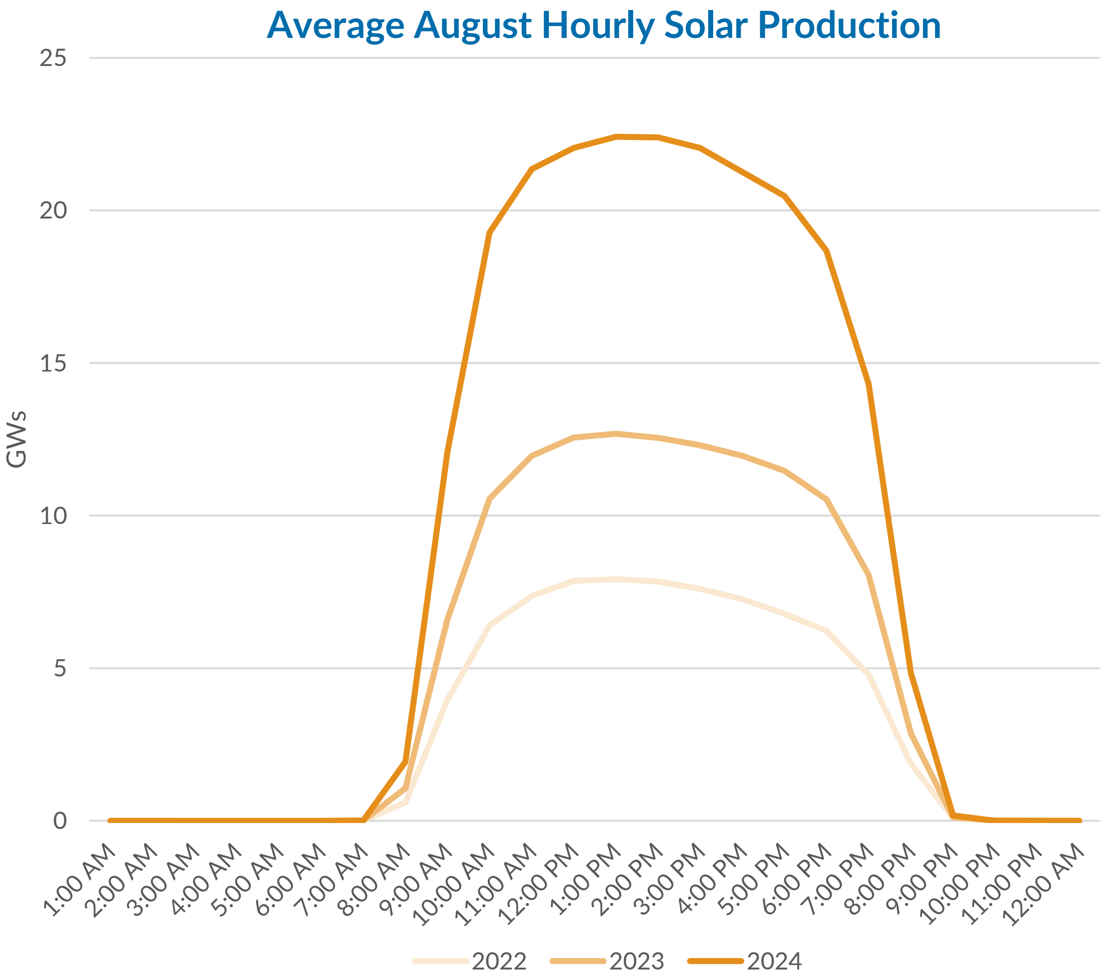


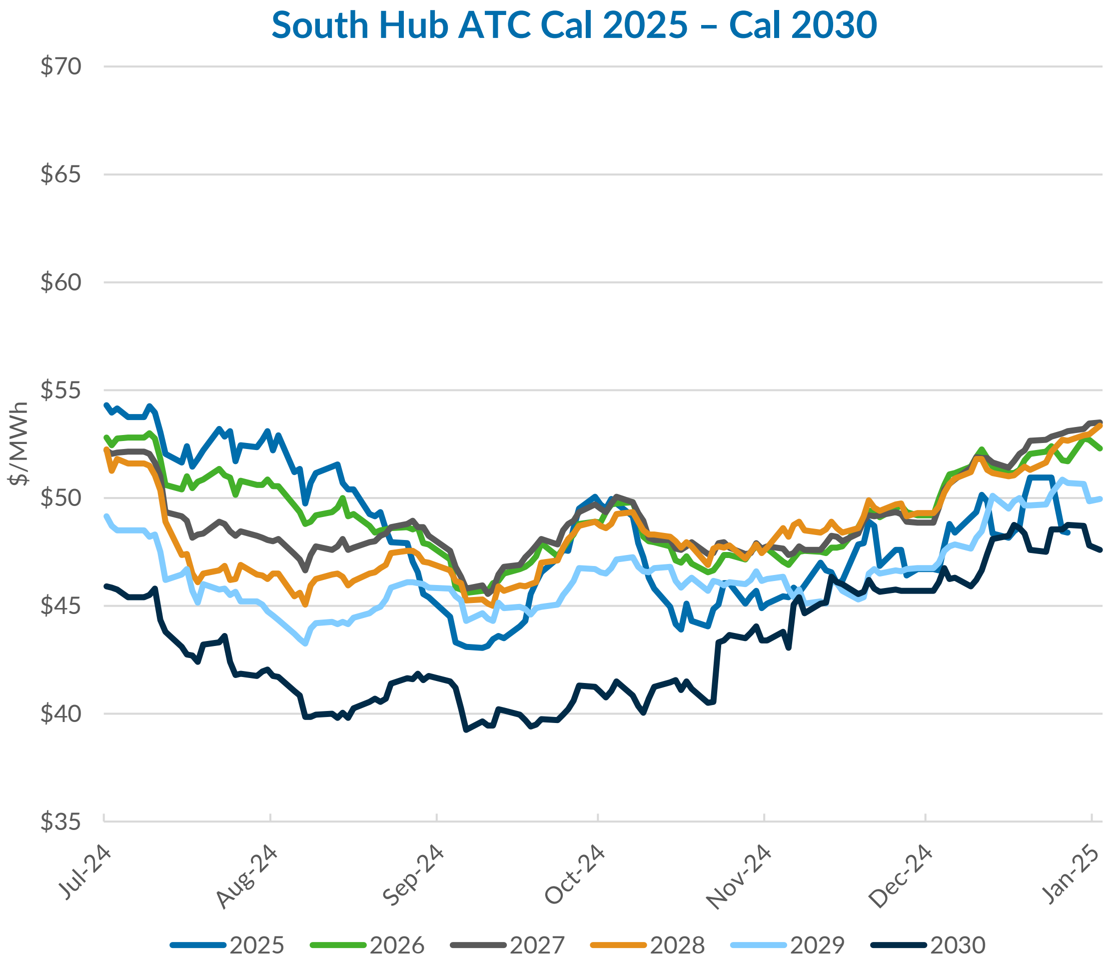
Summer 2023: Extreme Heat July & August



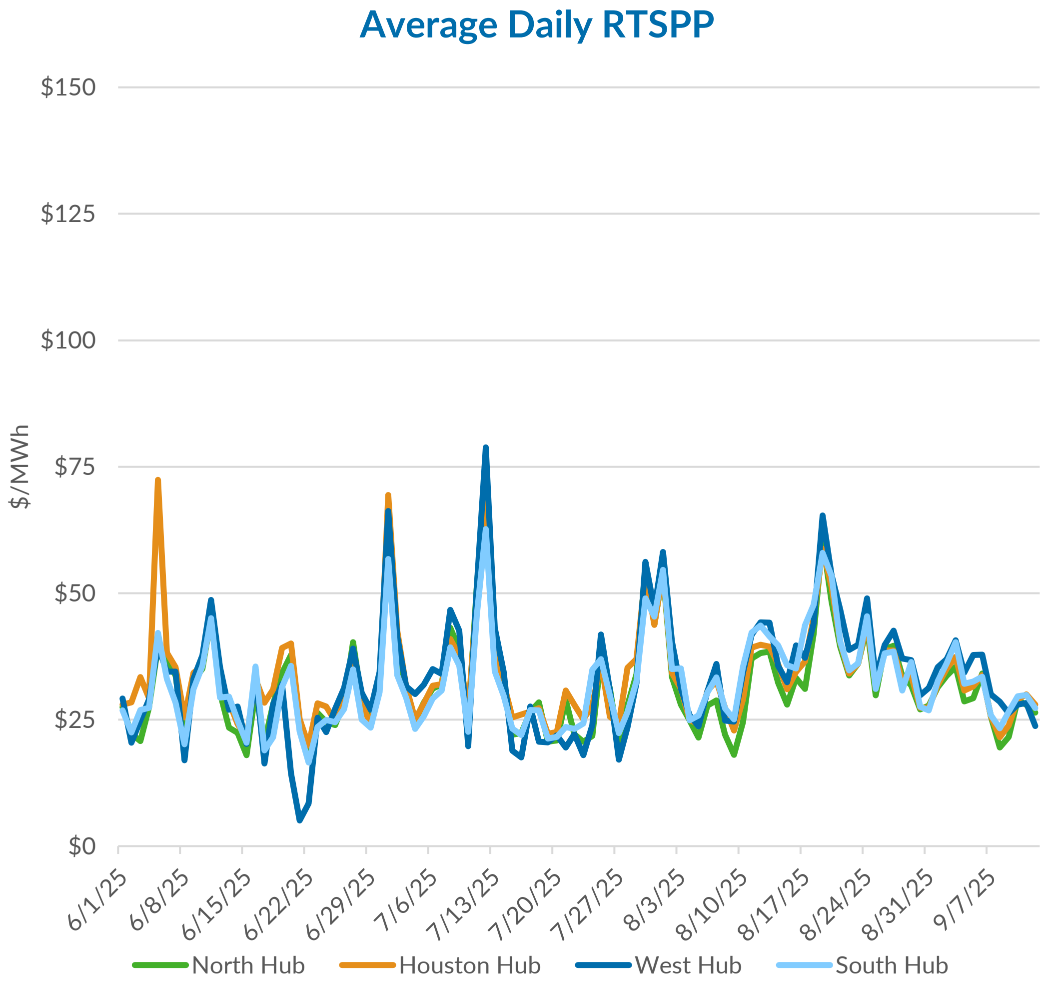


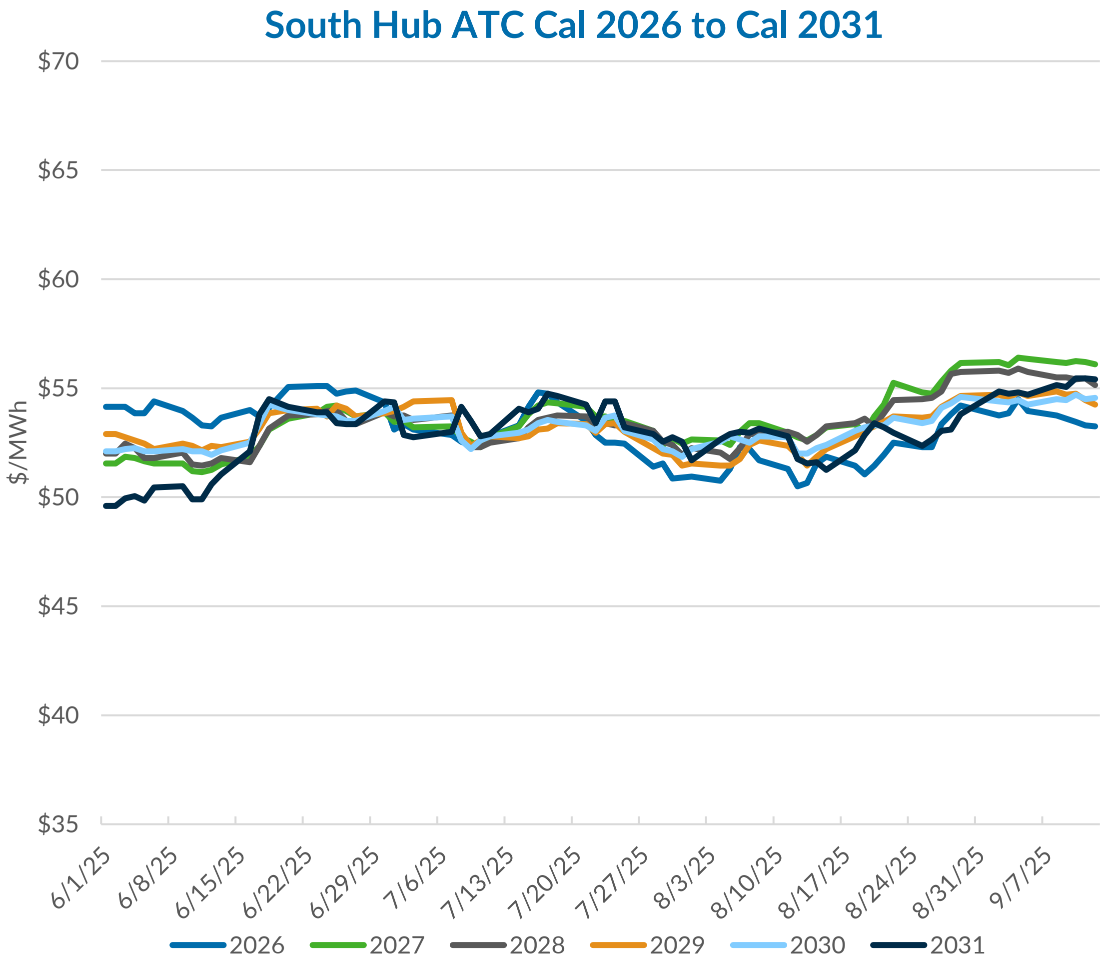
Summer 2024: Buying Opportunity





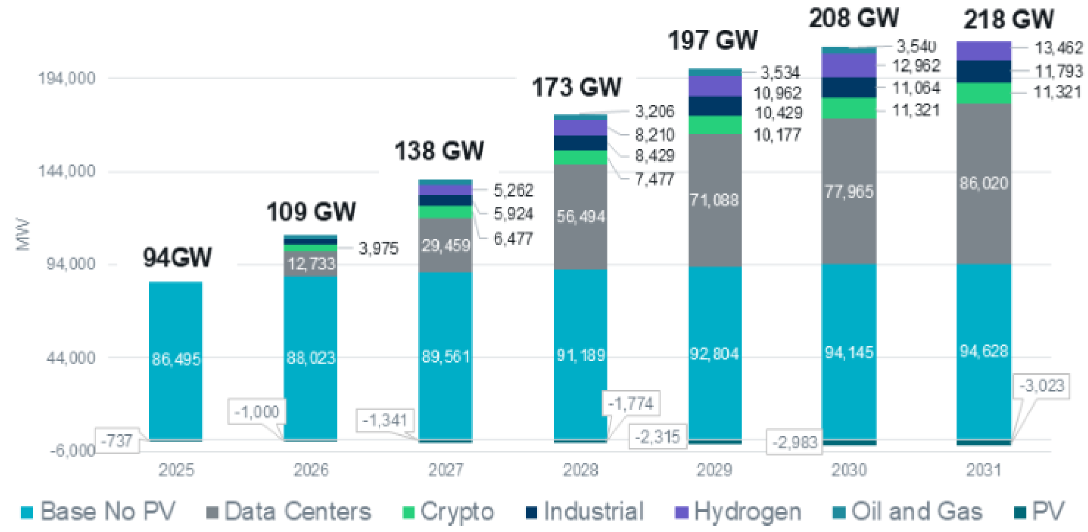
Summer 2025: No Market Reaction





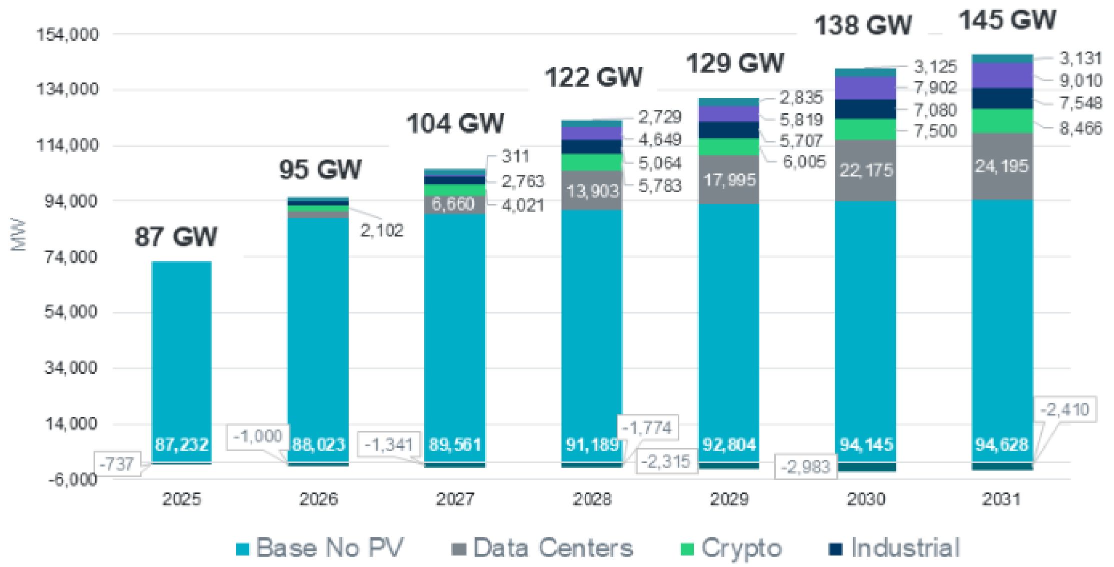
ERCOT Large Load Growth - TSP Provided Growth vs. ERCOT Adjusted

TSP Provided Large Load Breakdown



	2025	2026	2027	2028	2029	2030	2031
Data Centers	3,717	12,733	29,459	56,494	71,088	77,965	86,020
Crypto	1,868	3,975	6,477	7,477	10,177	11,321	11,321
Industrial	973	2,757	5,924	8,429	10,429	11,064	11,793
Hydrogen	5	357	5,262	8,210	10,962	12,962	13,462
Oil and Gas	1,334	2,186	2,851	3,206	3,534	3,540	3,606
PV	-737	-1,000	-1,341	-1,774	-2,315	-2,983	-3,023

ERCOT Adjusted Large Load Breakdown



	2025	2026	2027	2028	2029	2030	2031
Data Centers	0	2,433	6,660	13903.35	17,995	22,175	24,195
Crypto	0	2,102	4,021	5782.964	6,005	7,500	8,466
Industrial	0	1,387	2,763	5064.178	5,707	7,080	7,548
Hydrogen	0	5	311	4649.1	5,819	7,902	9,010
Oil and Gas	0	1,699	2,320	2728.529	2,835	3,125	3,131
PV	-737	-1,000	-1,341	-1773.73	-2,315	-2,983	-2,410

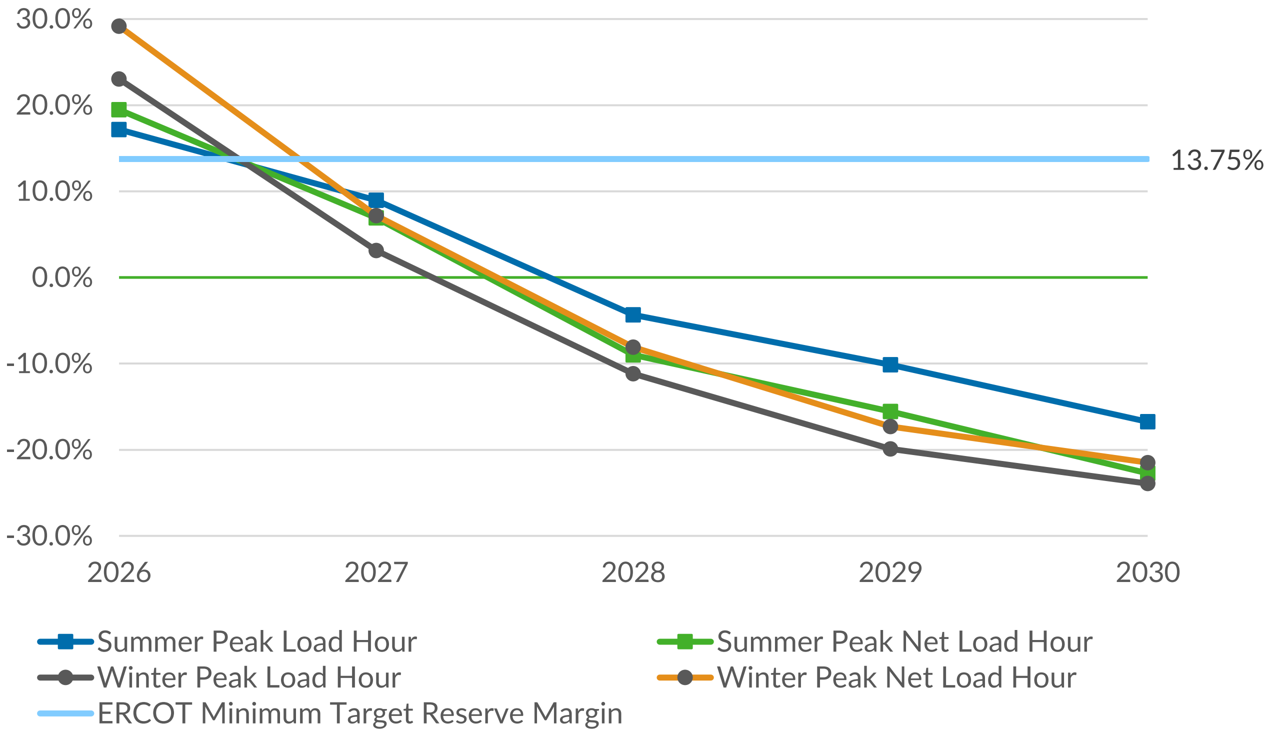
Key Takeaway: *ERCOT has made significant adjustments to the large load growth expectations taking into consideration 1. time to installation of large load from 2022 through 2024; 2. the average peak demand of data centers relative to requested MW of interconnection, and 3. percentage of Officer Letter projects with in-service dates in 2024 that have energized.*

ERCOT: May 2025 ERCOT Capacity, Demand and Reserves (CDR) Report for 2026 - 2030

On May 16th, ERCOT published its Biannual CDR report updating its most recent load forecast for Cal 2026 – Cal 2030

- ERCOT made additional adjustments to the CDR methodology due to the significant additions of large load supplied via TSP Contracts and Officer Letters, comprised of the following
  - Applied a 180-day delay to all contract and officer letter load forecasts provided by TSPs.
  - All new data center load requests are reduced to 49.8% of the original request.
  - All Officer Letter Load requests are reduced to 55.4% of the original request.
- Peak Summer Demand in 2029 is now expected to reach 122,950 MW, down from 140,872 MW in the previous CDR
- Summer 2025 & 2026 as well as Winter 2025/2026 & 2026/2027 are all expected to be above the 13.75% Minimum Target Reserve Margin for both the Peak Load Hour and the Peak Net Load Hour

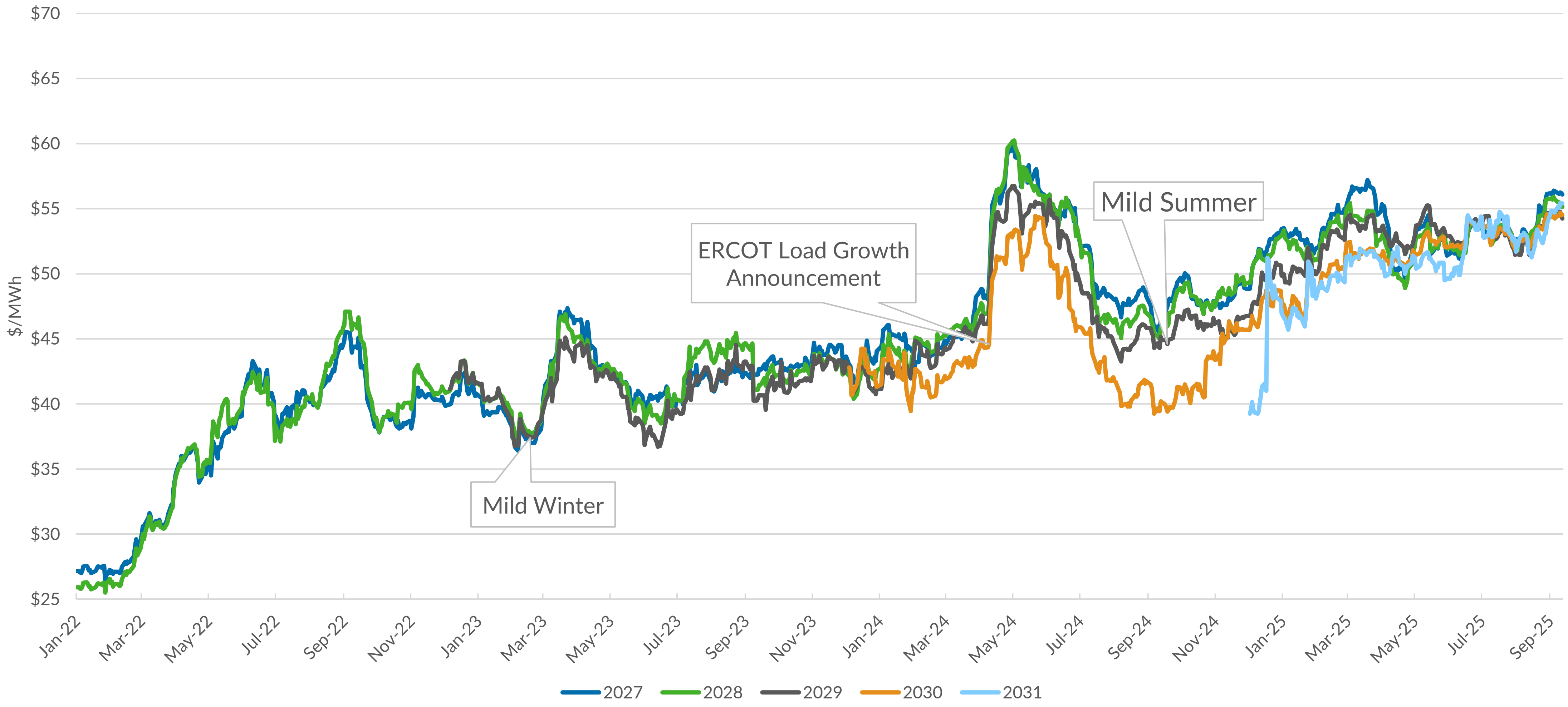
Planning Reserve Margin, Per May 2025 CDR[1]



(1) ERCOT CDR published on May 16th, 2025

***Key Takeaway:** ERCOT is now forecasting strong Reserve Margins through Winter 2026/2027 after these large load forecast adjustments have been made. Beginning in Summer 2027, additional generation resources not currently contemplated in the CDR will be needed to meet growing demand and maintain grid reliability.*

Historical Buying Opportunities - South Hub ATC Cal 2027 to Cal 2031



U.S. Renewable Energy Outlook: *Persistent Uncertainty*

The renewable development landscape continues to be increasingly complex, with strong demand growth for power as a tailwind, but a host of factors providing headwinds to new wind and solar projects.

- **Shifting Policy:** Federal and state (notably Texas) policy makers are considering a variety of measures that seek to slow development of wind and solar generation. Additionally, application of existing laws and statutes are changing as government agencies alter their priorities.
- **Cost Pressure:** Key system components for wind and solar projects, as well as battery storage, remain stubbornly high and the implementation of tariffs will further pressure prices given the significant amount of imports. Domestic manufacturing is ramping up but typically comes with a higher price tag.
- **Supply Chain Challenges:** In addition to higher costs, tariffs add to the already significant logistical challenges facing renewable developers. System components needed for a variety of power projects (transformers, high voltage breakers) are seeing extremely long lead times thanks to power demand growth.
- **Changing Corporate Priorities:** The new administration's focus on oil and gas (and even coal) as energy sources has impacted the priorities of many corporations with some slowing or eliminating decarbonization goals. Others are continuing to pursue existing goals but avoiding public announcements about new PPAs and other decarbonization initiatives.

New capacity additions of wind and solar are likely to continue to be strong in 2025 and 2026; longer term prospects are more uncertain given the challenges facing developers today that are beginning the development cycle for projects that would come online toward the end of this decade.

Summary of Texas Legislative Developments: Wrap Up of the 89th Legislature

The 89th Texas Legislature wrapped up on June 2nd with a relatively small number of bills passing both chambers and advancing to the Governor after a session that saw a significant number of potentially impactful bills proposed to the power industry.

- **Almost all bills that would have negatively impacted renewable generation did not advance to the Governor**
  - Proposals for advancing generation firming requirements, additional permitting for renewables, removal of tax abatements, requiring 50% of generation to be dispatchable, and other proposals failed to pass
- **The Texas Energy Fund will be fully funded**
  - The state budget bill includes an incremental $5B of funding for the TEF, with $3.2B going to utility-scale dispatchable generation projects and $1.8B going to fund the Texas Backup Power program for onsite generation at critical facilities
- **Interconnection of new large loads will see changes soon**
  - The PUC will be tasked with fully developing requirements to address cost allocation to new loads of interconnection costs, provide visibility on duplicate interconnection requests, and backup generation capabilities,

While impactful bills to renewables did not advance, it's possible similar bills and concepts will reemerge in the 90th Legislative session in 2027, as was seen in this session with many proposals from the 88th Legislative session that did not pass resurfacing.

Driving Forces of the ERCOT Power Market – Summer 2025

The fundamental drivers of prices is changing in ERCOT approaching 2030

Factors Driving Price Volatility

- Exponential power demand growth from technology sector, as well as oil and gas expansion in Permian basin
- Additional growth associated with continued corporate relocations, and steady population growth
- Scarcity risk premiums associated with extreme weather events during summer and winter seasons
- Accelerated thermal baseload generation retirements being replaced with intermittent renewable generation
- Long-term bullish demand signals on natural gas for power generation nationwide, winter heating, LNG export
- Continued geo-political impacts to commodity scarcity and pricing structures

Factors Driving Price Stability

- Continued grid stability during extreme summer and winter seasonal events
- Natural gas storage levels remain within historical bounds with sustained steady production levels
- Swift development of dispatchable thermal generation projects (Texas Energy Fund assisted)
- Boost in storage growth from more battery deployment in ERCOT backing renewables during peak hours
- Significant economic slow down contributing to flat or declining commercial load growth

QUESTIONS?

THANK YOU

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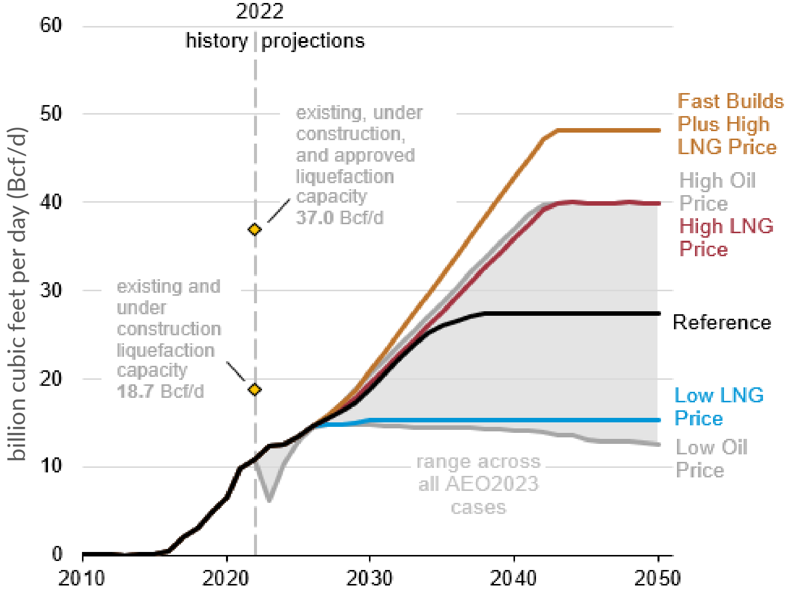
APPENDIX

EIA U.S. Liquified Natural Gas Exports Projections

The EIA recently released projections of U.S. LNG export capacity to 2050, including drivers associated with global and domestic natural gas prices. Their range of U.S. export capacity by 2050 spans from 15.3 Bcf/d, merely 1.1 Bcf/d more than the current capacity, up to 48.2 Bcf/d on the high end, while the reference case assumes 600 Bcf of new build capacity, resulting in ~27 Bcf/day of export capacity at an average domestic natural gas price of $3.65/MMBtu.

- In the reference case, the assumption is that as U.S. LNG exports increase, global LNG prices decrease, while domestic NG prices increase due to increased demand
- Because of these relationships, in each case, domestic NG and global LNG prices reach an equilibrium, and the construction of more LNG capacity becomes unfavorable
- In the low-end case, the EIA projection is based on a domestic NG price of $3.25/MMBtu, while the high-end is based on a domestic NG price of $3.88/MMBtu paired with relaxed capacity build limitations
- Global landed LNG prices in the low case are 20% lower than the reference case and are 25% higher in the high case
- Since 2016, the U.S. has developed most of the new global LNG export capacity, becoming the largest exporter of LNG with a peak of 11.4 Bcf/d of capacity, and it looks like that growth is likely to continue

U.S. Liquefied Natural Gas (LNG) Exports,
***Annual Energy Outlook 2023* (2010-2050)** [1]

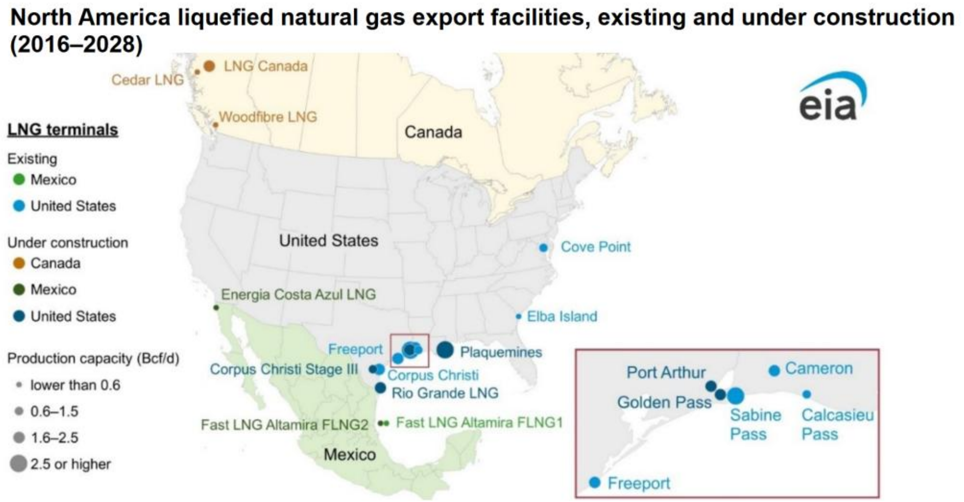


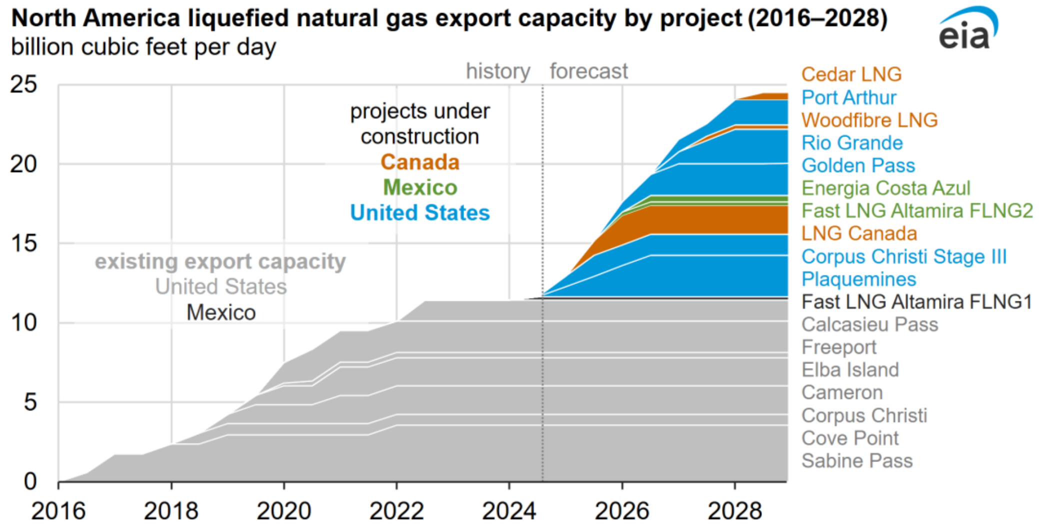
[1] Source: U.S. Energy Information Administration (EIA) Natural Gas Weekly Update

LNG Update

LNG Outlook: Near-Term Softness vs. Expanding Export Demand

- Cheniere Maintenance Reduces Short-Term Feedgas Demand
  - Major maintenance at Sabine Pass Trains 3 & 4 is expected to curb LNG feedgas by ~35 Bcf in June
  - Ongoing June maintenance adds downside risk to near-term balances amid already soft fundamentals
- Long-Term Demand Outlook Remains Robust
  - Cheniere reaffirms structural demand growth: >12 Bcf/d of new US LNG feedgas needed by 2029
  - Global LNG market expected to remain price-sensitive, but long-term contracting trends offer stability despite tariff and geopolitical noise
- North American LNG Expansion Elevates Supply Requirements
  - Canadian (LNG Canada) and Mexican LNG facilities coming online add to the continental call on gas
  - US natural gas production will need to rise ~3 Bcf/d annually to meet export growth alone, excluding domestic power and industrial demand





Federal Power Policy Themes

Focus on Conventional/Dispatchable Generation

- Elimination of proposed CO2 emission limits for power plants
- Federal DOE stepping in to delay coal and natural gas retirements
- Grid operators pursing fast track interconnection process for new thermal generation
- Numerous new procedural hurdles for wind and solar projects implemented

Reduction/Elimination of Government Support for Renewables

- OBBBA ends tax credits for wind and solar early
- Federal loans and grants for renewable development cancelled
- The bill would also eliminate tax credit transfers faster

Trade Policy

- OBBBA introduces new restrictions on investment and supply chain support from foreign entities of concern
- Anti dumping/circumvention tariffs targeting key solar panel exporting countries are now in place
- Broader reciprocal tariffs are also impacting supply and economics

Impacts from Policy Shift on Renewable Generation

Significant **uncertainty** has slowed the development process for wind and solar projects and pushed more risk to offtakers in PPAs

Near term tariff exposure is putting **upward pressure** on PPA prices, particularly for wind projects

Early expiration of federal tax credits for wind and solar is setting up a **condensed development period** in the next 2-3 years

Offtakers seeking renewable power are **accelerating transactions** to secure supply, particularly from new projects

Near term heightened demand from offtakers will drive a seller's market for PPAs, longer term higher prices will slow demand as PPA prices increase 25-40% absent tax credits