Item 8.1: Long-Term Load Forecast Update (2025-2031) and Methodology Changes

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Board of Directors Meeting

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Overview

- **Purpose**
  - Provide information pertaining to the 2025 TSP Long-Term Load Forecast, ERCOT's adjustment methodology to that forecast, and ERCOT's use of an adjusted Load forecast.

- **Voting Items / Requests**
  - No action is requested of the ERCOT Board; for discussion only.

Key Takeaways

- ERCOT Protocols and Planning Guide have incorporated House Bill (HB) 5066 policy into the transmission planning process requiring ERCOT to accept TSP Officer-attested letters as reasonable in transmission planning studies.
- ERCOT Protocols provide flexibility for ERCOT in determining the appropriate Load forecast for resource adequacy reports.
- The 2025 TSP-Provided Load Forecast is substantially higher than what was submitted in 2024 with most of the new Load attributed to future data center load growth attested to by TSP Officers.
- ERCOT will begin incorporating an ERCOT Adjusted Load Forecast, based on historic trends, in transmission planning, resource adequacy, and outage coordination analyses. A PUCT good cause exception is likely needed for transmission planning.
- The Energy Forecast used for the ERCOT System Administration Fee modifies the ERCOT Adjusted Load Forecast and differs in being a forecast of energy.

Implications of House Bill (HB) 5066 – Transmission Planning

- HB5066 (2023) clarified that the TSP-provided load forecast the PUC must consider in evaluating the need for a transmission facility must include any "load for which the utility has yet to sign an interconnection agreement."
  - PUC Subst. Rule 25.101 requires the TSP-forecasted load "must be substantiated by quantifiable evidence of projected load growth."
- HB5066 did not directly apply to ERCOT. However, Nodal Protocol Revision Request (NPRR) 1180 and Planning Guide Revision Request (PGRR) 107 revised the ERCOT Protocols and Planning Guide regarding the ERCOT load forecast criteria to allow TSPs to include load that is not supported by an interconnection agreement while still honoring the "quantifiable evidence" standard in PUC Subst. Rule 25.101.
- NPRR1180 and PGRR107 provided that Load forecasts supported by one of the following would be sufficient to support an ERCOT determination of need for a new transmission facility:
  - An executed interconnection or other agreement;
  - An independent third-party load forecast deemed credible by ERCOT; or
  - A letter from a Transmission/Distribution Service Provider (TDSP) officer attesting to such load, which may include load for which a TDSP has yet to sign an interconnection agreement.
- PUCT approved NPRR1180 and PGRR107 on January 21, 2025.

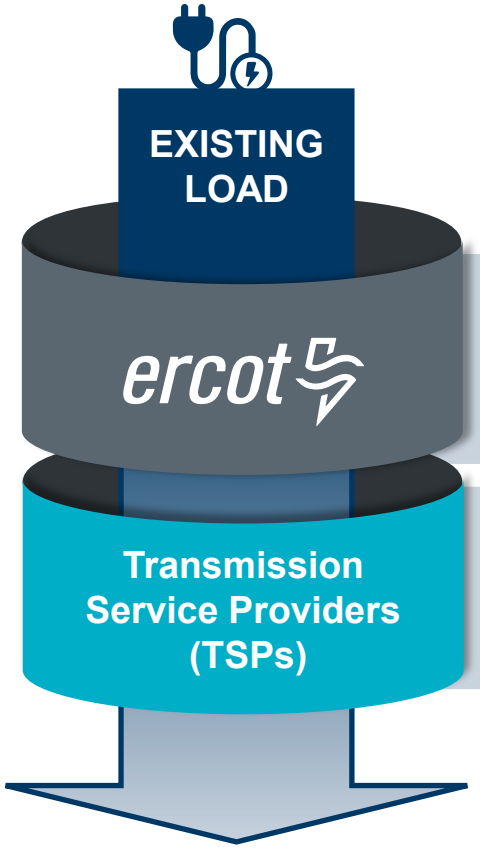
Key Takeaway: ERCOT Protocols and Planning Guide have incorporated HB5066 policy into the transmission planning process. ERCOT must include TSP officer-attested load information in its analysis.

Implications of HB5066 – Resource Adequacy

- NPRR1180 and PGRR107 only directly impact ERCOT's load forecasts for transmission planning purposes.
- PUCT Subst. Rule 25.505 requires ERCOT to provide at least one annual report quantifying the "capability of existing and planned electric generation resources and load resources to reliably meet the projected system demand in the ERCOT power region" over at least the next five years.
  - ERCOT primarily meets this requirement through its Capacity, Demand and Reserves (CDR) report prepared and published twice a year. See Protocol Section 3.2.6
  - The firm load forecast formula for the CDR is in Protocol Section 3.2.6.3(1).
  - ERCOT has flexibility to determine the appropriate variables to include in its econometric load forecast.
- ERCOT's December 2024 CDR report (published in February 2025) incorporated the load forecast meeting the criteria in NPRR1180 and PGRR107.
  - Incorporation of these load values resulted in a -6.2% planning reserve margin for summer 2026 in the net peak load hour and a 5.2% planning reserve margin for summer 2026 in the peak load hour.

Key Takeaway: ERCOT Protocols provide flexibility for ERCOT in determining the appropriate load forecast for the CDR report.

TSP-Provided Load Forecast Process



- Base Economic Forecast
- Electric Vehicle Forecast **plus** Existing Crypto Site Load Growth **minus** Rooftop Photovoltaic

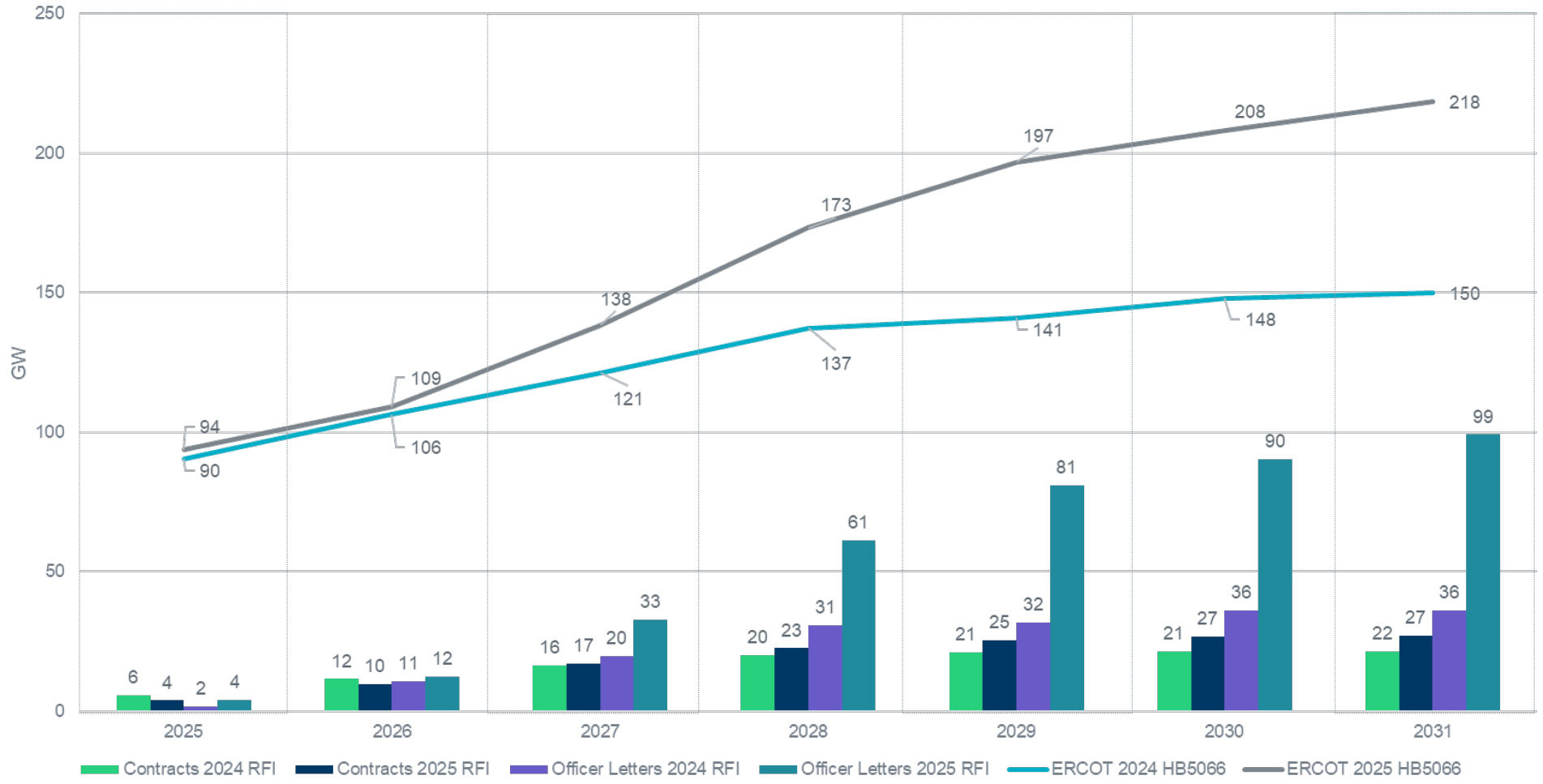
- Executed Contracts
- Credible 3rd Party Forecasts (e.g., S&P Global oil and gas)
- **TSP Officer-Attested Letters**

TSP-PROVIDED LOAD FORECAST

Key Takeaways:

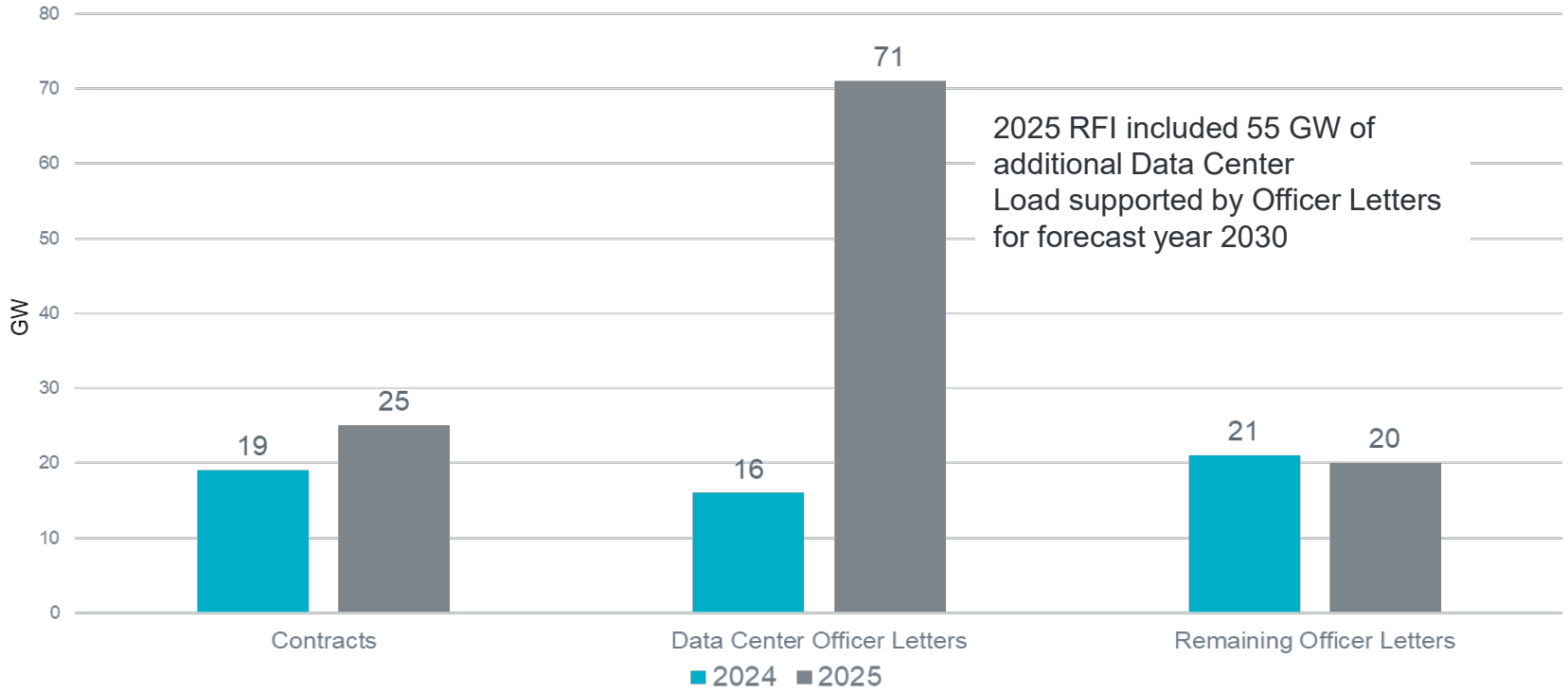
- The most impactful difference between the HB5066 process and ERCOT's previous Load forecast process is that ERCOT must accept TSP officer-attested letters as reasonable.
- ERCOT is beginning to have actual Load to verify forecasts provided in TSP officer-attested Load category.

TSP-Provided Load Forecast Comparison of Demand (2024 to 2025)



Key Takeaway: The 2025 TSP-Provided Load Forecast is substantially higher than what was submitted in 2024.

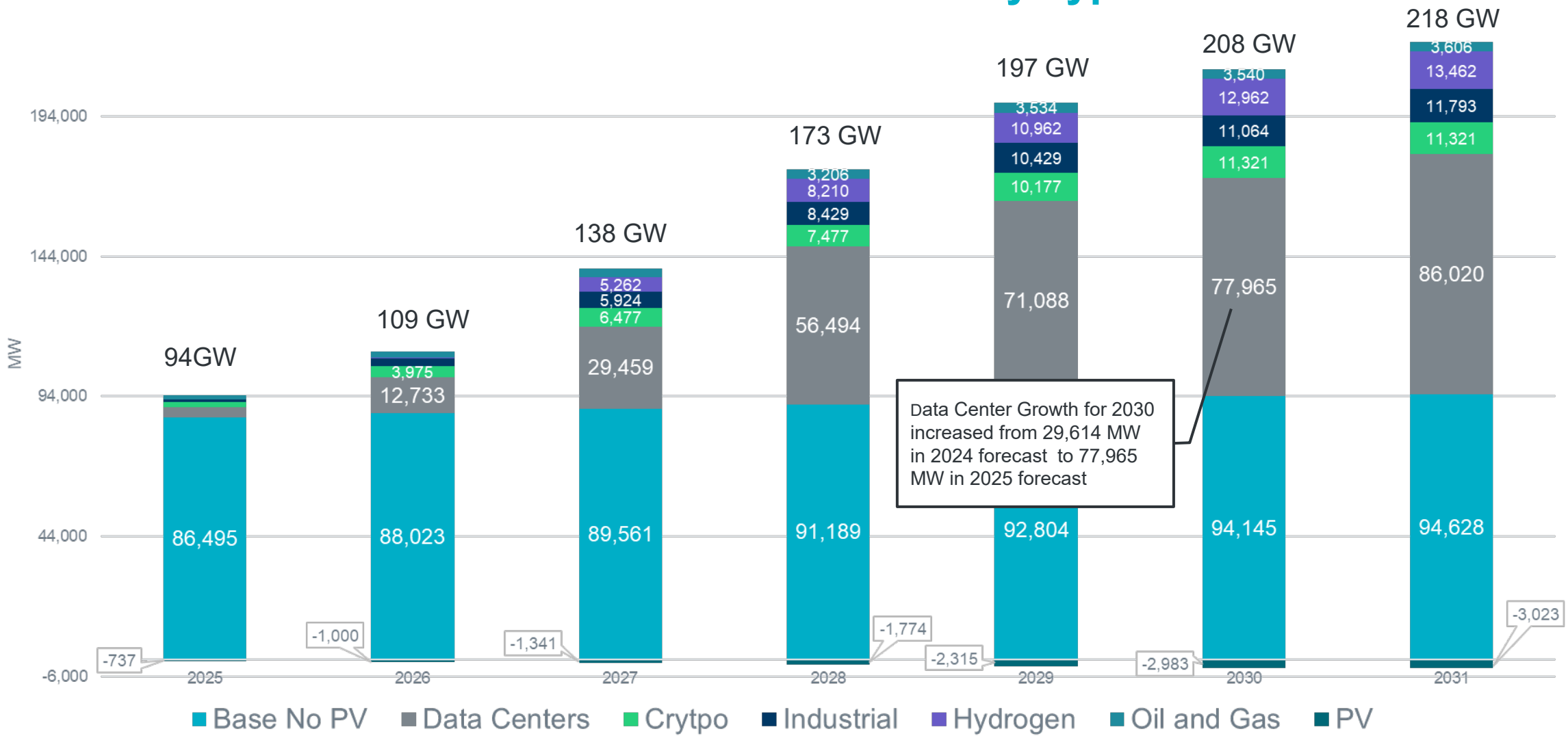
TSP Large Load RFI Response



Forecast Year 2030		
	2024 RFI	**2025 RFI**
Count of Respondents (TSPs)	**7**	**17**
Count of Contract Loads	**64**	**132**
Count of Officer Letter Loads	**92**	**281**

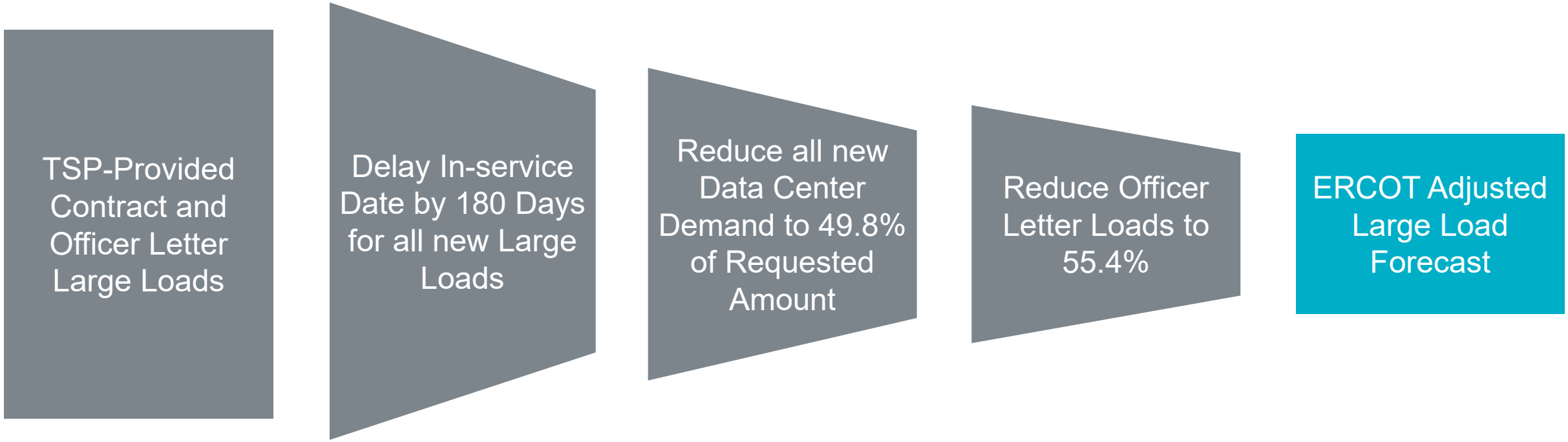
Key Takeaway: Most of the new Load growth reported in the 2025 TSP RFI was attributed to future data center Load growth attested to by TSP Officers.

2025 TSP-Provided Load Forecast Breakdown by Type



Key Takeaway: New Data Centers continue to be the major area of new growth in the 2025 TSP-Provided Load forecast.

ERCOT Adjusted Large Load Forecast Methodology



Key Takeaway: These factors can be updated to reflect observed performance as new contract and Officer Letter Load is energized.

Summer Peak Methodologies

TSP-Provided Load Forecast

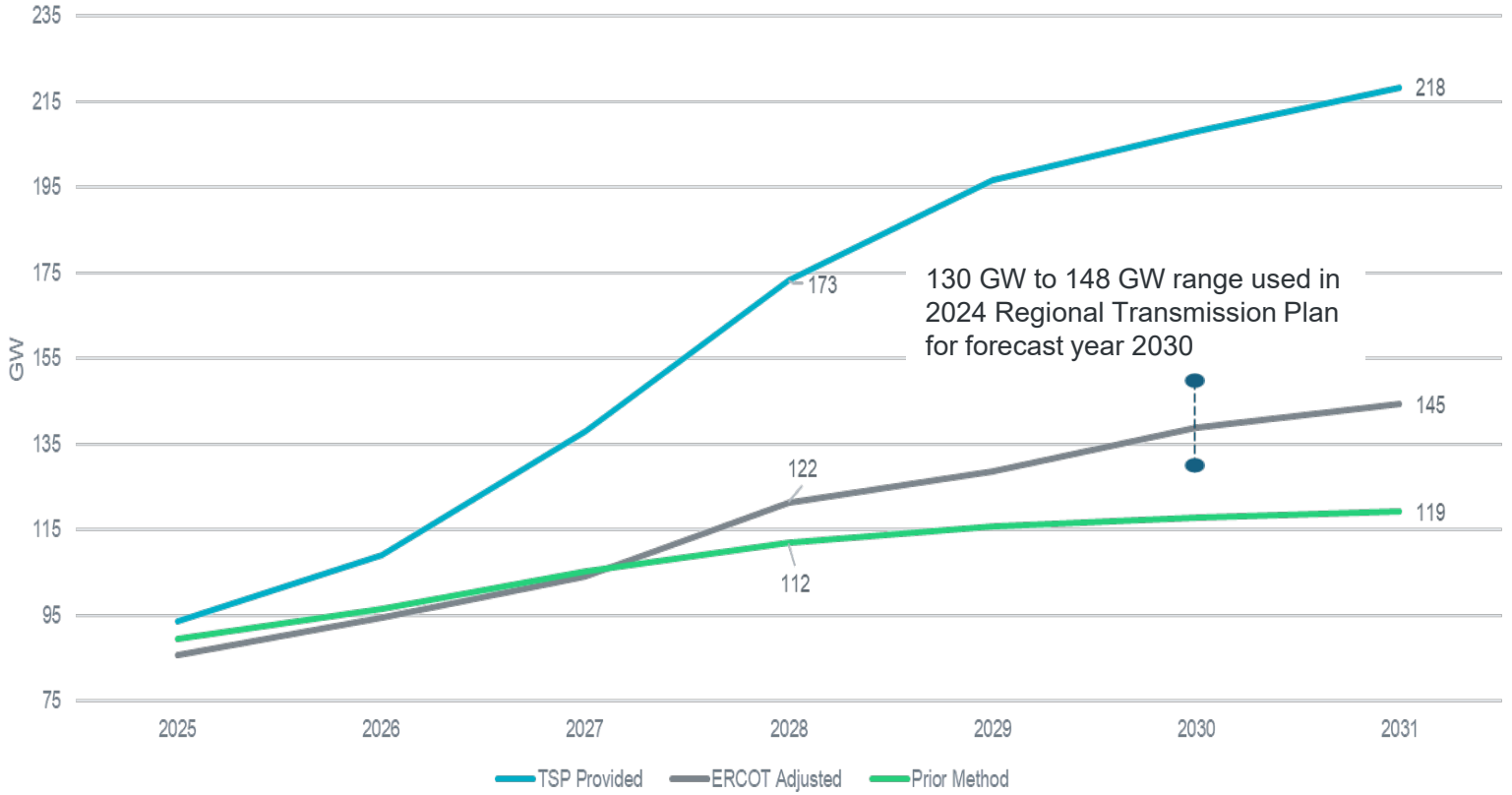
- All contracts and Officer Letter Loads based on the in-service dates and MWs that the TSPs provided

ERCOT Adjusted Load Forecast –

- 180 Day delay for all contract and Officer Letter Load
- All new Data Center Load reduced to 49.8% of request
- All Officer Letter Load reduced to 55.4% of request

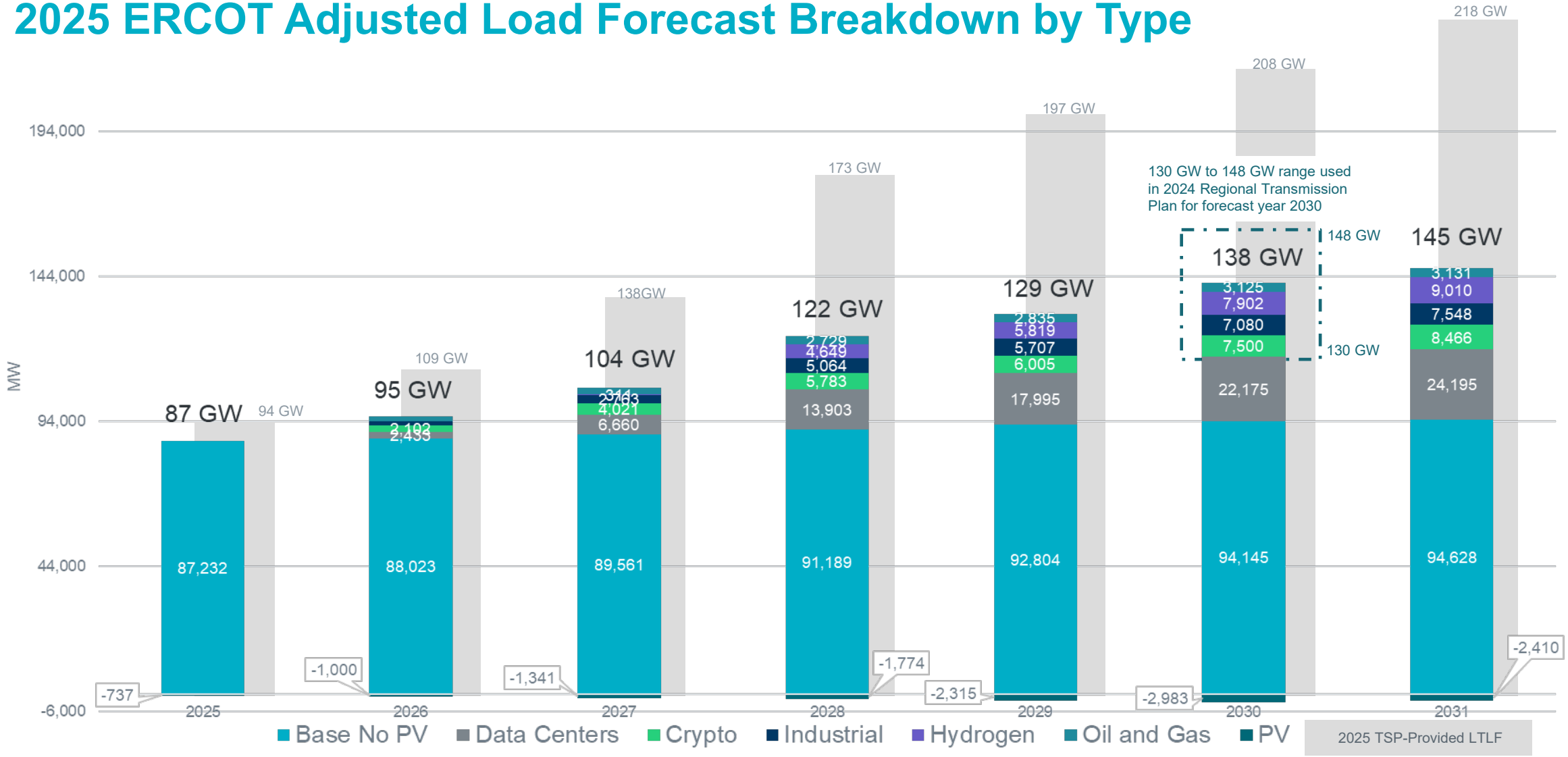
Pre-2024 Load Forecast Method

- Contracts only on the ramp schedule provided by the TSPs



Key Takeaway: ERCOT will begin incorporating an adjusted Load Forecast in analysis that uses historic trends to adjust the TSP-Provided Load Forecast.

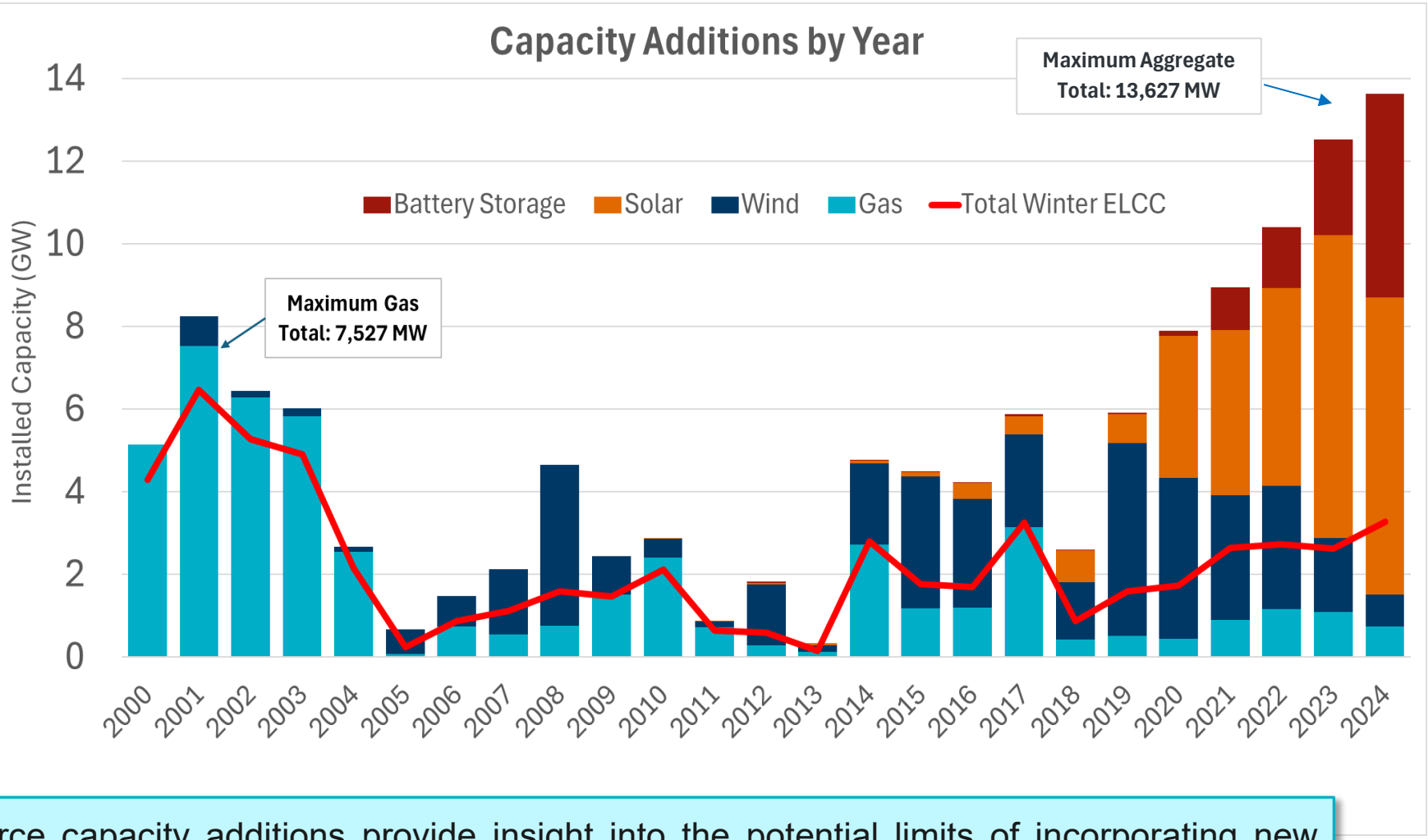
2025 ERCOT Adjusted Load Forecast Breakdown by Type



Key Takeaway: After adjustments, Data Center Load remains the largest growth by type.

Historic Resource Capacity Additions to ERCOT Grid

- During the early 2000s, more than 27,000 MWs of new gas generation was added to the system over a 5-year period.
- In the last 3 years, almost 25,000 MWs of nameplate wind and solar generation were added to the system. This period also includes about 9,000 MWHrs of energy storage.
- These time periods of rapid Resource growth provide some insight into the amount of new generation that can be reliably interconnected over a short period of time.



Key Takeaway: Historic Resource capacity additions provide insight into the potential limits of incorporating new Load.

Use of ERCOT Adjusted Load Forecast

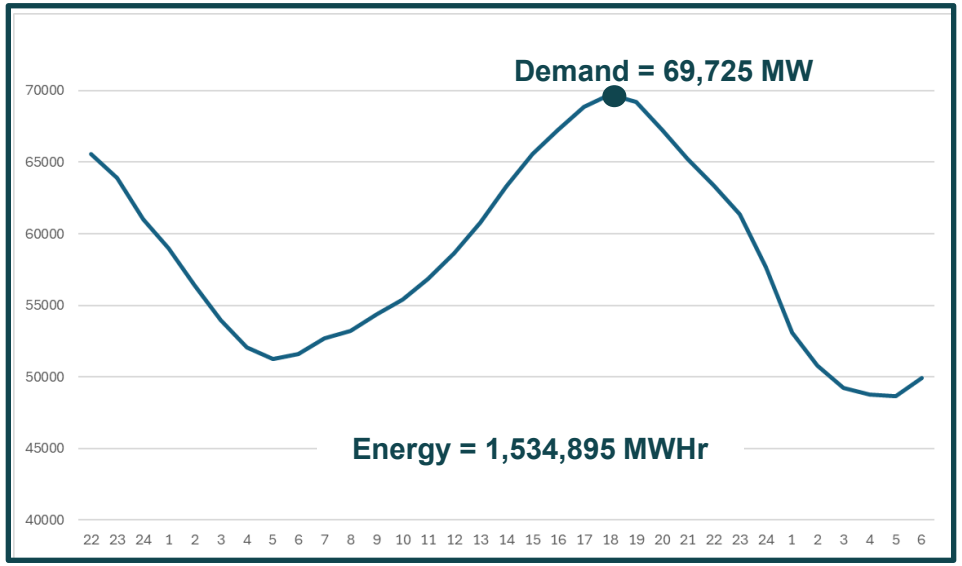
Load Forecasts are utilized in various aspects of ERCOT operations, planning, and reporting.

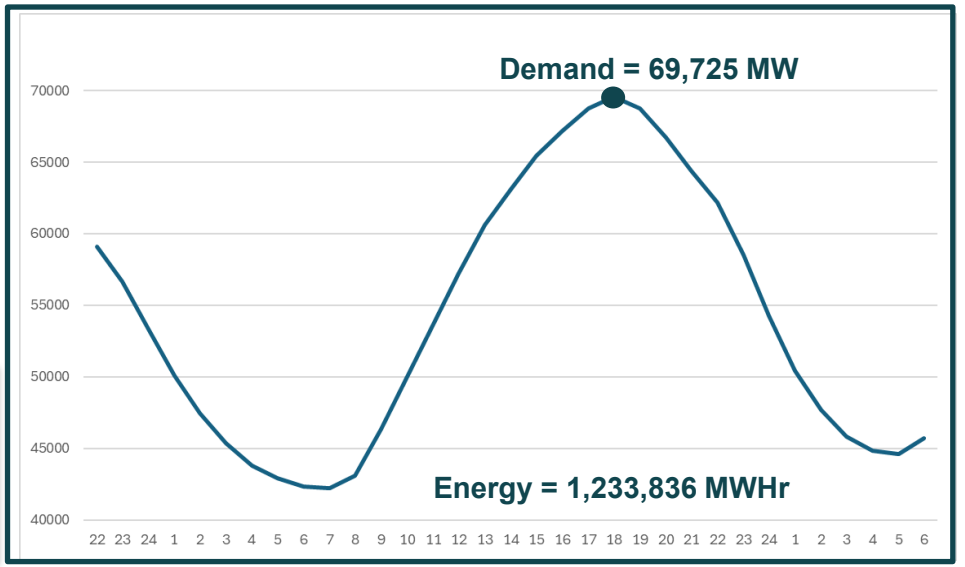
The ERCOT Adjusted Load Forecast will be utilized in the following areas:

- **Capacity Demand and Reserves (CDR) Report** – Beginning with the May 2025 CDR, ERCOT will utilize the ERCOT Adjusted Load Forecast for developing the Planning Reserve Margin. Additional scenarios will capture the TSP-Provided Load Forecast for comparison purposes.
- **Regional Transmission Plan (RTP)** – To develop the annual regional transmission roadmap and support NERC transmission planning obligations, ERCOT will utilize the ERCOT Adjusted Load Forecast. ERCOT is beginning discussions with Market Participants on how to incorporate the TSP-Provided Load Forecast into longer term transmission planning analysis.
- **Regional Planning Group (RPG) Projects** – ERCOT analysis will begin with the Adjusted Load Forecast; however, the TSP-Provided Load Forecast will be accepted in the RPG review process.
- **Resource Outage Scheduling –** ERCOT has initiated changes to how the Maximum Daily Resource Planned Outage Capacity (MDRPOC) is calculated. Once those changes are approved, the MDRPOC would be updated based on the ERCOT Adjusted Load Forecast.

Forecasting Energy vs Demand

- Demand is the amount of power being consumed at a point in time (MW).
- Energy is the amount of power consumed over a period of time (MWhr).
- The ERCOT Adjusted Load Forecast discussed in previous slides is a Demand forecast.
- The Demand forecast is used in transmission planning studies, resource adequacy analysis, outage scheduling, and to scale energy forecasts that are used in transmission planning.
- As shown in the two charts, periods of time can have the same peak demand but include different amounts of energy.





Key Takeaway: The Energy forecast used for the ERCOT System Administration Fee is based on the same information as the ERCOT Adjusted Load Forecast but differs in being a forecast of energy.

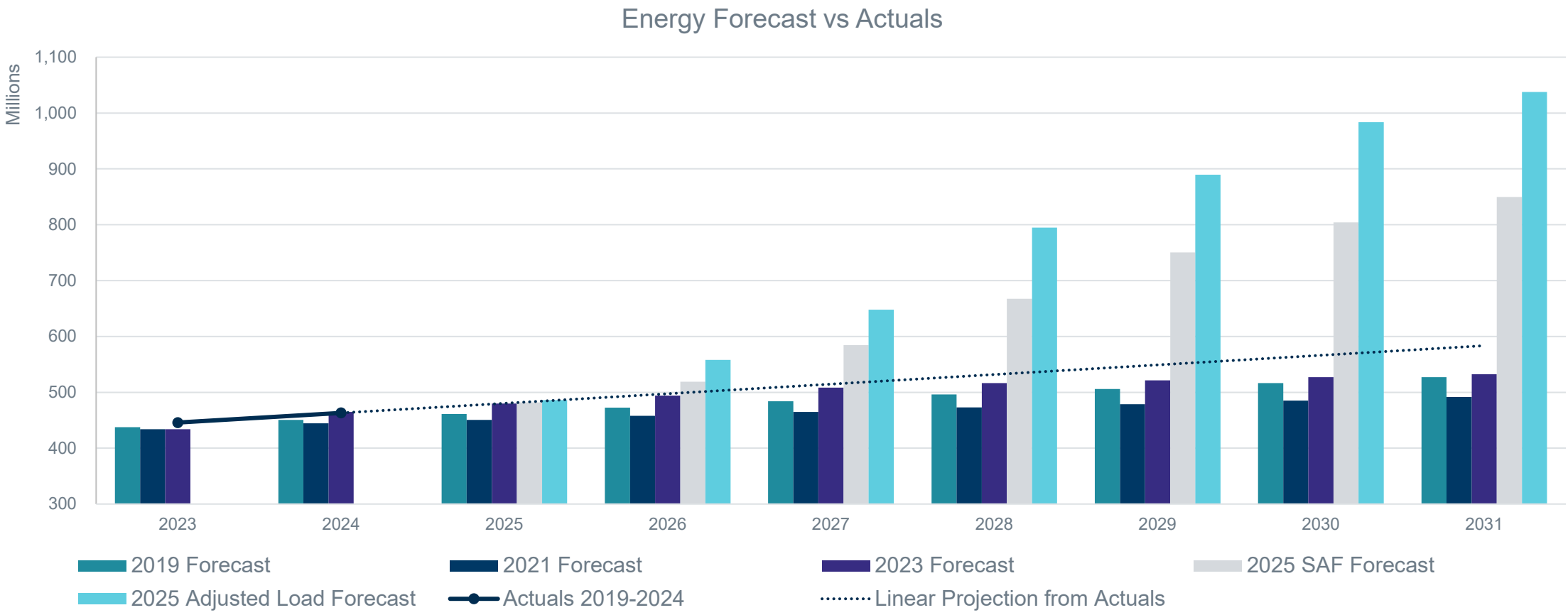
Energy Forecast for System Administration Fee Rate Assumptions

System Administration Fee (SAF) Revenue Energy Forecast vs Load Forecast

- To produce a funding model that provides a conservative funding base; the Energy Forecast used as the basis for the SAF revenue calculations modifies the 2025 multi-year ERCOT Adjusted Load Forecast.

Category	2025 ERCOT Adjusted Load Forecast	SAF Energy Forecast
Contracts and Officer Letter Loads	180-day delay	365-day delay
Data Centers	Load discounted to 49.8%	Energy discounted to 49.8%
Officer Letters	Load discounted to 55.4%	Energy discounted to 20%

Energy Forecast for System Administration Fee Rate Assumptions



Key Takeaway: Energy forecasts made in 2019, 2021, and 2023 show a consistent band of forecast energy between 2026 and 2031, and the 2025 energy and load forecasts diverge as load forecasts materially increased in the ERCOT area.