

SWEPSCO Louisiana 2027 Integrated Resource Plan (IRP)

Data Assumptions &
Description of Studies to be Performed

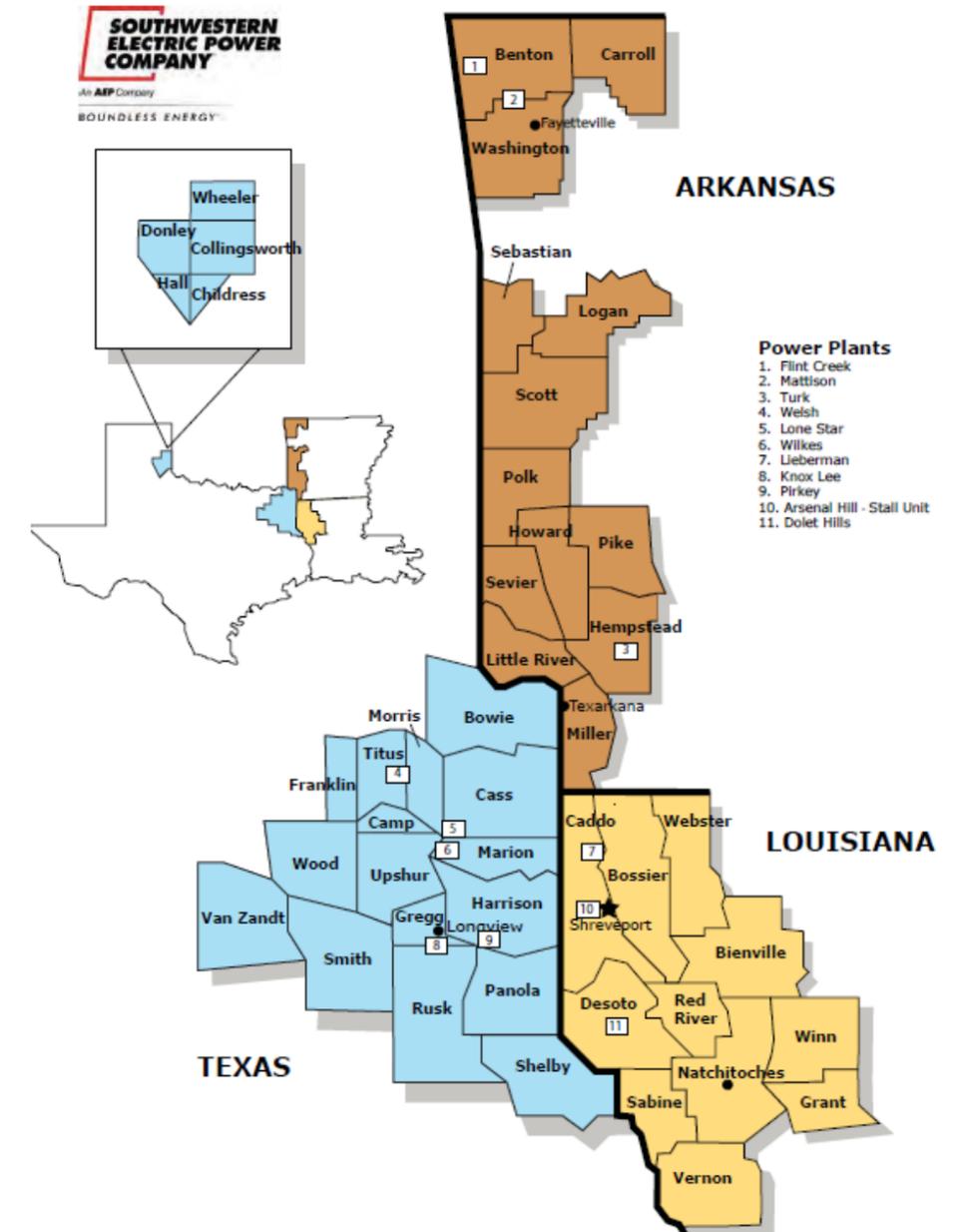
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About Southwestern Electric Power Company (SWEPCO)



- Southwestern Electric Power Company (SWEPCO) is headquartered in Shreveport, LA
- More than 558,000 customers in Louisiana, Arkansas and Texas.
 - ~235,000 customers - LA
 - ~192,000 customers - TX
 - ~131,000 customers - AR
- SWEPCO also serves wholesale customers which represent about 9% of its load (net of wholesale customer generation); additionally, SWEPCO provides scheduling service for ~500MW
- SWEPCO participates in the Southwest Power Pool (SPP) Regional Transmission Organization which establishes system reliability criteria



SWEPCO is a unit of American Electric Power (NYSE: AEP), which is one of the largest electric utilities in the United States, delivering electricity to more than 5 million customers in 11 states.

SWEPCO Regulatory Update



Below is a current status (as of January 2026) of SWEPCO's regulatory filings:

- Regulatory Filings pending for 1st Half of 2026
 - Conversion of Welsh Power Plant Units 1 and 3 and Construction of Hallsville Natural Gas Plant - LPSC Docket U-37643
 - Short-term Capacity Purchase Agreement for SPP PY 2028-2030 - LPSC Docket U-37706
- Potential filing of cost recovery of Capacity Purchase Agreements (CPAs) resulting from Request for Proposal (RFP) issued November 2025
- The Company will provide further updates in the upcoming Stakeholder meeting.

SWEPSCO's 5 Year Action Plan from the 2024 Arkansas IRP



SWEPSCO submits IRPs in both Arkansas and Louisiana. Below is an update on SWEPSCO's most recently submitted IRP – SWEPSCO's 2024 Arkansas IRP. The black text contains the action plan from that IRP with updates in **blue text**:

- Seek regulatory approval for the Hallsville Combustion Turbine (CT) and the Welsh Gas Conversion. SWEPSCO filed for regulatory approval in December of 2024 under Docket No. 24-052-U.
 - **SWEPSCO is currently seeking approval in each of its three jurisdictions.**
- If the Hallsville CT is approved by regulators, evaluate adding a steam turbine to convert it to a combined cycle.
 - **To be determined**
- Fill in the near-term capacity needs with short-term capacity contracts. SWEPSCO filed for regulatory approval in October of 2024 under APSC Docket No. 24-044-U (LPSC U-37407).
 - **The short-term capacity under consideration has since been approved.**
 - **SWEPSCO has since executed additional short-term capacity contracts identified through a 2025. Filed for cost recovery in Arkansas (APSC 25-037-U) and Louisiana (LPSC U-37706).**
- Evaluate costs and benefits of continuing to operate Arsenal Hill 5, Lieberman 3 and 4, and Wilkes 1 beyond their current planning retirement dates.
 - **Complete. Both Lieberman Units 3 and 4 were extended to November 30, 2032 and Arsenal Hill Unit 5 and Wilkes Unit 1 were extended to November 30, 2035 in order to meet capacity requirements.**

SWEPSCO's 5 Year Action Plan from the 2024 Arkansas IRP



- Continue to monitor environmental regulations and update the analysis of compliance options as needed consistent with those regulations.
 - **Active monitoring ongoing, with multiple scenarios and sensitivities being modeled to account for different possible environmental regulations.**
- Remain engaged and responsive to changes in SPP resource adequacy requirements.
 - **May 2025 SPP announced a Planning Reserve Margin (PRM) raise to 17% summer and 38% winter effective December 2029, with process to revenue adjustments annual for 2030 and on.**
 - **July 2025 FERC approved SPP Performance Based Accreditation and went into effect October 2025**
- Seek additional capacity as needed; timing and amount will be impacted by all the above. SWEPSCO anticipates the need to issue Requests for Proposals (RFPs) in the near term.
 - **SWEPSCO issued a short-term capacity-only RFP on November 17, 2025 with evaluation of bids currently underway**
 - **SWEPSCO will issue additional RFPs as needed in 2026**

IRP Regulatory Timeline



Step	Description	Number of Months from IRP Filing Date	Estimated Date
1	Utility submits its request to initiate the IRP process, which should specify dates in accordance with this schedule of events, and a non-disclosure agreement.	At filing date	December 19, 2025
2	Utility files data assumptions to be used in the IRP and a description of studies to be performed.	1	January 31, 2026
3	Utility holds first Stakeholder Meeting.	2	February 26, 2026
4	Stakeholders may file written comments.	4	April 30, 2026
5	Draft IRP Report published.	12	December 31, 2026
6	Utility holds second Stakeholder Meeting.	13	January 29, 2027
7	Stakeholders may file comments about the draft IRP Report.	15	March 31, 2027
8	Staff files comments about draft IRP Report.	16	April 30, 2027
9	Final IRP Report filed by the utility.	19	July 31, 2027
10	Stakeholders submit list of disputed issues and alternative recommendations.	21	September 30, 2027
11	Staff submits recommendations to the Commission including whether or not a proceeding is necessary for the resolution of disputed issues.	22	October 31, 2027
12	Commission Order acknowledging the IRP or setting disputed issues for hearing.	24	December 31, 2027

2027 IRP Objectives



SWEPSCO's Mission

to serve customers and communities by providing safe, dependable, and affordable power, along with forward-looking energy solutions

2027 IRP Objectives

SWEPSCO identified four objectives for the preferred 2027 IRP portfolio to achieve its mission:

Customer Affordability	Rate Stability
Maintaining Reliability	Local Impact

These objectives will inform each step of the IRP analysis and ultimately manifest in the IRP scorecard, which will be used by SWEPSCO to measure the performance of different resource plans and inform the selection of the Preferred Plan.

2027 IRP High-Level Analysis Steps

1. Define Objectives Aligned to Customer Needs
2. Model SPP Market Scenarios to Test Future Risks
3. Optimize Demand-Side Management & New Supply
+ Define Candidate Portfolios
4. Test Portfolios across Scenarios & Stochastic Risks
5. Compare Results on the Scorecard & Select the
Preferred Plan

Stakeholders:

- Share Key Concerns & Considerations
- Provide Feedback on IRP Inputs & Draft Results

Assumption Development

Supply-side resources assumptions were developed based on authoritative third-party sources in combination with AEP's market data.

Intermediate & Peaking Options

Renewable Options

Advanced Generation Options

Step 1: Sourcing baseline technology costs and performance assumptions from Sargent & Lundy report, responses and internal project developments

Step 1: Collect projections of technology costs and performance from various third-party sources and internal SMEs



Step 2: Applying changes to technology cost and performance over time based on the Moderate Case projection by the National Renewable Energy Laboratory's Annual Technology Baseline*

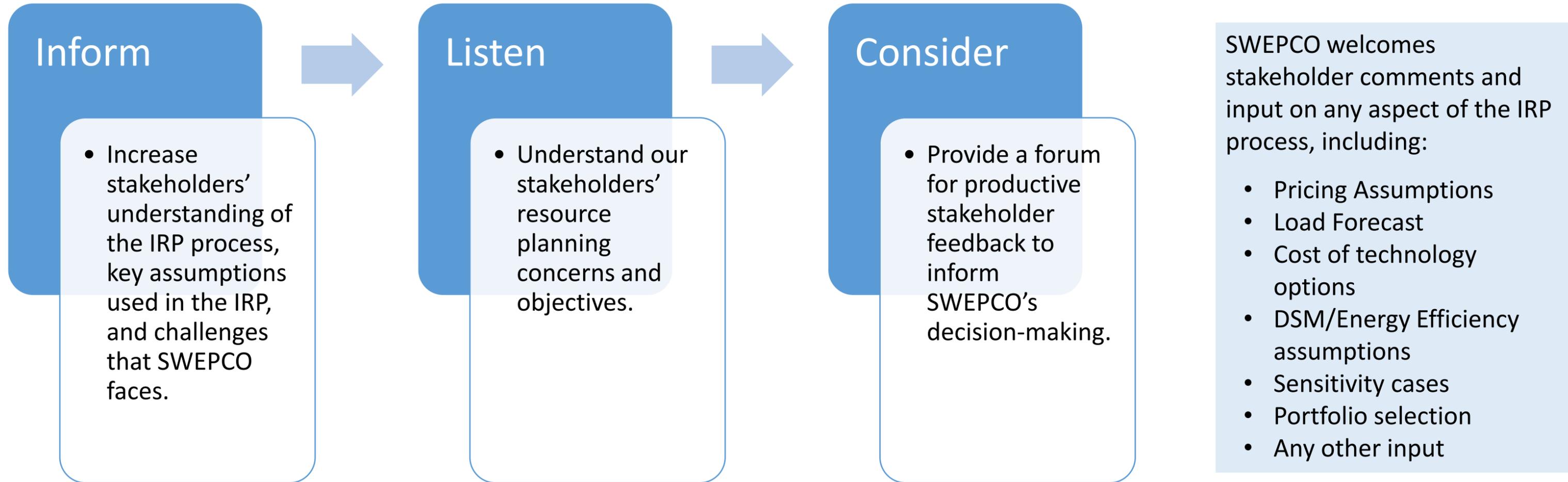
Step 2: Analyze projections, identify outliers and form central estimates of technology costs and performance over time



Modeling Assumptions

- To account for a range of possible future states of the world, SWEPCO has constructed multiple scenarios and sensitivities (details on the next slide), each of which results in a different view of the SPP-wide market
- To inform those scenarios and sensitivities, the company has made estimates and used public sources to provide information on:
 1. AEP's fundamentals forecast of commodity prices
 2. Market-based costs of resources
 3. Environmental Regulations
 4. Forecast of customer energy and peak demand
 5. Economic development
 6. Additions and retirements in the SPP market
- As the IRP process progresses, these assumptions may be updated as additional data is received.

Stakeholder Feedback Process

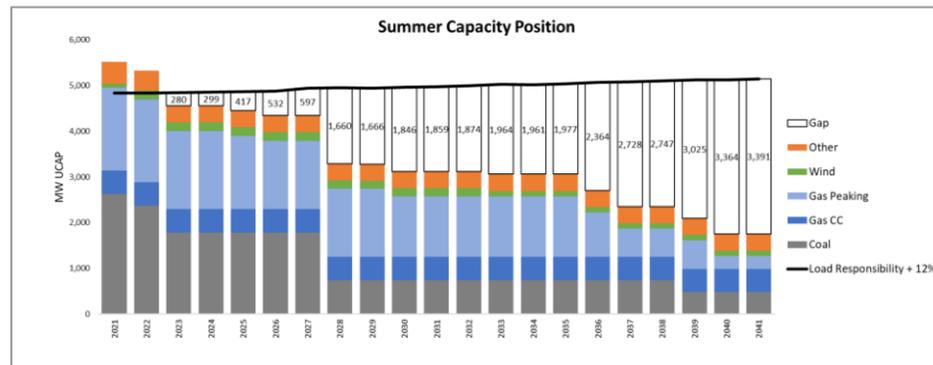


Stakeholder Input Timeline (approximate)



Selection of the Preferred Plan

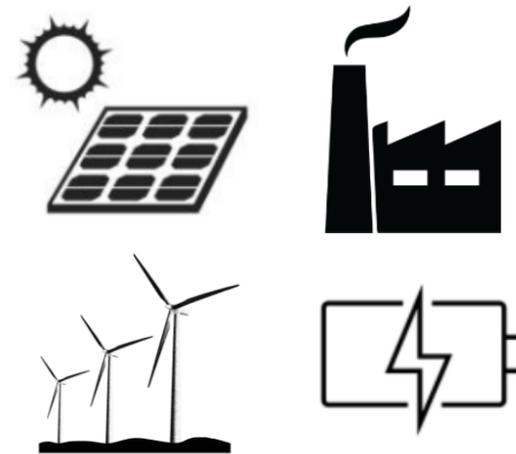
Going-in View



SWEPSCO's current generation fleet along with multiple load growth scenarios are input into the model



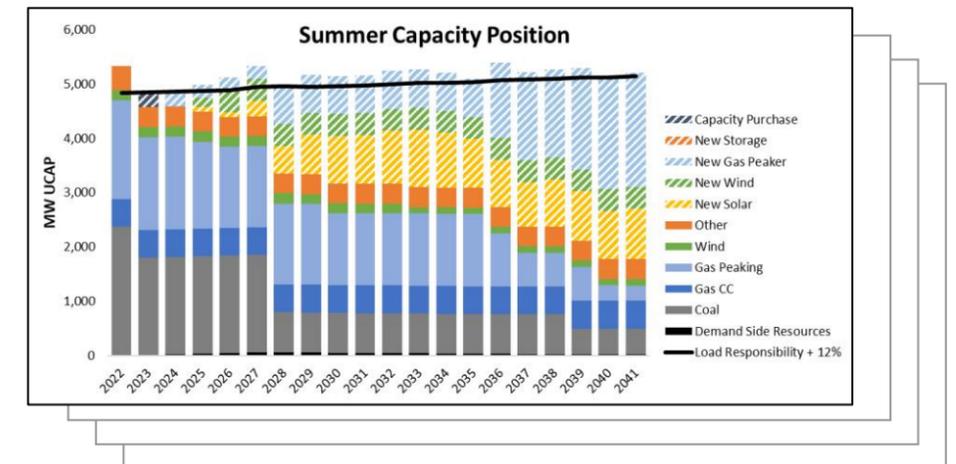
Resource Options



The model considers resource options to meet projected future demand



Candidate Portfolios



The model gives options based on potential future scenarios



Following Stakeholder feedback, SWEPSCO will evaluate candidate portfolios against the IRP Objectives and select the best combination of resources that meet customer needs.

Scenarios

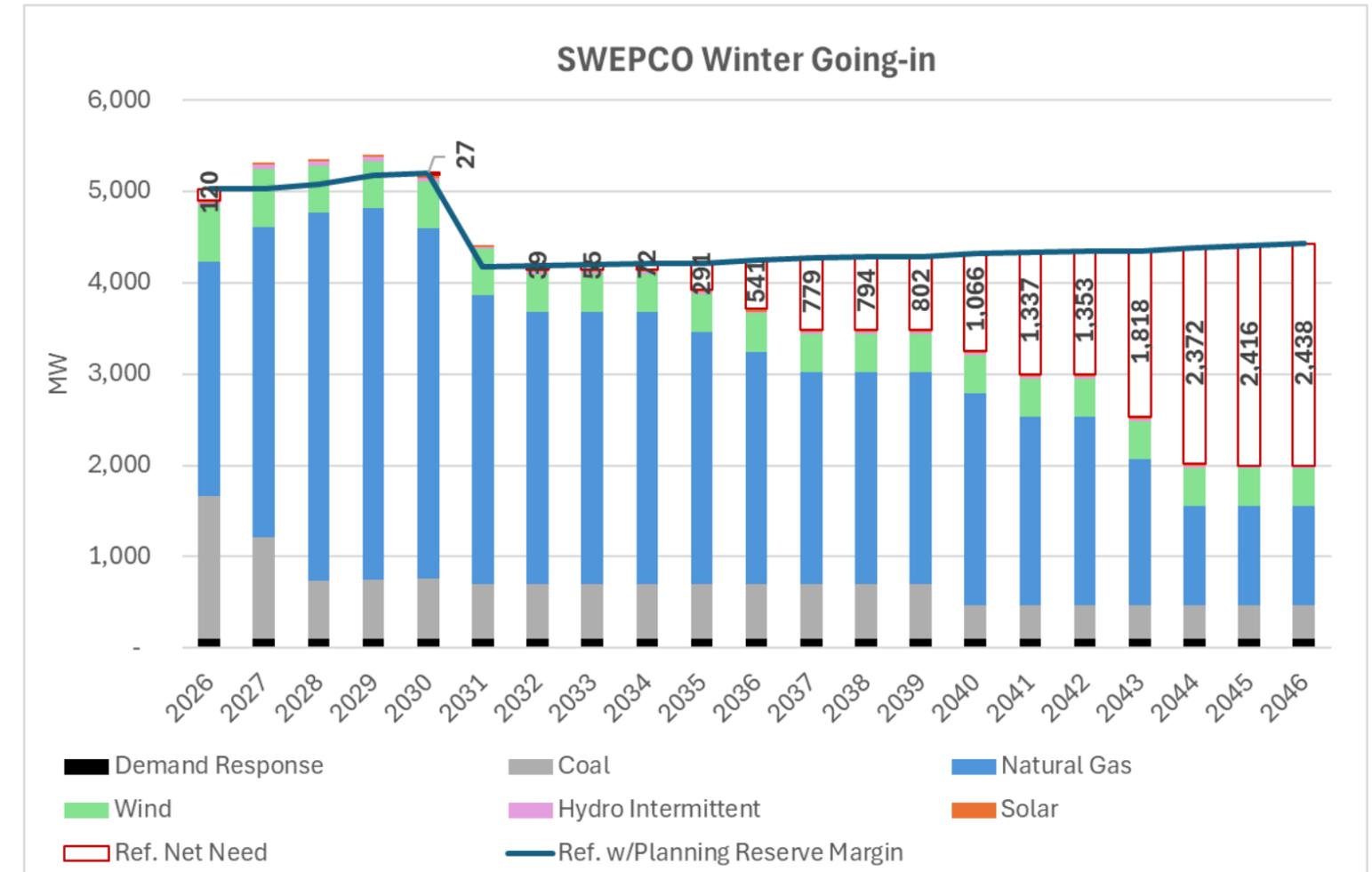
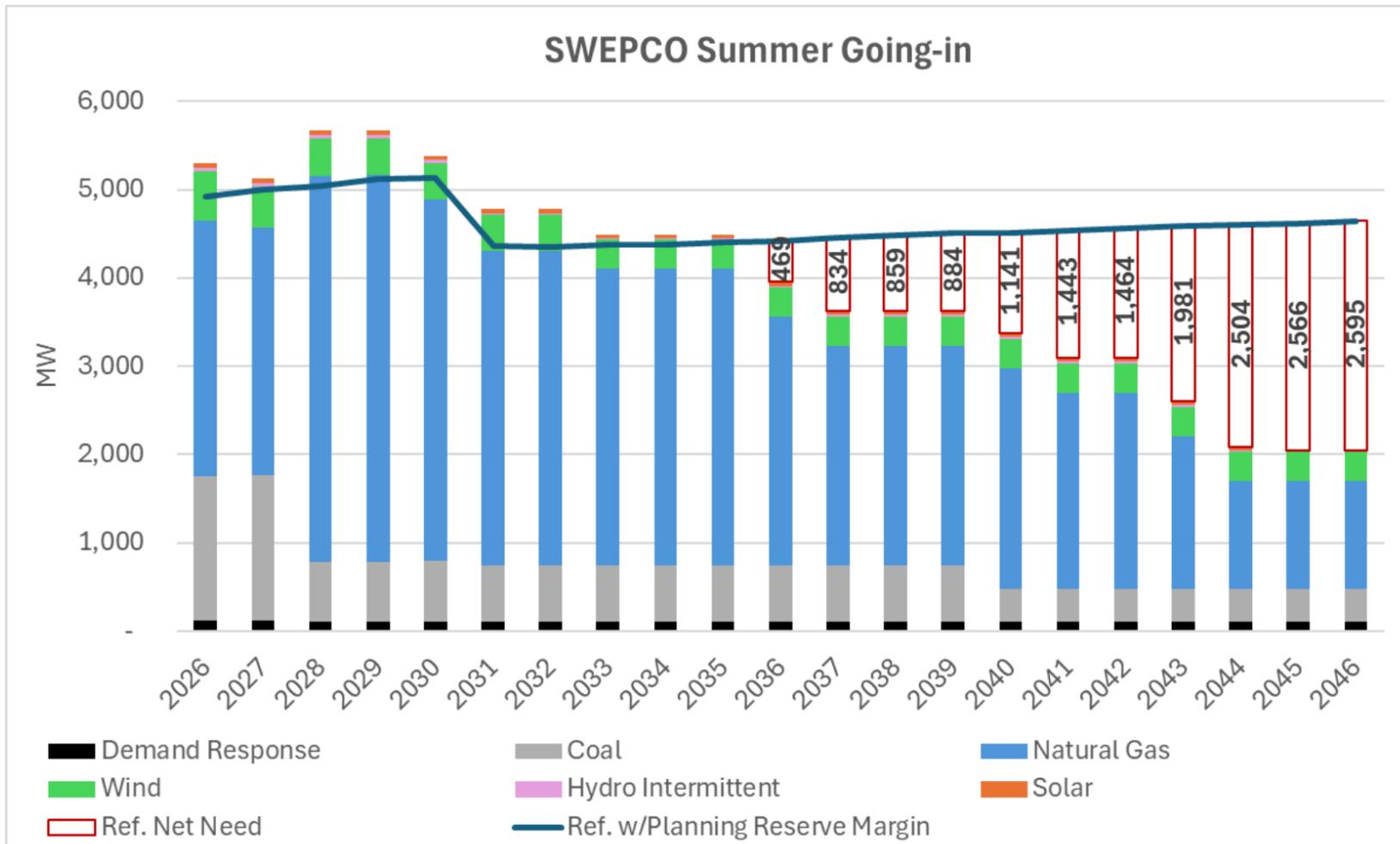


Each IRP Scenario combines a different view of fundamental market drivers. Each sensitivity will adjust a small number of variables to model a specific possibility.

Scenario (+ potential sensitivities)	Load Forecast	Fundamentals Forecast	Environmental Regulations
Reference Case	Reference	Reference	Current
Reference Case with Delayed Environmental Regulations - Potential sensitivities: Tax credit extension, higher planning reserve margins	Reference	Reference	Delayed
Low Market Conditions	Low	Low	Delayed
High Market Conditions	High	High	Delayed
Reference Market Conditions + Economic Development - Potential sensitivities: Accelerated Small Modular Reactor (SMR) development	Economic Development	Reference	Delayed
High Market Conditions + High Economic Development	Additional Economic Development	Reference	Delayed

**Additional scenarios will be considered based on (1) environmental and regulatory changes and (2) as a result of stakeholder feedback*

Going-in Position (Preliminary)



-Preliminary, resource accreditations and load forecast updates will be evaluated prior to modeling
 -New Natural Gas Combustion Turbines at Hallsville in year 2027, and converting Welsh to Natural Gas in 2028 under SWEPCO Base Load forecast, material need for new capacity will start in the mid-2030s

**NOTE: All assumptions (including costs and availability of resources) are preliminary and may change before modeling is performed*

Going-in Resources



Unit Name	Location	Fuel Type	Start ¹	End ²	Installed Capacity (MW)
Flint Creek	Arkansas	Coal	1978	2038	259
Turk	Arkansas	Coal	2012	2068	389
Welsh 1&3	Texas	Coal	1977	2027	1,056
ETEC Turk ³	Arkansas	Coal	2012	2031	54
Arsenal Hill 5	Louisiana	Gas	1960	2035	111
Hallsville	Texas	Gas	2028	2060	450
Knox Lee 5	Texas	Gas	1974	2040	310
Lieberman 3&4	Louisiana	Gas	1957	2032	219
Mattison 1-4	Arkansas	Gas	2007	2053	296
Stall 6A-B, 6S	Louisiana	Gas	2010	2051	511
Welsh 1&3 Refuel	Texas	Gas	2027	2043	1,053
Wilkes 1	Texas	Gas	1964	2035	352
Wilkes 2	Texas	Gas	1970	2036	350
Wilkes 3	Texas	Gas	1971	2037	50
LA Gen (Cajun)	Louisiana	Gas	N/A	2026	50
Harrison County ³	Texas	Gas	2003	2031	381
Green Country	Oklahoma	Gas	2025	2026	200
Gateway	Texas	Gas	2025	2026	150
Gateway	Texas	Gas	2027	2029	300
Kiamichi	Oklahoma	Gas	2028	2030	150

Unit Name	Location	Fuel Type	Start ¹	End ²	Installed Capacity (MW)
Narrows ³	Arkansas	Hydro	N/A	2061	26
Bentonville ³	Arkansas	Hydro	N/A	2031	18
Rocking R	Louisiana	Solar	2026	2061	73
Diversion Wind Farm	Texas	Wind	2026	2054	201
Maverick	Oklahoma	Wind	2026	2051	156
Sundance	Oklahoma	Wind	2026	2051	109
Traverse	Oklahoma	Wind	2026	2051	544
Wagon Wheel	Oklahoma	Wind	2026	2055	598
Flat Ridge II	Kansas	Wind	2026	2032	109
Thunderhead Wind Farm	Nebraska	Wind	2023	2025	31
Upstream Wind Farm	Nebraska	Wind	2023	2025	21
Canadian Hills Wind Farm	Oklahoma	Wind	2017	2032	201
Majestic I Wind Farm	Texas	Wind	2017	2028	80
Majestic II Wind Farm	Texas	Wind	2017	2033	80
Horizon Hill Wind Farm	Oklahoma	Wind	2025	2028	200
White Rock Wind (East)	Oklahoma	Wind	2025	2028	200
White Rock Wind (West)	Oklahoma	Wind	2025	2028	100

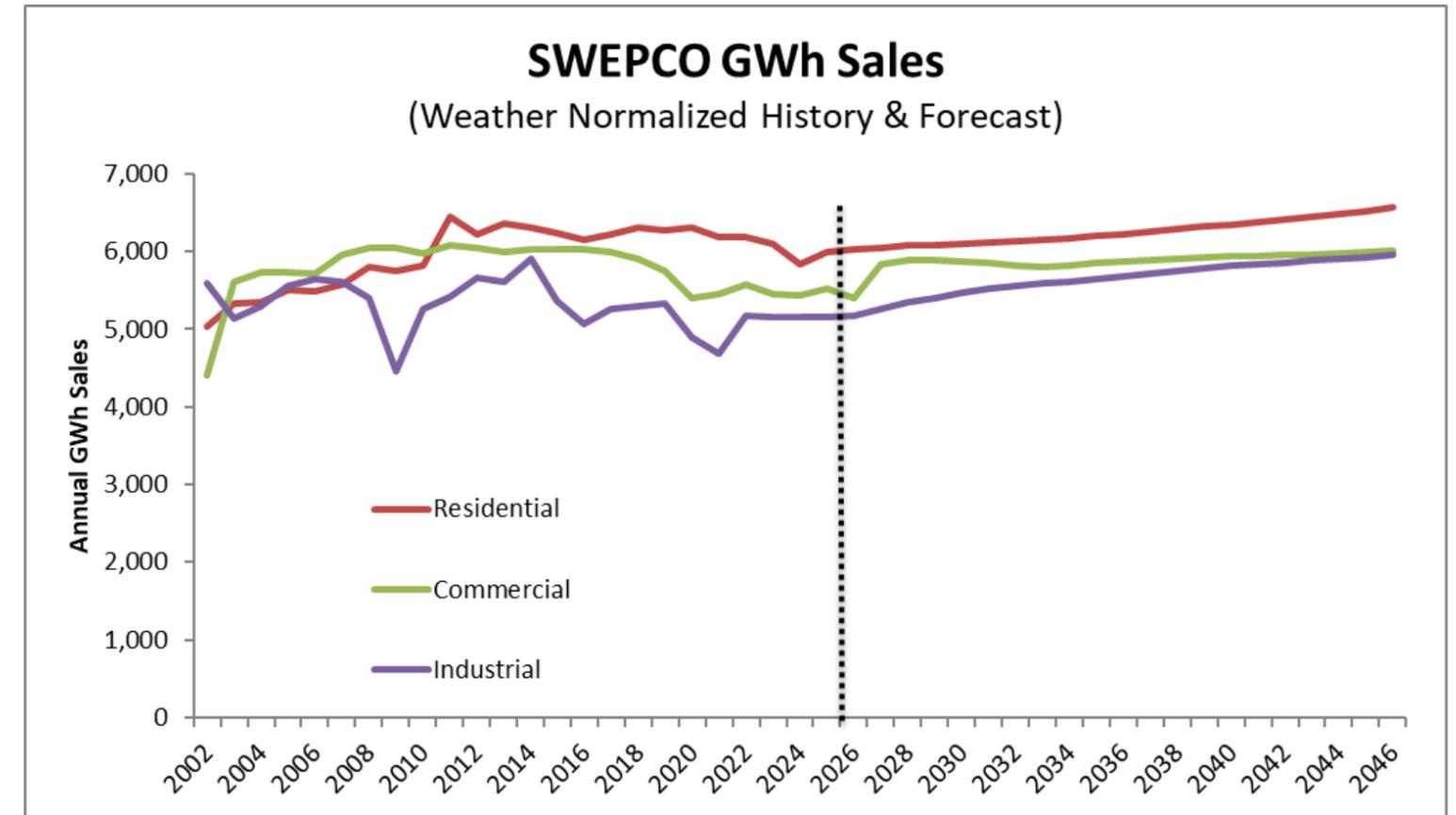
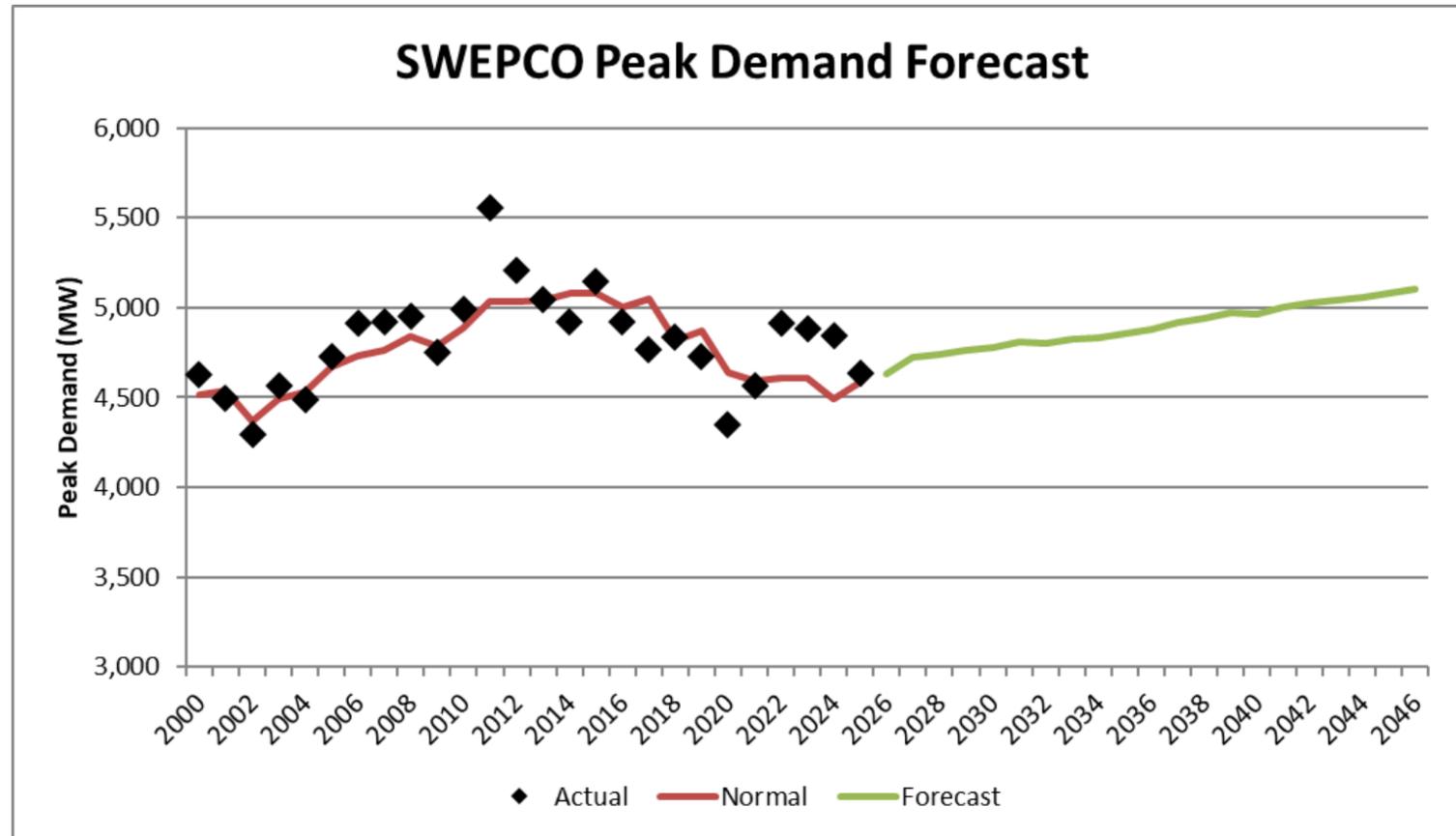
¹ Commercial Operation Date (COD) or Contract Start Date

² Retirement or Contract Expiration dates (subject to change)

³ Wholesale customer resources

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Load Forecast

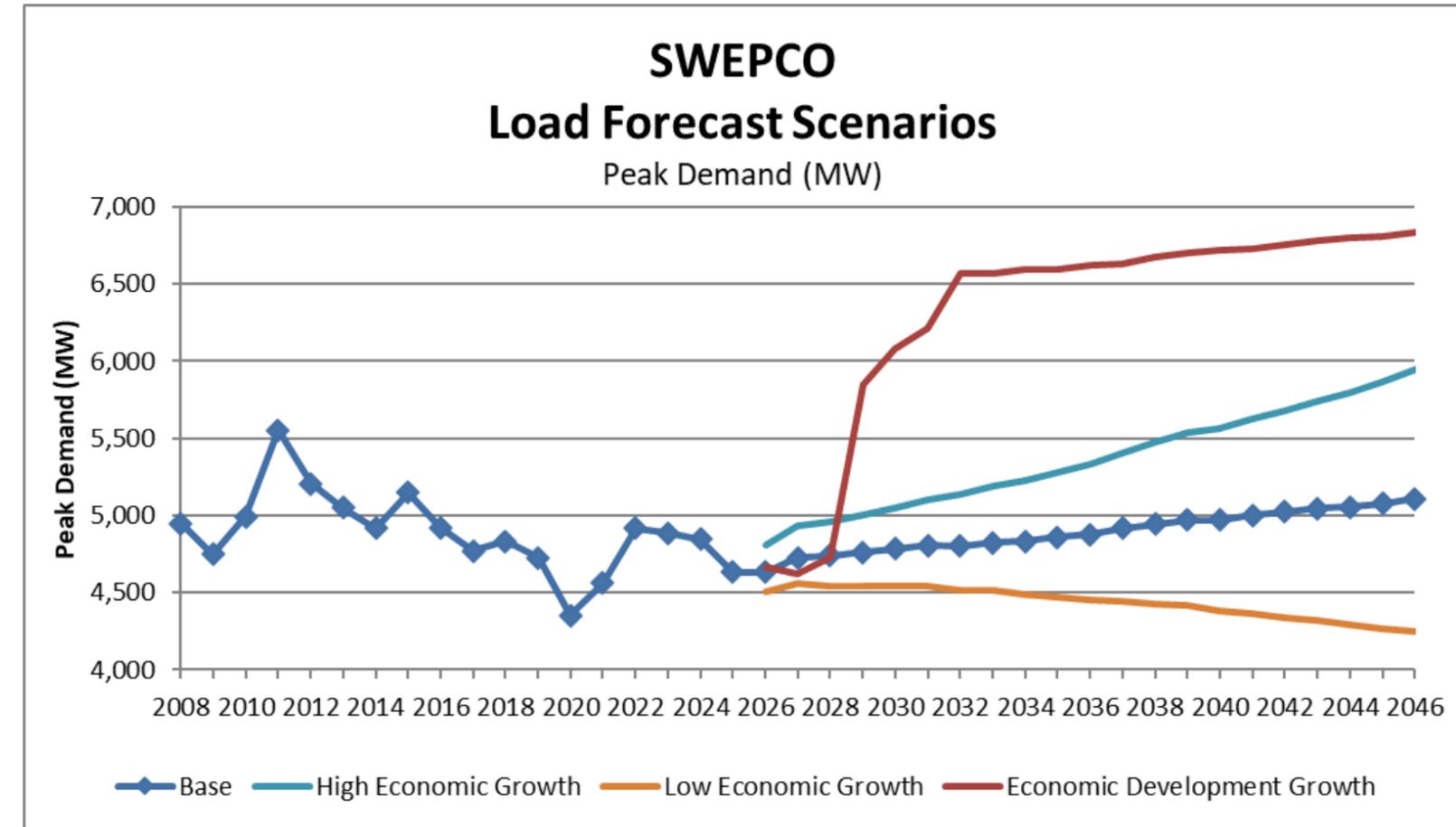
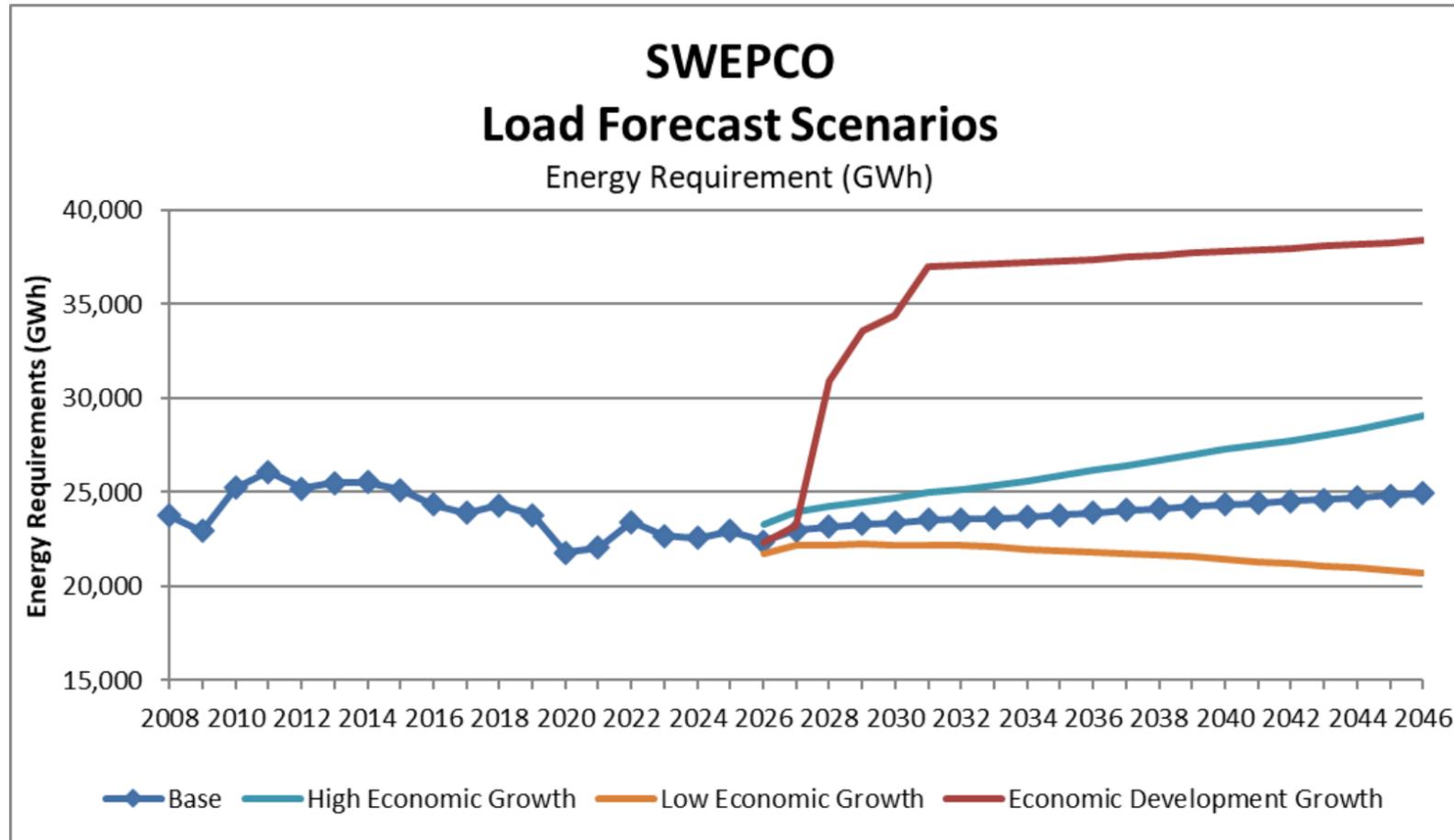


SWEPCO's Peak Demand forecast is relatively flat over the planning horizon with a Compound Annual Growth Rate (CAGR) of +0.52% from 2026 to 2036.

All classes all grow throughout the planning horizon. Residential has a 10-year CAGR of +0.33%, while Commercial and Industrial have 10-year CAGRs of +0.85% and +0.94%, respectively.

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Load Forecast Scenarios



The **Base Forecast** represents moderate growth over the planning horizon, leading to a 10-year CAGR of 0.4%.

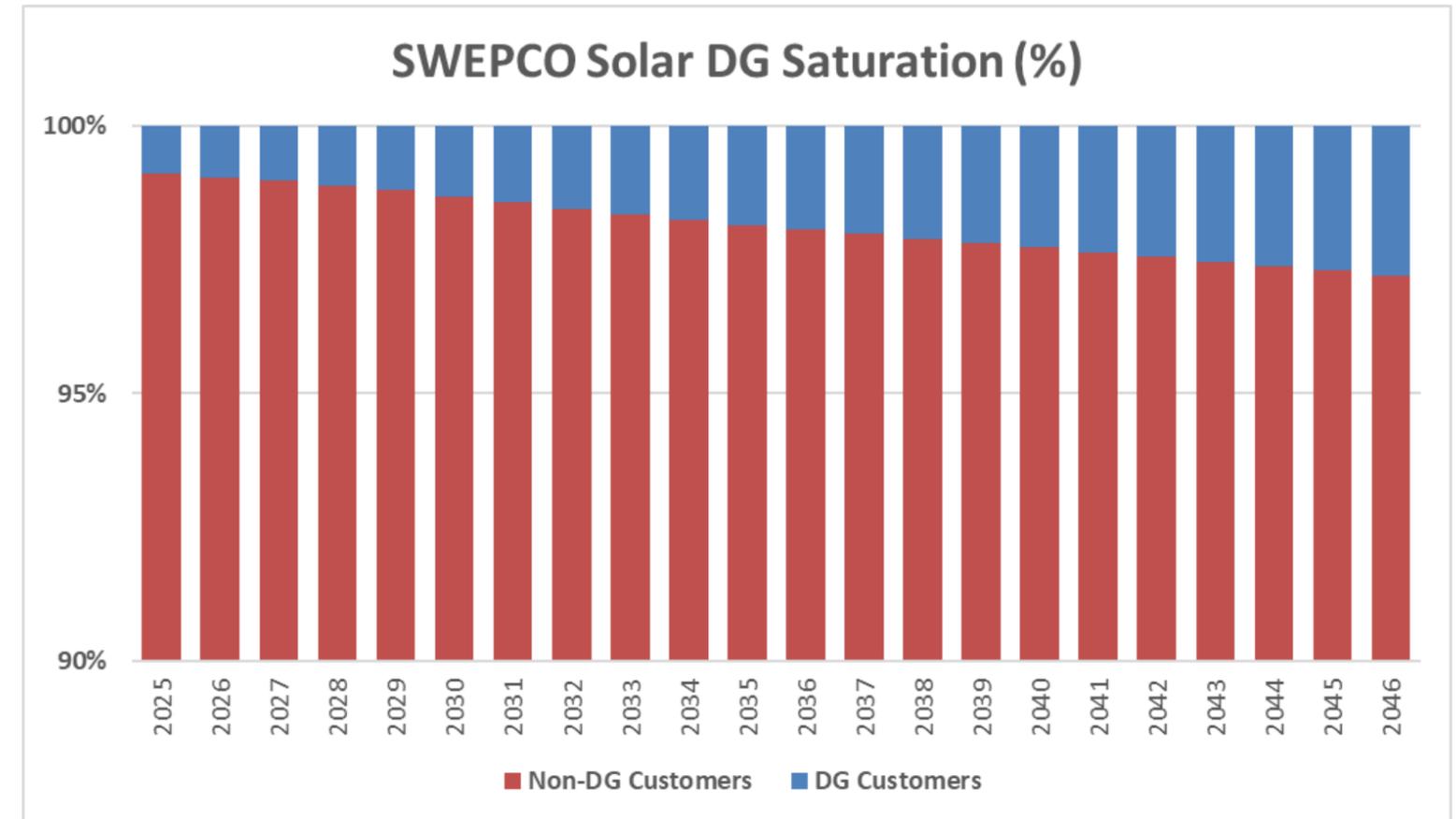
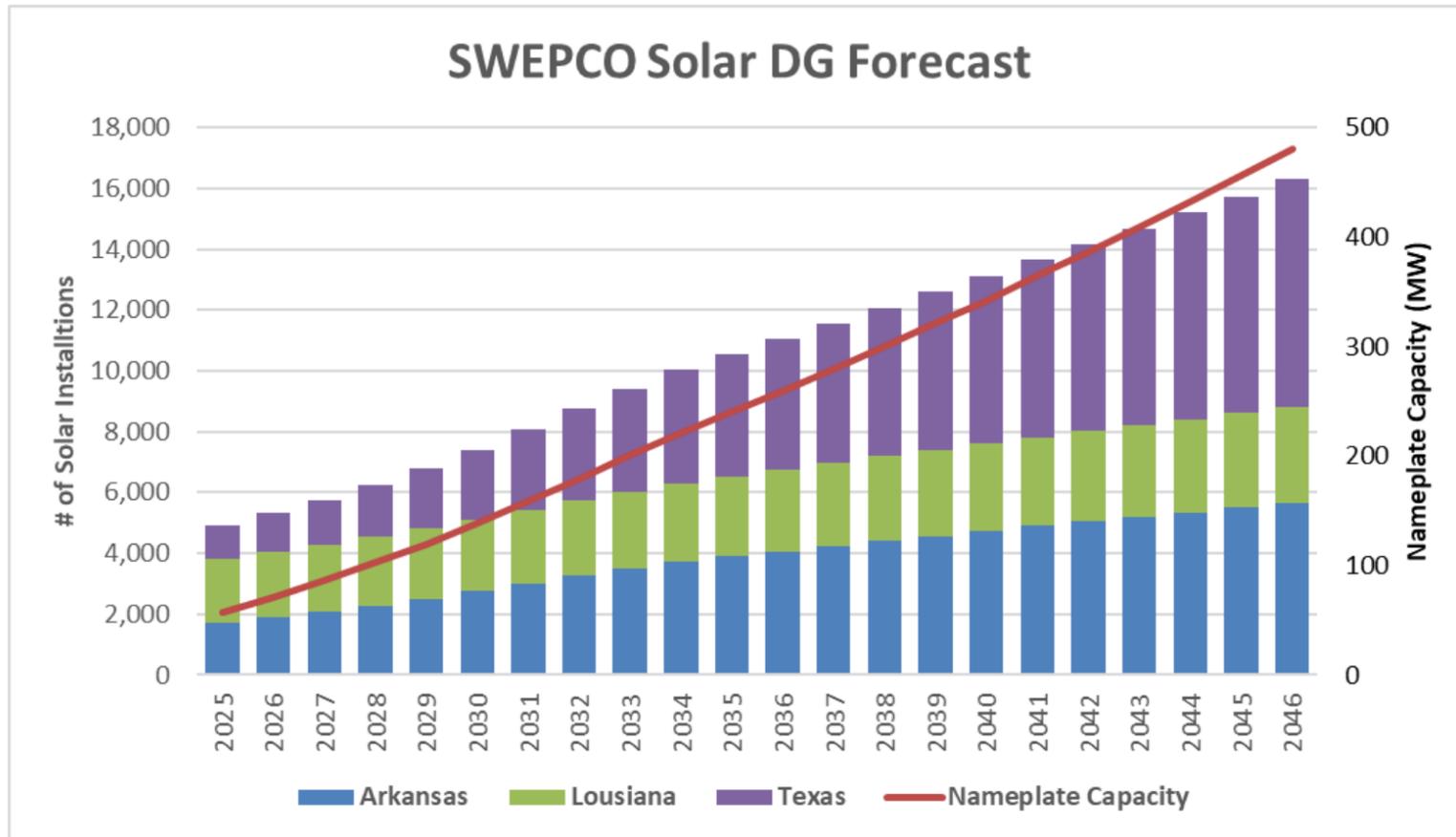
The **High Economic Growth Forecast** deviates from the Base Forecast by +9.3%.

The **Low Economic Growth Forecast** deviates from the Base Forecast by -8.8%.

The **Economic Development Growth Forecast** add an approximate forecast of 1,800 MW of new load by 2032.

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Distributed Generation (DG) Projections

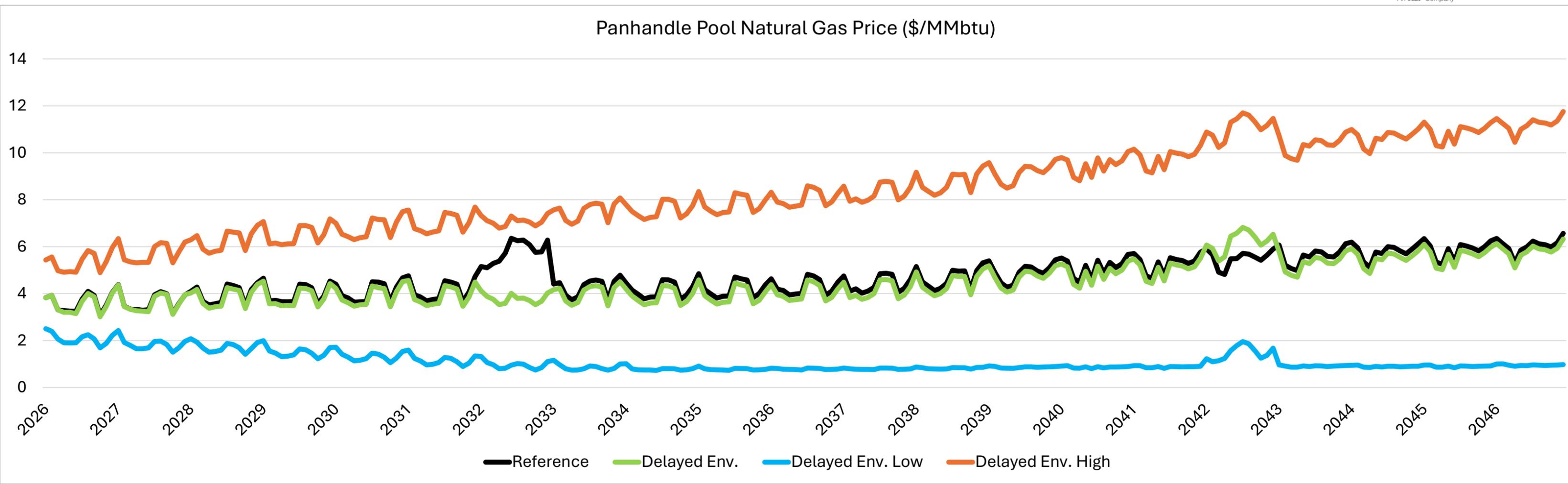


At the end of 2025, there we nearly **5,000 customers** with Solar DG Installations amounting to **57 MW of nameplate capacity**.

The amount of customer installations and nameplate capacity increases over the planning horizon with a nameplate capacity CAGR of +17.2% from 2026 to 2036. The saturation of DG Customers in 2036 is 1.9%.

**NOTE: All assumptions (including costs and availability of resources) are preliminary and may change before modeling is performed*

Natural Gas Inputs



Reference and Delayed Environmental scenarios assume large natural gas consumption increases and corresponding production resiliency.

Assumed domestic natural gas demand shock when coal units retire.

2032 – Reference Scenario

2042 – Delayed Env., Delayed Env. Low, and Delayed Env. High Scenarios

**NOTE: All assumptions (including costs and availability of resources) are preliminary and may change before modeling is performed*

Supply Side Resources

SWEPCO will evaluate categories of supply side resources to identify the optimal resource mix that is resilient to future uncertainties.

Base

- Combined Cycle F-Class
- Combined Cycle H-Class

Intermediate & Peaking

- 4 x 54 MW Aeroderivative
- 6 x 18 MW RICE
- Frame CT, H-Class
- Frame CT, F-Class
- 4-hour Li-Ion Battery Energy Storage System
- 6-hour Li-Ion Battery Energy Storage System
- 8-hour Li-Ion Battery Energy Storage System

Renewable

- Utility Scale Onshore Wind
- Utility Scale Solar Photovoltaic
- Utility Scale Solar Photovoltaic with Storage

Advanced Generation

- Combined Cycle H-Class w/Carbon Capture
- Small Modular Reactor, Greenfield First of a Kind
- Small Modular Reactor, Greenfield nth of a Kind
- Small Modular Reactor, Gen IV, Greenfield nth of a Kind
- 100-hour Iron-Air Battery Energy Storage System
- Solid Oxide Fuel Cell

**NOTE: All assumptions (including costs and availability of resources) are preliminary and may change before modeling is performed*

Baseline Assumptions



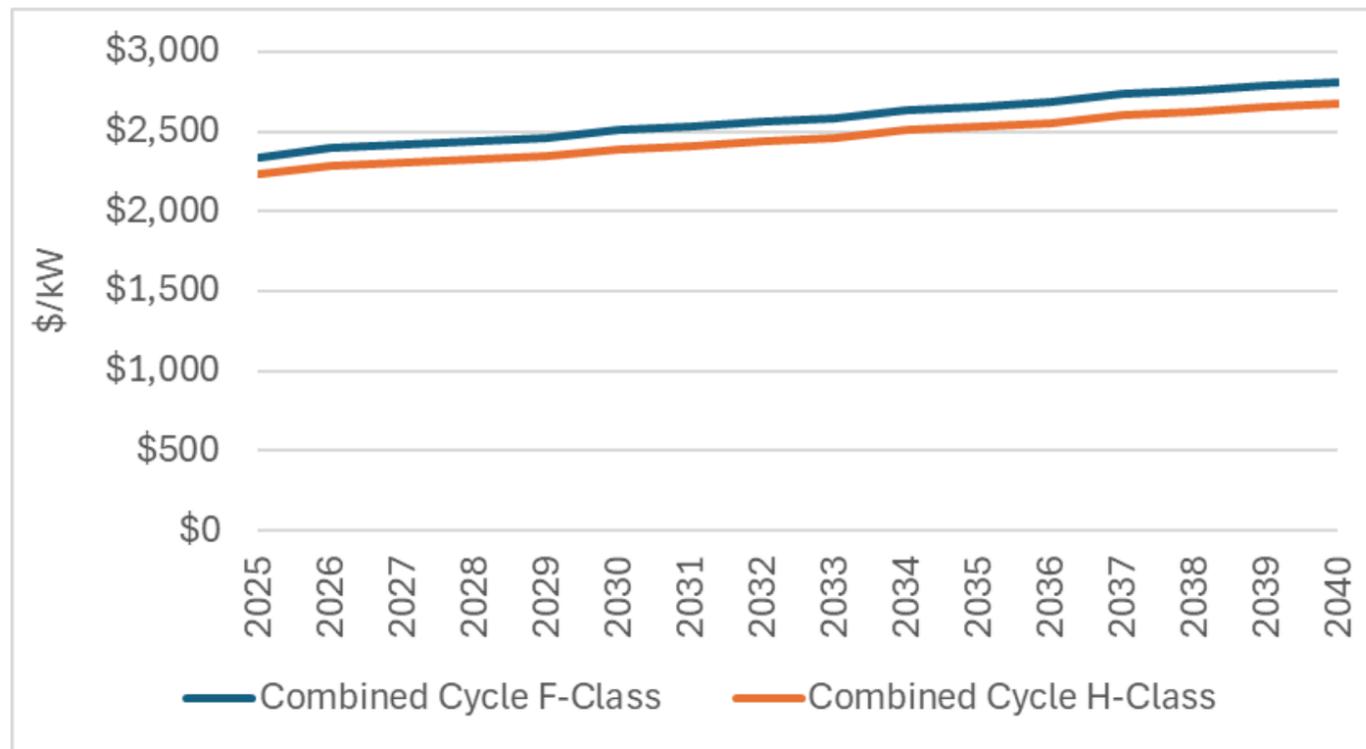
Technology	Fuel	Capacity MW	Overnight Cost \$2026/kW*	Variable O&M \$2026/MWh	Fixed O&M \$2026/kW- year	Heat Rate (Btu/kWh)
4 x 54 MW Aeroderivative	Natural gas	211	\$2,684	\$4.73	\$22.47	10,200
6 x 18 MW RICE	Natural gas	110	\$2,569	\$6.01	\$27.63	7,800
Frame CT, H-Class	Natural gas	430	\$1,613	\$1.58	\$10.21	8,900
Frame CT, F-Class	Natural gas	474	\$1,663	\$1.47	\$11.50	10,050
Combined Cycle F-Class	Natural gas	733	\$2,096	\$2.33	\$16.09	6,650
Combined Cycle H-Class	Natural gas	1,227	\$1,997	\$2.28	\$14.14	6,300
Combined Cycle H-Class w/Carbon Capture	Natural gas	1,077	\$3,904	\$4.56	\$23.85	7,250
Small Modular Reactor, Greenfield First of a Kind	Uranium	300	\$10,774	\$0.00	\$154.89	10,050
Small Modular Reactor, Greenfield nth of a Kind	Uranium	600	\$7,106	\$0.00	\$133.67	10,050
Small Modular Reactor, Gen IV, Greenfield nth of a Kind	Uranium	325	\$9,888	\$0.00	\$204.16	9,400
Solid Oxide Fuel Cell	N/A	10	\$5,711	\$0.00	\$242.24	6,250
Utility Scale Onshore Wind	N/A	199	\$2,797	\$0.00	\$33.42	N/A
Utility Scale Solar Photovoltaic	N/A	150	\$2,237	\$0.00	\$7.16	N/A
Utility Scale Solar Photovoltaic with Storage	N/A	150 PV / 50 BESS	\$2,813	\$0.00	\$12.65	N/A
4-hour Li-Ion Battery Energy Storage System	N/A	50	\$2,711	\$0.00	\$29.96	N/A
6-hour Li-Ion Battery Energy Storage System	N/A	50	\$3,607	\$0.00	\$42.46	N/A
8-hour Li-Ion Battery Energy Storage System	N/A	50	\$4,592	\$0.00	\$49.77	N/A
100-hour Iron-Air Battery Energy Storage System	N/A	20	\$7,394	\$0.00	\$29.46	N/A

**NOTE: All assumptions (including costs and availability of resources) are preliminary and may change before modeling is performed*

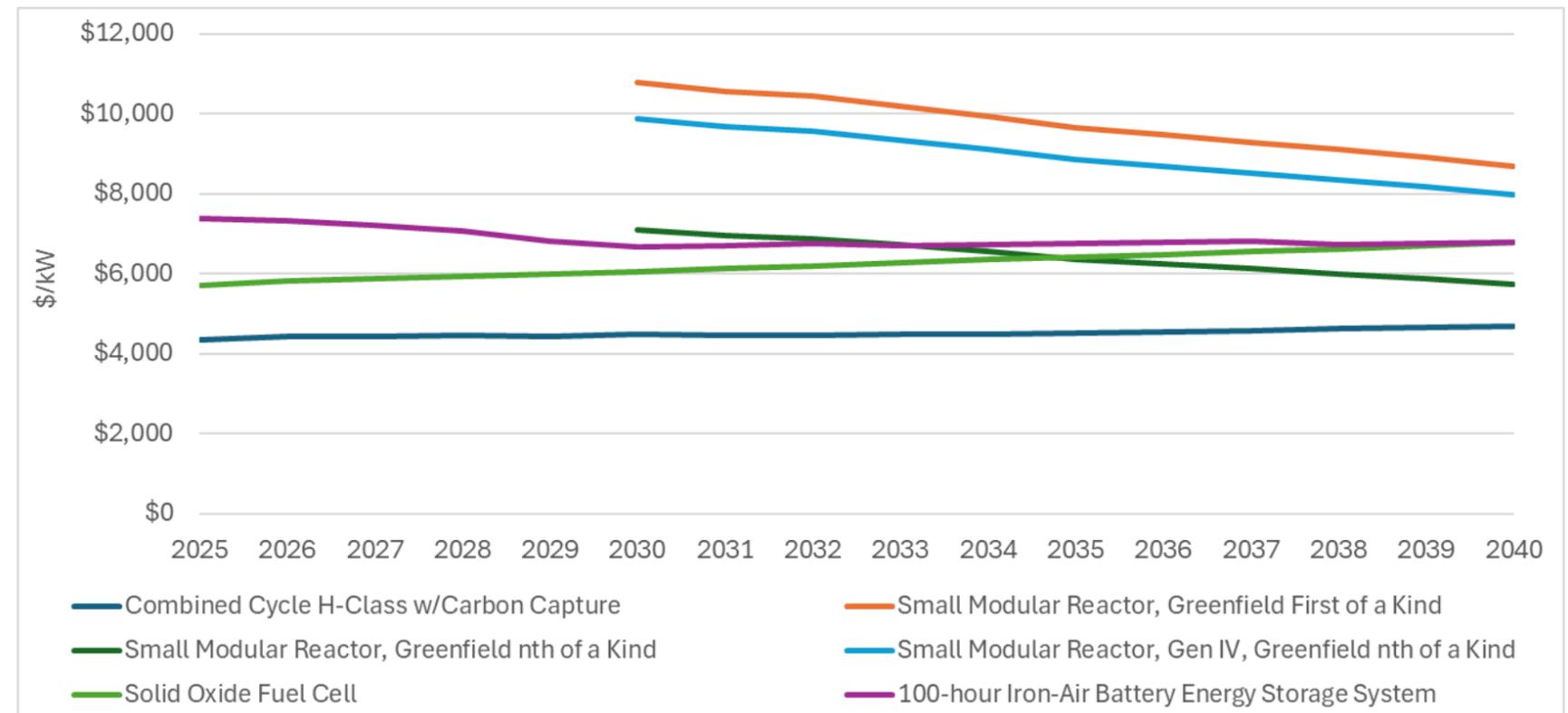
Cost Improvements

As a result of National Renewable Energy Laboratory (NREL) learning curves with inflation, overnight capital costs evolve over time for the supply side resources.

Base Options



Advanced Generation Options



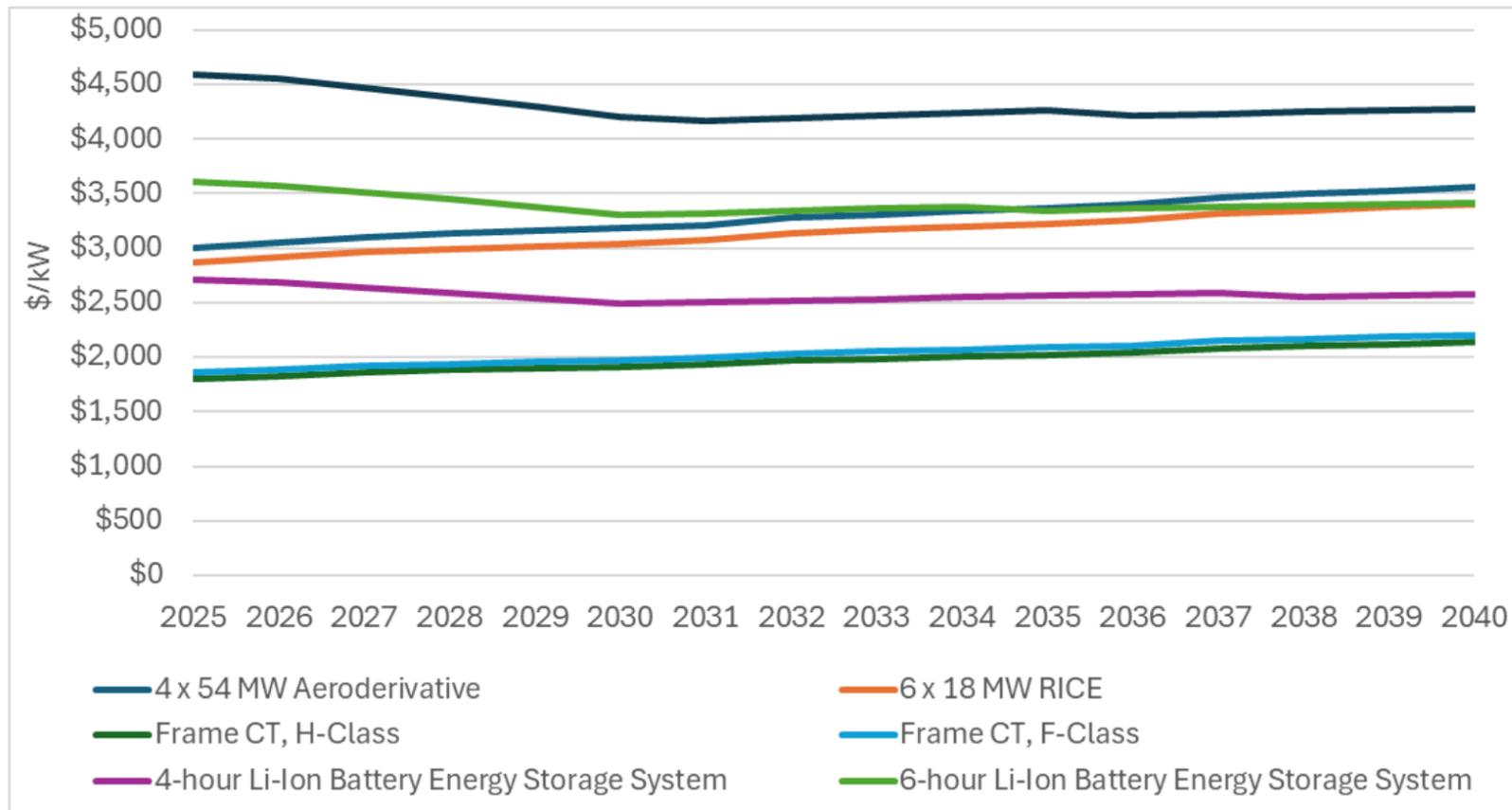
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Cost Improvements – Peaking & Renewable

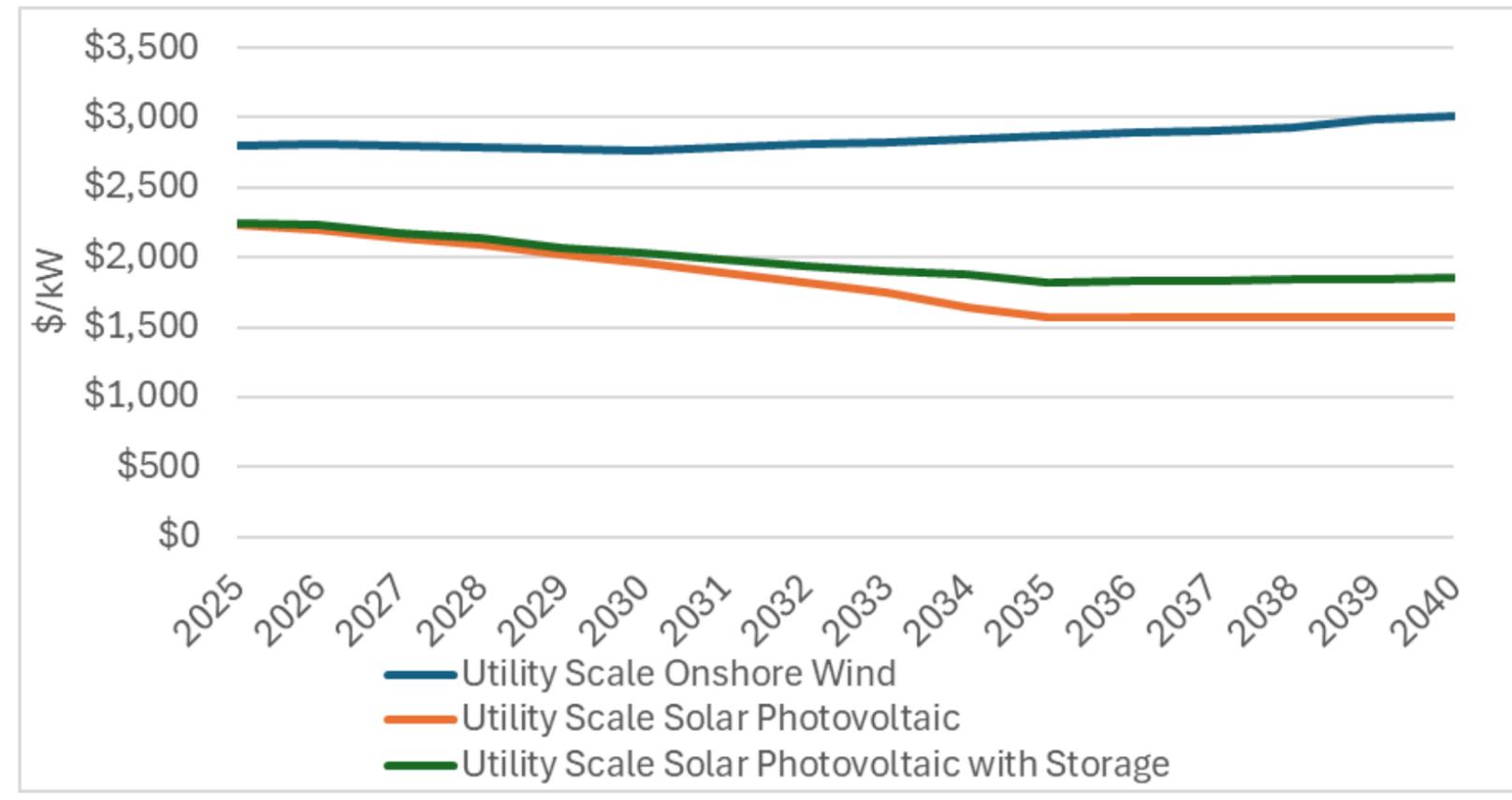


As a result of National Renewable Energy Laboratory (NREL) learning curves with inflation, overnight capital costs evolve over time for the supply side resources.

Intermediate & Peaking



Renewable



**NOTE: All assumptions (including costs and availability of resources) are preliminary and may change before modeling is performed*

Demand Side Resources – Energy Efficiency Bundles



Below are Energy Efficiency options selectable alongside and alternative to utility-scale generations resources

Residential

Bundle	Installed Cost (\$/kWh)	Yearly Potential Savings (MWh) 2030-2034	Yearly Potential Savings (MWh) 2035-2039	Yearly Potential Savings (MWh) 2040-2044	Yearly Potential Savings (MWh) 2045-2049	Bundle Life	Measures
Thermal Shell - AP	\$0.28	3,816	2,084	2,593	2,684	10	Energy Star - Windows, Duct, Insulation
Thermal Shell - HAP	\$0.41	11,779	1,060	727	0	10	
Heating/Cooling - AP	\$0.45	41,536	10,473	1,254	1,032	18	Reflective Roof, Efficiency Heat Pump
Heating/Cooling - HAP	\$0.70	5,811	0	0	0	18	
Water Heating - AP	\$0.52	11,930	5,102	6,080	3,650	14	Water Pipe Insulation, Low Flow Shower Heads
Water Heating - HAP	\$0.74	28,332	4,517	5,747	0	14	
Appliances - AP	\$0.26	15,747	870	686	543	13	Energy Star - Refrigeration, Television
Appliances - HAP	\$0.37	3,642	0	0	0	13	
Lighting - AP	\$0.16	1,830	0	0	0	30	Conversion CFL and LED
Lighting - HAP	\$0.24	1,210	0	0	0	30	
Behavioral Programs	\$0.06	13,094	0	0	0	2	Bill Presentation

Preliminary EE considerations include:

- New Incremental programs starting in 2030
- Based on internal SMEs and EPRI potential reports
- Programs to be evaluated for SWEPCO LA 2027 IRP

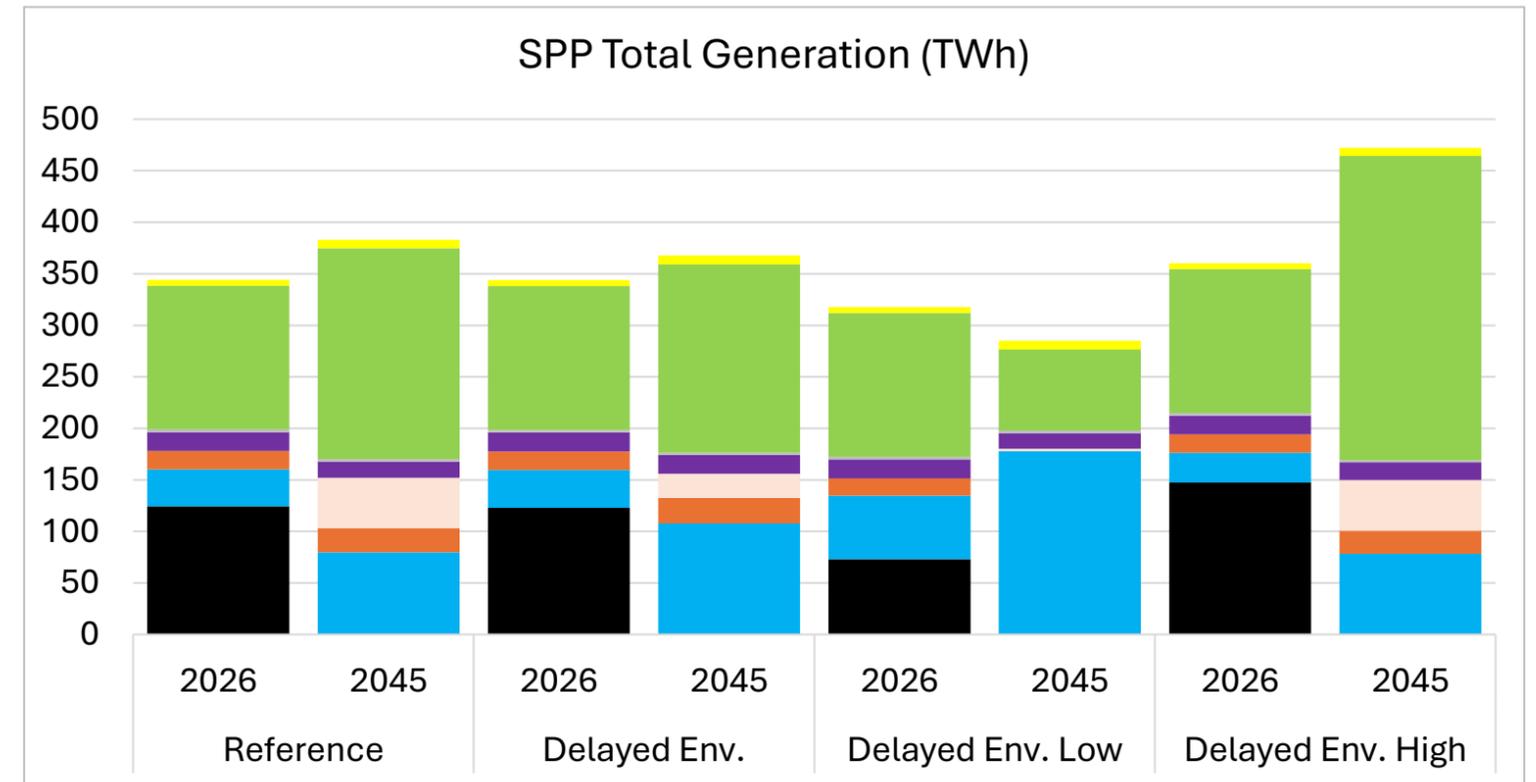
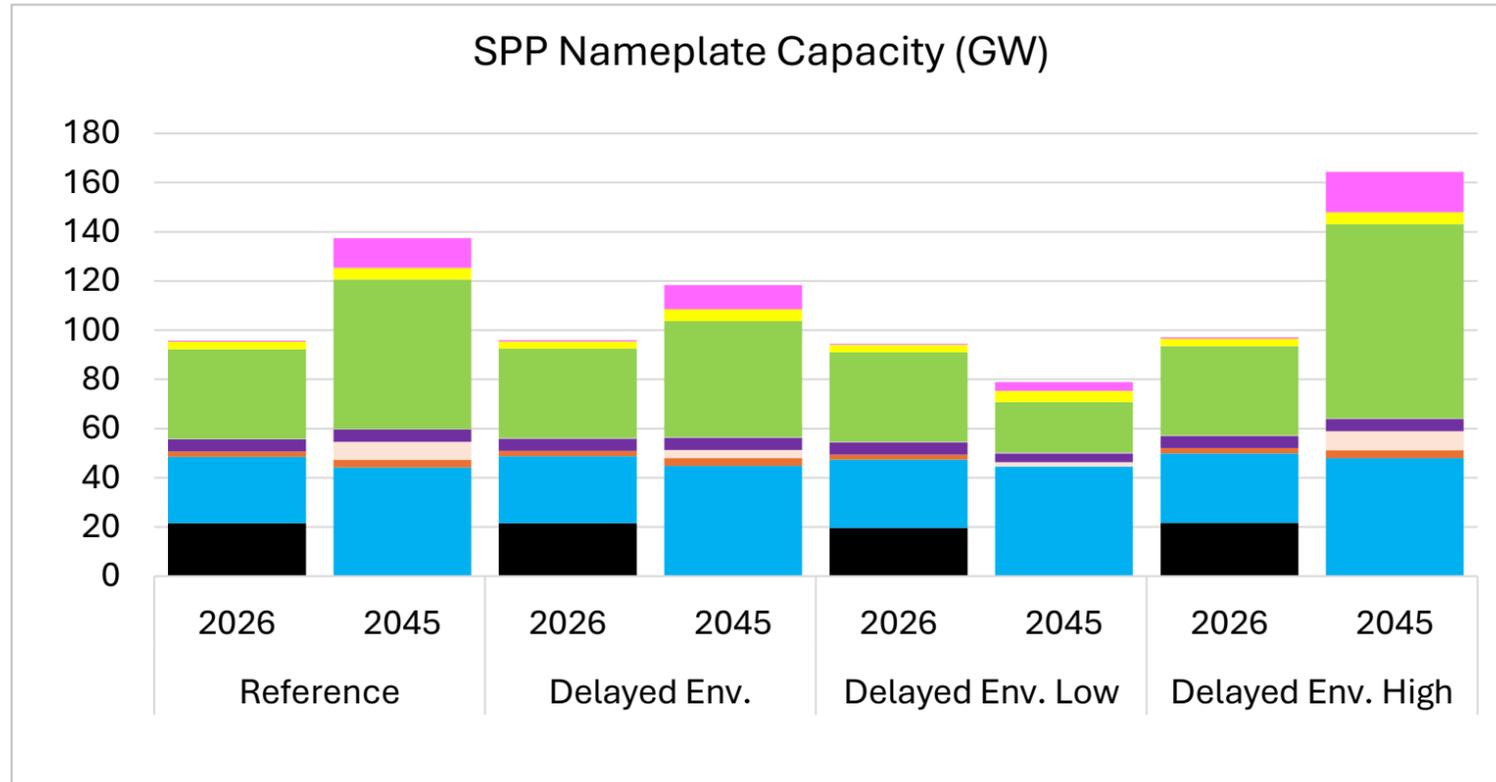
Commercial and Industrial

Bundle	Installed Cost (\$/kWh)	Yearly Potential Savings (MWh) 2030-2034	Yearly Potential Savings (MWh) 2035-2039	Yearly Potential Savings (MWh) 2040-2044	Yearly Potential Savings (MWh) 2045-2049	Bundle Life	Measures
Heat Pump - AP	\$9.75	44,614	6,536	7,125	6,932	19	Heat Pump COP=3.4
Heat Pump - HAP	\$14.84	24,881	0	0	0	19	
HVAC Equipment - AP	\$0.09	5,100	820	799	0	15	Energy Efficient Motors, Variable Speed Fans
HVAC Equipment - HAP	\$0.17	3,623	0	0	0	15	
Indoor Screw-In Lighting - AP	\$0.01	4,061	0	0	0	6	Screw-In Lighting to LED
Indoor Screw-In Lighting - HAP	\$0.02	1,724	0	0	0	6	
Indoor HID/Fluor. Lighting - AP	\$0.11	27,833	4,999	0	0	14	Indoor Lighting to LED
Indoor HID/Fluor. Lighting - HAP	\$0.17	3,093	0	0	0	14	
Outdoor Lighting - AP	\$0.15	5,758	1,143	0	0	15	LED Street Lighting
Outdoor Lighting - HAP	\$0.23	6,398	0	0	0	15	

**NOTE: All assumptions (including costs and availability of resources) are preliminary and may change before modeling is performed*

SPP Supply Mix Changes

Supply mix of SPP based on the Company's 2025 Fundamentals Forecast



Coal
 Oil
 Gas
 Nuclear
 SMR
 Hydro
 Other
 Onshore Wind
 Solar
 Storage

- Under all scenarios, coal is replaced primarily by natural gas.
- Wind represents nearly half of installed capacity in all cases.
- Storage and SMR see significant growth in the long term.
- Substantial capacity build out in the Reference and High scenarios.

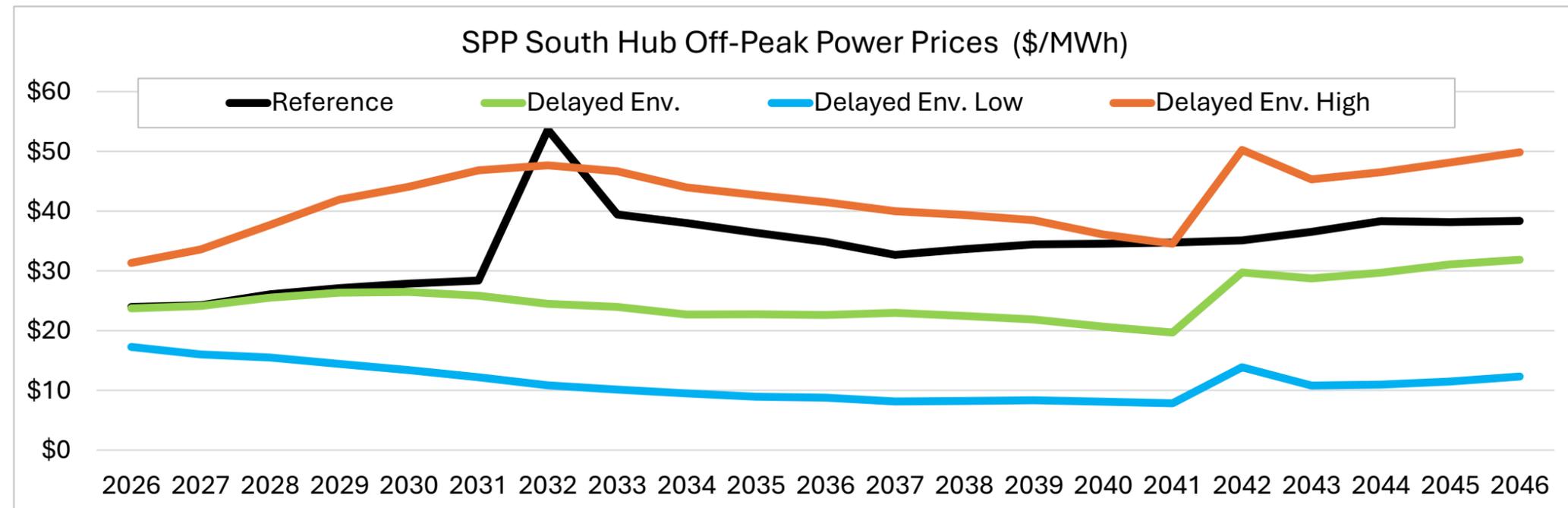
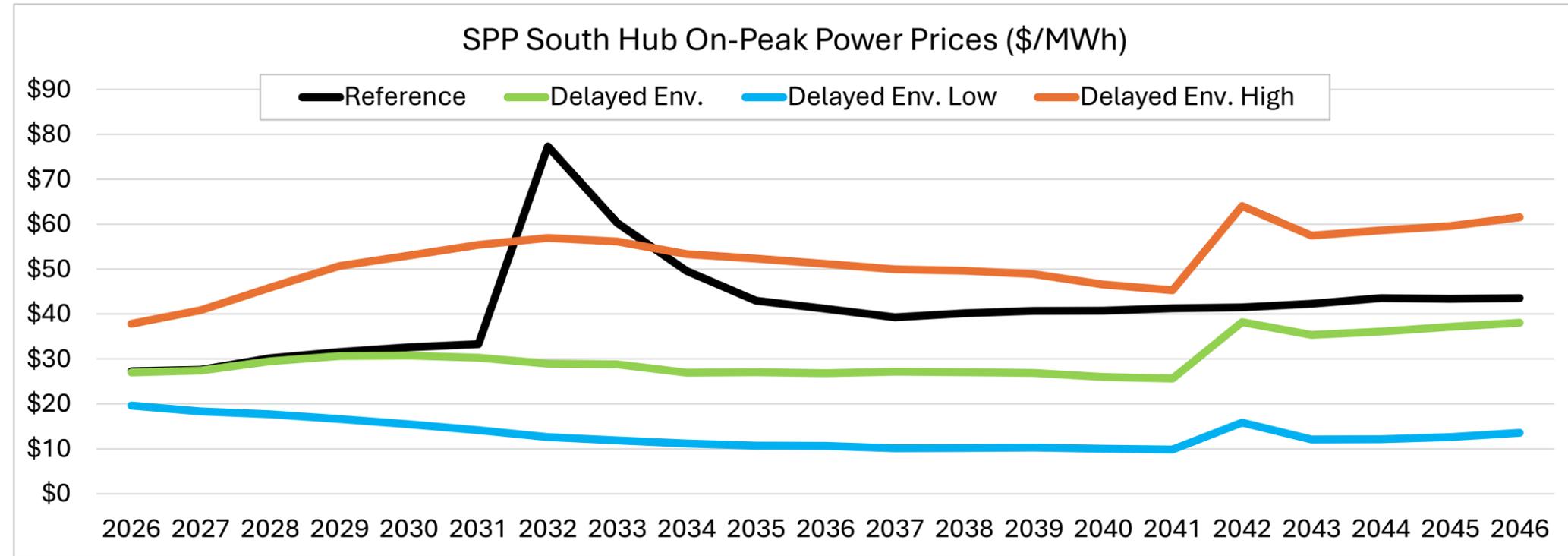
- Under all scenarios, wind is frequently dispatched in SPP.
- Natural Gas makes up the loss of coal dispatch.

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SPP Market Prices

Energy prices based on the Company's 2025 Fundamentals Forecast

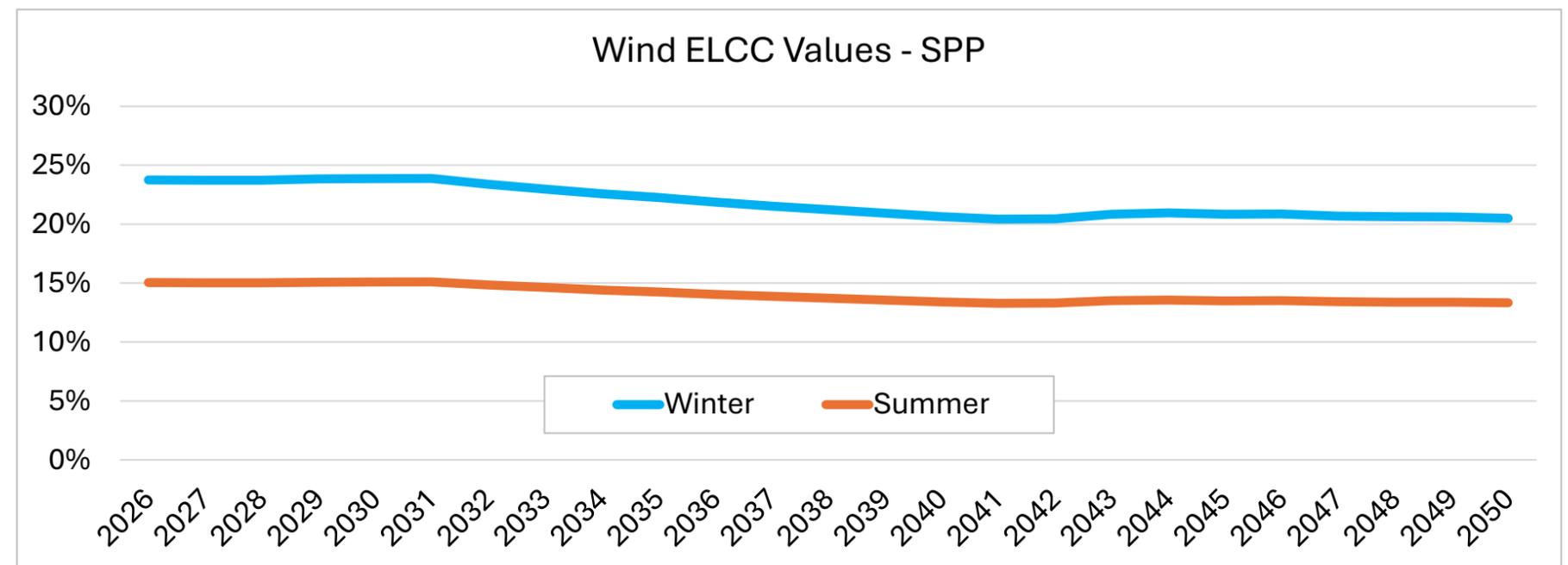
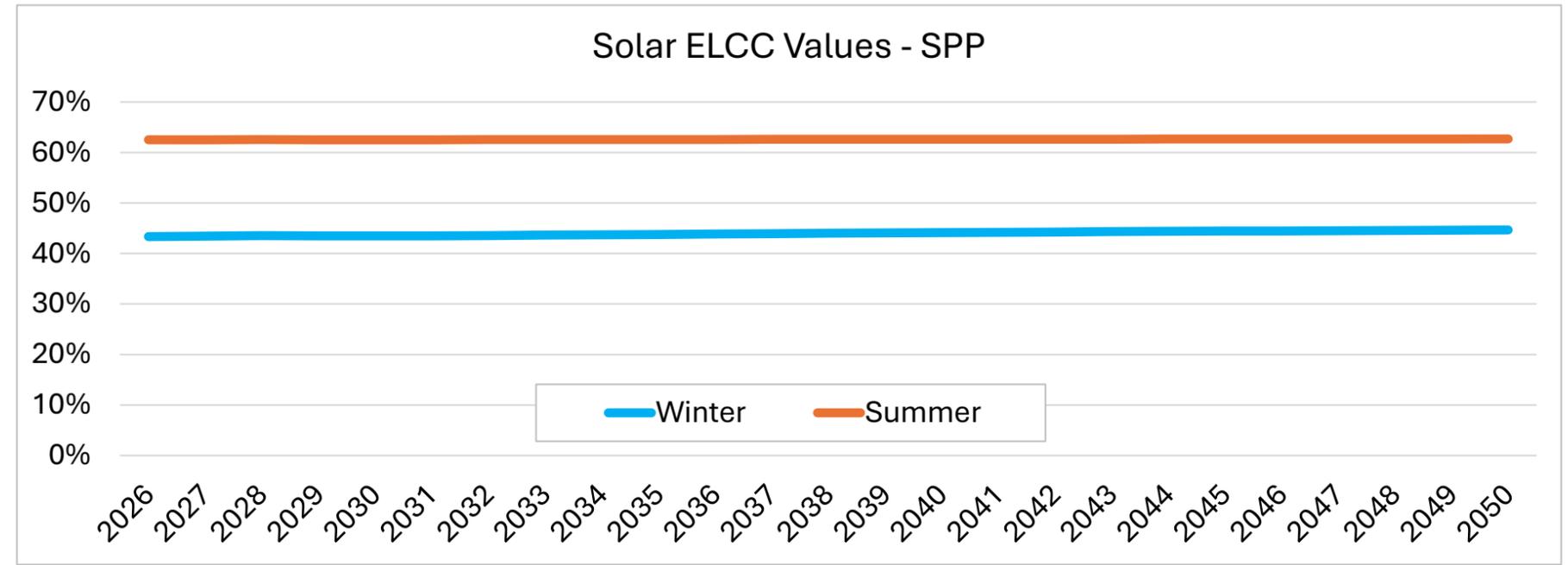
- Under all scenarios, energy prices are mainly influenced by natural gas prices.
- During periods of increased demand for energy, transmission congestion adders increase the overall energy prices.
- When coal retires, energy prices spike in all scenarios.



**NOTE: All assumptions (including costs and availability of resources) are preliminary and may change before modeling is performed*

Solar & Wind ELCC Accreditation Values

- Solar and Wind ELCC accreditation values are based on SPP’s “2024 ELCC Wind Solar and ESR Study Report” dated August 2024
- ELCC is calculated based on installed nameplate capacity divided by the peak demand for each year



**NOTE: All assumptions (including costs and availability of resources) are preliminary and may change before modeling is performed; additionally, numbers are approximate and will vary based on season and tier*

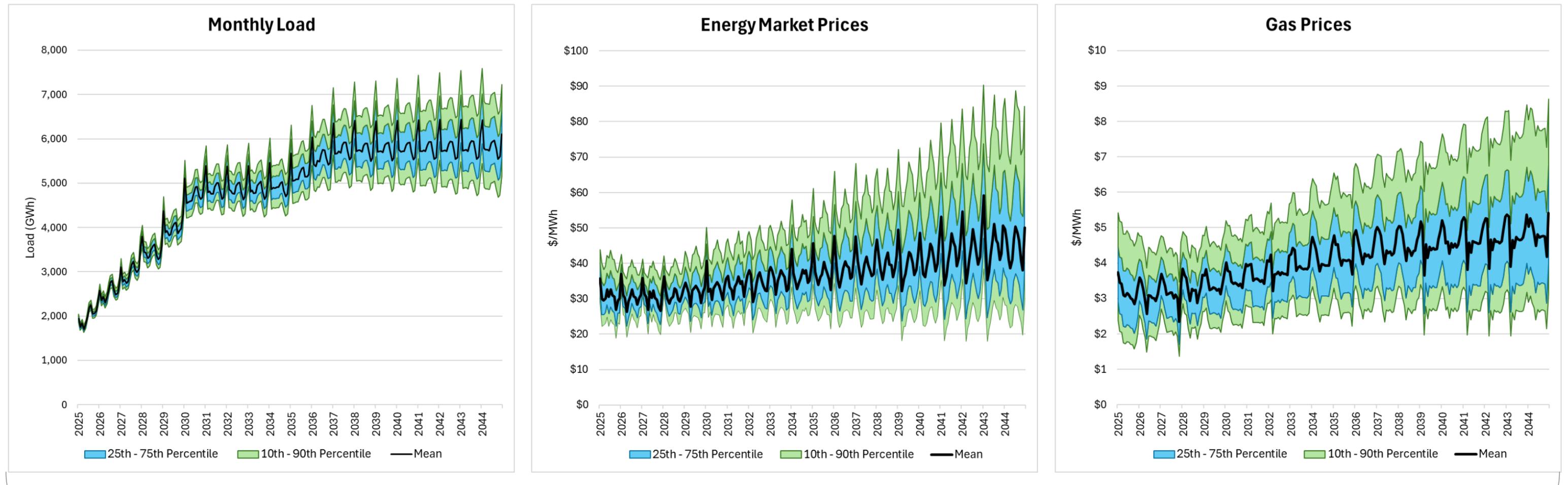
Risk Analysis Methodology

As part of this IRP, SWEPCO will conduct risk analysis to help reveal where uncertainty is most consequential among key inputs.

Methodology:

- Introduce uncertainty through Monte Carlo simulation with 100 correlated samples for load, market prices, and gas prices.
- Apply appropriate probability distributions and covariance structures to capture uncertainties and interdependencies among load, market prices, and gas prices.

See example results below...



Example Figures