



2026 Ten-Year Site Plans FRCC Overview Presentation

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October 2026

Agenda

2026 Ten-Year Site Plan Workshop

- FRCC Overview
- Executive Summary
- Integrated Resource Planning Process
- Load Forecast, Capacity Additions, Reserve Margins
- Generation Mix
- Natural Gas Infrastructure in Florida
- Transmission Adequacy / Reliability
- Loss of Load Probability (LOLP) Study
- Large Loads Update
- FRCC Generating Capacity Shortage Plan Modifications
 - FRCC Generating Capacity Advisory (Level 1 & 2)
 - NERC Energy Emergency Alerts (EEA-1, EEA-2, & EEA-3)

Florida Reliability Coordinating Council

Mission:

To coordinate a safe, reliable, and secure bulk power system in Florida

How We Achieve Our Mission

Regional
Planning
Authority



Reliability
Coordination



Reliability and
Compliance
Assurance

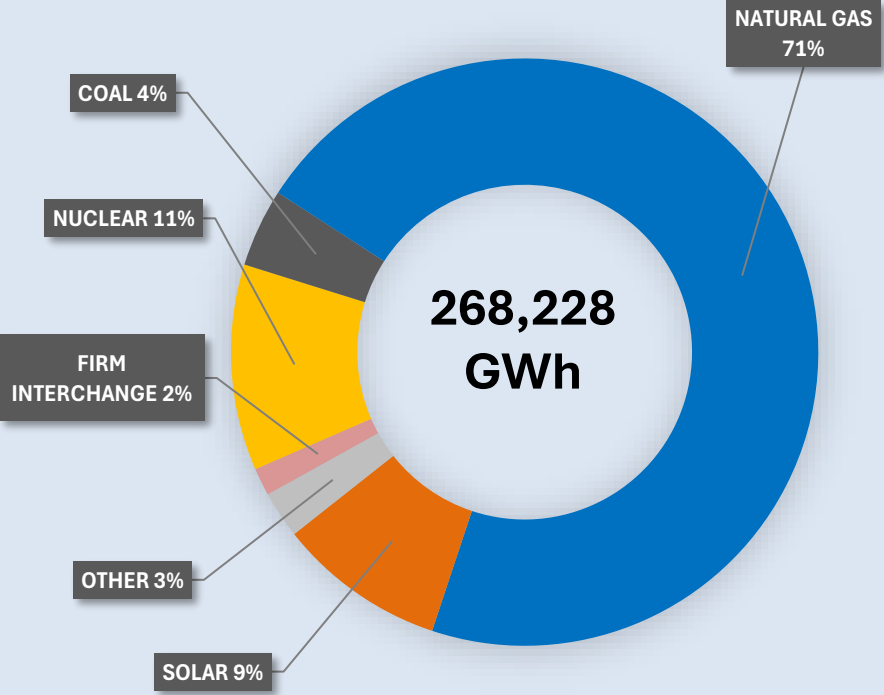


Member
Support,
Coordination,
and Training



2026 FRCC Overview

2025 Net Energy Production



19,655 miles of transmission lines that serve over 23 million Floridians



19 Members, 6 Sectors Available for Membership



Estimated 2026 Capacity Resources: 65.5 GW



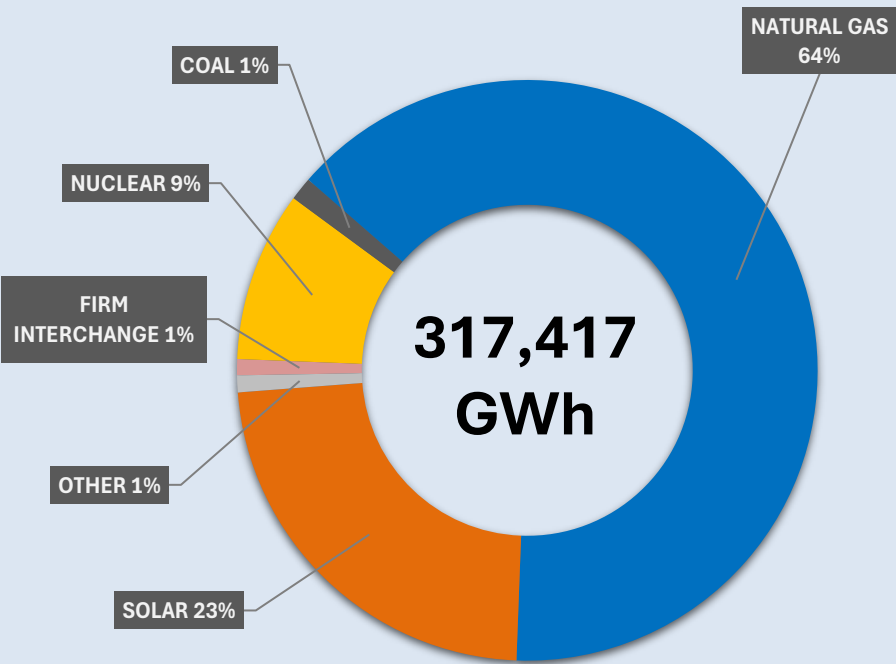
All-time Summer Peak: 54.2 GW (2023)



All-time Winter Peak: 52.4 GW (2010)

Future Grid Requires Coordinated Navigation to Ensure a Safe, Reliable, and Secure Bulk Power System in Florida

2035 Net Energy Production



~+18% expected load growth by 2035



+19.3 GW Solar nameplate capacity, ~23% of energy!



+9.1 GW Battery nameplate capacity



Projected Peak: from 54.7 GW (2026) to 64.1 GW



Capacity Resources: from 65.4 GW (2026) to 77.2 GW



3.2 GW of retirements by 2035

Executive Summary

Solar & Battery Expansion

Florida utilities continue increasing planned solar and battery installations, presenting several new reliability considerations.

Load Forecast Trends

Distributed solar and EV adoption continue to rise, though growth is slower than previously projected. Data center load emerging as long-term growth driver.

Strong Reserve Margins

Planned Reserve Margins remain healthy – consistently above 20%.

Reliable Operations

Statewide outage coordination supports short-term system reliability.

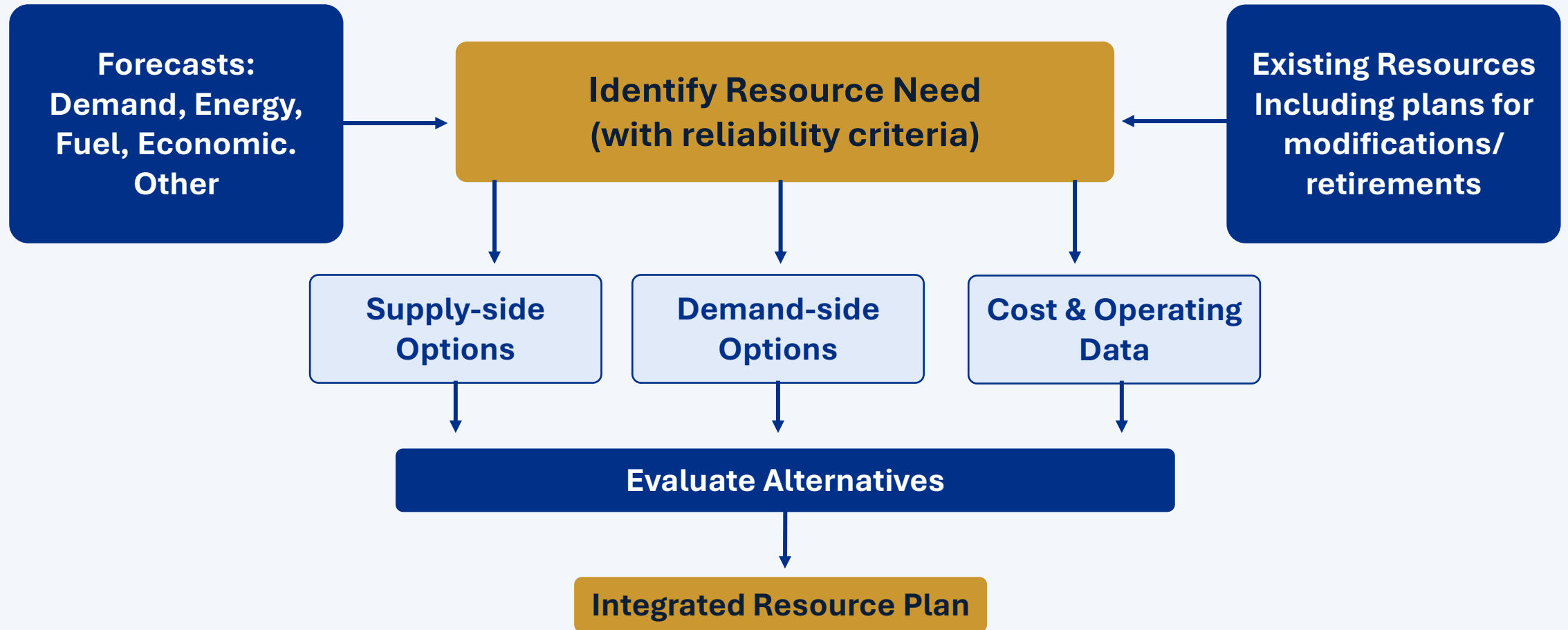
Natural Gas Coordination

Utilities continue joint planning efforts to ensure strong natural gas infrastructure.

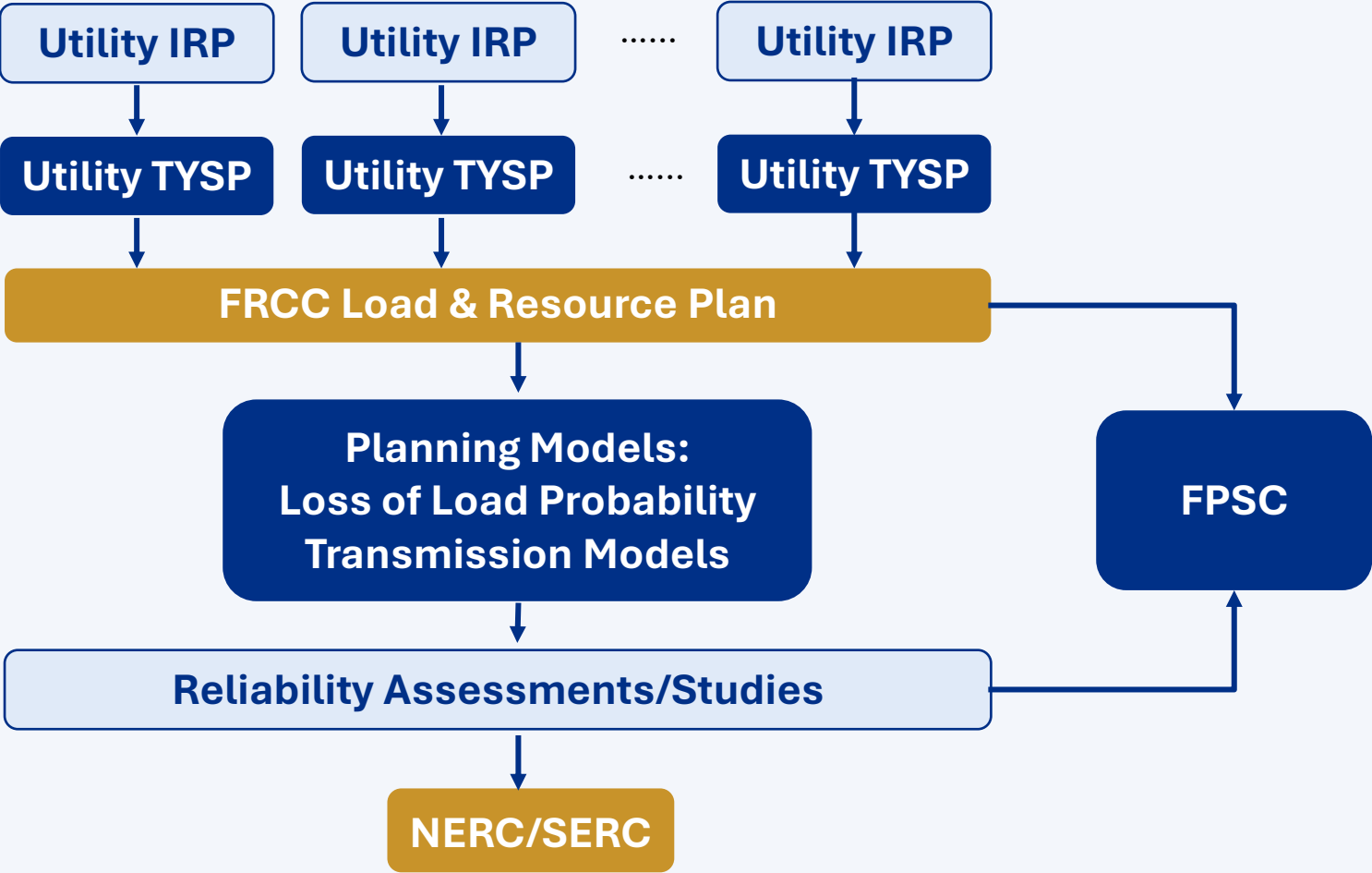
Transmission System Readiness

Existing and planned facilities meet performance adequacy criteria for expected future conditions within the FRCC Region.

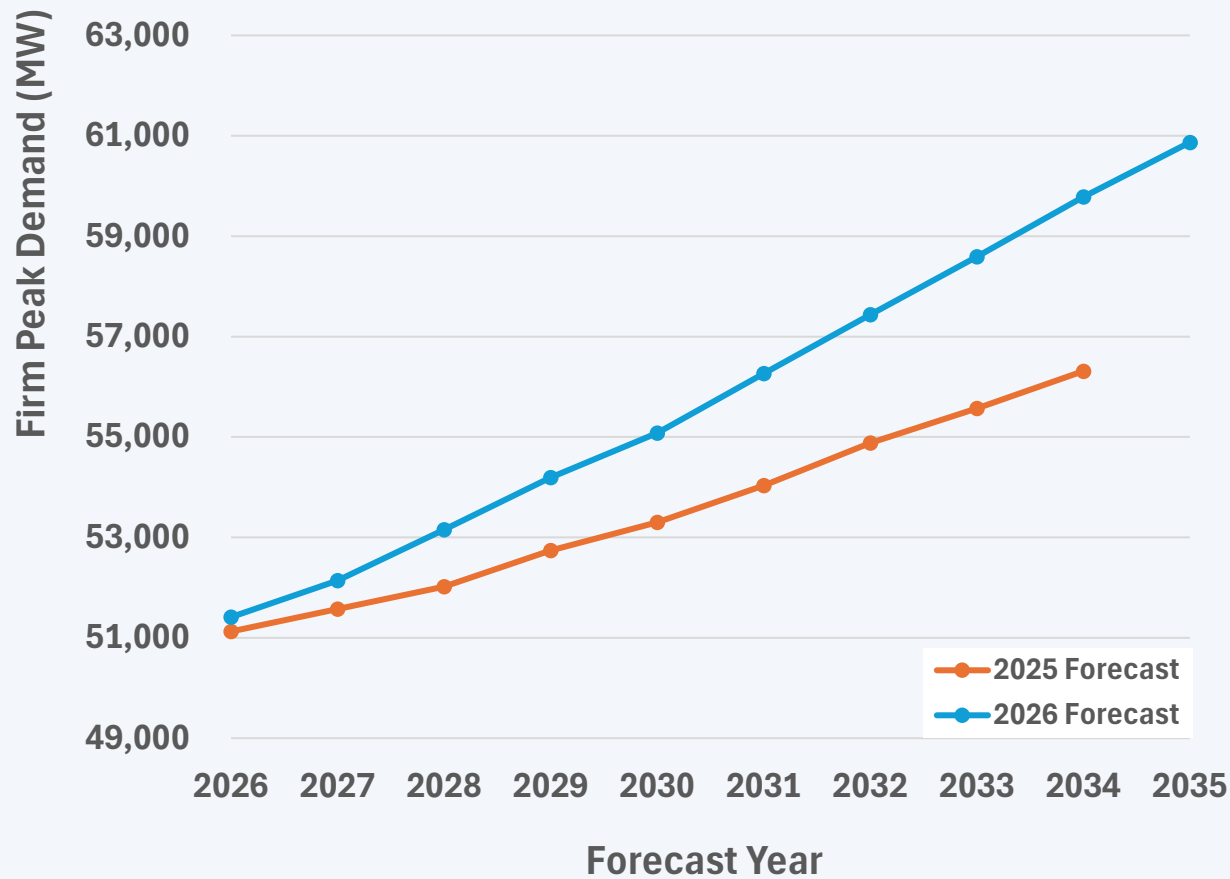
Utility Integrated Resource Planning (IRP) Process Overview



FRCC Planning Process Overview



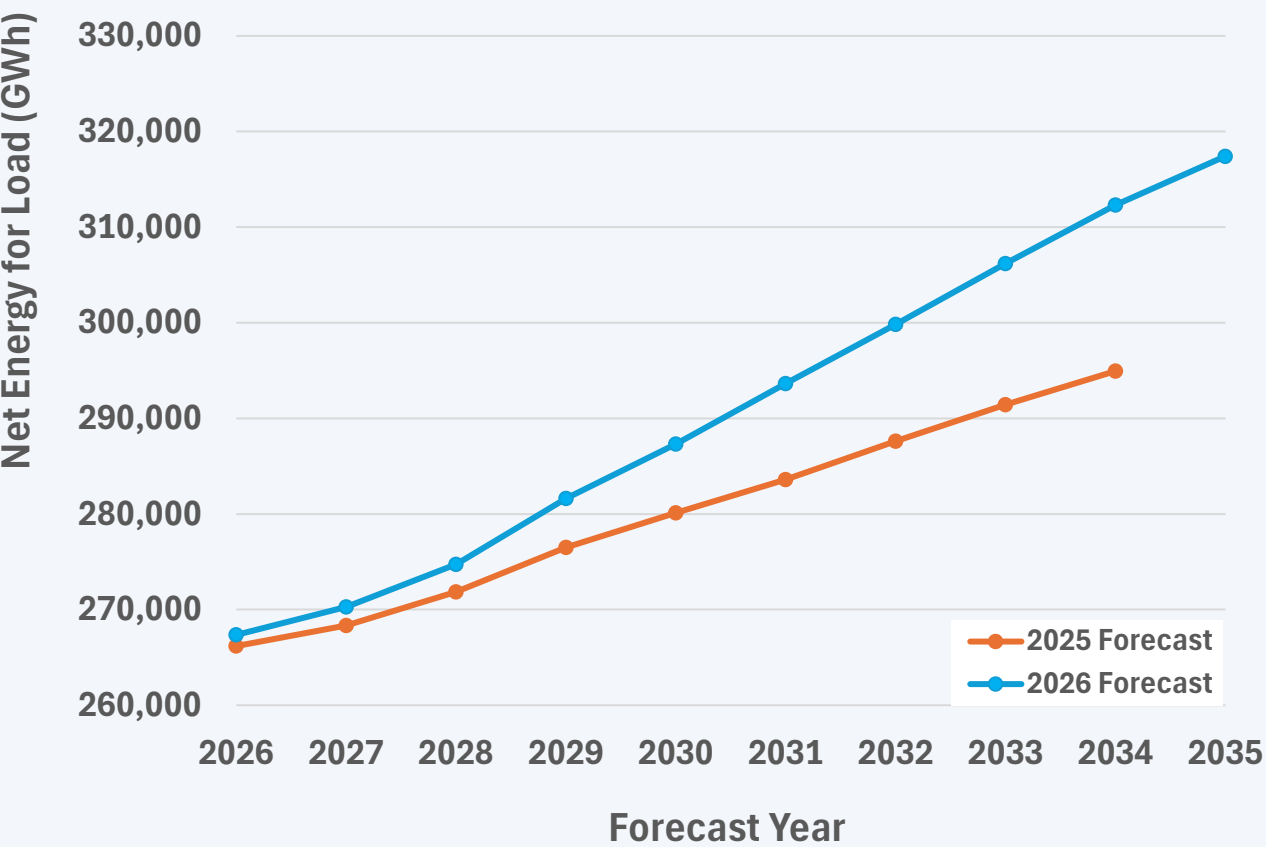
Firm Peak Summer Demand Forecast Higher¹



-  Projected growth of approximately 9,457 MW (2026-2035)
-  Average annual growth of Firm summer peak demand (MW) 1.89%
-  Customer-owned PV expected to reduce peak summer demand by nearly 2.6 GW in 2035
-  EV charging load growth is strong but moderating, growing to 10,350 GWh by 2035, 3.3% of energy
-  Data center load is ~3000 MW in current load forecast

¹ Demand-Side Management (DSM) is made up of Demand Response (DR) and Utility-sponsored Energy Efficiency/Energy Conservation (EE/EC).

Net Energy for Load (NEL) Forecast¹ Increasing



Forecasted energy sales (GWh) growing at 1.93%, higher than forecasted in 2025



Projected growth of approximately 50,060 GWh from 2026-2035



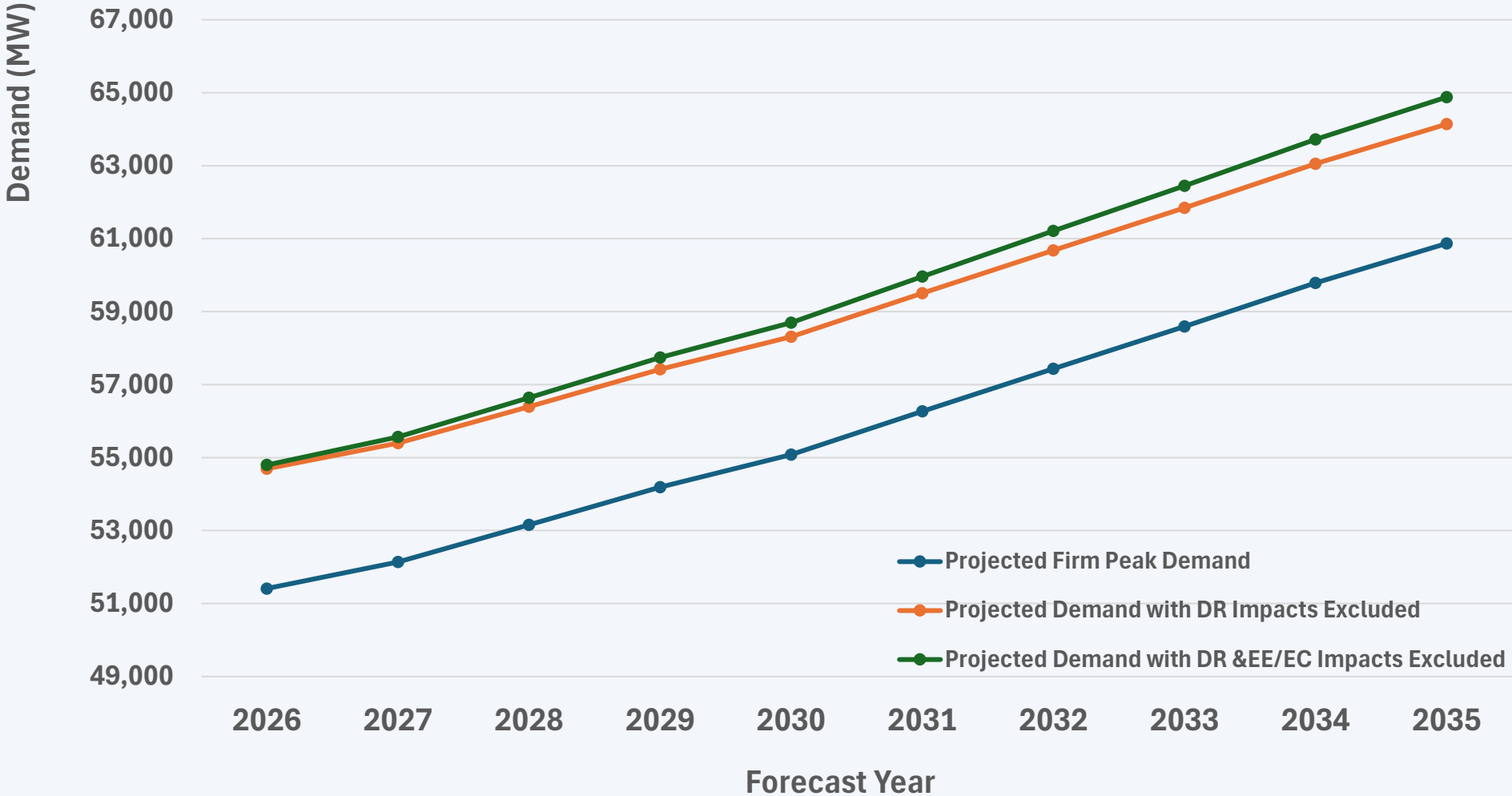
Population growth is projected to remain strong



EE codes and standards and distributed solar dampen energy use growth

¹ 1 Net Energy for Load (NEL) includes impacts of utility-sponsored Energy Efficiency/Energy Conservation, Energy Efficiency Codes and Standards, and the impact of customer-owned DER

Forecasted Summer Peak Demands ^{1,2} Lessened by Energy Efficiency and Demand Response Programs



Energy Efficiency reduces firm summer peak by 741 MW (1.4%) in 2035

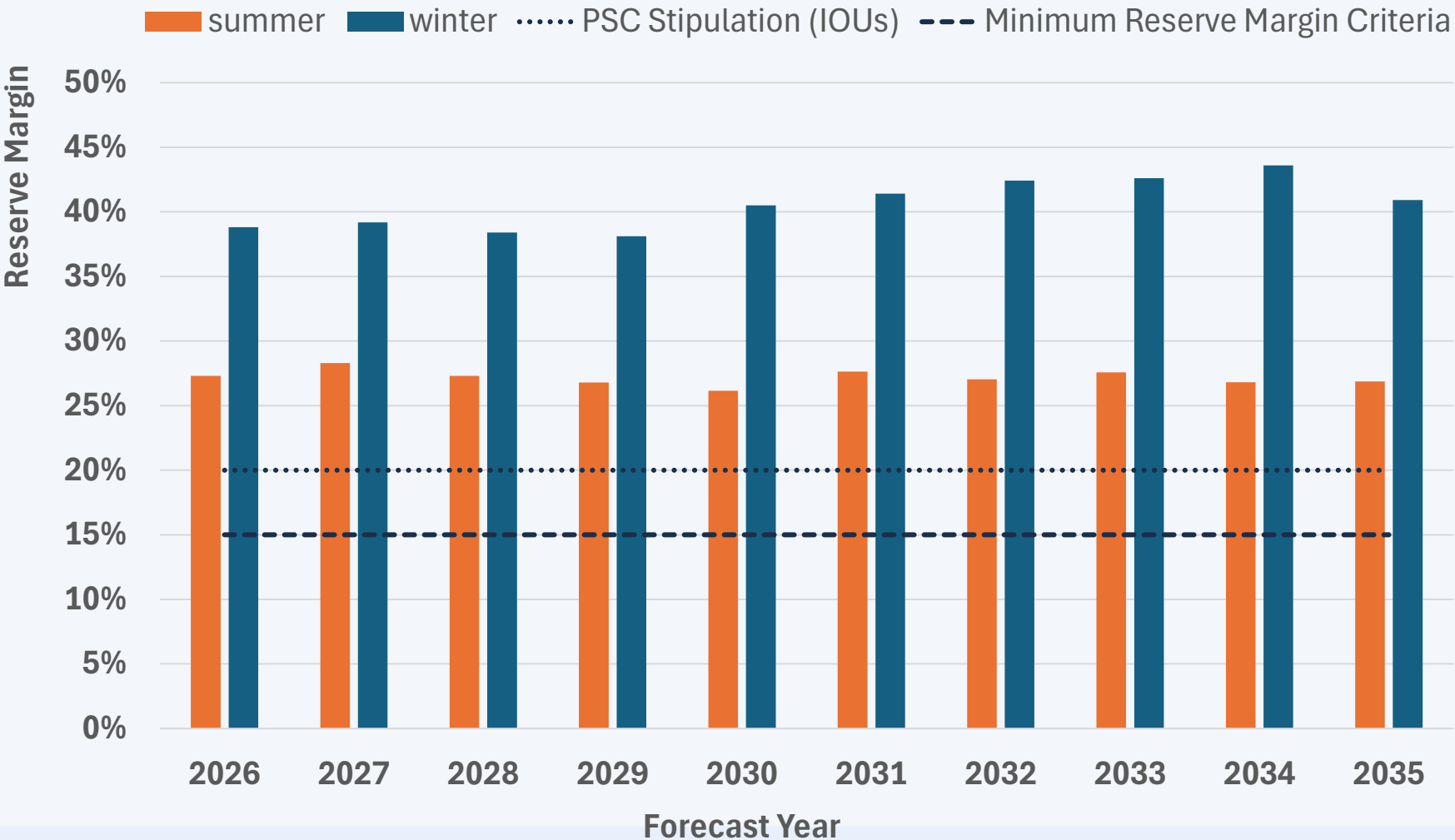
Demand Response reduces firm summer peak by 3,270 MW (5.1%) in 2035

¹ Demand-Side Management (DSM) is made up of Demand Response (DR) and Utility-sponsored Energy Efficiency/Energy Conservation (EE/EC).

² Projected impacts of Energy Efficiency codes and standards included in all utilities' forecasts.

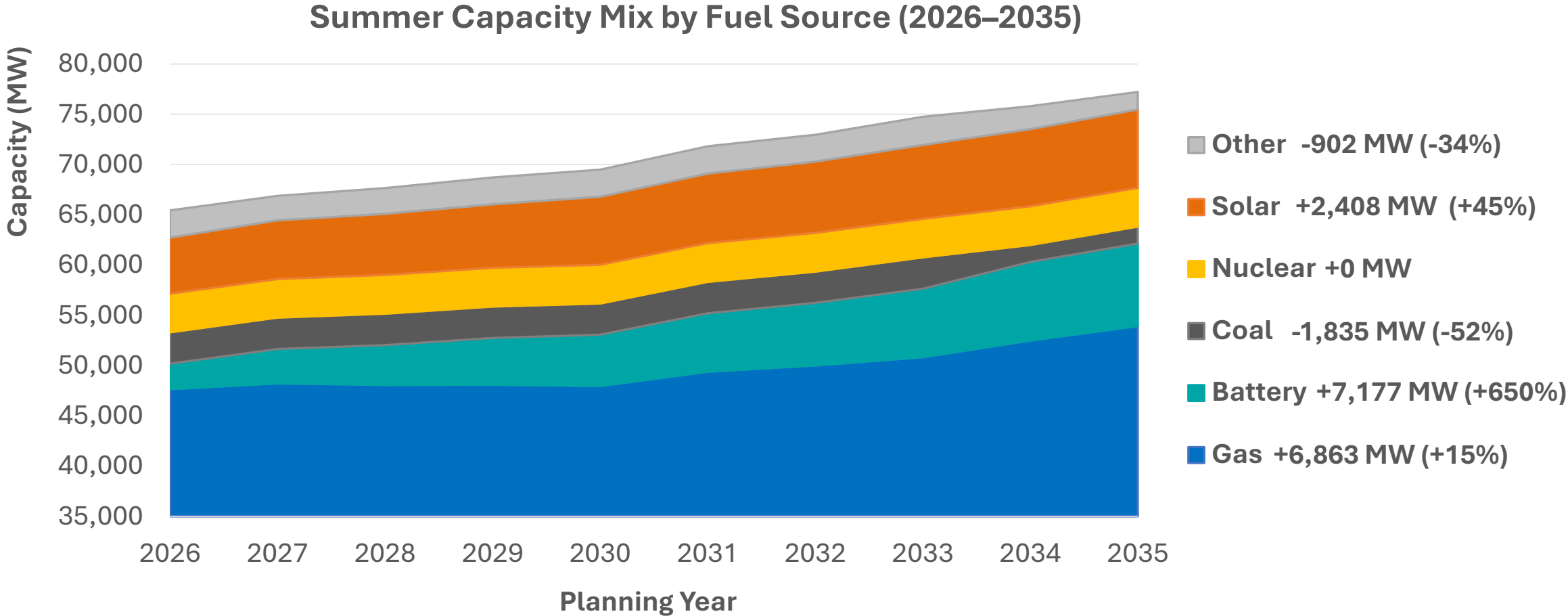
Planned Reserve Margins Remain Strong

Based on Firm Load.

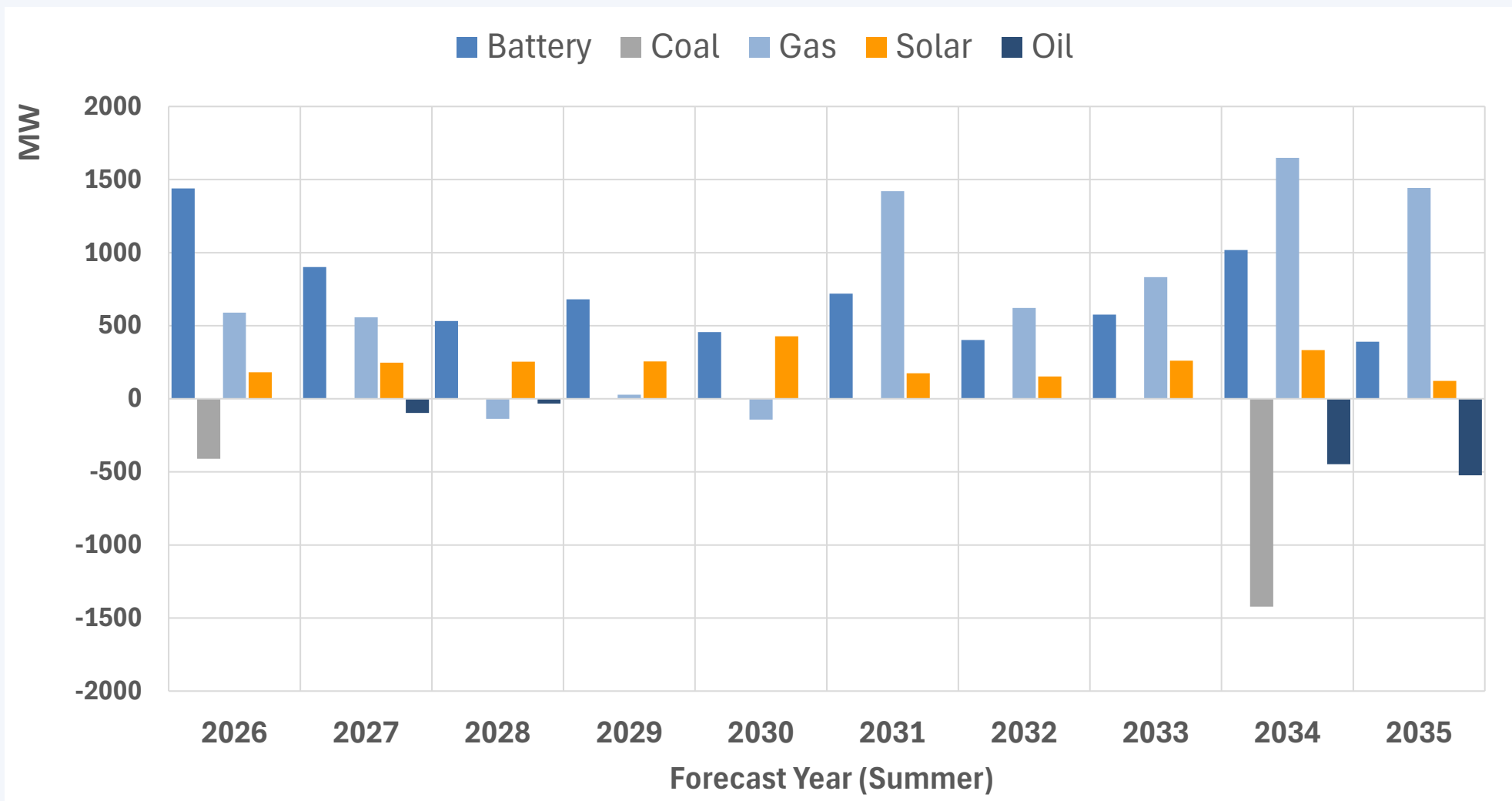


Includes impacts of DSM, utility-sponsored Energy Efficiency Codes and Standards, and customer-owned DER.

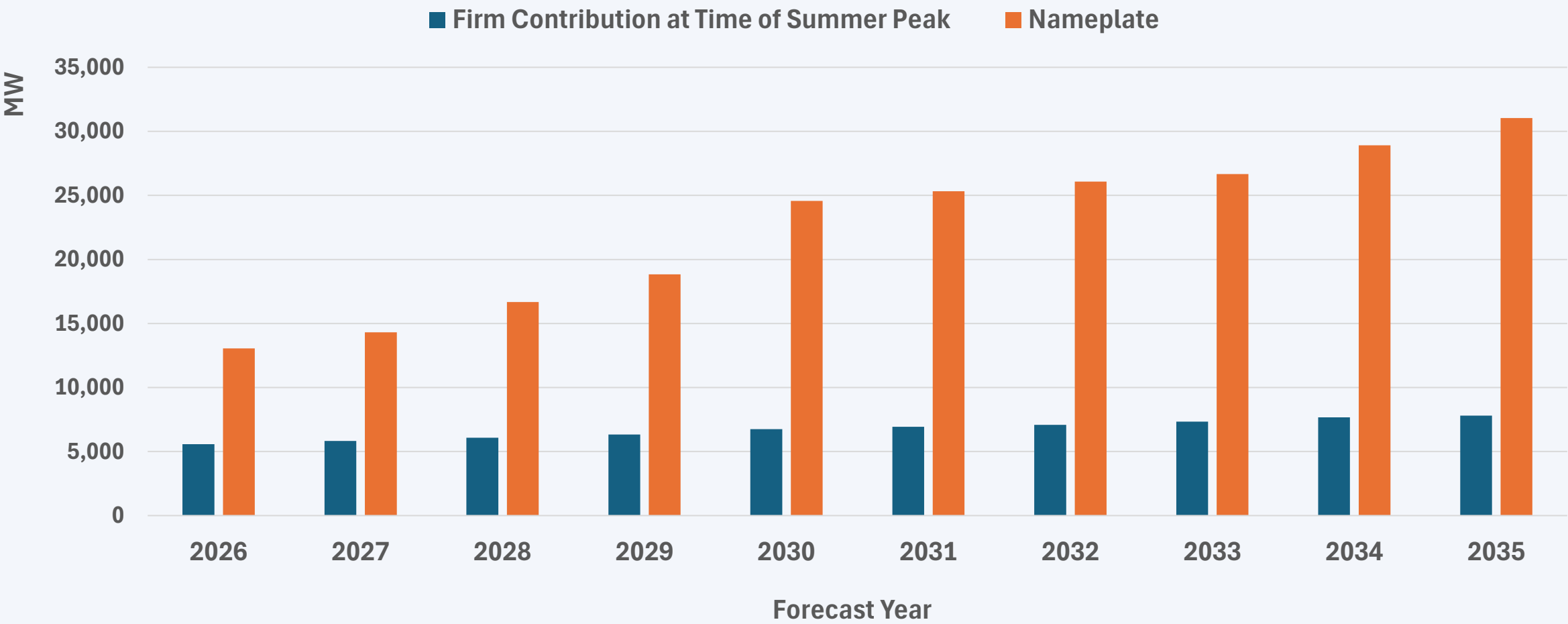
Batteries and Natural Gas Dominate Resource Addition



Incremental Summer Firm Capacity Changes Over 10-yr Planning Horizon by Fuel Type (MW)

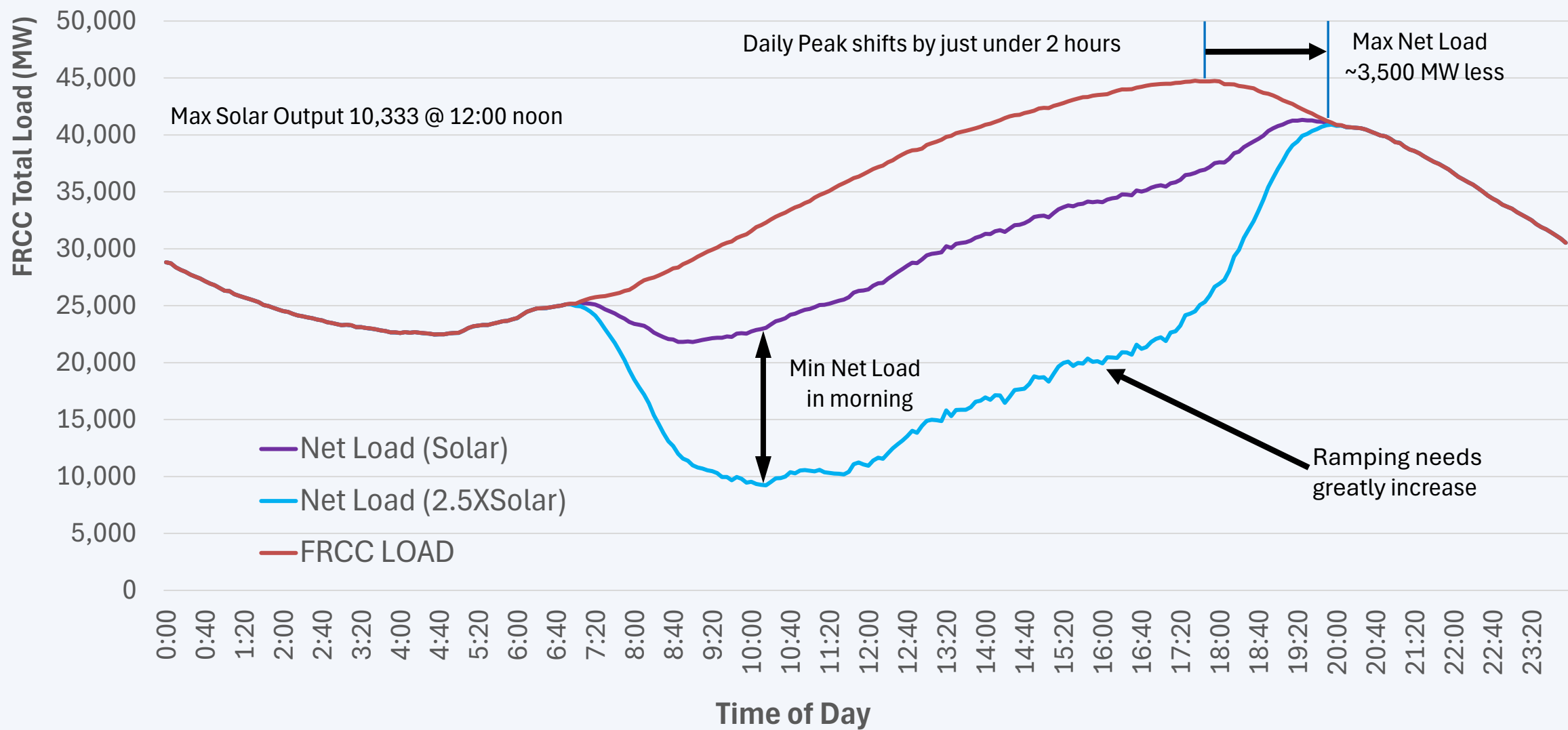


Lower Capacity Value Assigned To Solar As Penetration Increases

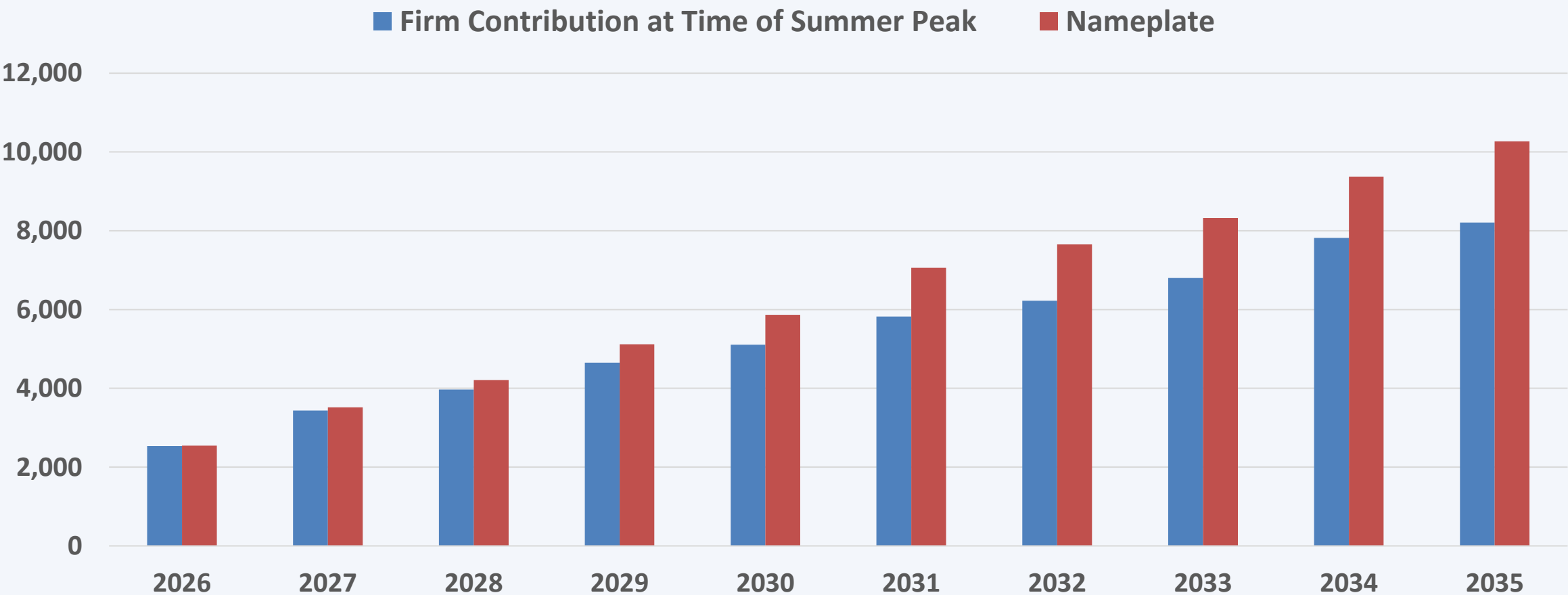


Planning & Managing the New Grid

FRCC Total Daily Load Curve - May 6, 2026

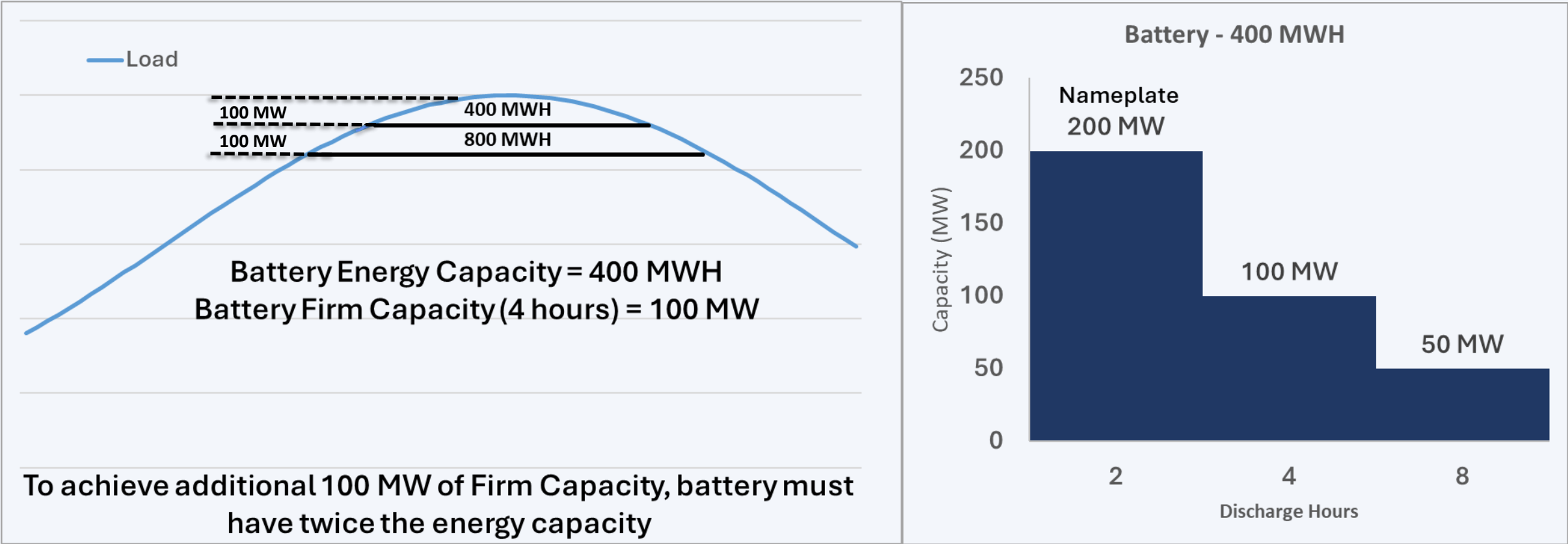


Firm Battery Capacity Values Lower As Penetration Increases



Battery Capacity (MW) Forecast

Energy Storage: Firm Capacity Value and Duration



FRCC Planned Outage Coordination

- Individual entities develop their planned generation and transmission outages
- Planned outages are entered into an FRCC application tool
- All FRCC studies incorporate planned outages and load forecasts
- Identified outage conflicts are coordinated and resolved by the entities



Strong Natural Gas Infrastructure and Dual Fuel Capabilities in Florida

- Gas infrastructure and associated gas capacity contracts remains on pace with generation needs
- Evaluation of gas infrastructure adequacy against TYSP forecasted demand under alternative dispatch assumptions
- Coordination of regional response to fuel emergencies with utilities and pipelines
- Florida's dual fuel capability for gas generation remains strong. Between 52%- 55% have fuel switching capabilities
- Natural gas capacity is almost entirely dedicated to the electric utility industry in Florida



Probabilistic Analysis Results Reaffirm Strong Reliability for FRCC members

- 2026 FRCC Model aligns with 2026 Member Ten-Year Site Plans
- Four hourly study scenarios were performed
 - Base Case
 - No Availability of Demand Response
 - No Import Capability
 - High Case
- Model Build Process
 - 5 Study Years (2026 – 2030)
 - 42 Weather Years per Study Year (1980 – 2022)
 - 5 Load Forecast Errors per Weather Year per Study Year ($\pm 4\%$, $\pm 2\%$, 0%)
 - 1,050 models per study
 - 25 Outage draws per case
- Results for all scenarios below industry target 0.1 LOLP

Year	Base Case	No Availability of Imports	No Availability of Demand Response	High Case
	LOLP (Days/Year)	LOLP (Days/Year)	LOLP (Days/Year)	LOLP (Days/Year)
2026	0.0000299	0.0000524	0.0002835	0.0001320
2027	0.0000030	0.0000308	0.0001758	0.0001458
2028	0.0000615	0.0002506	0.0005417	0.0006854
2029	0.0000713	0.0000717	0.0005374	0.0008749
2030	0.0000885	0.0004383	0.0006053	0.0015899

Series of Studies Validate Transmission Adequacy¹

Scenarios studied (Represent 2026 – 2035)

- Peak loads – Summer and Winter
- Off-peak load for Summer conditions

Sensitivity scenarios studied (Represent 2026 – 2031)

- Winter peak 20% higher loads than forecasted
- Summer peak 6% higher loads than forecasted
- Shoulder Month with Max Solar
- Winter Peak with Loss of Multiple Large Units
- Summer Peak with Outage of Two Large Units and Max Solar

¹ NERC Reliability Standards - TPL-001-5

Potential Impact of Large Loads

- Data center load (~3,000 MW) included in 2026 TYSP/LRP forecast*
- Changing resource mix and large loads drive need for detailed energy assessments
- Supply chain and permitting delays may impact generation and transmission construction timelines
- NERC's Large Loads Task Force collaborating to identify risks and mitigation strategies – Three new Reliability Standards being proposed
- Mitigations include backup generation, demand response, long-duration storage, and emerging tech (e.g., small modular reactors)
- Reliable interconnection requires incorporating large load equipment characteristics into planning and operations
- Florida Senate Bill 484 – Regulates large-scale and hyperscale data centers

***Per forecast provided in utility Ten-year Site Plans, filed on or before April 1, 2026**

Conclusion

Florida's Grid Reliability & Future Readiness Requires Vigilance

- Florida remains well-positioned to support grid evolution through strong coordination, joint assessments, and FRCC members' ongoing commitment to reliability
- Natural gas infrastructure expected to keep pace with forecasted growth.
- Growth in solar, batteries, and large loads (e.g., AI/Data Centers) is shifting the resource mix and introducing new reliability considerations.
- FRCC and its members remain vigilant as future grid demands challenge traditional reliability frameworks, requiring adaptive planning and operational strategies.
- Reserve margins remain strong, consistently **exceeding 20%**.

Questions?



FRCC Generating Capacity Shortage Plan & NERC Energy Emergency Alerts

Chris LaRussa
October 2026

FRCC Document Classification: Public

Generating Capacity Shortage Plan



FRCC Document Classification: Public – This document may be shared freely with no access or use restrictions.

FRCC Generating Capacity Shortage Plan

FRCC-MS-OPRC-015

Effective Date: October 1, 2026

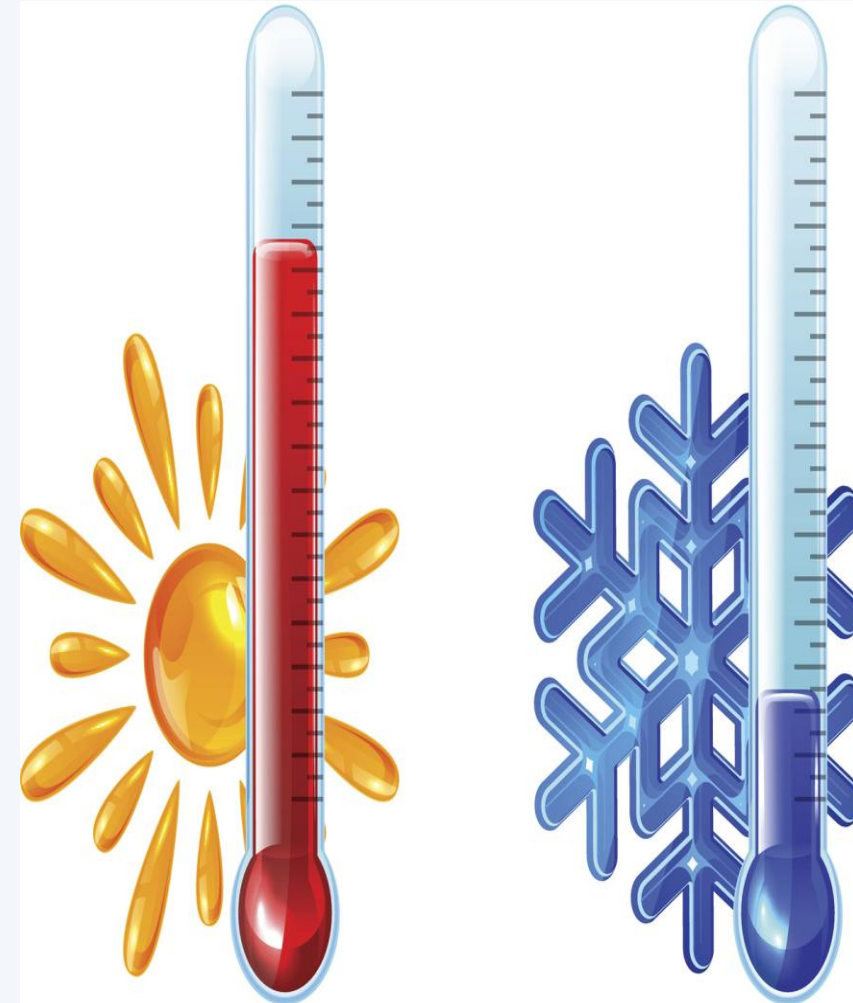
Version: 22

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- Generating Capacity Shortage Plan is a public document filed with the Public Service Commission
- Previous plan included statewide Energy Emergency Alert (EEA) triggers along with the NERC defined individual BA triggers
- Revised plan only focuses on the statewide Generating Capacity Advisories (GCA) – two GCA levels now
- Added references to Florida Administrative Codes for BAs and FRCC
- Updated RC and SCEC communication templates

Generating Capacity Advisory (GCA) Level 1

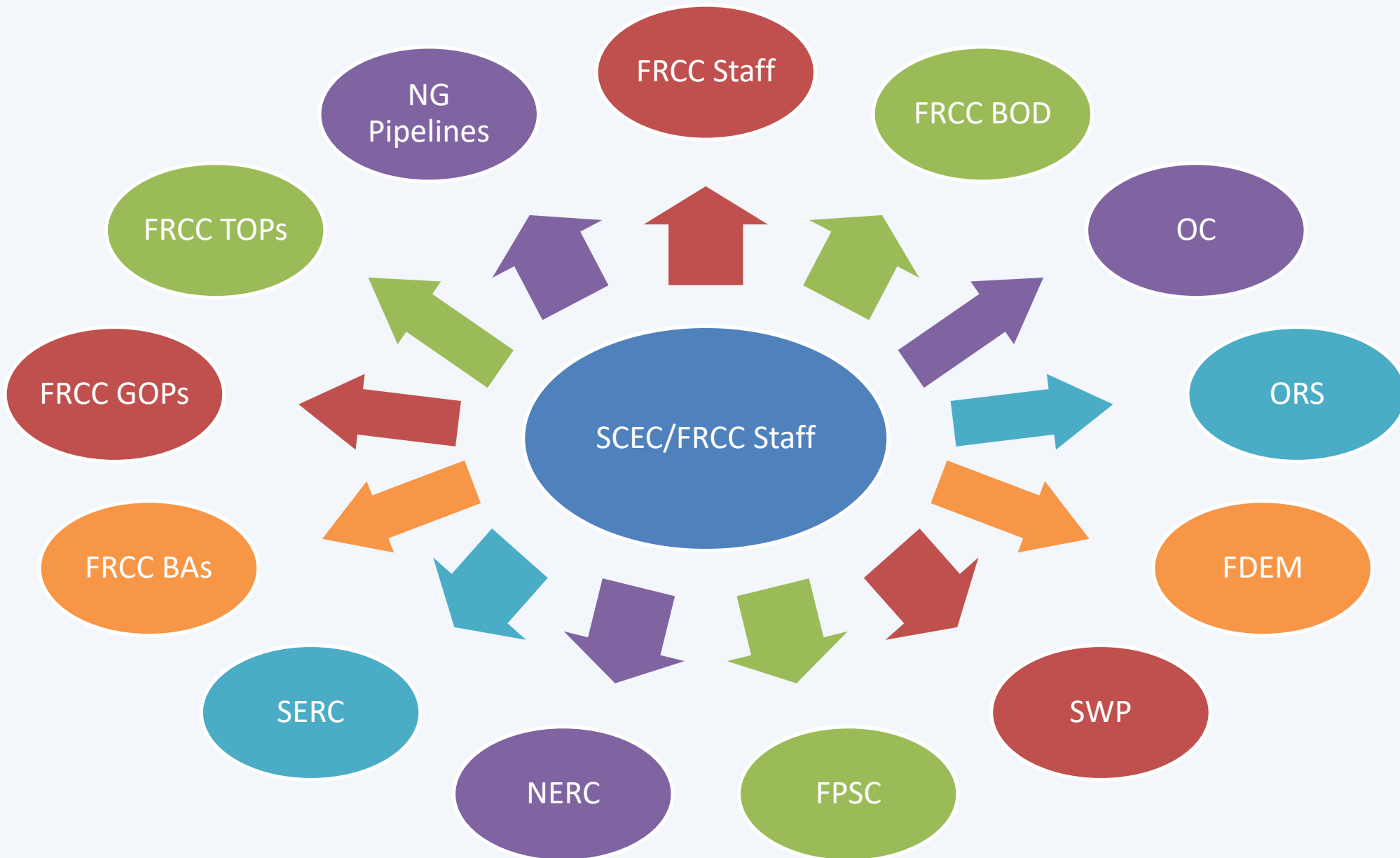
- The Operating Margin (without Demand Side Management) is forecasted to be less than **6,000** MW.
- Three or more individual BAs are in or forecast to be in an EEA-1 (or higher) within the next 48 hours. If the BAs' combined loads are more than 20% of the FRCC load, a GCA Level 2 should be declared.
- Other generation-related operating conditions identified as a state-wide risk by the OC.



GCA Level 2

- The Operating Margin (without Demand Side Management) is forecasted to be less than 4,000 MW.
- Three or more individual BAs are in an EEA-1 (or higher) with a combined load of more than 20% of the overall FRCC load.
- The fuel supplies and deliveries, on a state-wide basis **may** be impacted by weather, natural gas production disruptions, natural gas pipeline delivery disruptions, or any other fuel infrastructure impacts within the FRCC RC Area resulting in condition above. An *Advisory* for this condition will be issued as: ***FRCC GCA Level 2/ Short-Term Generation Fuel Availability Concern.***
- Other generation-related operating conditions identified as a state-wide risk by the OC

Required Notifications for GCAs and EEAs



NERC Defined Energy Emergency Alerts (EEA)

EOP-011-4 – Emergency Operations

A. Introduction

1. Title: Emergency Operations

2. Number: EOP-011-4

3. Purpose: To address the effects of operating Emergencies by ensuring each Transmission Operator and Balancing Authority has developed plan(s) to mitigate operating Emergencies and that those plans are implemented and coordinated within the Reliability Coordinator Area as specified within the requirements.

4. Applicability:

4.1. Functional Entities:

4.1.1 Balancing Authority

4.1.2 Reliability Coordinator

4.1.3 Transmission Operator

4.1.4 Distribution Provider identified in the Transmission Operator’s Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area

4.1.5 UFLS-Only Distribution Provider identified in the Transmission Operator’s Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area

4.1.6 Transmission Owner identified in the Transmission Operator’s Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area

5. Effective Date: See Implementation Plan for Project 2021-07. As provided therein, each Distribution Provider, UFLS-Only Distribution Provider, and Transmission Owner that receives notification from the Transmission Operator that it is required to assist in the mitigation of operating Emergencies in the Transmission Operator Area under Requirement R7 shall become compliant with Requirement R8 within 30 calendar months of the notification.

[Link to NERC Reliability Standard EOP-011-4](#)

Purpose of EEAs

EEAs improve situational awareness and encourage timely corrective actions to prevent severe reliability events.

EEA Levels and Severity

EEA levels range from 1 to 3, indicating increasing risk and corresponding operational responses based on current grid conditions. Emergency alert levels can be declared based on actual system conditions without following a fixed sequence.

Operator Actions

Grid operators coordinate energy procurement, deploy reserves, and activate emergency procedures to maintain reliability.

Communication and Coordination

EEAs support communication among utilities, regulators, and reliability organizations to ensure grid stability.

EEA-1: Early Warning and Resource Commitment

Energy Resource Commitment

EEA-1 signals most generation resources are committed to meet demand and reliability obligations and non-firm sales have been curtailed.

Early Warning and Monitoring

Usually due to unit losses or tag curtailments. EEA-1 acts as an early warning requiring close system monitoring and corrective action planning.

Mitigation and Coordination

Operators mitigate risks by purchasing energy, securing reserves, and coordinating with neighbors.

Reliability Focus

EEA-1 declarations are the most common and they help to maintain situational awareness and hopefully prevent escalation to severe emergencies.



EEA-2: Emergency Procedures Activated

Emergency Operating Procedures

EEA-2 is declared when a Balancing Authority is no longer able to meet their firm energy obligations and has implemented their emergency procedures to maintain system reliability under worsening conditions.

Actions to Preserve Reliability

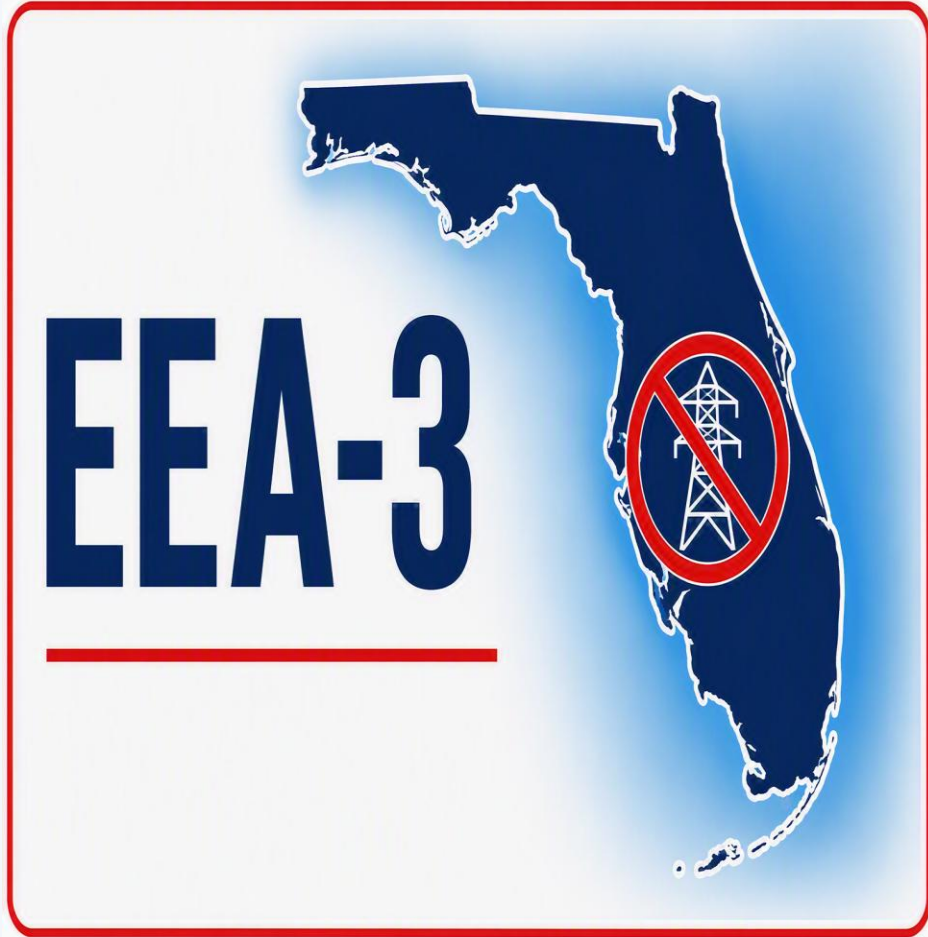
Operators seek emergency energy, activate demand management, use reserves, and coordinate across systems.

Warning of Load Curtailment

EEA-2 signals risk of firm load interruption if conditions further deteriorate, requiring timely action.



EEA-3: Firm Load Interruption Imminent or Occurring



Severity of EEA-3

EEA-3 is the highest energy emergency alert indicating the BA is unable to meet their minimum Contingency Reserve requirements. It could mean that imminent or ongoing firm load interruption may occur due to insufficient reserve levels.

Grid Stability Protection

The primary goal during EEA-3 is to protect grid stability and prevent cascading failures or uncontrolled outages.

Emergency Measures

Operators may execute firm load curtailment, rotating outages, or other measures to preserve system integrity during EEA-3.

Coordination and Communication

Effective communication among operators and regulators is crucial for rapid response and coordinated action in EEA-3 scenarios.

Questions?

Additional Information

Acronyms

- BAs – Balancing Authorities
- EEA – Energy Emergency Alert
- FDEM – Florida Division of Emergency Management
- FPSC – Florida Public Service Commission
- FRCC BOD – FRCC Board of Directors
- GCA – Generating Capacity Advisory
- GOPs – Generator Operators
- NERC – North American Electric Reliability Corporation
- OC – Operating Committee
- ORS – Operating Reliability Subcommittee
- NG Pipelines – Natural Gas Pipelines
- SCEC – State Capacity Emergency Coordinator
- SERC – SERC Reliability Corporation
- SWP – Florida State Warning Point
- TOPs – Transmission Operators