



RPAC Meeting #6: IRP Preliminary Portfolio Review

September 8, 2026



Agenda

- 1 Opening/Introductions
- 2 2026 Preliminary Portfolio Results
- 3 Looking Ahead
- 4 Wrap-Up



Introductions

- Your name
- Who you represent



A solid green vertical bar on the left side of the slide.

2026 IRP Preliminary Portfolio Overview

Disclaimer

This presentation contains preliminary IRP portfolio modeling information. The modeling reflected herein remains ongoing, and portfolio results, assumptions, and conclusions may be modified prior to UNS Electric's IRP submission to the Arizona Corporation Commission.

PUBLIC

Key Terms

Black Mountain Expansion Project

- The addition of four new aero-derivative combustion turbines (CTs)

Planning Reserve Margin (PRM)

- The amount of resource capacity needed above peak load to ensure reliability

Long-term Capacity Expansion model (LTCE)

- Software that will calculate the lowest-cost resource mix to meet given criteria and constraints

Production Cost model (PCM)

- Software that will dispatch the modeled resources to meet load and calculate system costs

Effective Load Carrying Capability (ELCC)

- The amount of capacity each resource can be expected to provide to meet peak load

Sensitivity

- Modeling results from running the PCM on a different set of parameters (change in market or fuel pricing, etc)

Net Present Value Revenue Requirement

- The current value of all capital, fuel, and O&M expenses in a portfolio over the 15-year timeframe

Natural Gas Combined Cycle (NGCC)

- A type of gas power plant that utilizes both gas and steam turbines to increase efficiency

PUBLIC

2026 IRP Portfolios

#	Name	Description
P01	Technology Neutral Base Case	A least-cost, technology neutral portfolio required by the ACC.
P02	Clean Energy Buildout	A portfolio that only allows the LTCE to chose carbon-free resources (solar, wind, storage, geothermal, pumped hydro, nuclear).
P03	High Load Factor Customer Growth	A least-cost, technology neutral portfolio that adds 150 MW of high load factor customers to the base forecast beginning in 2030.
P04	High Load Factor Customer Growth - Clean Energy Buildout	A portfolio that adds 150 MW of high load factor customers to the base forecast beginning in 2030 and only allows the LTCE to select carbon-free resources.
P05	Pumped Hydro	A least-cost portfolio that adds 25 MW of pumped hydro storage in 2033.
P06	Geothermal	A least-cost portfolio that adds 25 MW of geothermal generation in 2034.
P07	Nuclear	A least-cost portfolio that adds 25 MW of nuclear generation in 2038.

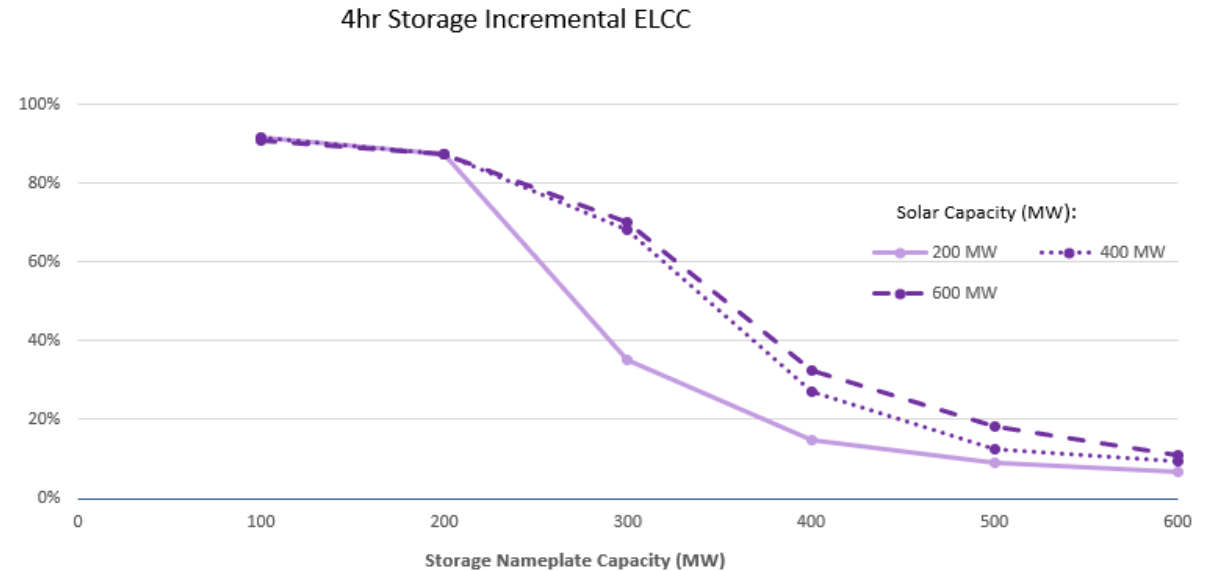
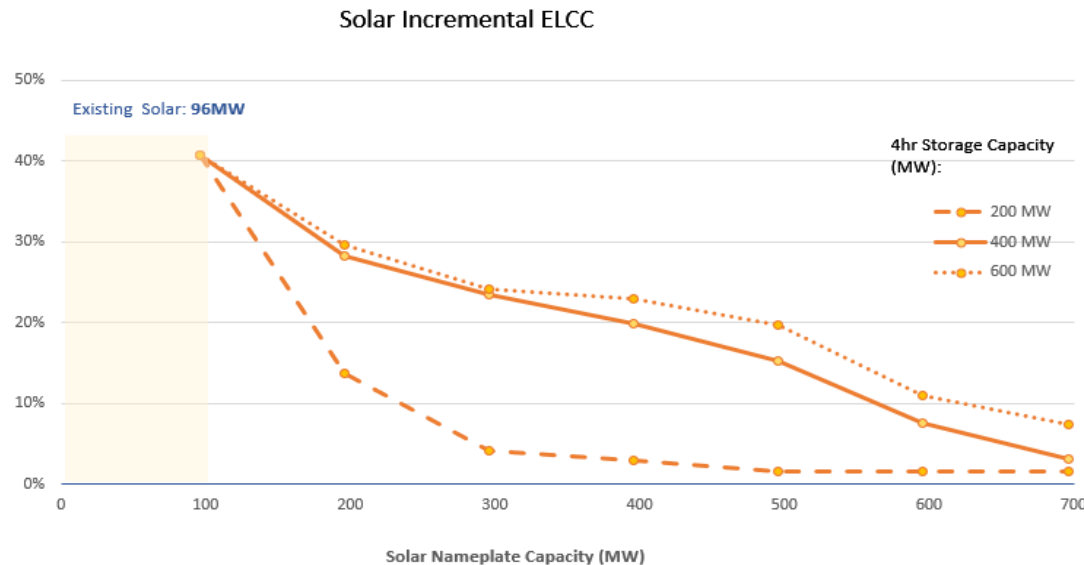
PUBLIC

Resource Adequacy

Two step process for ensuring resource adequacy for each portfolio

Step 1: Planning reserve margin (PRM) of at least 18% each year

- Accounts for higher-than-forecasted peak loads, operating reserves, and resource outages
- Increased from 16.5% used in prior IRP based on the updated Resource Adequacy Study
- Uses an “Effective Load Carrying Capability” (ELCC) methodology to determine the coincident peak capacity of wind, solar, and 4hr storage



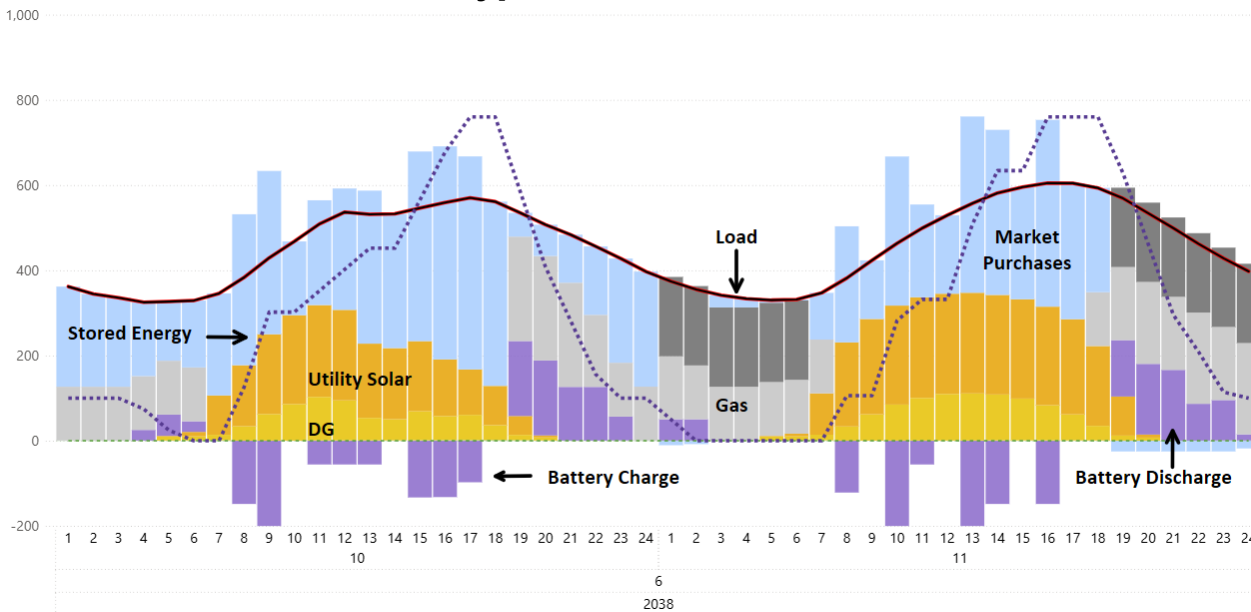
PUBLIC

Resource Adequacy (continued)

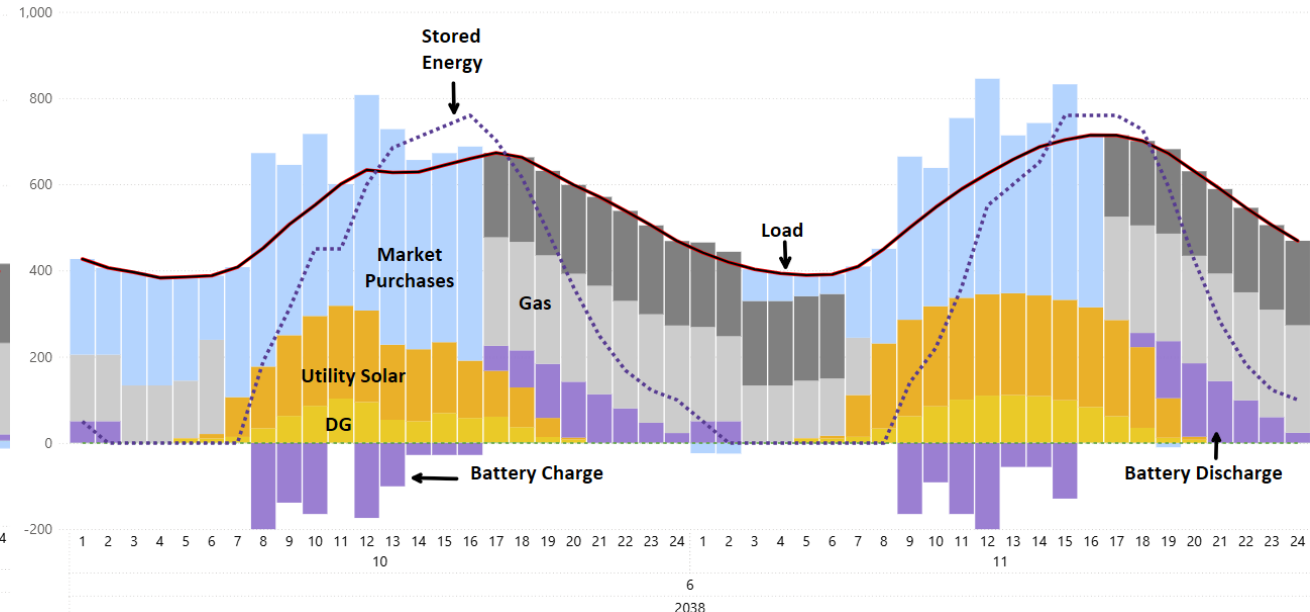
Step 2: 15-year hourly stress test

- Demand is increased 18% to reflect PRM requirement
- No market access is permitted during critical hours
- Ensures no shortfall

Typical Load June 10-11, 2038

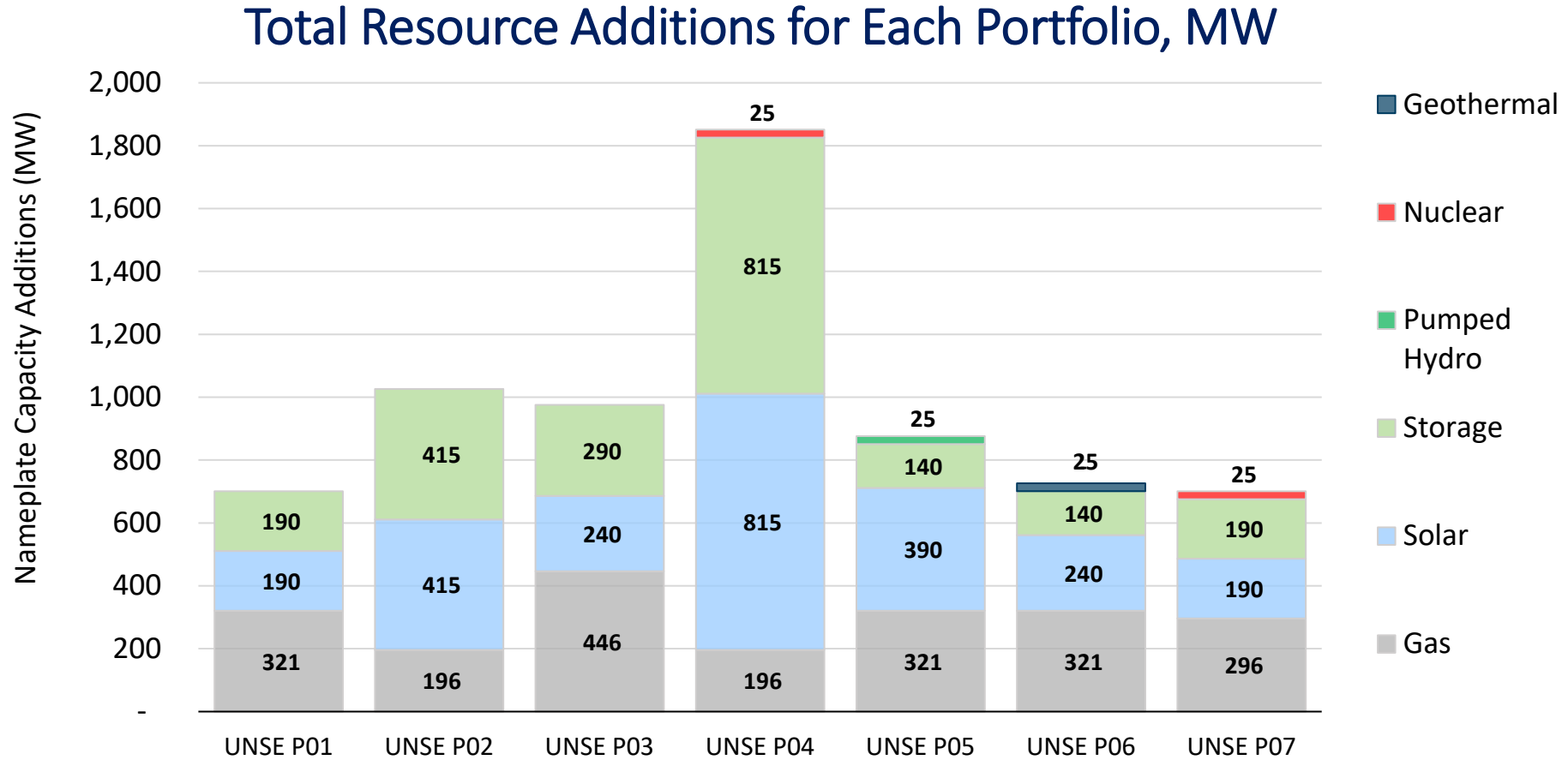


Stress Test, June 10-11, 2038

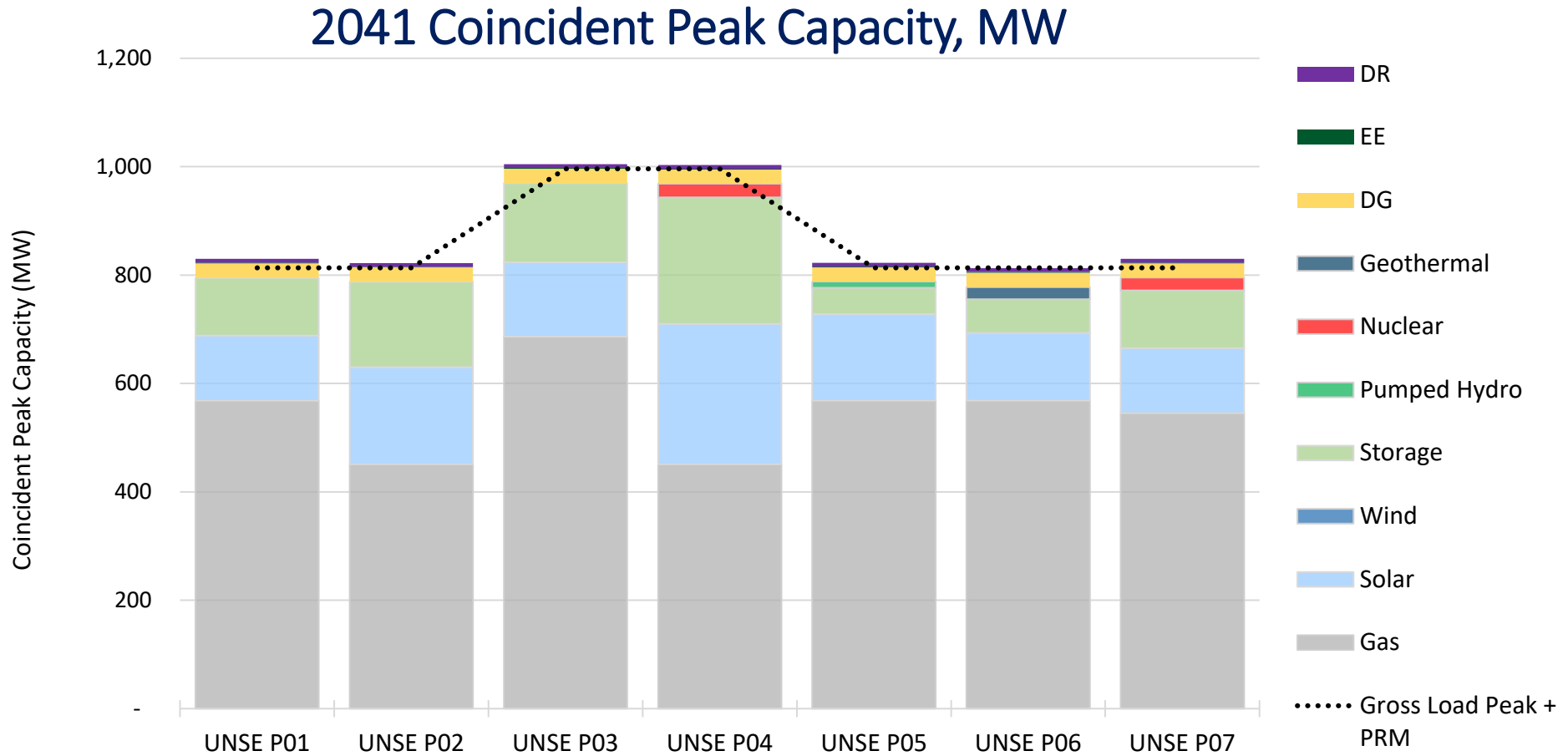


PUBLIC

Resource Buildout Comparison

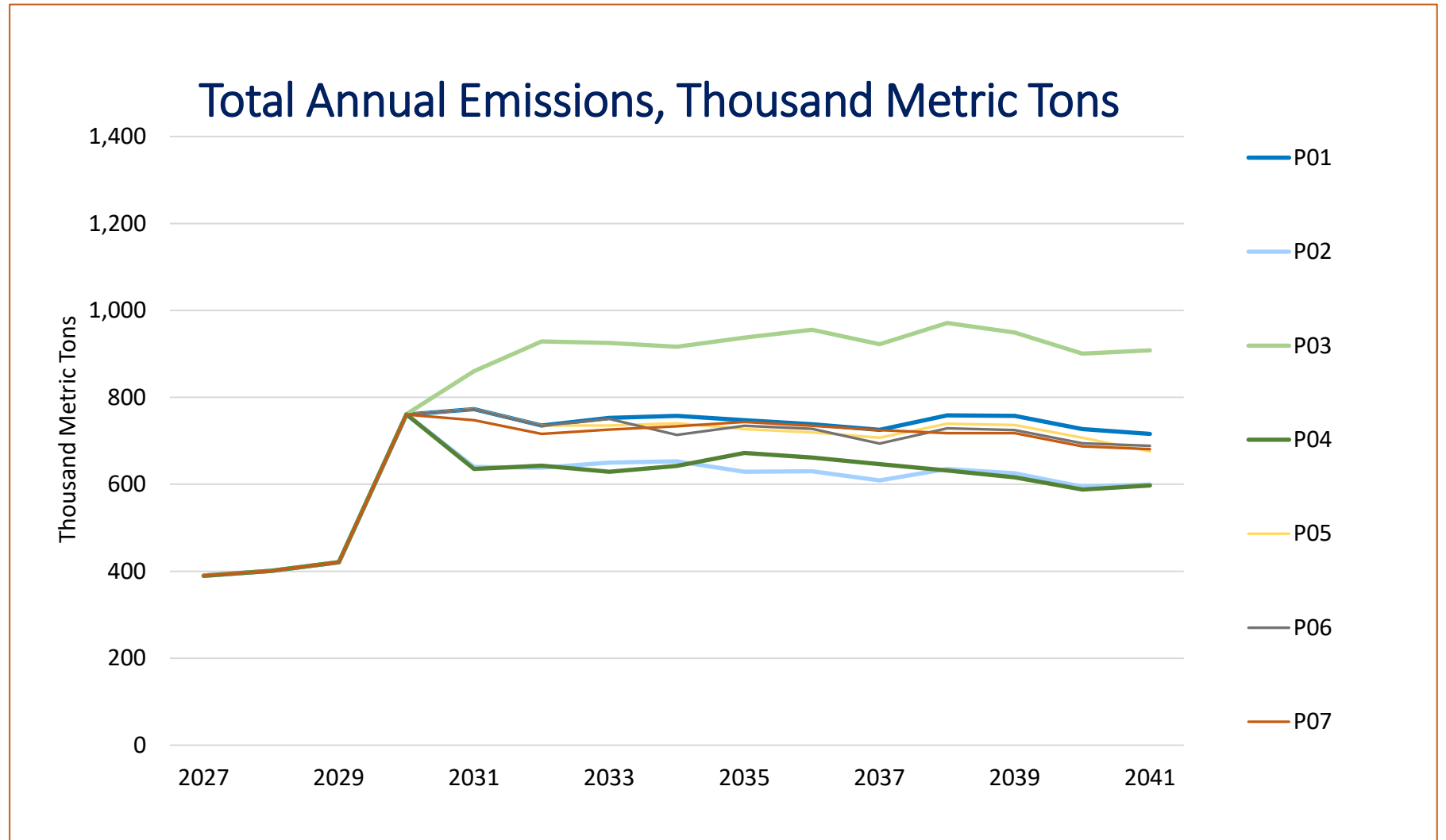


System Reliability by Portfolio (Reserve Margins)



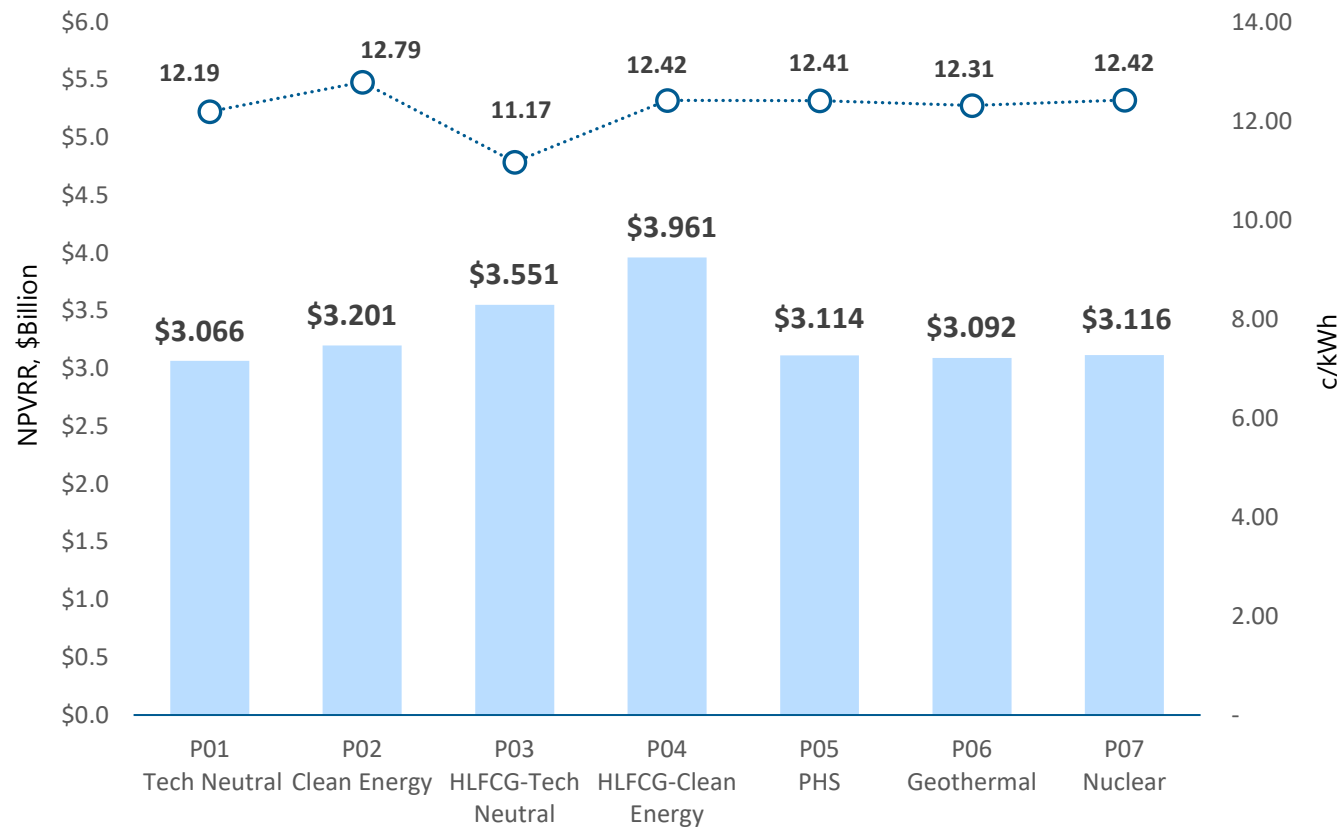
PUBLIC

Portfolio Emission Results

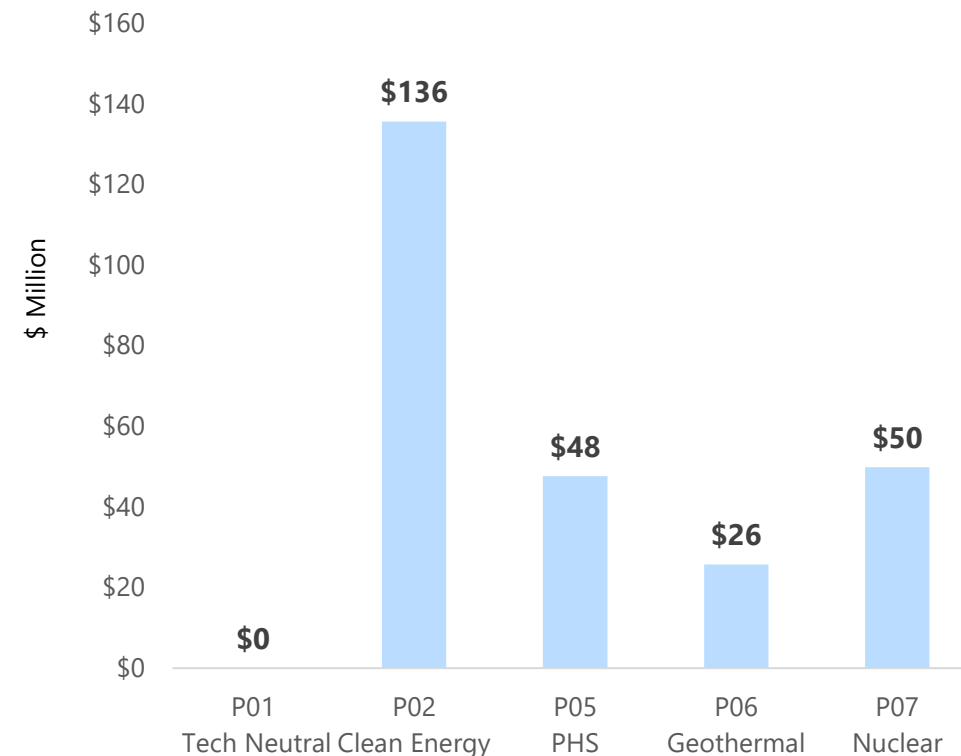


Net Present Value Revenue Requirements (NPVRR)

NPVRR and Average System Costs per kWh by Portfolio

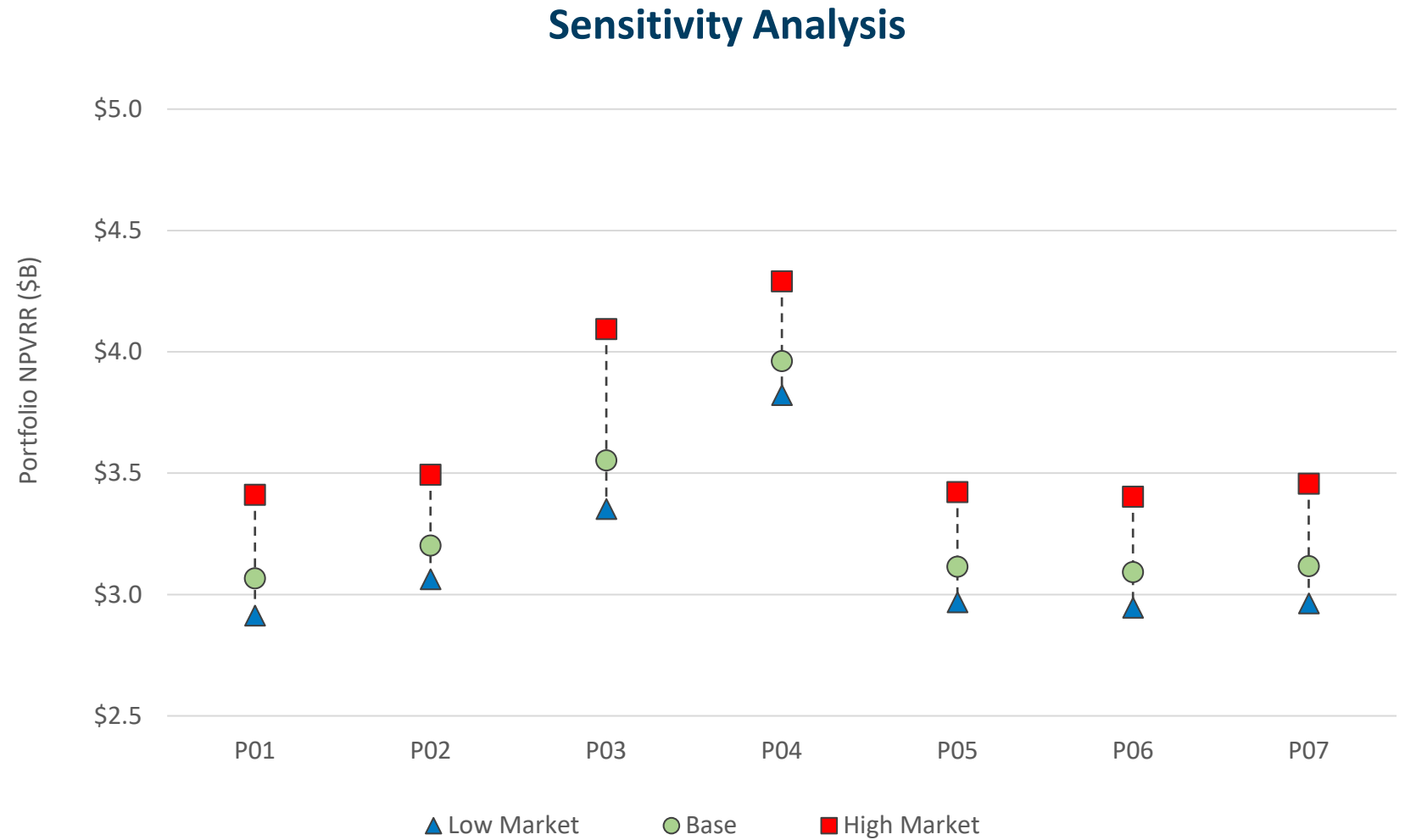


Comparison of NPVRR relative to P01 Tech Neutral Portfolio



PUBLIC

Portfolio NPVRR Sensitivity Analysis



UNS Electric's Least-Cost, Technology Neutral Portfolio

Reliability

- Resource mix meets resource adequacy requirements
- New NGCC provides a base load and dispatchable resource
- New storage uses excess solar for peak dispatch

Affordability

- Resource mix represents a least-cost approach
- New NGCC provides a least-cost option
- Solar plus storage is projected to be cost-competitive over the long-term

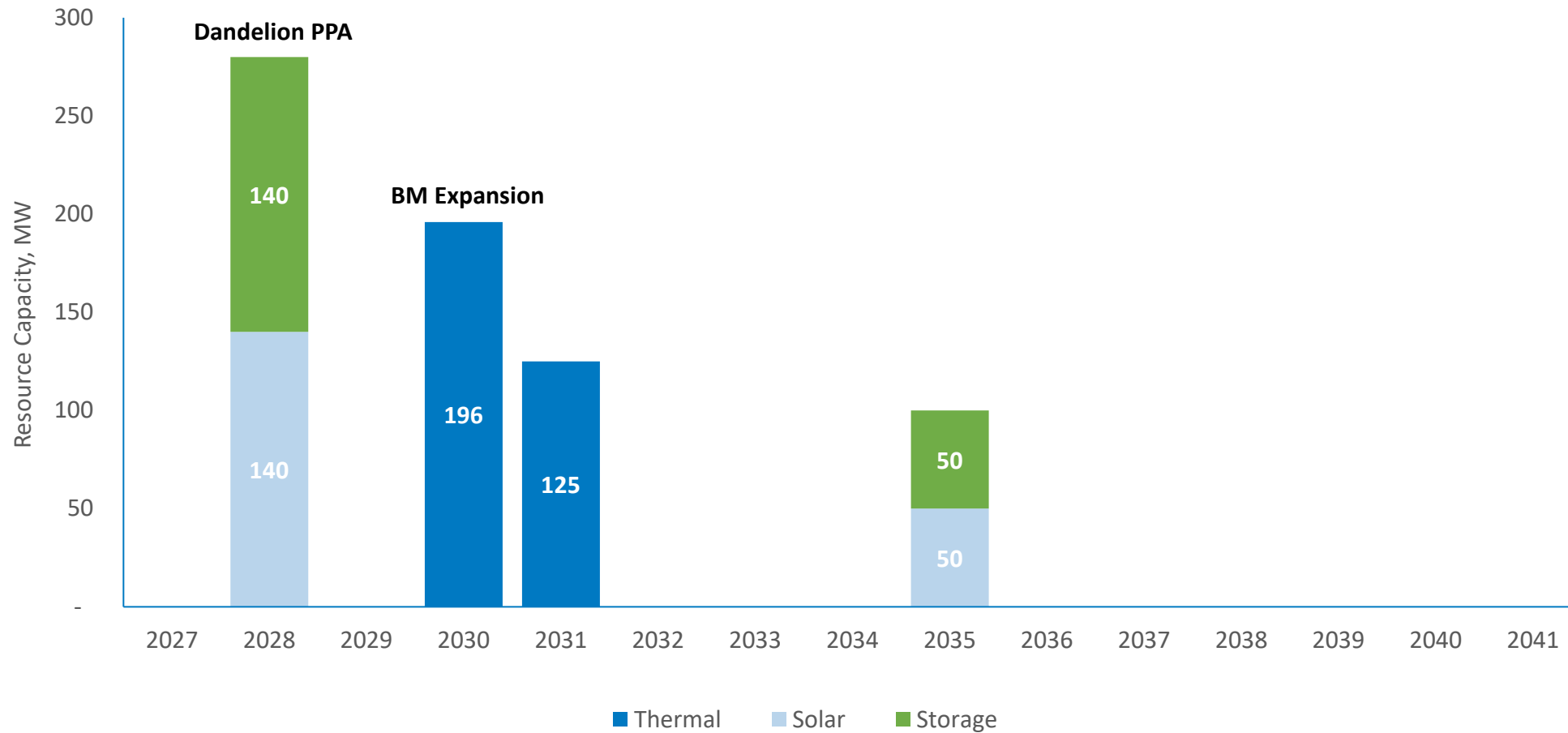
Sustainability

- Solar and storage additions displace gas in the long-term

PUBLIC



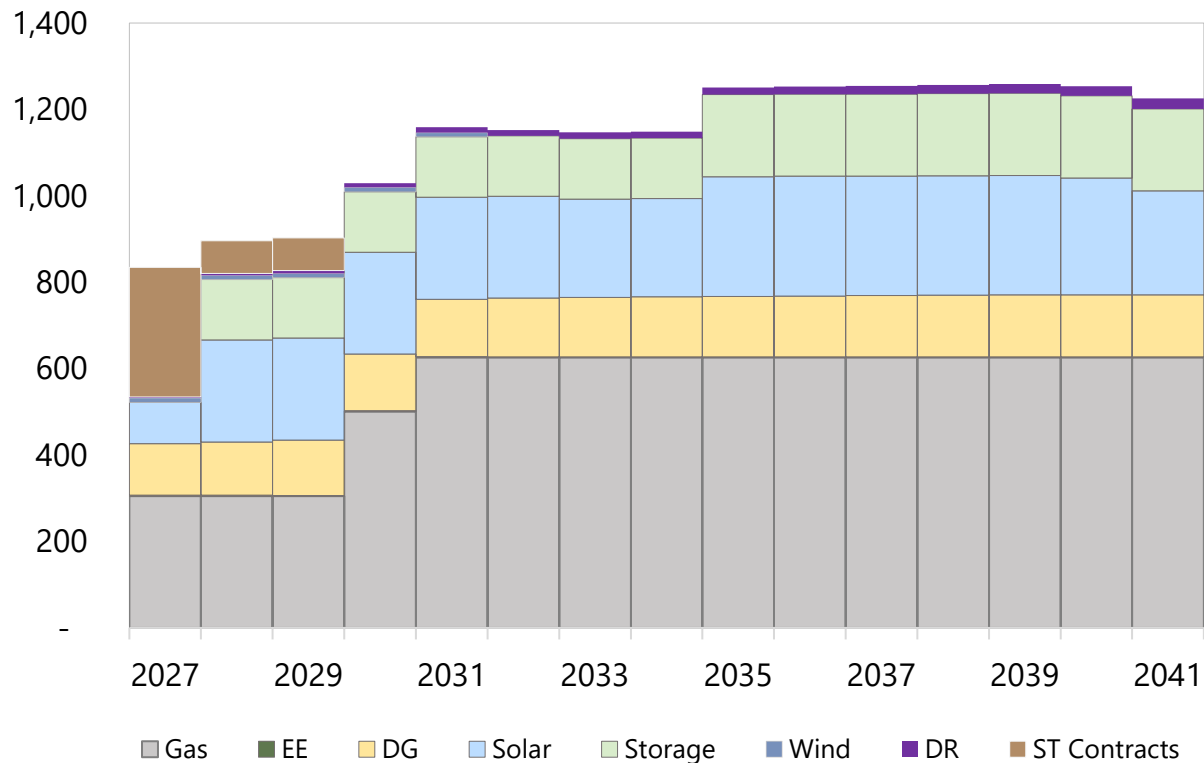
Least-Cost, Technology Neutral Resource Build-out by Year



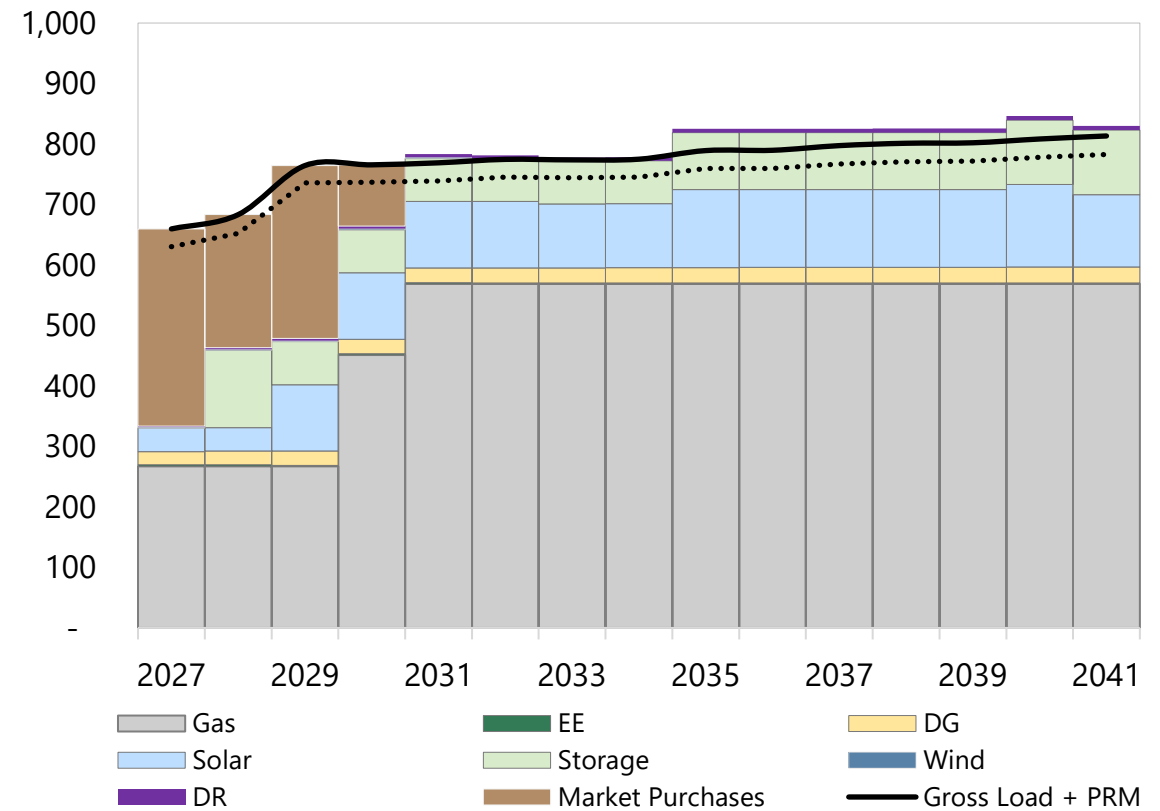
PUBLIC

Least-Cost, Technology Neutral – Future Resource Capacity

Annual Nameplate Capacity, MW



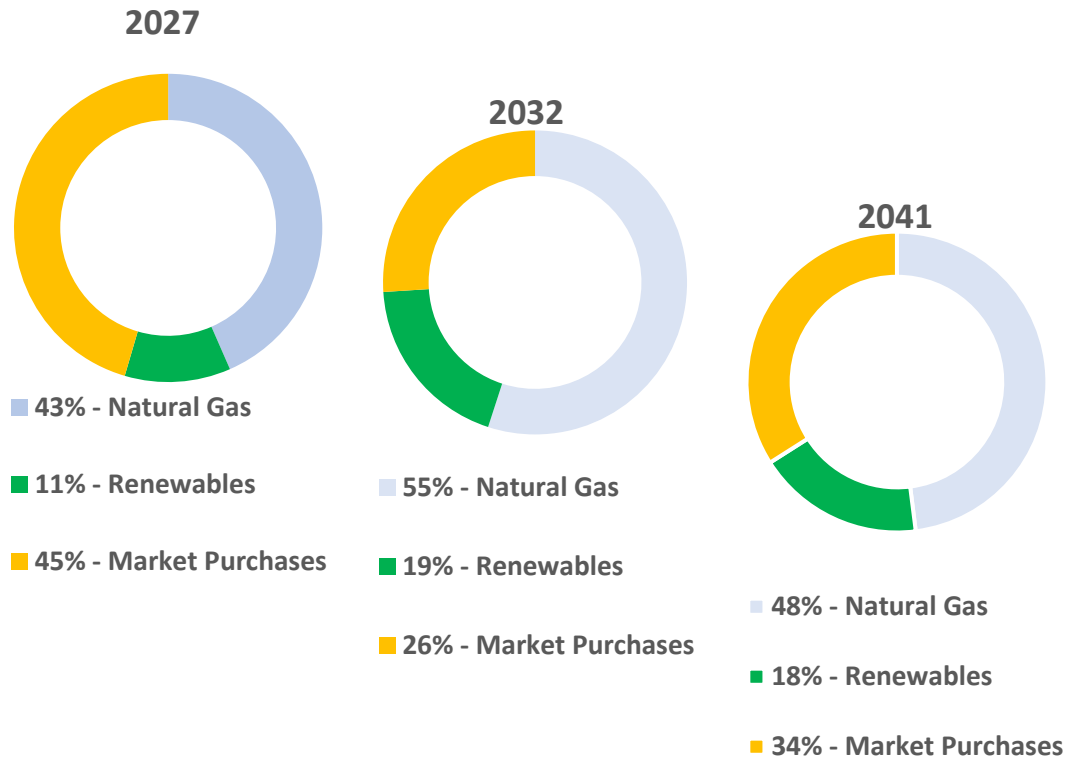
Loads and Resources, MW (Coincident Peak)



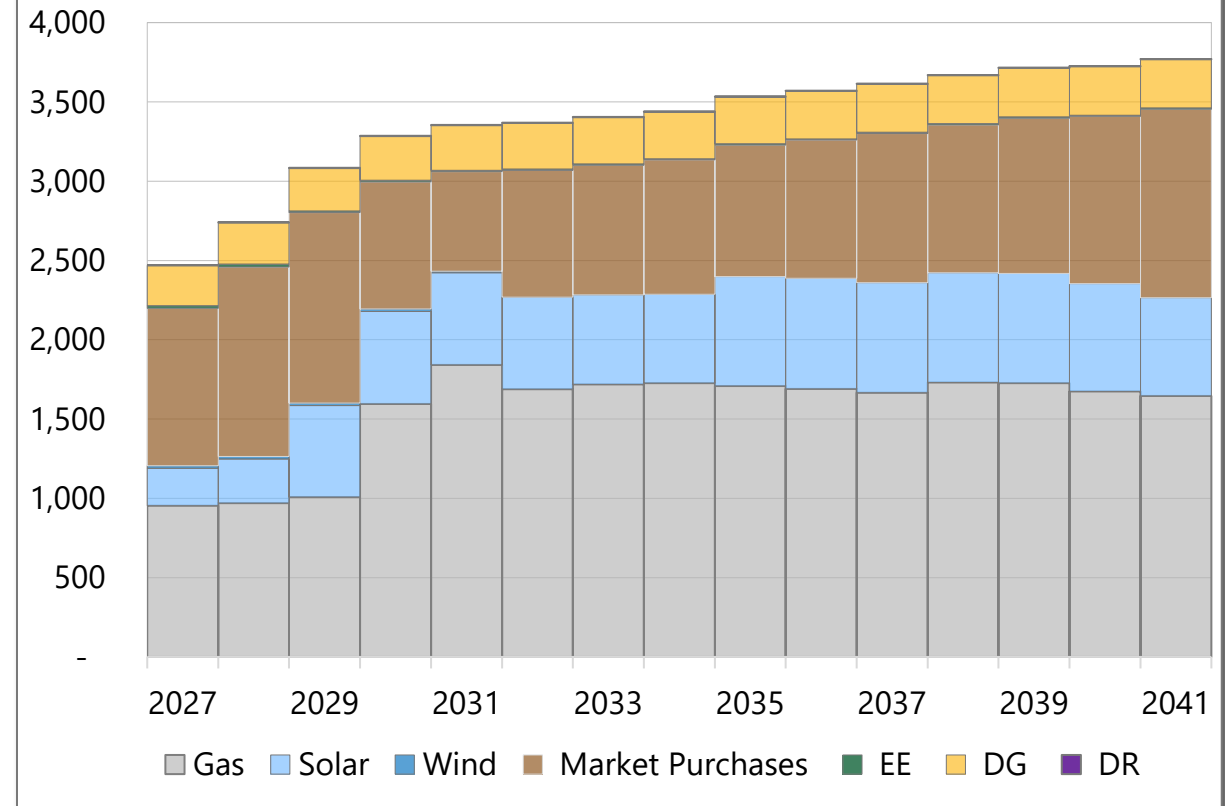
PUBLIC

Least-Cost, Technology Neutral – Future Resource Energy Mix

Energy Portfolio through 2041 % of Total MWh



Annual Energy Mix, GWh



PUBLIC

A vertical green bar on the left side of the slide.

Looking Ahead

Future Resources

- UNS Electric will re-evaluate resource options and needs in the future as loads, resource adequacy parameters, resource costs, and development timelines evolve
- New resources will be pursued through future ASRFPs



PUBLIC

Looking Ahead

- The ACC has approved APS’ request for a 90-day extension.

IRP Process Step	New Approved Deadline
IRP submission	October 30, 2026
Stakeholder comments due	February 10, 2027
Response to stakeholder comments	June 10, 2027
Staff Assessment and proposed order	September 13, 2027

- See uesaz.com/rpac for links to the ACC’s IRP docket
- See azcc.gov > Meetings & Cases > Make a Public Comment in a Docket if you would like to file stakeholder comments

TEP & UNSE Public Meeting (virtual) – October 2026



**Thank you for participating in the
2026 UNS Electric RPAC!**