2026 IRP Stakeholder Meeting

October 14th, 2026

Meeting Agenda

01	**Welcome/Meeting Objectives** Adam Constable
02	**Keynote** Nathan Hogue
03	**IRP Process Overview** Tara Beske
04	**Model Development** Mohamed Ali Saafi
05	**Load Forecast** Ross Mohr
06	**Preliminary Results** Mike Eugenis
07	**Closing Remarks** Adam Constable

Meeting Guidelines

Questions

Clarifying questions are welcome at any time. There will be time allotted following each presentation to answer.

Meeting Materials

Meeting slides will be posted to the APS website along with meeting minutes.

Following Up

We will attempt to answer all questions today. Some questions may require additional information and follow up after the meeting.

Disclaimer

Meetings and content are preliminary in nature and prepared for stakeholder discussion purposes only.

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Keynote
Nathan Hogue

Keynote Introduction

APS understands the importance of stakeholder engagement in planning process

Economic development is driving customer growth in Arizona that APS must reliably serve

APS is committed to maintaining reliability at least cost and pledges responsible energy growth

Nathan Hogue
Senior Director, Resource Management

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Integrated Resource Plan Process Overview
Tara Beske, APS
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An Introduction to Integrated Resource Plans

Integrated Resource Plans are **comprehensive studies** conducted by electric utilities to identify **energy needs** and how to meet them through a combination of supply and demand side resources, while considering factors such as economics, regulatory requirements, and impact to the environment.

Key Components of an IRP

Development of Cases → **Analysis** → **IRP Results**

Regulatory Requirements and Stakeholder Engagement

An Integrated Resource Plan must comply with various regulatory requirements, including Arizona Corporation Commission (ACC) mandated timing and content of filings.

- **Frequency: Typically filed every 3 years**
- **ACC Rules: Resource Planning and Procurement Rules (14-2-701 to 14-2-704)**
- **ACC Decisions: Primarily No. 79589 (October 21, 2024)**

The Integrated Resource Plan includes a robust public outreach process to solicit input from customers, community groups, environmental organizations, and other interested parties.

- **Resource Planning Advisory Council (RPAC)**
- **Public Stakeholder Meetings**
- **ACC Workshops**
- **aps.com/resources**

APS 2026 IRP Planning Principles

Reliability

APS prioritizes safe, reliable power, with resource adequacy and grid security serving as the foundations of reliability.

Affordability

The goal of the 2026 Integrated Resource Plan is to identify a portfolio of resources that can meet future customer electricity needs reliably at the lowest cost.

Consultant Engagement

POWERGEM

- Reliability planning studies
- Planning reserve margin / LOLE
- Effective load carrying capability (ELCC)

- SERVM resource adequacy modeling
- Hourly commitment and dispatch across thousands of scenarios
- Renewable integration, expansion planning and resource valuation

Energy+Environmental Economics

- Stakeholder engagement
- Resource planning support
- Reliability planning studies

- Strategy and decision support for utilities and industry stakeholders
- Technical analysis and new study methods
- Expertise across supply, delivery, demand and investment

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Questions to answer – Breaking down the complex problem

What is our need? And, When?

What are we building or utilizing? And, When?

What is it going to cost us?

Will it be reliable?

What will be the environmental impact?

Balancing Act – Optimization Problem (Multiple trade-offs)

APS Model Development Process

1

Input Data Collection

- Assumptions
- Demand Representation

2

Resource Adequacy Modeling (Model: SERVM)

3

Capacity Expansion Modeling (Model: Plexos LT)

4

Production Costing (Model: Plexos)

5

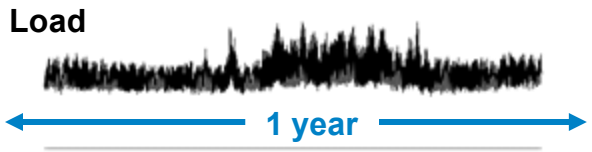
Output Data Collection and Processing

- Characteristics
- Revenue Requirements

Resource Adequacy Model

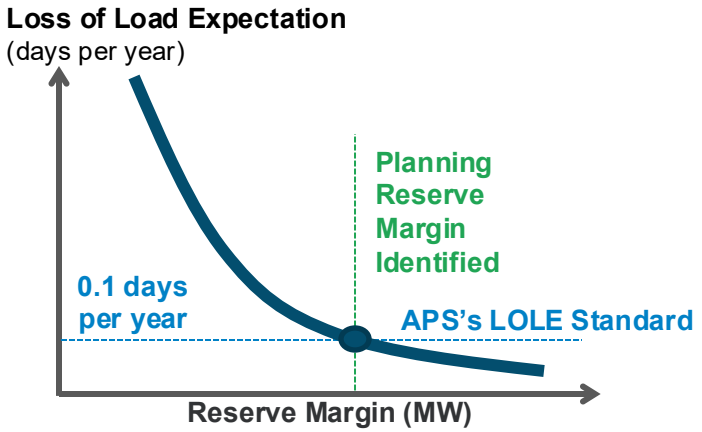
APS loads and resources represented in SERVM

SERVM performs resource adequacy across all hours of the year under a broad range of weather conditions, producing statistical measures of the risk of loss of load (considers both supply and demand side uncertainty)



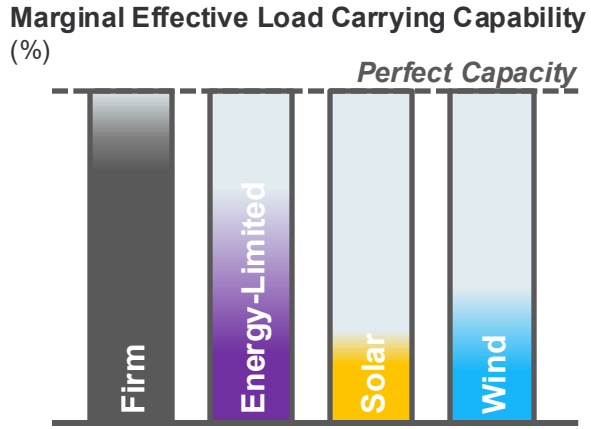
Identify the amount of Planning Reserve Margin needed to achieve the desired level of reliability

Factors that impact the amount of perfect capacity needed include load & weather variability, operating reserve needs

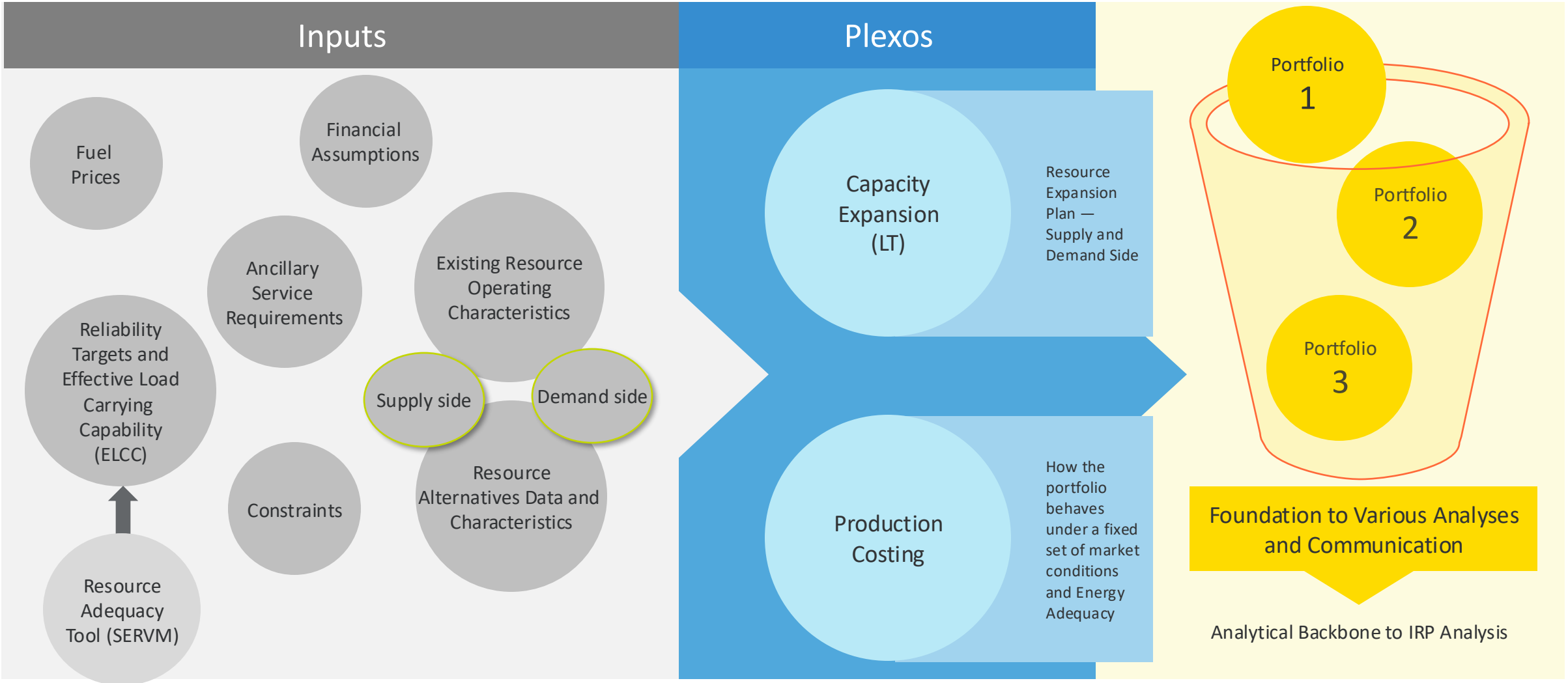


Calculate capacity contributions of different resources

ELCC measures a resource's contribution to the system's needs relative to perfect capacity, accounting for its limitations and constraints



Capacity Expansion and Production Costing Models



Overview of Enhancements

2026 IRP Model Enhancements

Five interconnected modeling innovations add significant rigor to the 2026 IRP Modeling.

1

Transmission Expansion Co-Optimization

Simultaneous generation and network investment decisions in a single mathematical framework

2

Cost and Perpetuity Treatment

Accurate capture of unit economics across varying sizes and terms, including terminal value

3

Advanced Generation Modeling

Combined cycle operating modes and first-principles environmental permit limits

4

Reliability Modeling

Six ancillary service products and seasonal forced outage rate forecasting at individual unit levels

5

Continuing Modeling Features from previous IRP

Firm fuel transport rights, equitable supply and demand side resource treatment, and resource accreditation through perfect capacity

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Load Forecast

Ross Mohr

Residential and Large Load Customers Drove the Return to Strong Load Growth

	2015	2020	2025	CAGR 2015-2020	CAGR 2020-2025
Retail Customers (000s)	1,177	1,289	1,433	1.8%	2.1%
Retail Sales* (GWh)	28,131	28,586	34,207	0.3%	3.7%
Peak Demand (MW)	7,031	7,660	8,648	1.7%	2.5%

* Weather normalized

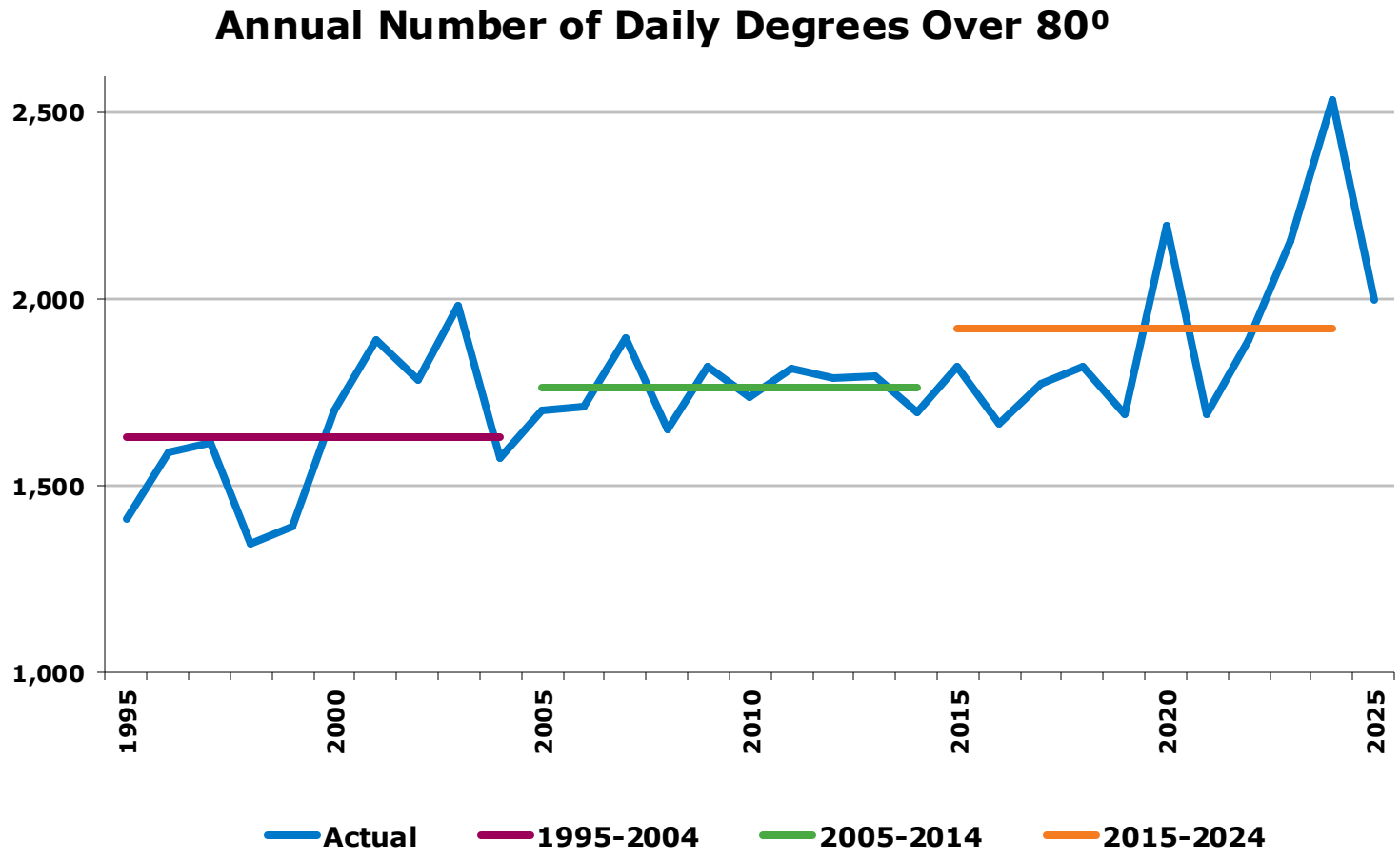
2026 IRP Load Forecast Summary

- Energy (GWh) projected to grow to 80,600 GWh in 2041
  - Growth of 41,700 GWh during 2026 IRP period more than doubles 2026 energy level
  - Large Load customers account for 76% of growth
    - Large Load customers operate near peak demand 24/7
  - Electric vehicle charging accounts for 8% of growth
  - The remaining 16% of energy growth is driven by customer growth, partially offset by declining use per customer
- Peak Demand (MW) projected to grow to 14,500 MW in 2041
  - APS set a new all-time peak demand record of 9,164 MW on August 2nd

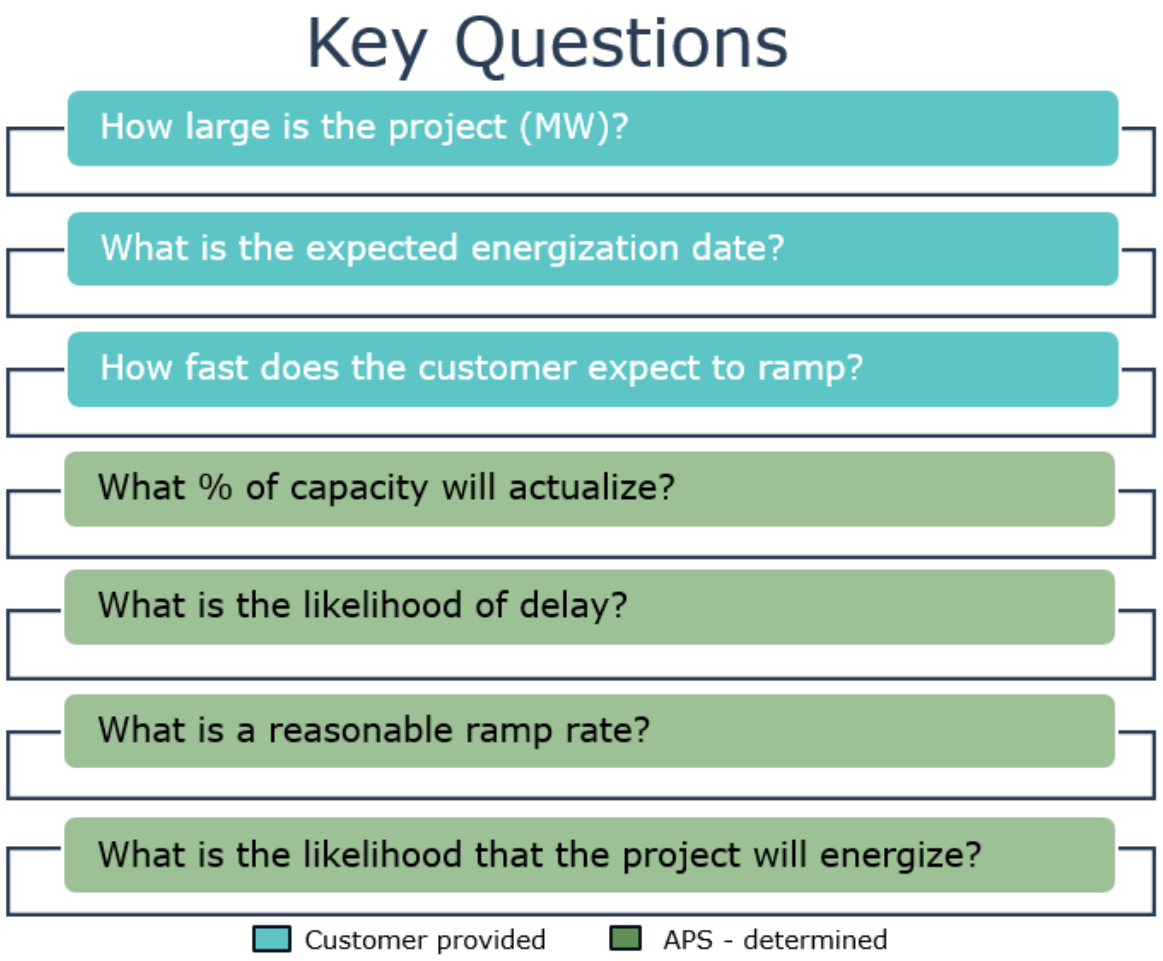
Average Annual Growth Rates For the 15-Year Planning Period	Customers	Energy (GWh)	Peak Demand (MW)
2023 IRP (2023-2038)	1.5%	4.0%	2.4%
2026 IRP (2026-2041)	**1.6%**	**5.0%**	**3.4%**

Hotter Weather Increases Load Forecasts and Presents New Challenges for Planning

- Energy forecast level partly determined by rolling 10-year average weather, which has been elevated by three historically hot summers/years (2020, 2023, 2024)
- The forecasting baseline is hotter: including 2024 in the average added roughly 200 GWh to the energy forecast



Large Load Customers: A New Forecasting Challenge



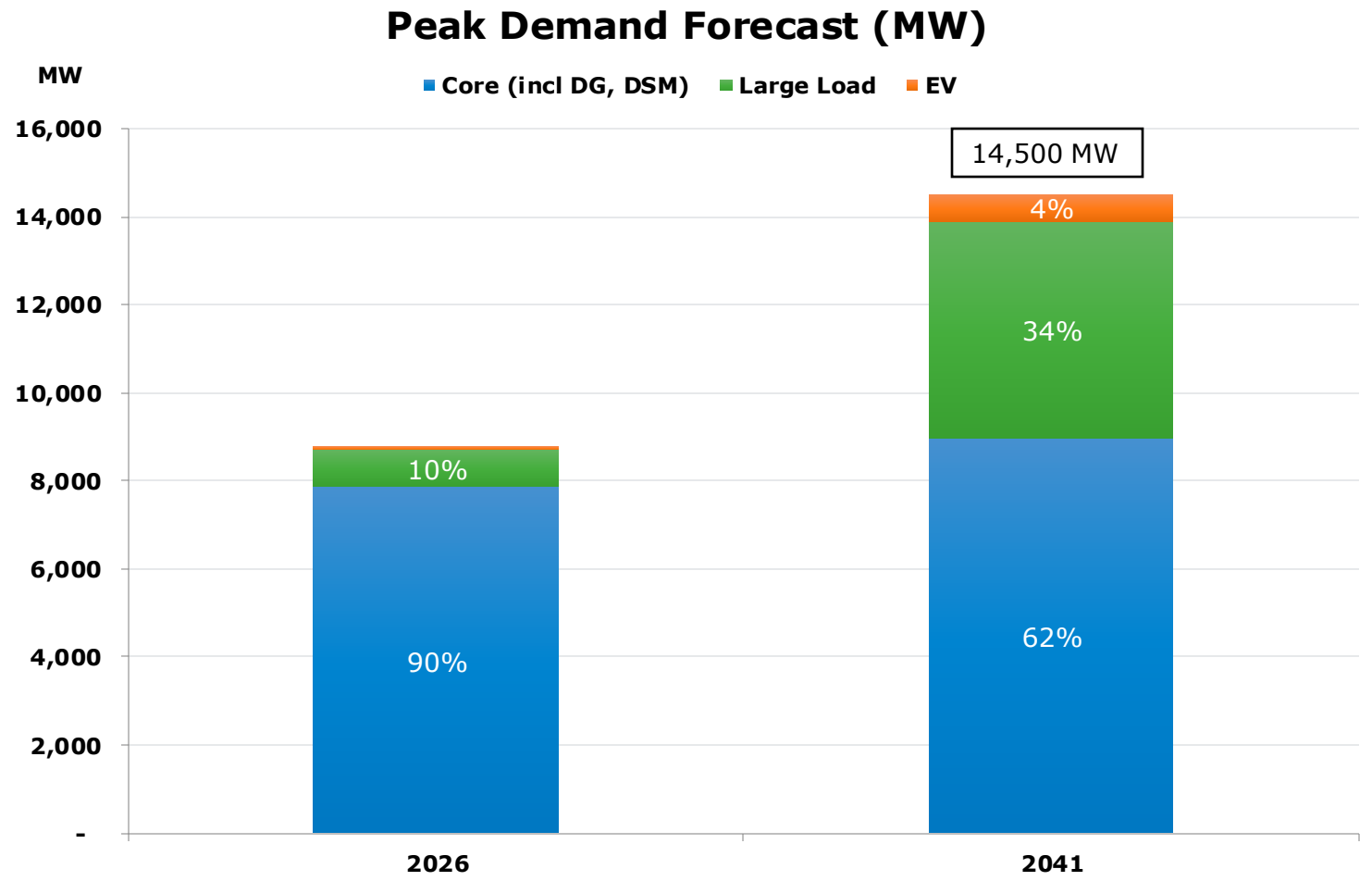
Main Forecasting Challenge

Ensuring resource adequacy, while minimizing financial risk

- Planning for Large Load customers is difficult
  - Frequent changes to build-out plans
  - Project start-dates are delayed
  - Ramping of load slower than planned

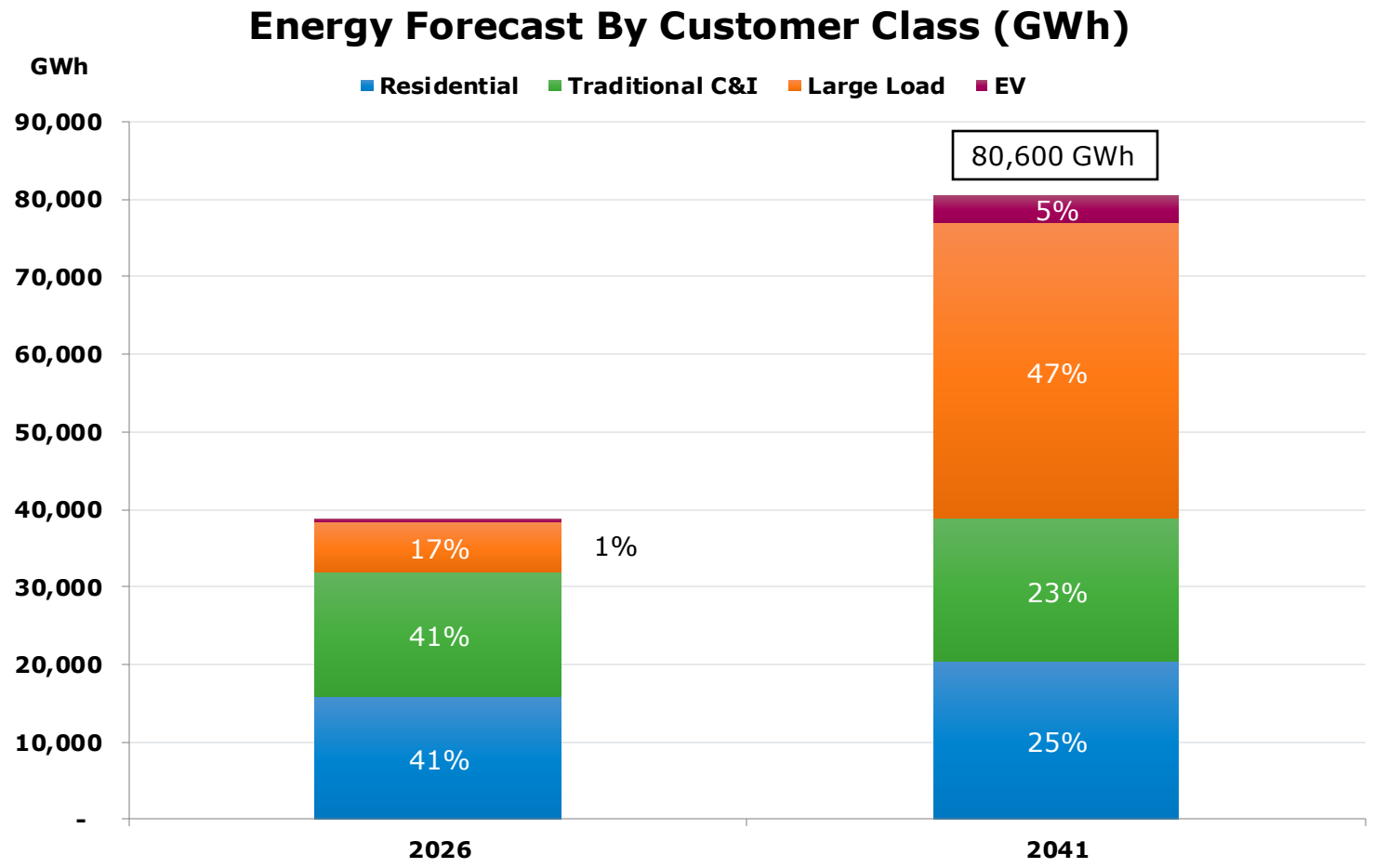
Large Load Customers Drive Peak Demand Growth

- Large Loads expected to grow from 10% of peak demand in 2026 to 34% in 2041
- EV charging projected to comprise 4% of demand
- Core customer demand projected to slightly increase, but their share of demand declines



“24/7” Nature of Large Loads Amplifies Energy Growth

- Large Load customers expected to grow from 17% of energy in 2026 to 47% in 2041
- EV charging projected to comprise 5% of energy
- Core customer energy projected to slightly increase, but their share declines from 82% in 2026 to 48% in 2041



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The IRP reflects a snapshot of current load and generation economics.

Summary narrative

Reliable Growth: **Our analysis results in an 'all of the above' approach to maintaining reliability at least cost across generation, transmission, and market investments.**

Topics

Action Plan Priorities & Strategic Positions

Continue to integrate renewables

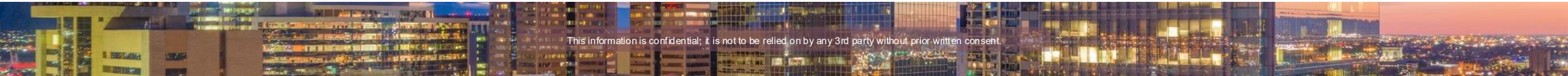
Additional gas transport and generation

Four Corners continued operation

WRAP & Markets+

Transmission investments

Ongoing resource diversity in support of reliability and affordability

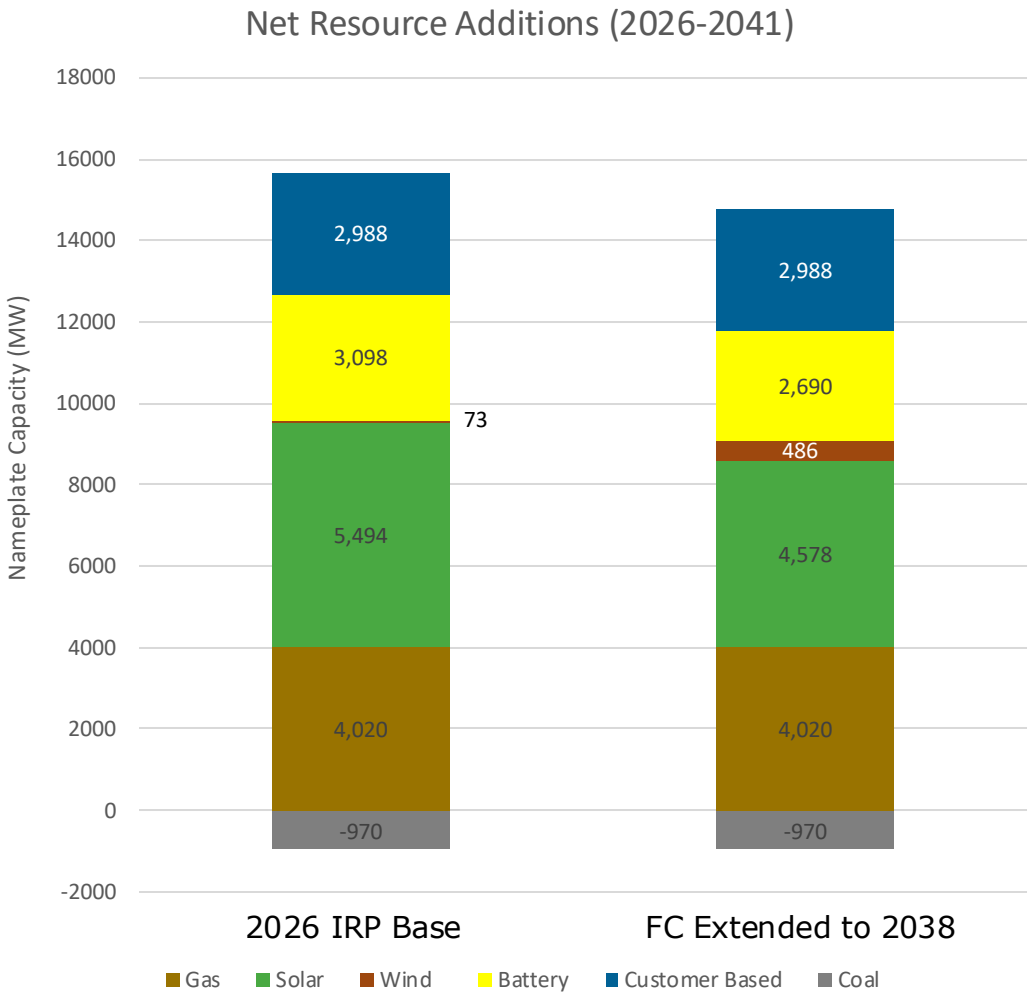


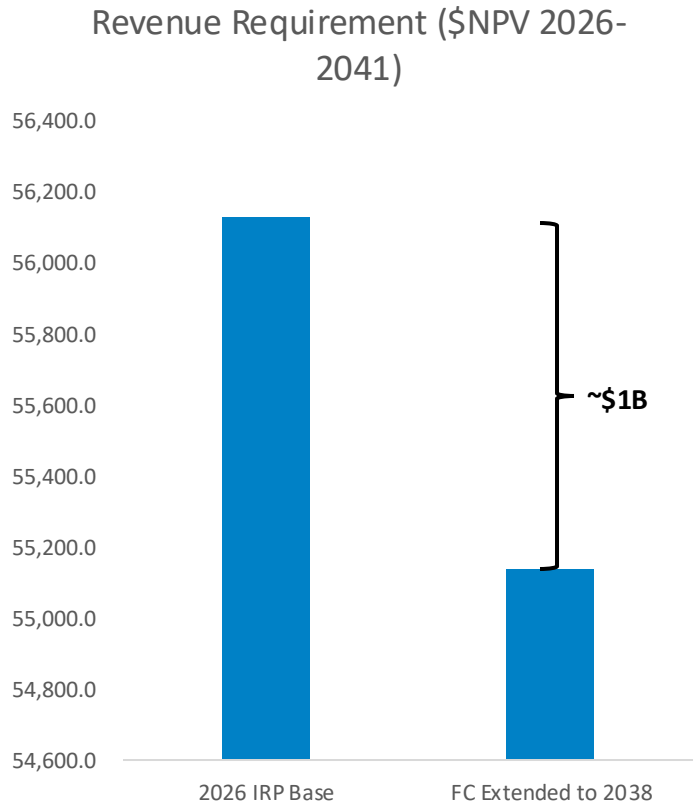
This information is confidential; it is not to be relied on by any 3rd party without prior written consent.

Scenarios are structured to provide insights on key uncertainties.

- Load Forecast
- Resource Capital Costs
- Fuel Costs
- Resource Retirement Dates

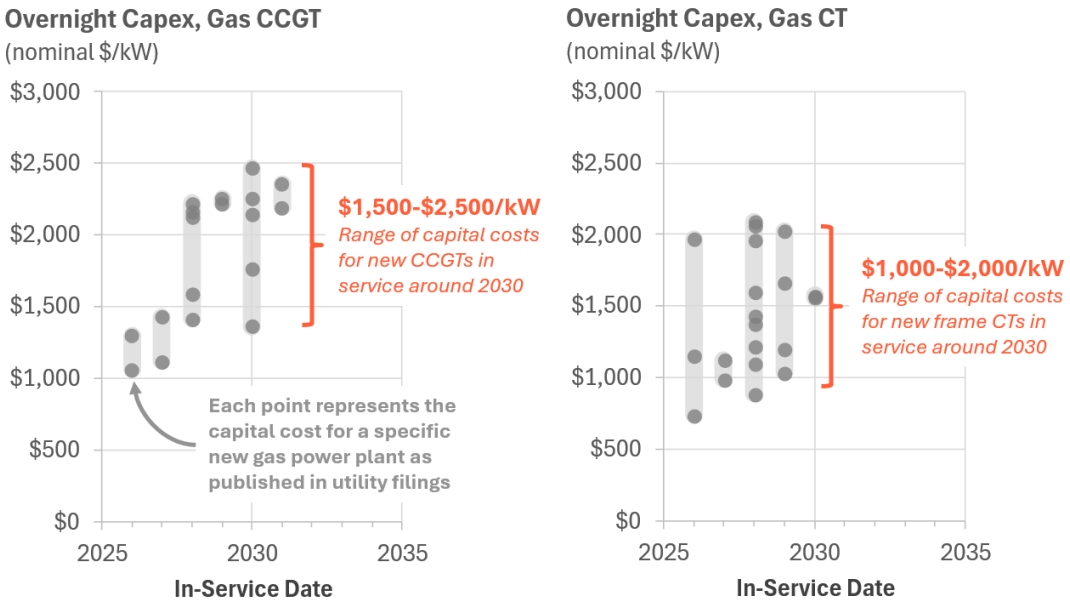
The extension of Four Corners shows economic benefit versus our base case



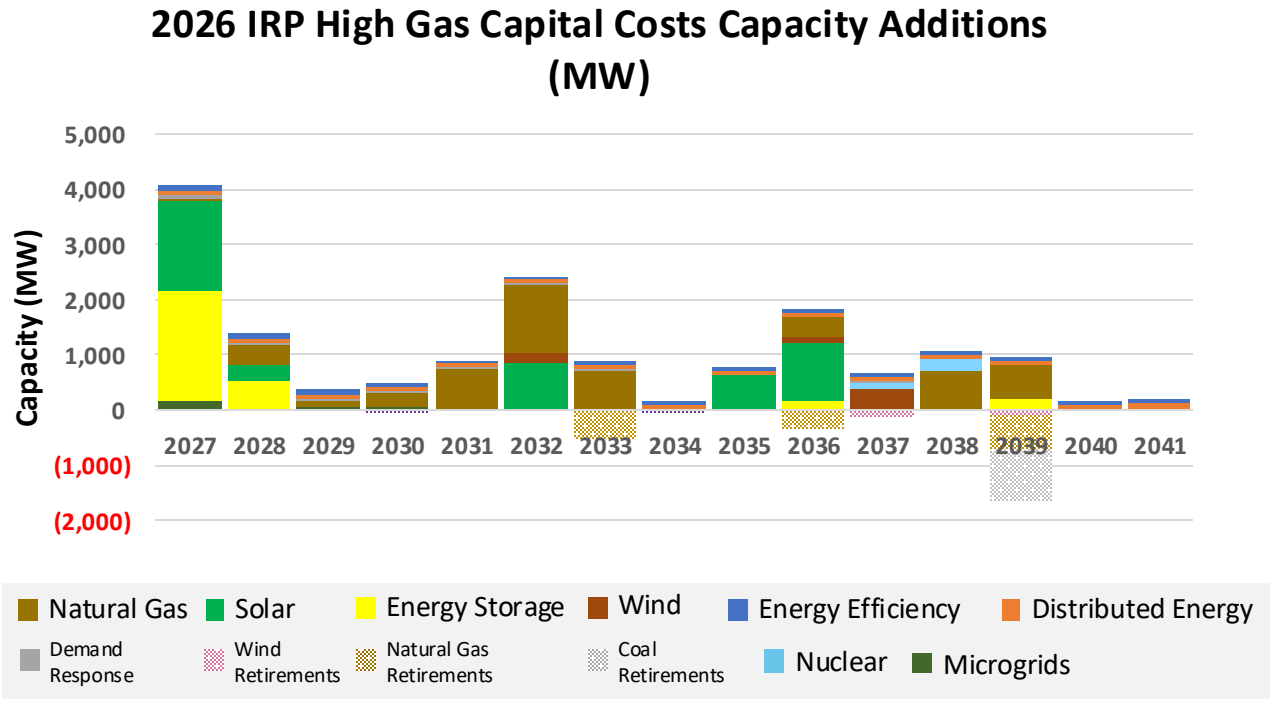


APS has signed an agreement with NTEC that allows the continued operation of Four Corners beyond 2031.

Natural gas selections are cost effective even under high capital cost sensitivity.



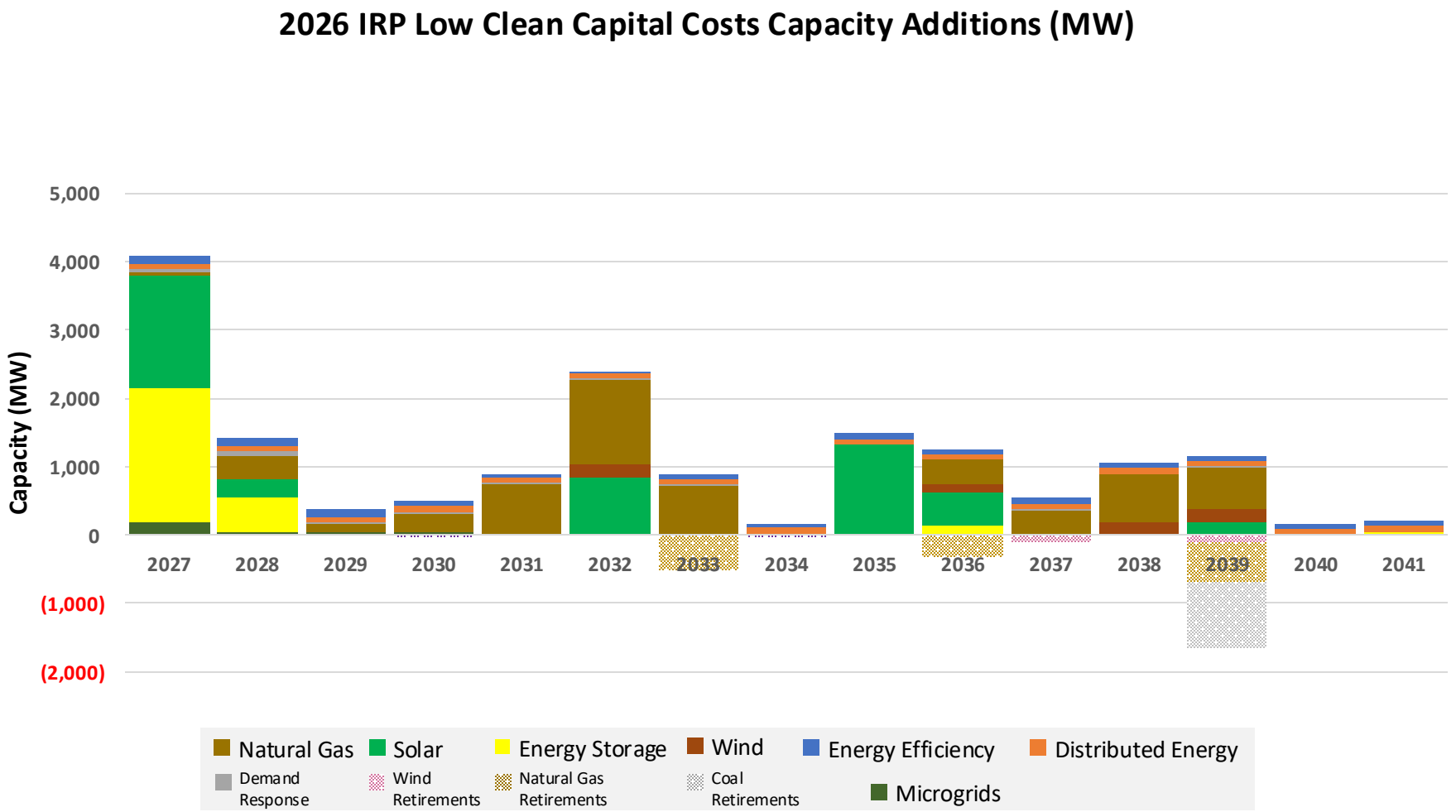
Data source for figures: Halcyon Gas Power Plant Tracker



Net Resource Additions (2026-2041)

Gas: 3,665 MW
Solar: 4,450 MW
Wind: 486 MW
Battery: 2,877 MW
Customer Based: 2,988 MW
Coal: -970 MW
Nuclear: 300 MW

Lower clean and renewable capital costs result in marginally higher solar adoption, but natural gas resources continue to be cost effective.



Net Resource Additions (2026-2041)

Gas: 4,020 MW
Solar: 4,741 MW
Wind: 486 MW
Battery: 2,646 MW
Customer Based: 2,988 MW
Coal: -970 MW

Our Preferred Plan will include additions across resource types to maintain reliability for growing load at least cost.

Continued integration of renewables

Incremental solar, wind, and battery storage support near term growth.

Natural gas development

Natural gas resources provide important source of dispatchable, weather independent generation.

Four Corners Operations beyond 2031

Provides diversity without development risk.

Continued Transmission Development

All cases rely on substantial transmission expansion to interconnect resources.

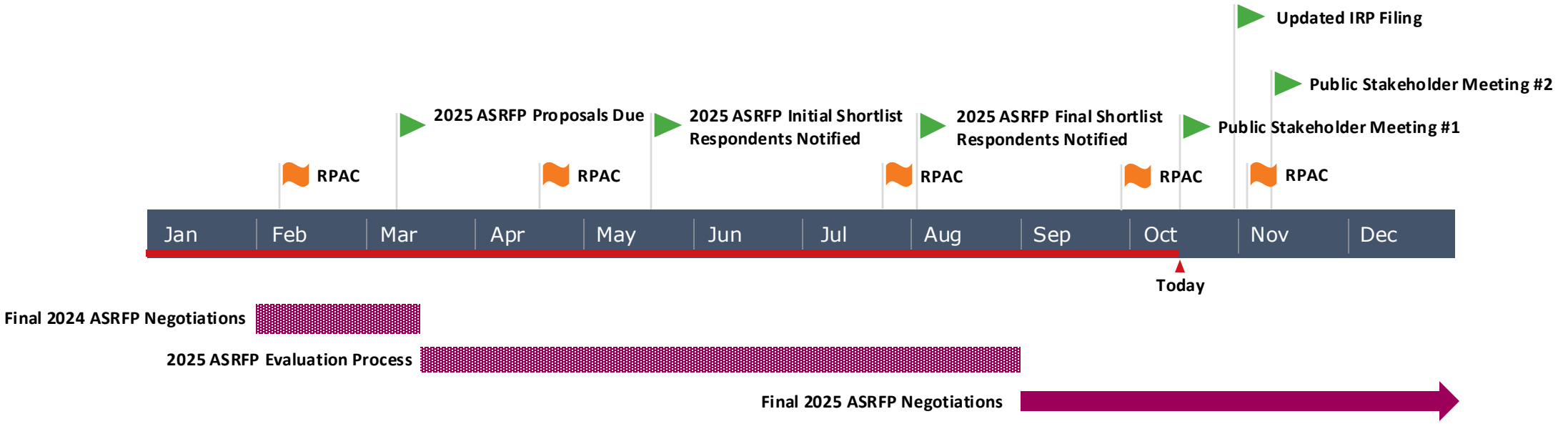
Future Technologies

Continue to evaluate the development of new nuclear, geothermal, and storage technologies for cost effective options.

Closing Remarks

Adam Constable

IRP Timeline



Key Milestones

IRP Filing: October 30th

Public Meeting #2:
November 12th (tentative)