



2023 IRP Stakeholder Meeting
November 7th, 2023

Meeting Agenda

01 **Welcome/Meeting Objectives**
Matt Lind, 1898 & Co.

02 **Keynote**
Todd Komaromy, APS

03 **2023 IRP Planning Steps**
Todd Komaromy, APS

04 **IRP Preferred Portfolio & Results**
Mike Eugenis, APS

05 **Next Steps/Closing Remarks**
Matt Lind, 1898 & Co.

Meeting Guidelines



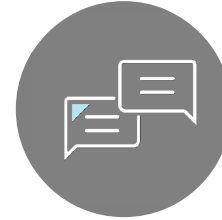
Questions

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.

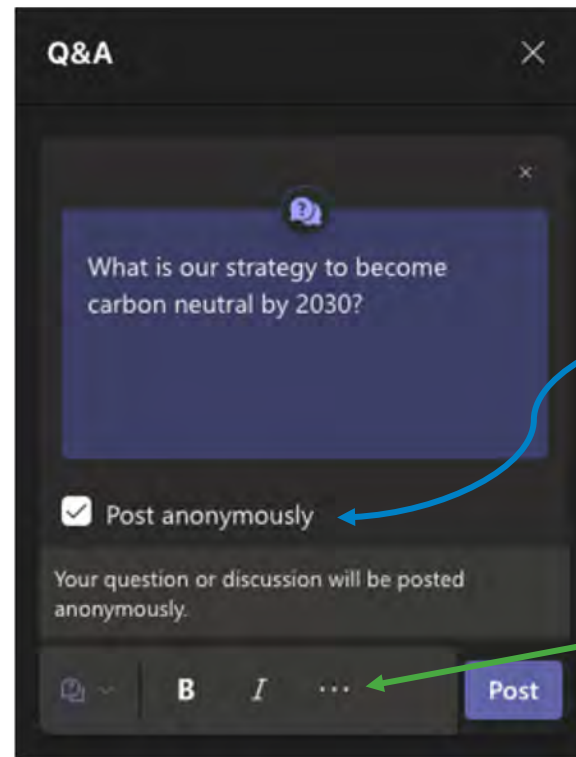
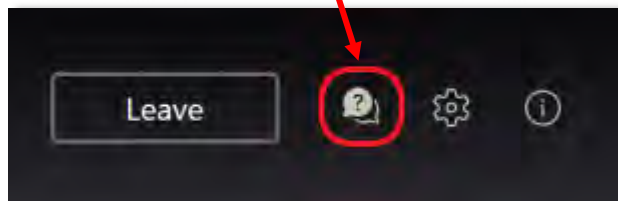


Q&A participation in a Live Event



- As an Attendee, you can ask questions in the Q&A as soon as you join the event.

Navigate to the "Question" icon to submit a comment or question.



Questions and Comments can be submitted anonymously.

Web links can be added into the Q&A chat.





Keynote

Todd Komaromy, APS

Keynote Introduction



APS is experiencing a significant surge in energy demand.



Ensuring a dependable and resilient system is of the utmost priority even with surging demand.



Collaborating with a diverse range of Consultants and Stakeholders enhances the quality and effectiveness of the APS IRP process.



Todd Komaromy

Director, Resource Planning





2023 IRP Planning Steps

Todd Komaromy, APS

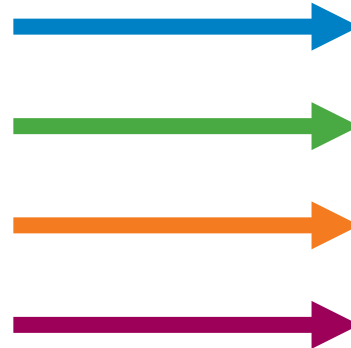




Significant Changes Since the 2020 IRP

2020 IRP

1. Traditional ICAP accounting
2. Existing renewable energy credits
3. Less volatile supply chain process
4. RPAC Group not formed
5. Limited infrastructure constraints

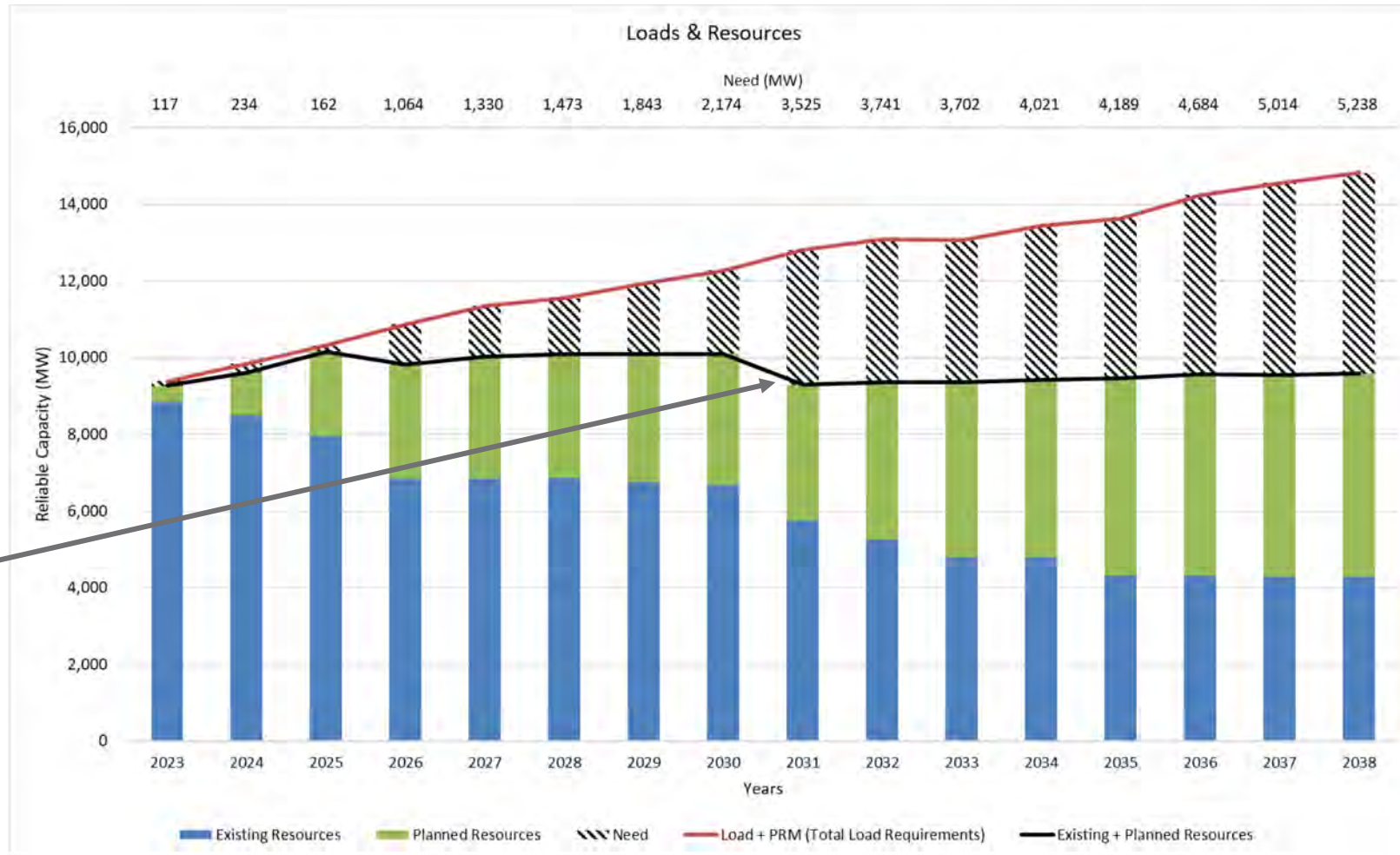


2023 IRP

1. Implementation of PRM & ELCC
2. 2022 IRA electrification & tax credit extensions
3. Consideration of supply chain constraints & project timelines
4. Updates pricing from recent RFP solicitation
5. RPAC Stakeholder collaboration
6. Natural gas transport & transmission capabilities modeled



IRP Reference Case – “Need” identification



Increase in need due to Four Corners Coal exit





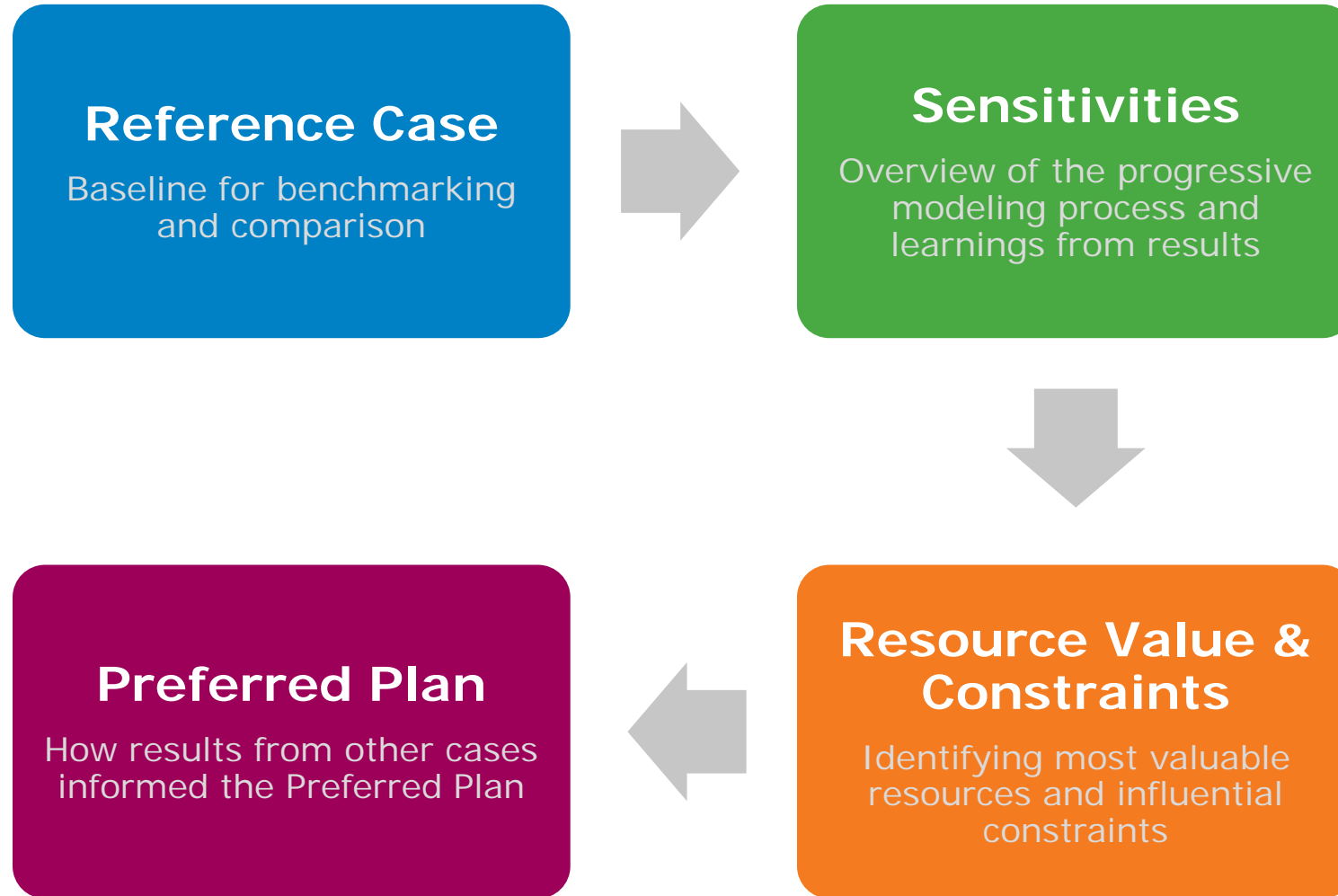
The IRP Portfolios & Objectives

Case Overview	Objective of Each Case
1. Reference (Baseline Case)	Benchmarking
2. Four Corners Coal Exit Cases*	Reliability and cost impacts
3. Technology Neutral Case*	Impact of emission reduction goals or renewable/carbon emission standards
4. Low & High Renewable Capital Costs/High Gas Price Cases	Robustness assessment of portfolios
5. Low & High Load Cases*	Identifying high-value resources

*Represents Cases Required by the Arizona Corporation Commission



The IRP Portfolio Process





IRP Preferred Plan & Results




Mike Eugenis, APS



APS Preferred Plan

Preferred Plan: Investment in cost-effective clean technologies, incremental natural gas combustion turbines at existing sites, and continued adoption of demand side technologies.

Our Preferred Plan meets the following objectives

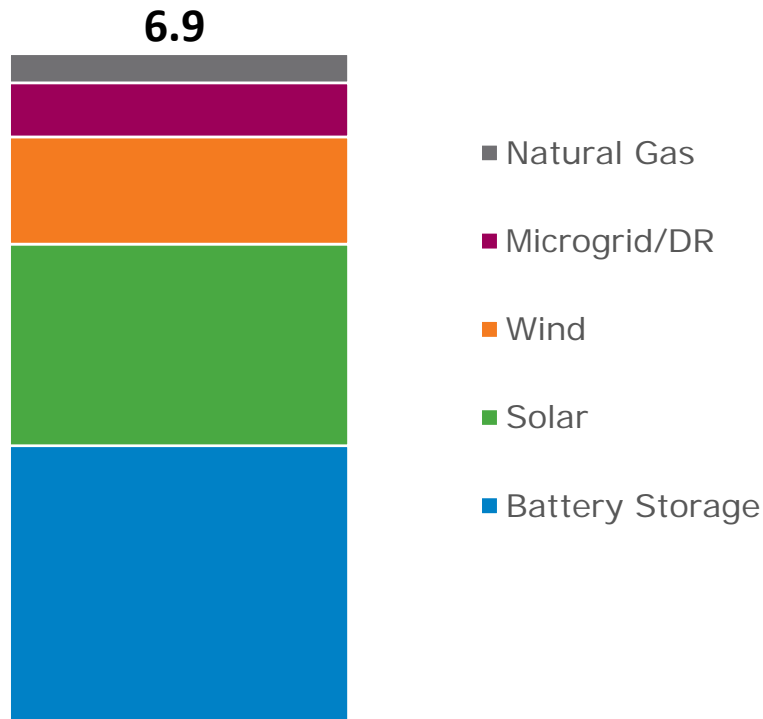
-  Leverages multiple technology types (Reliability)
-  Least Cost (Affordability)
-  65% Clean Energy in 2030 (Sustainability)





Action Plan Resources – Preferred Plan

Nameplate capacity additions (in GW)



2023-2027

Plan Attributes

- Natural Gas: 302MW
- Microgrid: 558 MW
- Wind: 1,109 MW
- Solar: 2,083 MW
- Battery Energy Storage: 2,842 MW

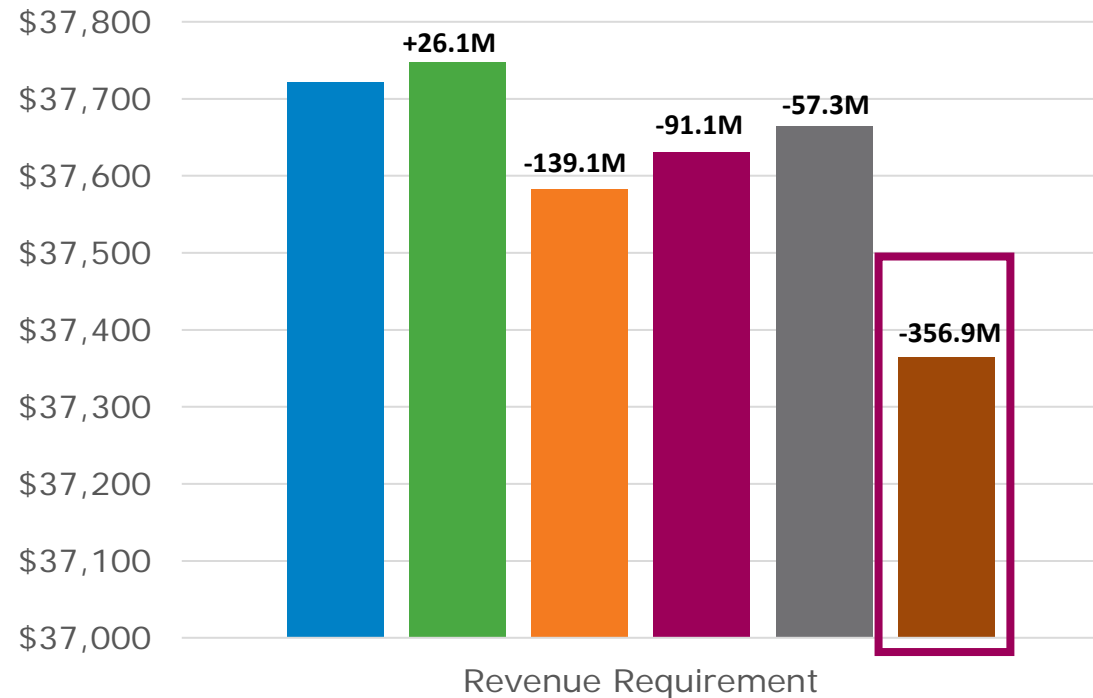
Resources are inclusive of all signed contracts in 2022 & previous ASRFPs

Energy Efficiency and Distributed Energy are not shown, but an important piece of APS's resource mix going forward



Revenue Requirements Comparison

Revenue Requirement Comparison (\$M)

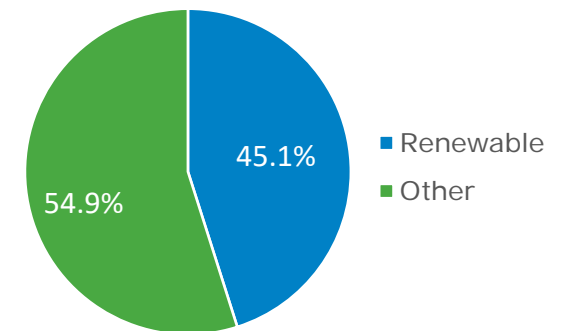


■ Reference ■ FC Exit 2027 ■ FC Exit 2028
■ FC Exit 2029 ■ FC Exit 2030 ■ Preferred Plan

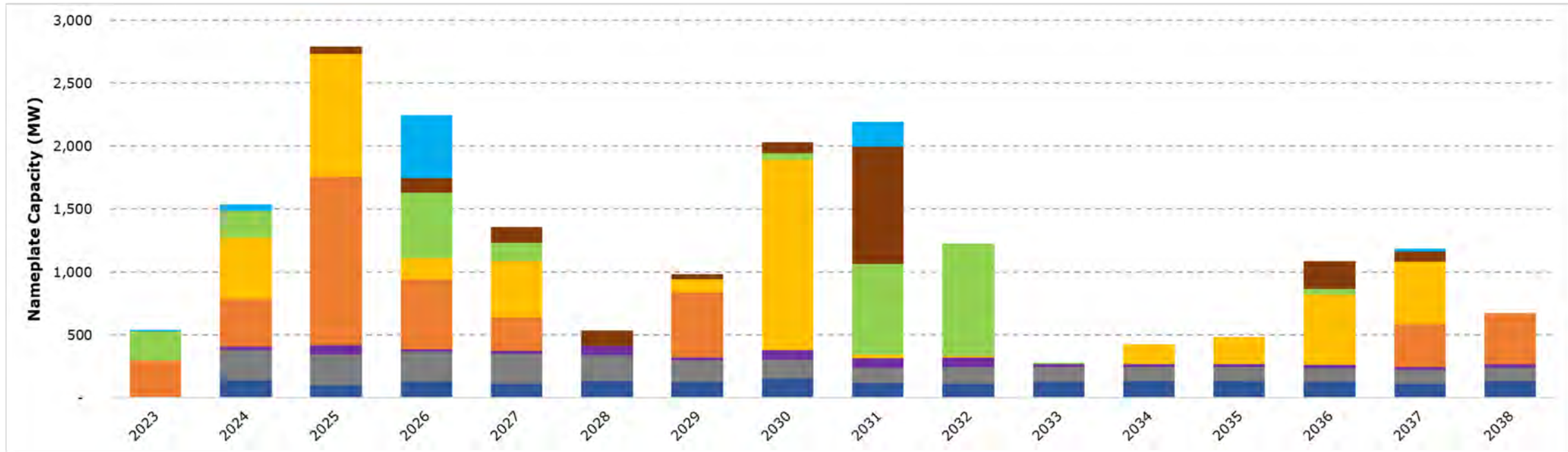
Key Considerations

- Preferred Plan **most cost-effective case** and **meets Clean Energy Commitment in 2030 organically**
- Four Corners Early Exit cases show value compared to reference, **but less than Preferred Plan**
- Preferred Plan **maintains reliable Four Corners operation until 2031**, with value being driven by **wind** **firmed by gas transmission sharing construct.**

Preferred Plan
Renewable
Percentage in 2030



Annual Capacity Additions by Resource | Preferred Plan



Wind and gas replacement for Four Corners exit in 2031

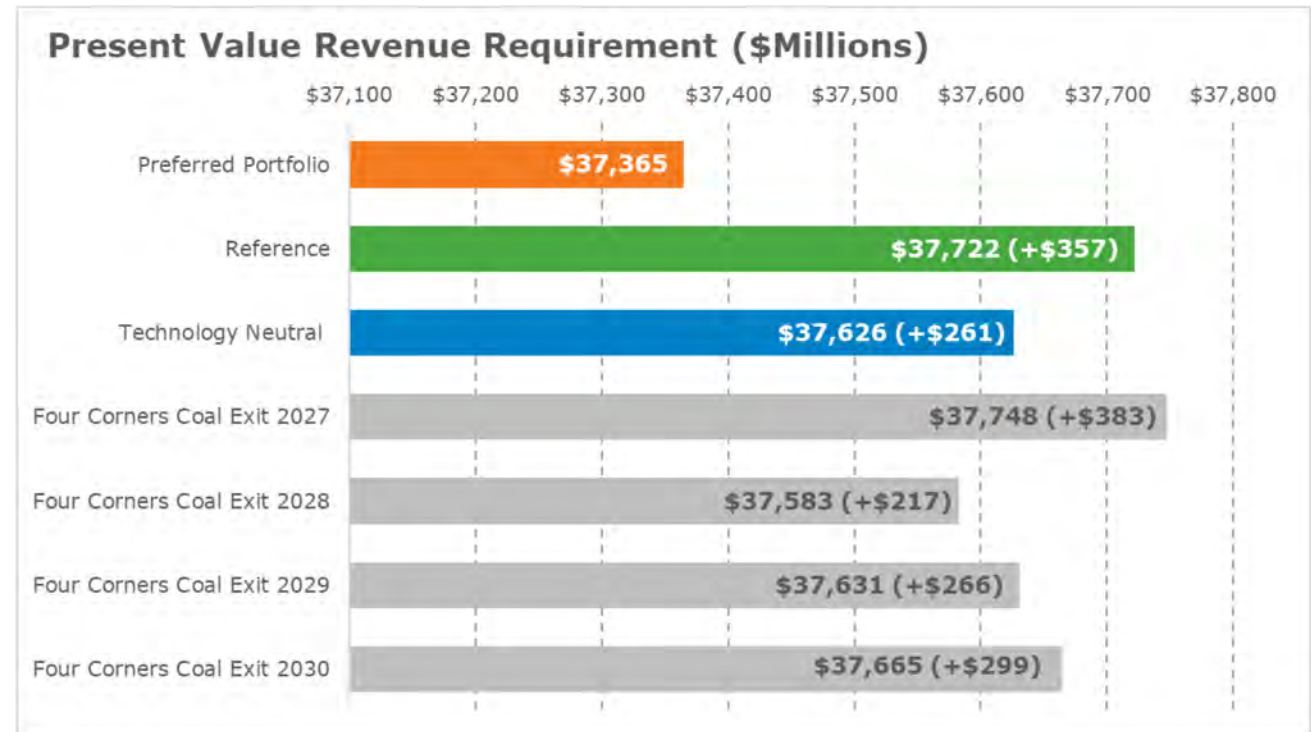




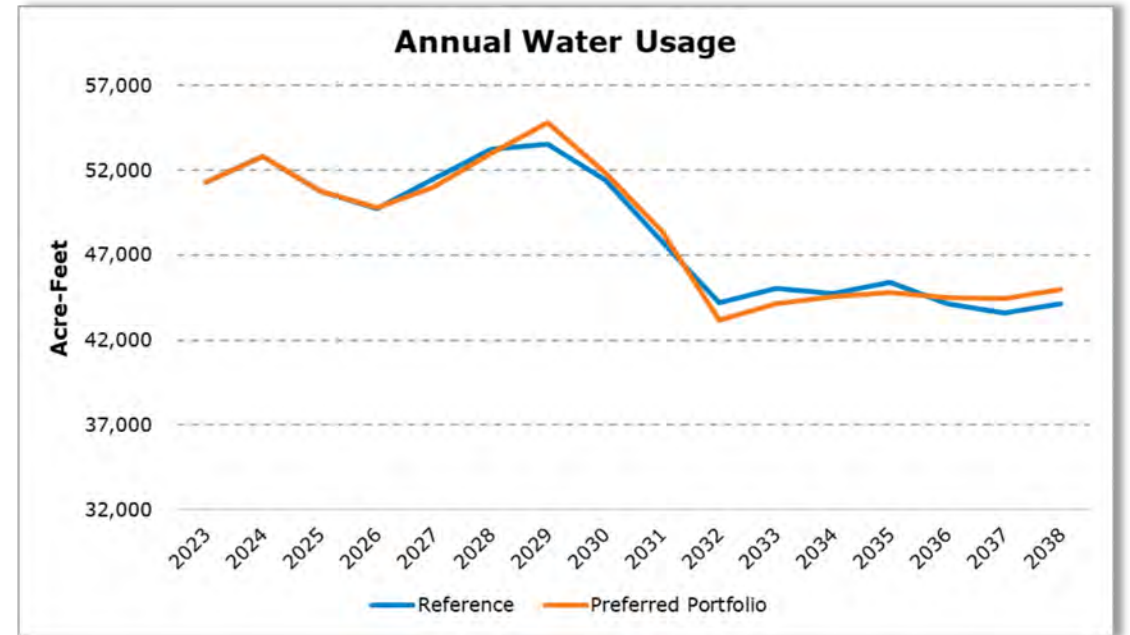
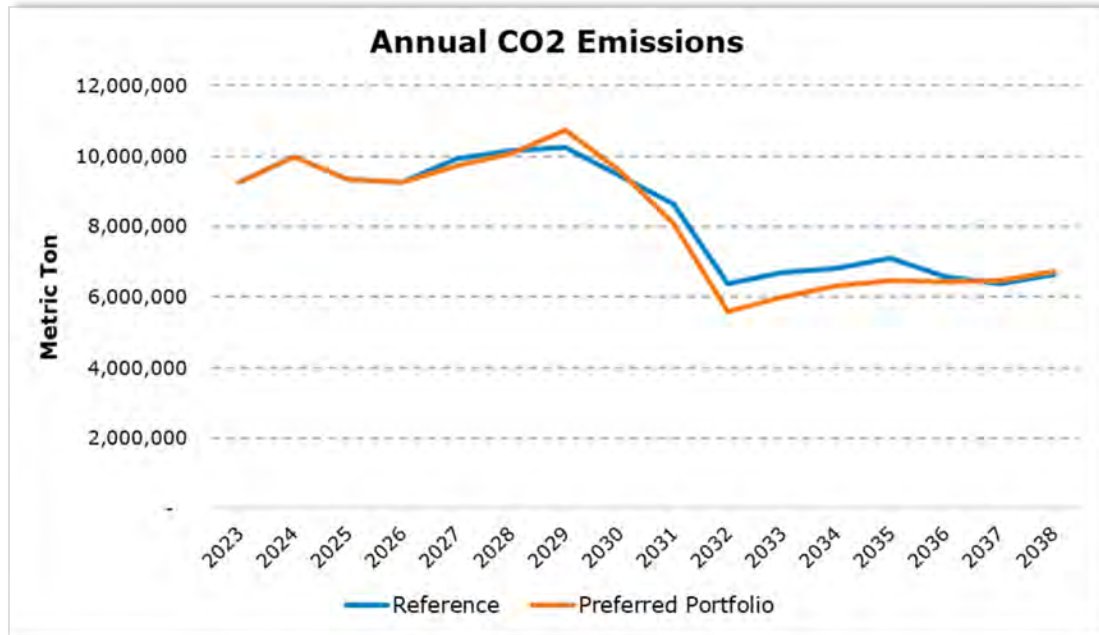
Benefits of the Preferred Plan

- Reflects APS customers' needs and preferences, limits costs while maintaining reliability, and increases the diversity of APS's portfolio through investment in clean resources.

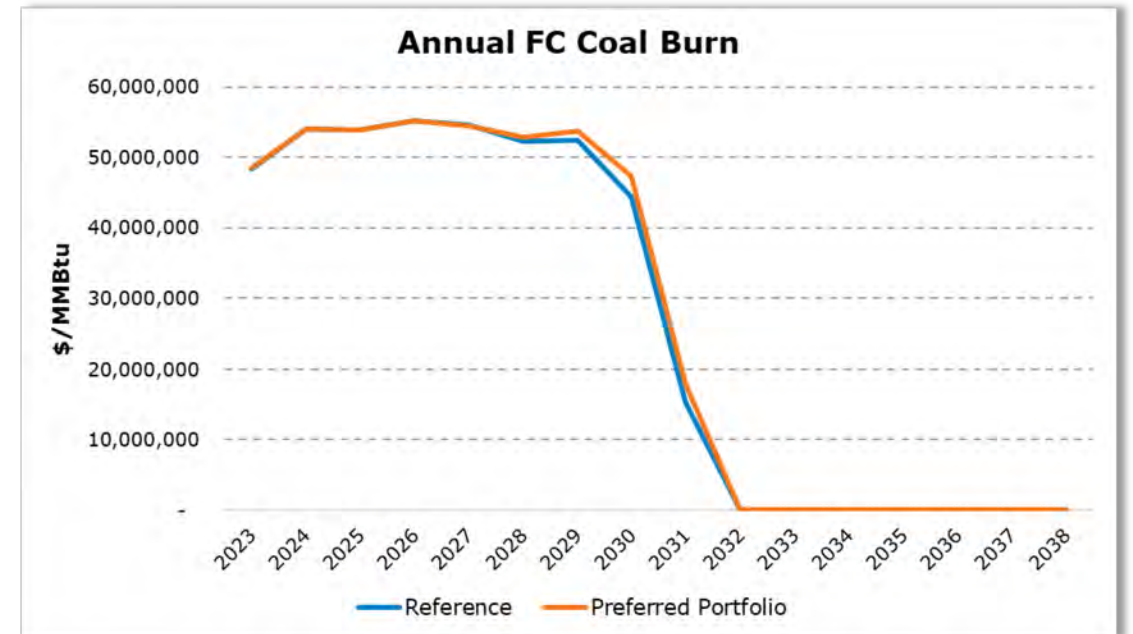
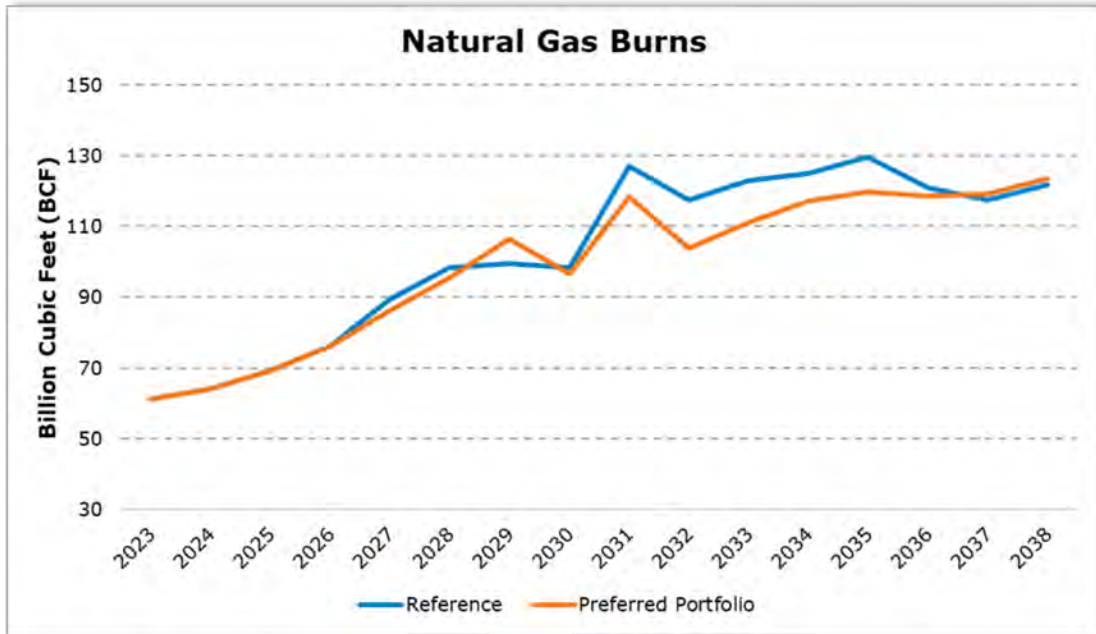
- Least Cost
- Reliable
- Clean Energy Commitment is met
- Contains proven technologies



CO2 Emissions & Water Usage | Preferred Plan



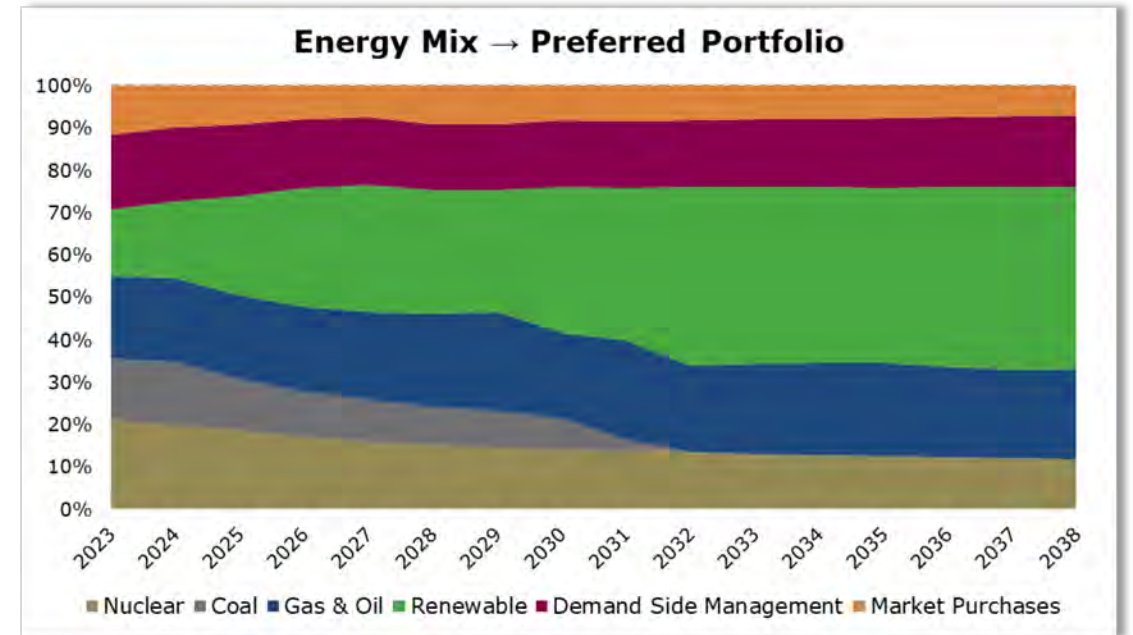
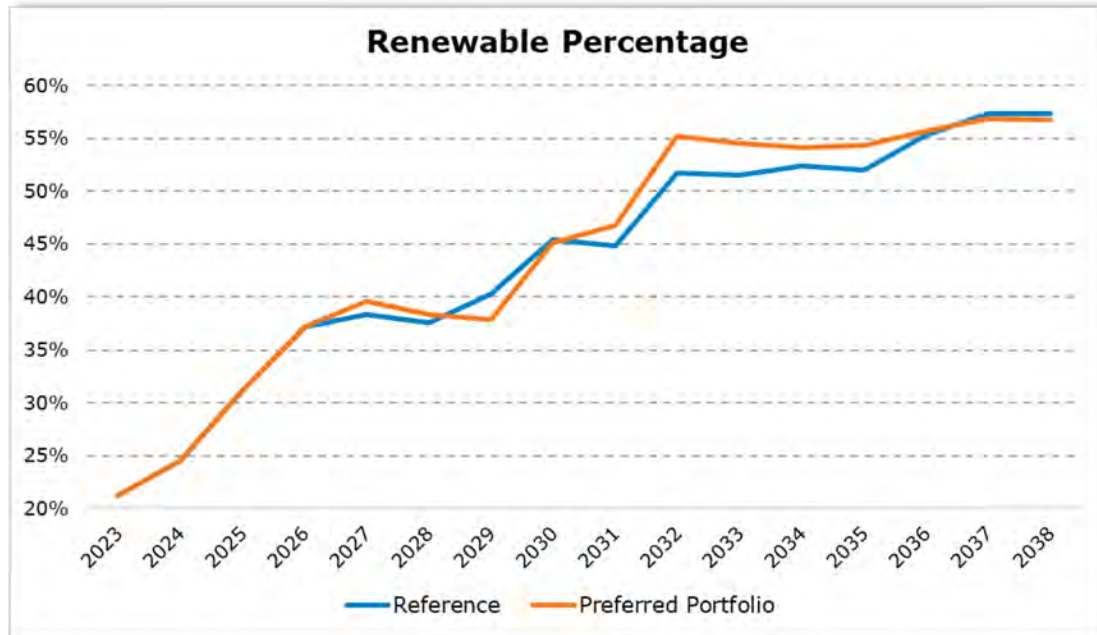
Natural Gas & Four Corner Coal Burn | Preferred Plan



Additional Wind replacement in 2031 for Preferred Portfolio



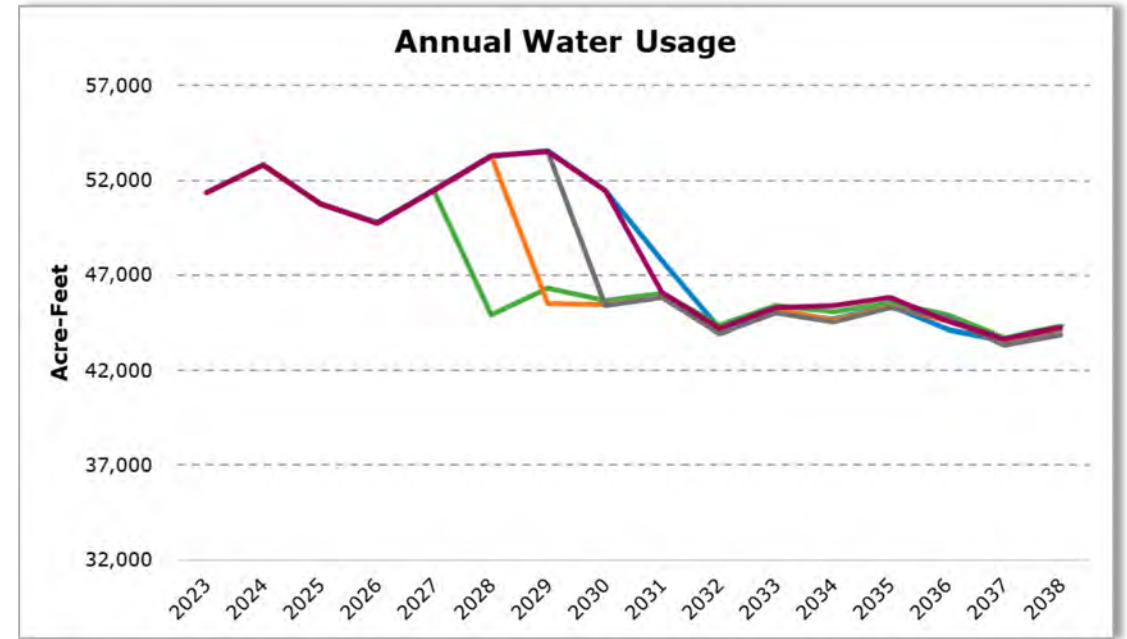
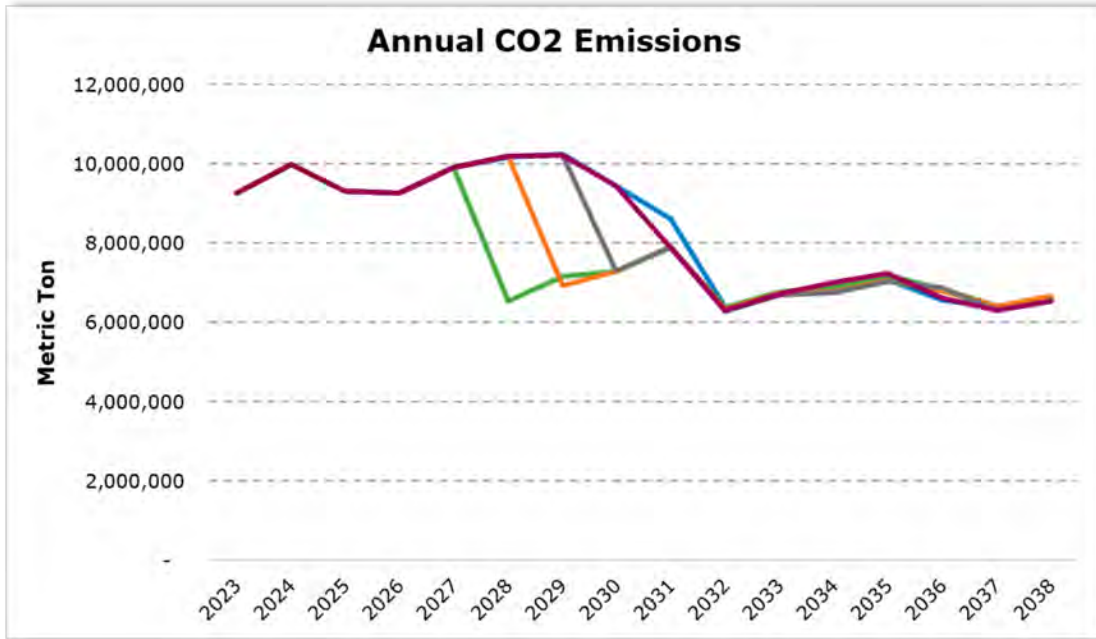
Renewable Percentage & Energy Mix | Preferred Plan



Renewables replace Coal in energy mix



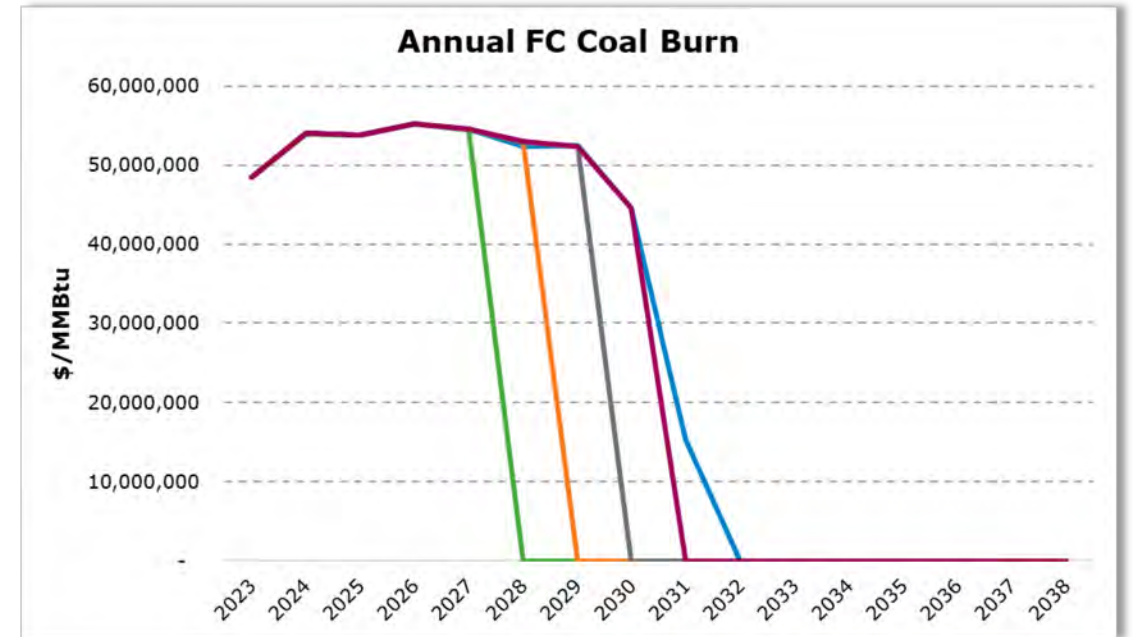
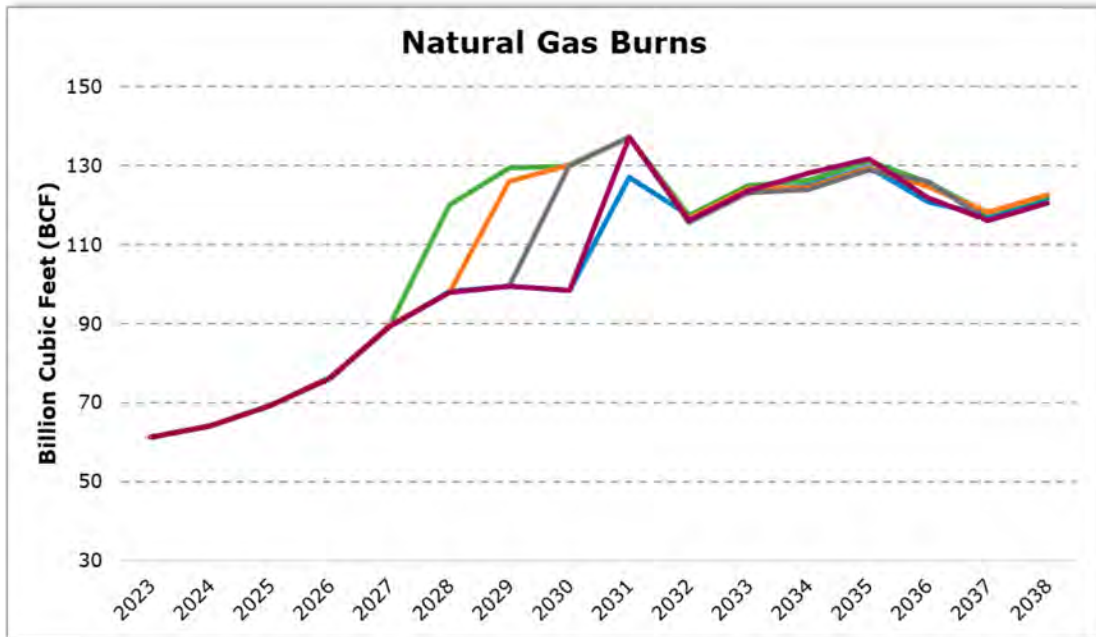
CO2 Emissions & Water Usage | Four Corners Exit Cases



- Reference
- Four Corners Coal Exit 2027
- Four Corners Coal Exit 2028
- Four Corners Coal Exit 2029
- Four Corners Coal Exit 2030



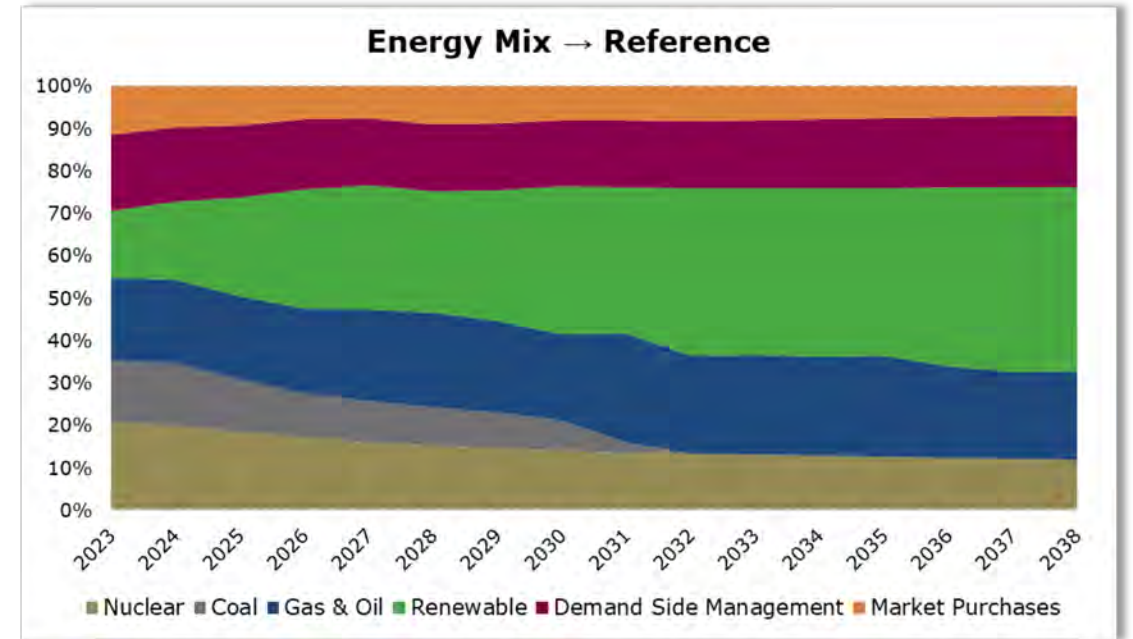
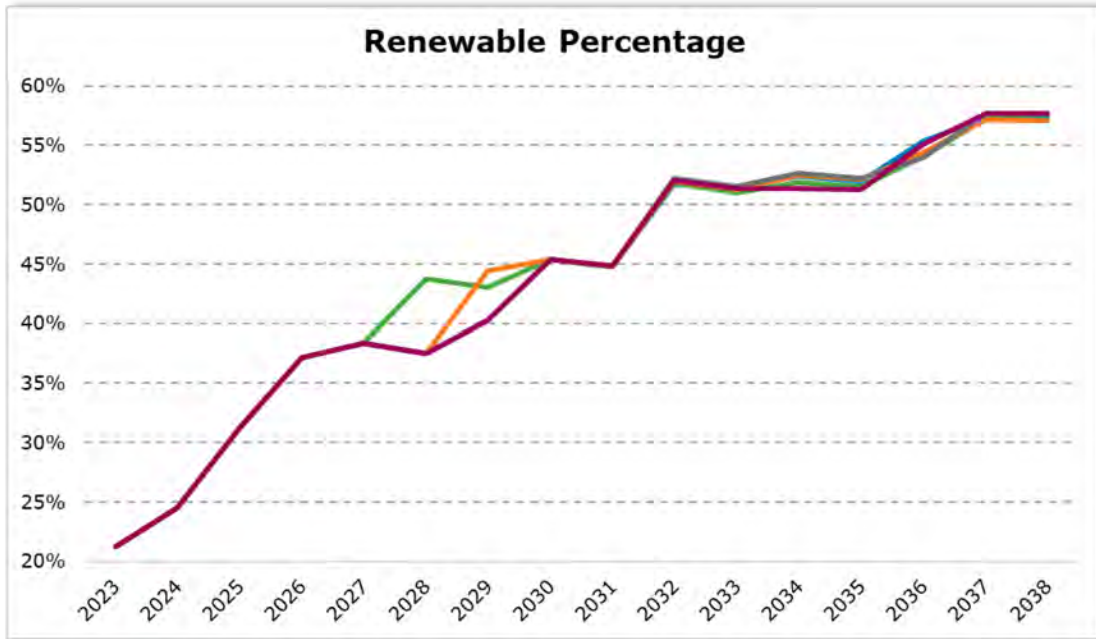
Natural Gas & Coal Burn | Four Corners Exit Cases



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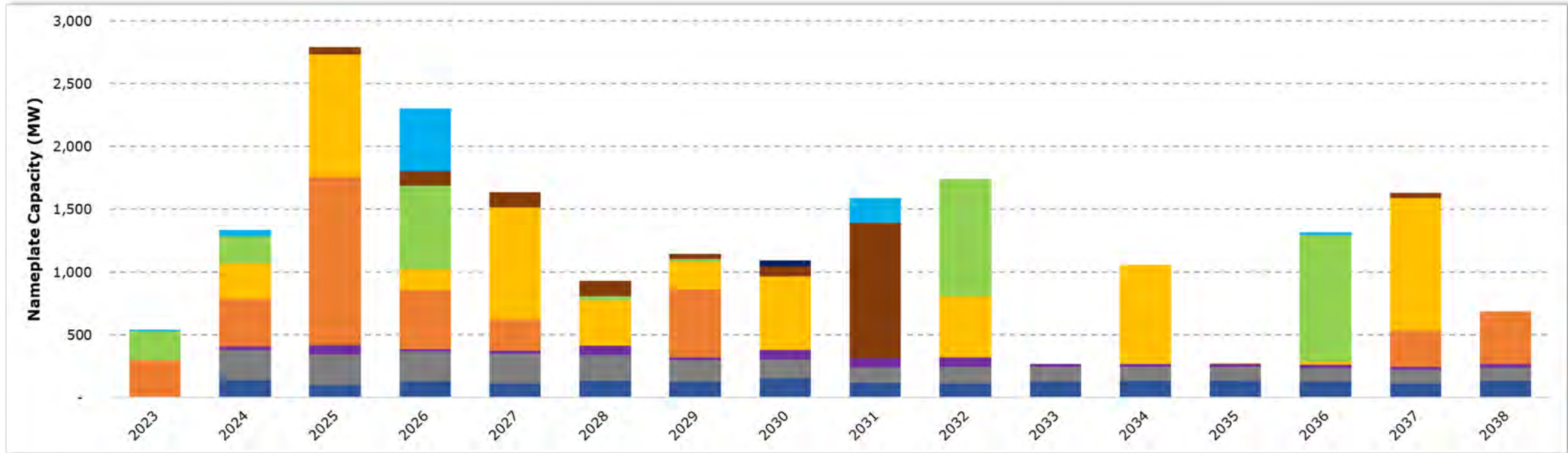
Renewable Percentage & Energy Mix | Four Corners Exit Cases



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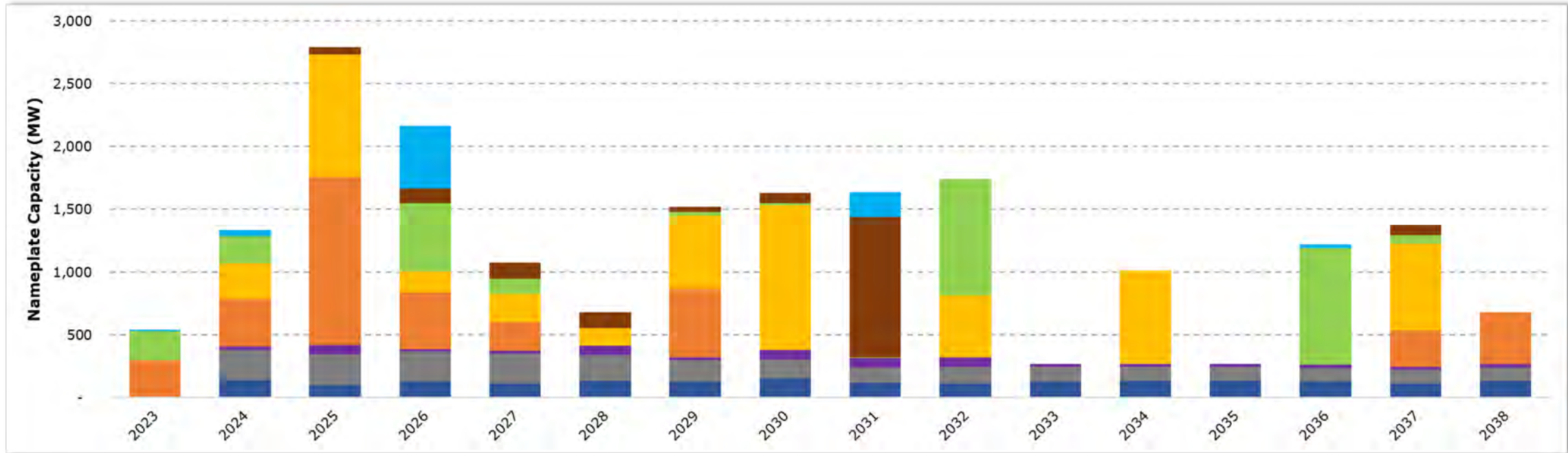
Annual Capacity Additions by Resource | High Gas Price



Natural Gas is built for reliability across all cases



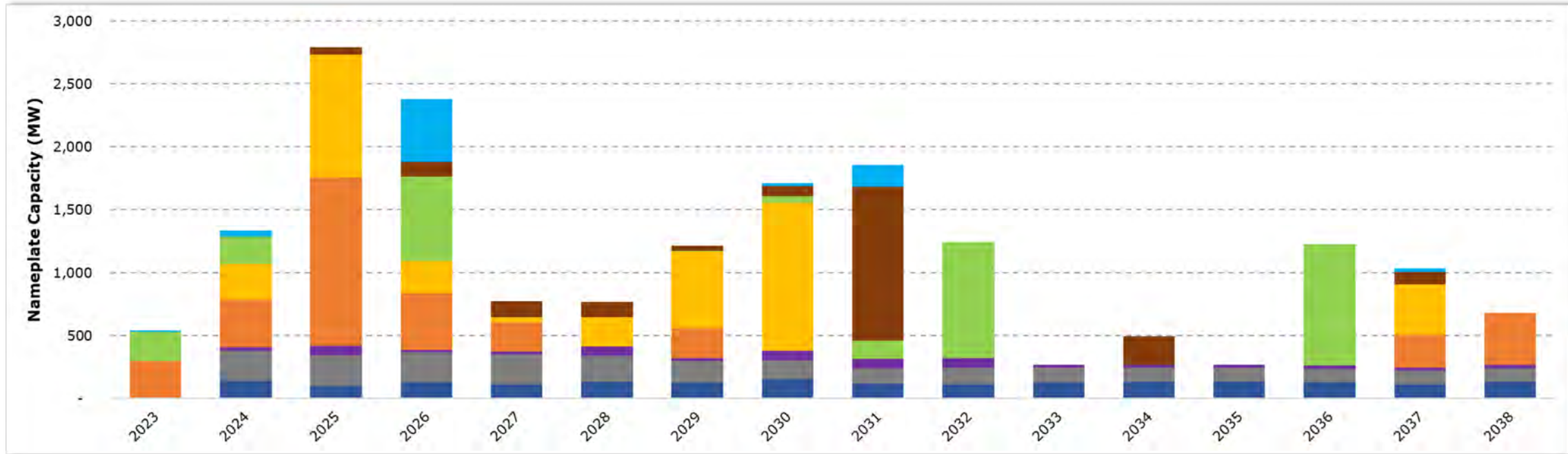
Annual Capacity Additions by Resource | Low Renewable Technology Cost



Natural Gas is built for reliability across all cases



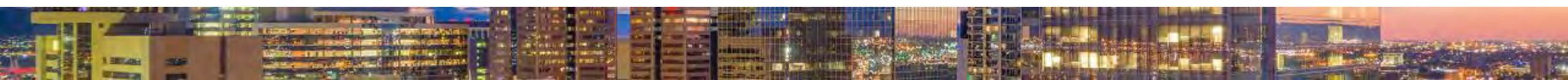
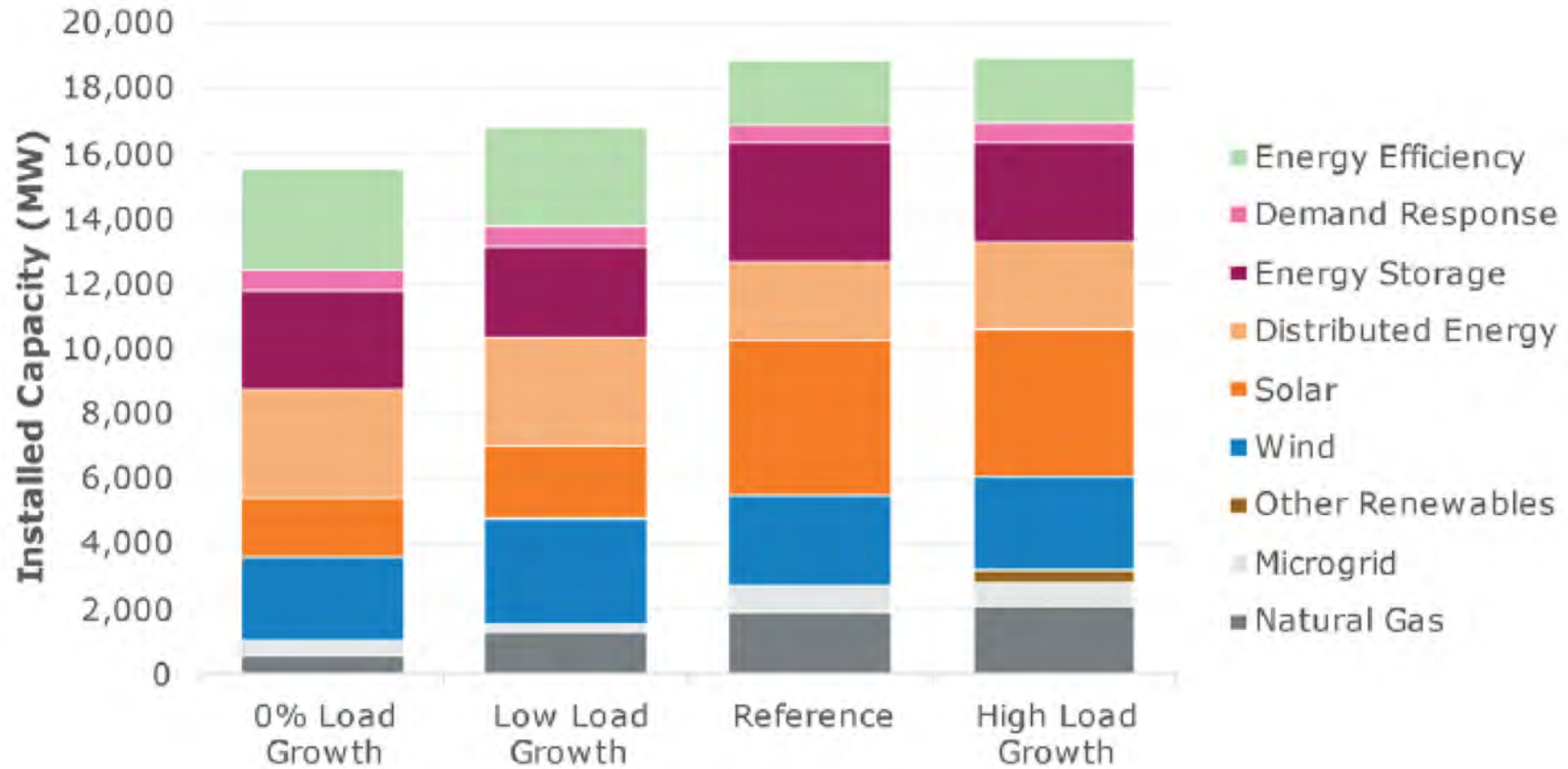
Annual Capacity Additions by Resource | High Renewable Technology Cost



Renewable resources cost-effective even at higher pricing levels



Load Sensitivities – Cumulative New Capacity Additions, 2024-2038






Next Steps / Closing Remarks

Matt Lind, 1898 & Co.



Receive Updates on Docket No. E-99999A-22-0046

- If you want to receive notification of a filing made in a docket or multiple dockets, you can sign up on the ACC website. Create a login [here](#) 
- Creating a free AZCC Portal Account allows you to submit a public comment on a docket number and speak at an open meeting.
- Instructions on how to follow a Docket or Document Type [here](#)



Presentation Material

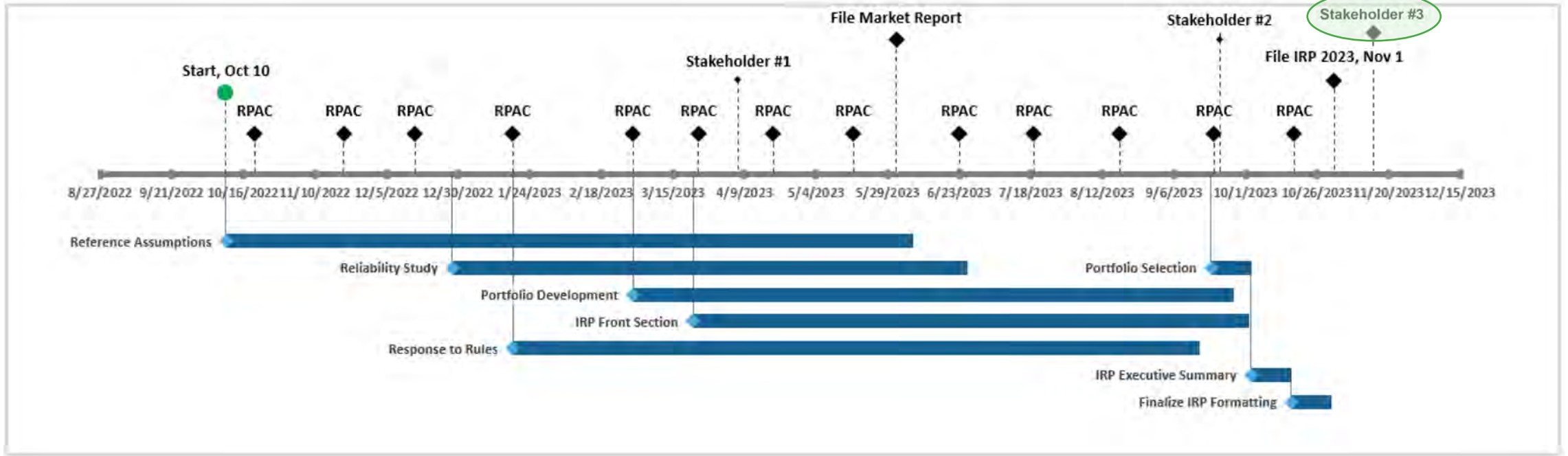
Presentation slides, meeting minutes, and a summary of question/answers will be available on the APS website.

www.aps.com/resources





IRP Timeline



Future Milestones

