APS RPAC Meeting

7/10/2025

MEETING AGENDA

Welcome & Meeting Agenda
Adam Constable
APS

Participant Introductions
Mike Eugenis & Omaya Ahmad
APS

Integrated Resource Planning Process
Mike Eugenis & Akhil Mandadi
APS

Next Steps & Closing Remarks
Adam Constable
APS

Meeting Guidelines

Member Engagement

RPAC Member engagement is critical. Clarifying questions are welcome at any time. There will be discussion time allotted to each presentation/agenda item, as well as at the end of each meeting.

Action Items

We will keep a parking lot for items to be addressed at later meetings.

Meeting Minutes

Meeting minutes will be posted to the public website along with pending questions and items needing follow up. We will monitor and address questions in a timely fashion.

Preliminary Content

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

April Meeting Recap

- APS provided an update on the 2024 ASRFP evaluation process, which included a breakdown of the number of bids received for each resource Type.
- APS shared a preview of its ACC Summer Preparedness Workshop presentation.
- APS discussed recent activity in ACC Docket No. G-00000A-25-0029 regarding natural gas infrastructure and storage.
- APS provided an update on the recently opened ACC Docket No. E-00000A-25-0026 for new nuclear generation in Arizona and discussed the February APS press release regarding future nuclear development.
- APS provided a detailed view of topics to be discussed at future RPAC meetings leading up to the 2026 IRP.

Following Up

- Action Items from Previous Meetings:
  - N/A
- Ongoing Commitments:
  - Distribute meeting materials in a timely fashion
  - Transparency and dialogue

Participant Introductions

Mike Eugenis & Omaya Ahmad, APS

Participant Introductions

- Name
- Organization
- Organization's mission
- What does your organization hope to gain from RPAC participation?
- What inspired you to enter your current line of work?

Integrated Resource Planning Process

Mike Eugenis & Akhil Mandadi, APS

Integrated Resource Plan (IRP) Process

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.

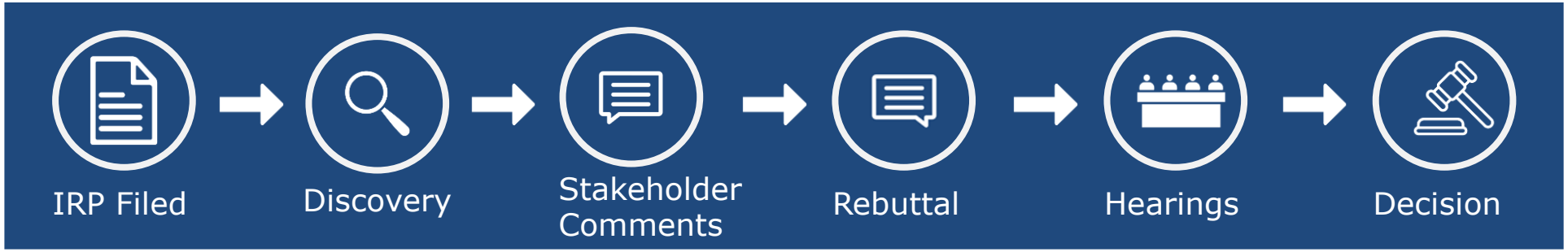
- Mission
  - Provide a roadmap to meet Arizona's growing energy needs

- IRP Contents
  - Planning Approach & Principles
  - Assessing Needs & Resources
  - Transmission Planning
  - Regulatory
  - Portfolio Analysis
  - Action Plan

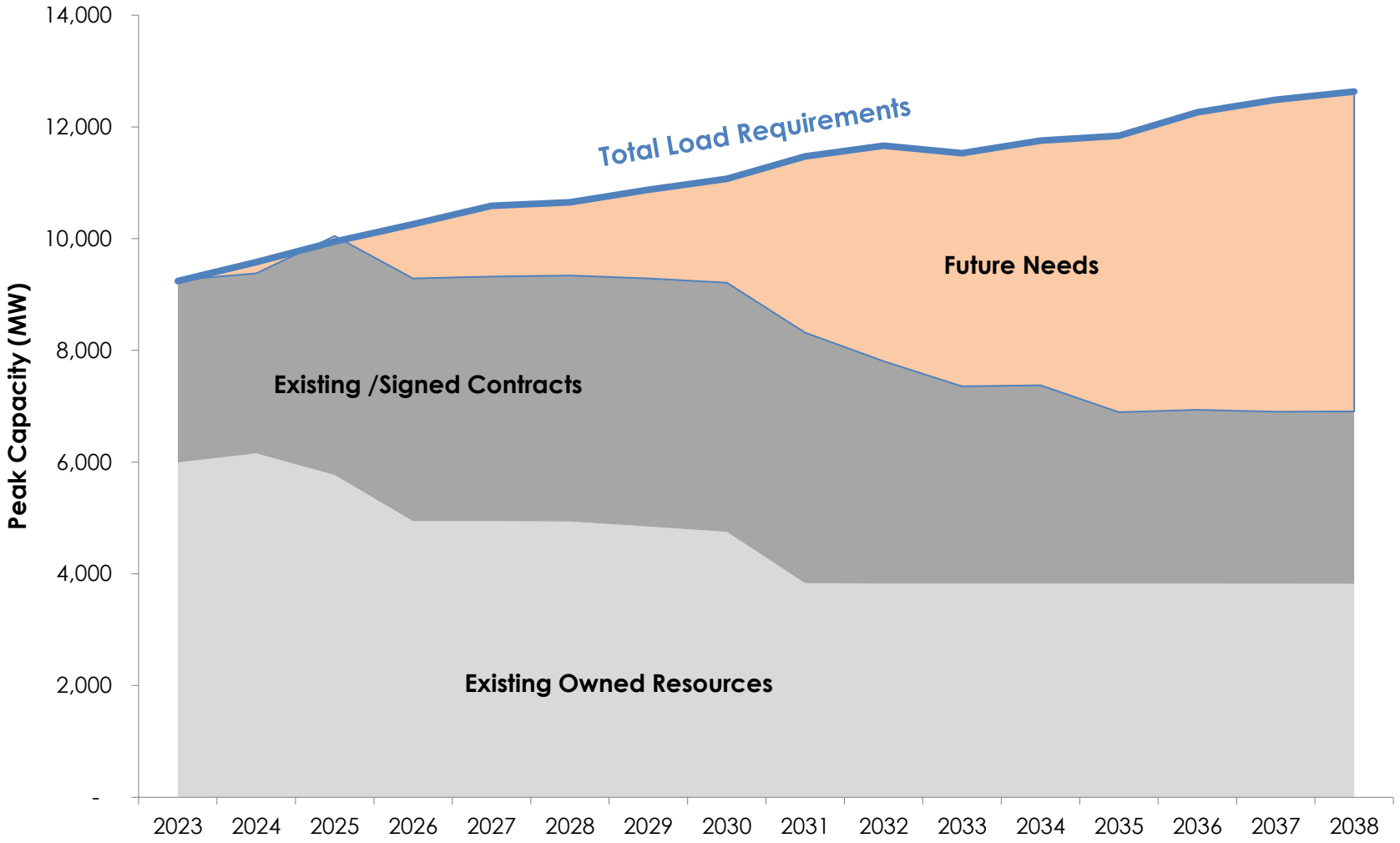
Regulatory Environment

- Must Comply with Arizona Corporation Commission (ACC) Requirements
  - Filed every 3 years
  - Contents mandated by ACC
- Stakeholder Engagement
  - Resource Planning Advisory Council (RPAC)
  - Public Stakeholder Meetings
  - ACC Workshops
  - aps.com/resources

IRP Process Step	Due Date	Responsibility
LSEs File Final IRPs	8/3/2026	LSEs
Stakeholder Comments	10/30/2026	Stakeholders
LSEs Response to Stakeholder Comments	2/26/2027	LSEs
Staff Assessment & Proposed Order	5/31/2027	ACC Staff
Open Meeting Decision	TBD	Commissioners



Meeting Future Needs



Components of the IRP

Planning for the Future

- Planning Approach & Principles

Assessing Needs & Resources

- Load forecast
- Assessment of current & future technologies
- Customer-sited resources

Transmission Planning

- New project development
- Existing grid optimization

Regulatory

- ACC Standards
- FERC Standards
- Environmental Regulations

Portfolio Analysis

- Commission Required Scenarios
- Strategic Scenarios
- Discussion of results

Action Plan

- Inform ASRFP activity

The IRP Portfolio Process

Reference Case

Baseline for benchmarking and comparison

Sensitivities

Overview of the progressive modeling process and learnings from results

Resource Value & Constraints

Identifying most valuable resources and influential constraints

Preferred Plan

How results from other cases informed the Preferred Plan

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?

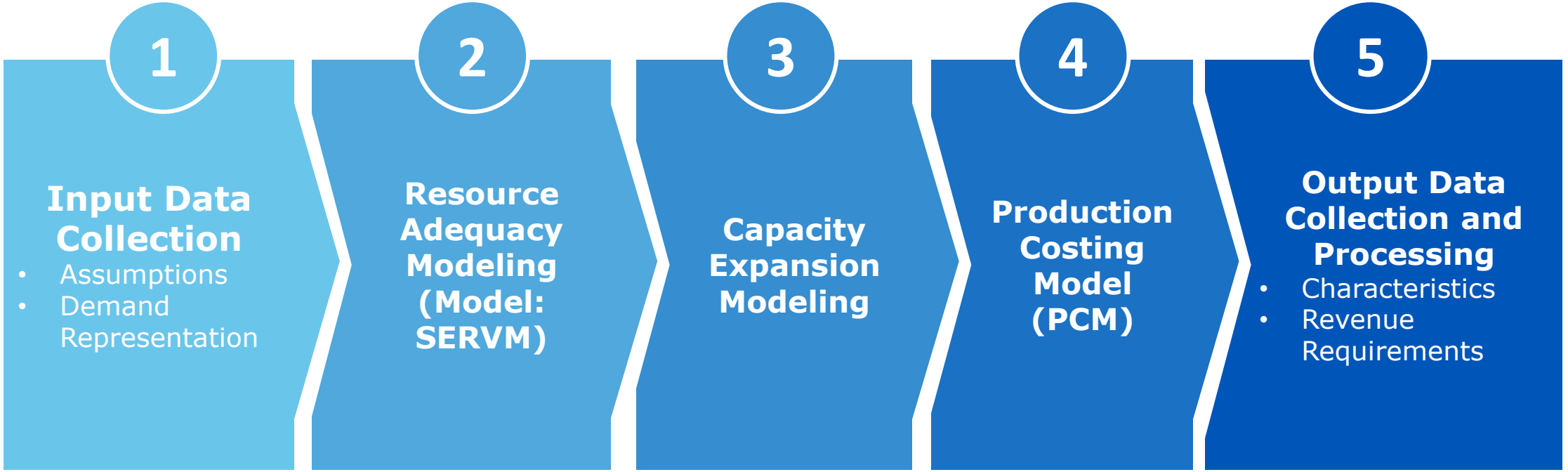
Will it be reliable?

What will be the environmental impact?

Balancing Act – Optimization Problem (Multiple trade-offs)

"All Models are wrong, some are useful" - George Box

APS Model Development Process

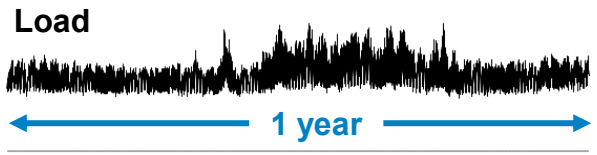


SERVM: Strategic Energy and Risk Valuation Model

Resource Adequacy Model

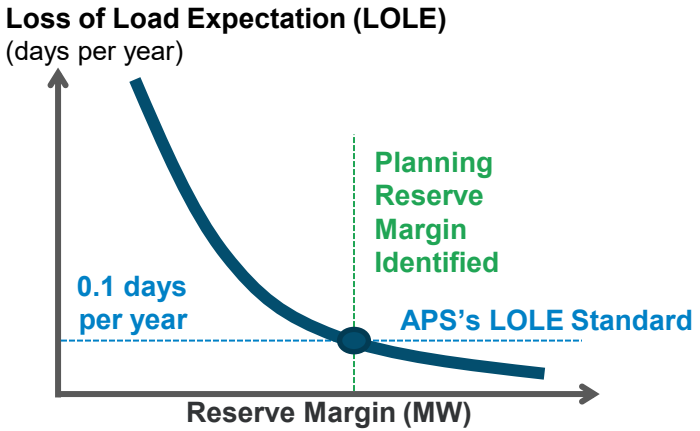
APS loads and resources represented in SERVM

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)



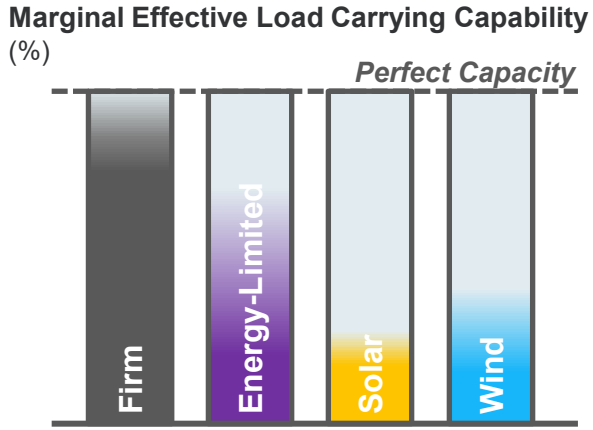
Identify the amount of Planning Reserve Margin needed to achieve the desired level of reliability

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

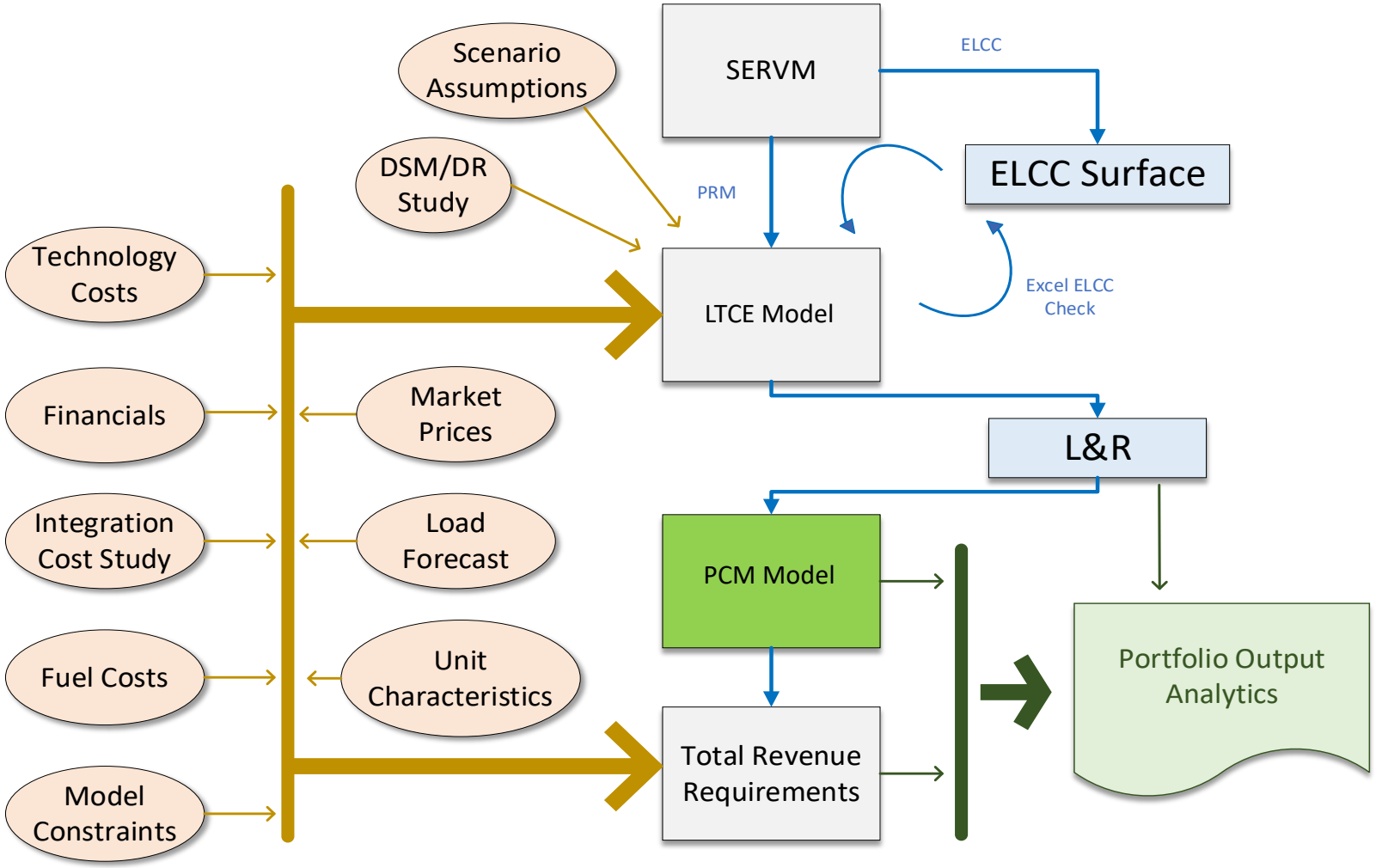


Calculate capacity contributions of different resources

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



MODELING PROCESS FLOW DIAGRAM



DR: Demand Response

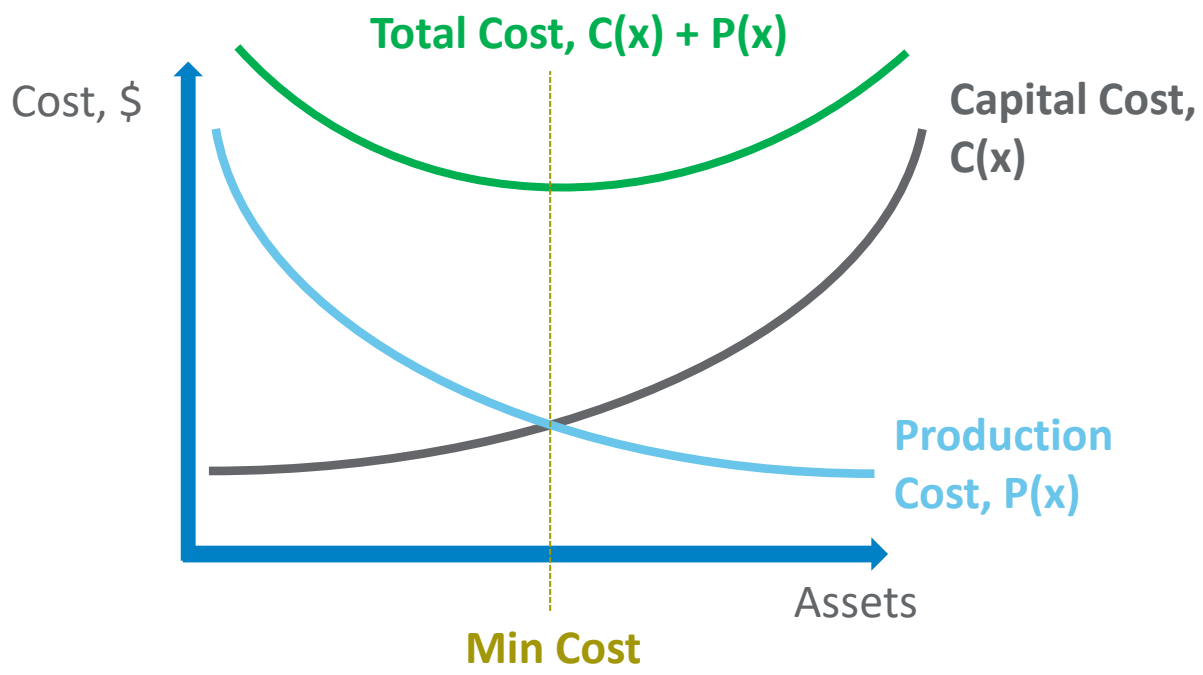
DSM: Demand Side Management

ELCC: Effective Load Carrying Capability

L&R: Load and Resource table

PRM: Production Reserve Margin

Capacity Expansion and Production Costing Models



Capacity Expansion

- Optimal resource mix to serve future needs
- Simulation of new builds (answers where, when, how much and what type of assets to pick)
- Higher Resolution and Scope

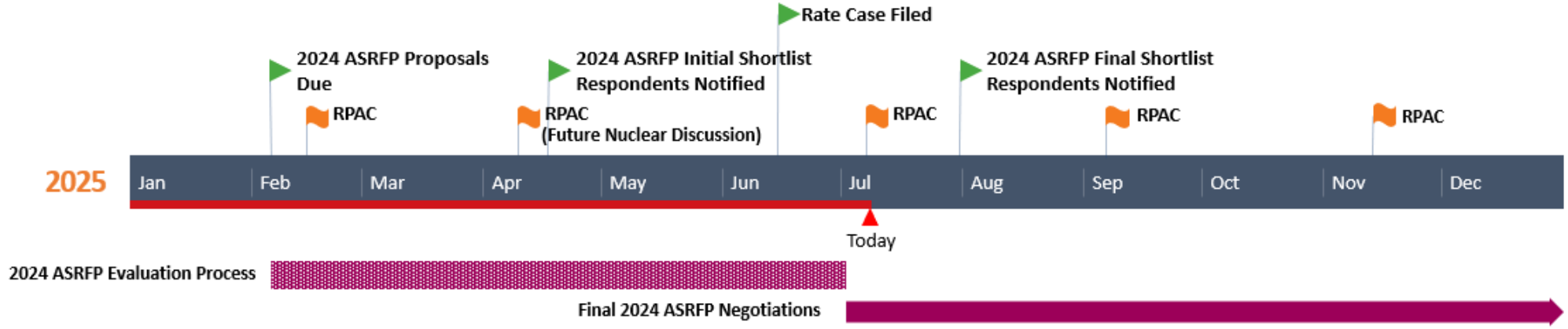
Production Costing

- Minimizes Operational Costs and thereby provides expected operational plan for the resources picked
- Detailed Simulation of specified resource mix (answers how the picked resources would be used and thereby their impact to the environment, etc.)
- Finer Resolution and Scope

Next Steps & Closing Remarks

Adam Constable, APS

Forward Plans and Meetings



Key Milestones

September RPAC Meeting
Time: TBD

2024 ASRFP Final Shortlist Respondents Notified: Expected prior to the end of Q3
Rate Case Filed: 6/13/2025