



# Integrated Resource Planning Process

---

**October 22, 2025**



# Agenda

- 1 Introductions
- 2 Review and Charter
- 3 IRP Process
- 4 Modeling Inputs & Assumptions
- 5 Portfolios
- 6 Wrap-Up





# Introductions

- **Your name**
- **Who you represent**

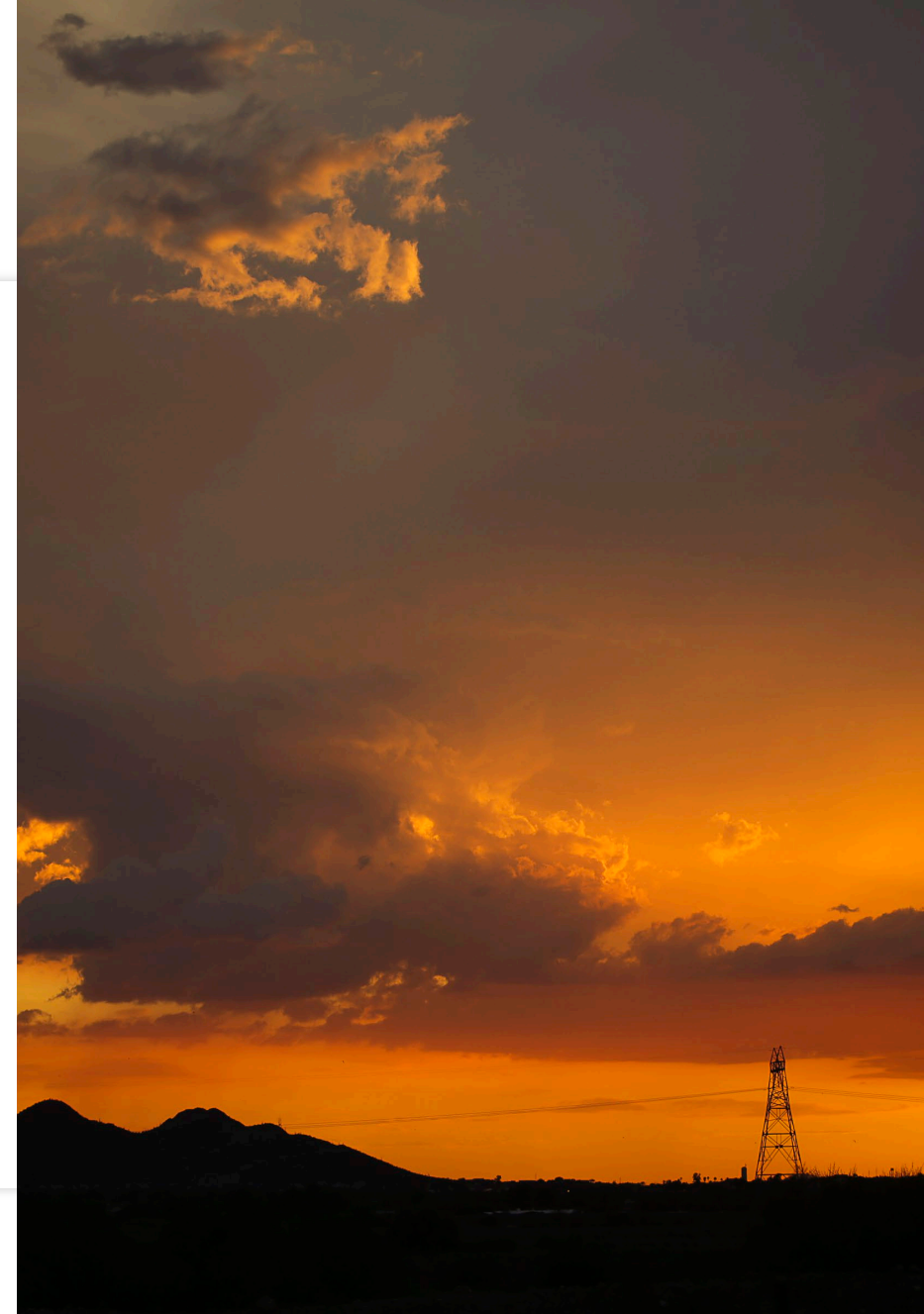


A solid green vertical bar on the left side of the slide.

# Review and Charter

# Meeting Review: August 27

- Slides and minutes available on [uesaz.com/rpac/](https://uesaz.com/rpac/)
- Collaboration Principles
  - Open communication
  - Assume best intentions
  - Encourage active participation and questions
    - "Speak up, step back"





# RPAC Charter Updates

## Refreshed Priorities:

- Transparency and sincerity
- Respectful and inclusive communication
- Active listening, balanced participation
- Collaboration and compromise

\*Updated charter will be emailed to participants for feedback. Feedback window will be closed Nov 14.





# Integrated Resource Plan (IRP) Process





# What is IRP

## UNS Electric 2023 Integrated Resource Plan

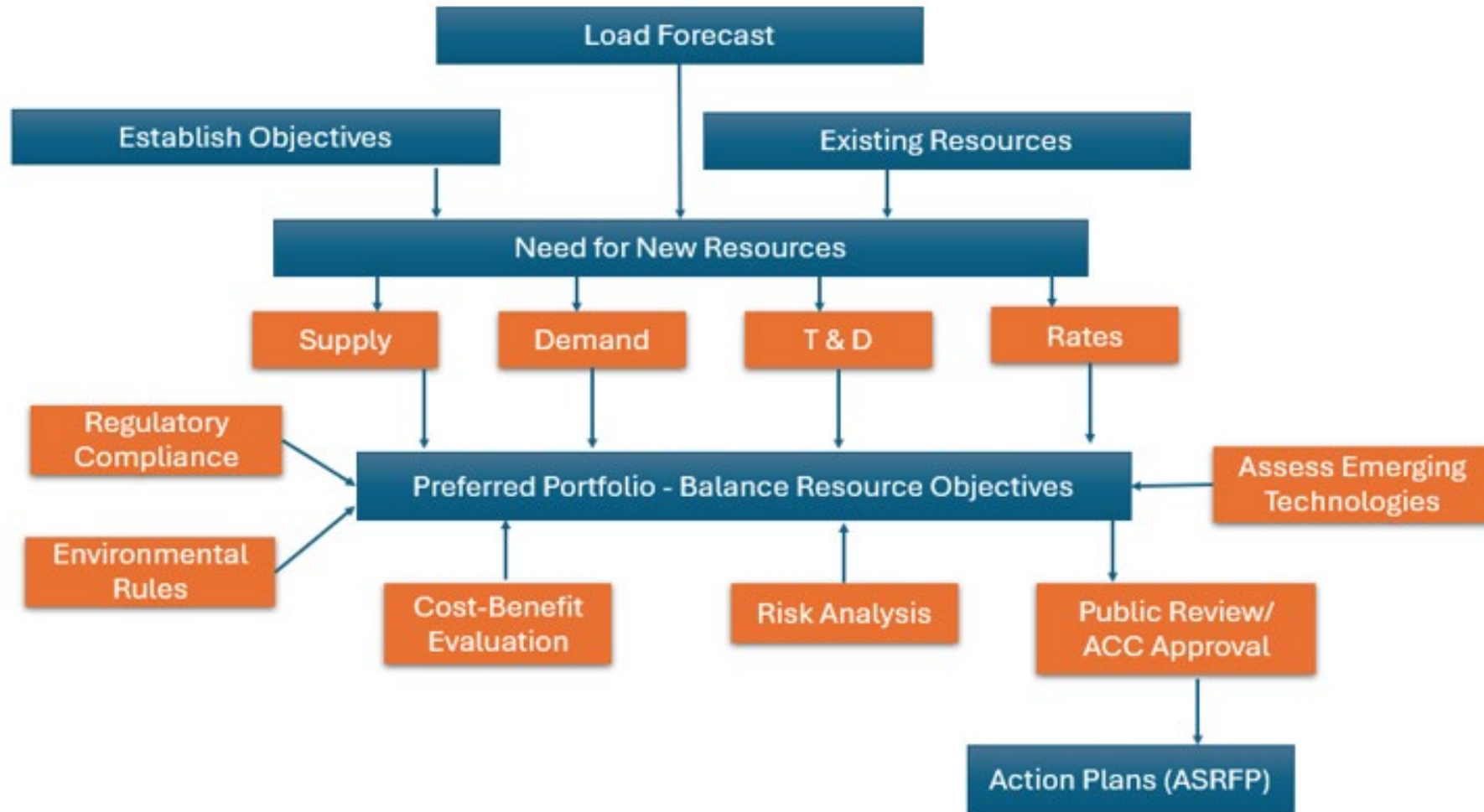
November 1, 2023



- An Integrated Resource Plan is a comprehensive decision support tool and long-term roadmap for a utility to meet its projected energy needs using both supply and demand side resources while ensuring reliable service for customers in a cost-effective way.
- The IRP process is subject to: reliability requirements, regulatory requirements, operational constraints, environmental factors, and forward market uncertainties.



# IRP Process

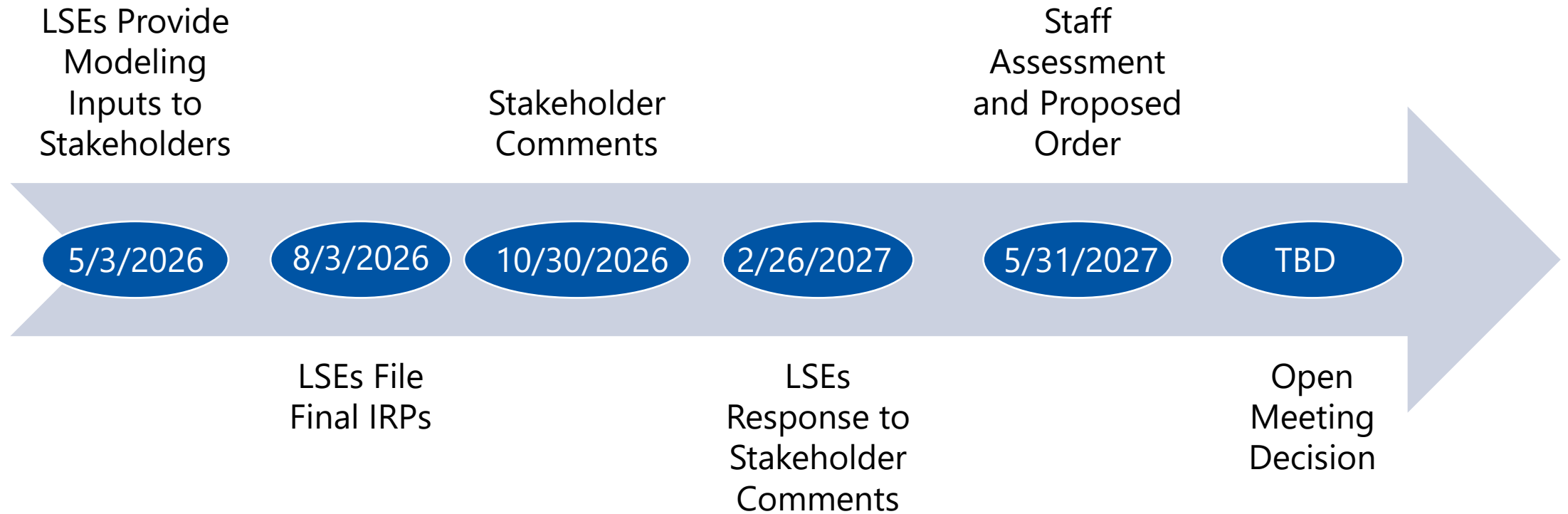


# Regulatory Compliance and Public Oversight

- **Governed by Arizona Corporate Commission (ACC)**
  - File IRP every three years
  - 15-year forward looking resource plan
- **Comply with Environmental Rules**
- **Stakeholder Engagement**
  - Resource Planning Advisory Council (RPAC)
  - ACC Workshops



# IRP Timeline





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

# Modeling Assumptions

# Portfolio Modeling Process

01

## Inputs

- Gather Data
  - Internal
  - External

02

## Long-Term Capacity Expansion Model

Aurora, an energy market simulation software, selects resource additions and retirements based on economics.

03

## Production Cost Model

Aurora runs an hourly simulation that dispatches all existing and new resources to meet forecasted demand, minimizing total system costs.

04

## Outputs and Post-processing

- Extract Data
- Data Cleansing & Integration
- Calculate Revenue Requirements

LTCE: Long-Term Capacity Expansion  
PCM: Production Cost Model

# Inputs

---



Load  
Forecast



Existing  
Resources



Costs



Constraints



Outages



Transmission



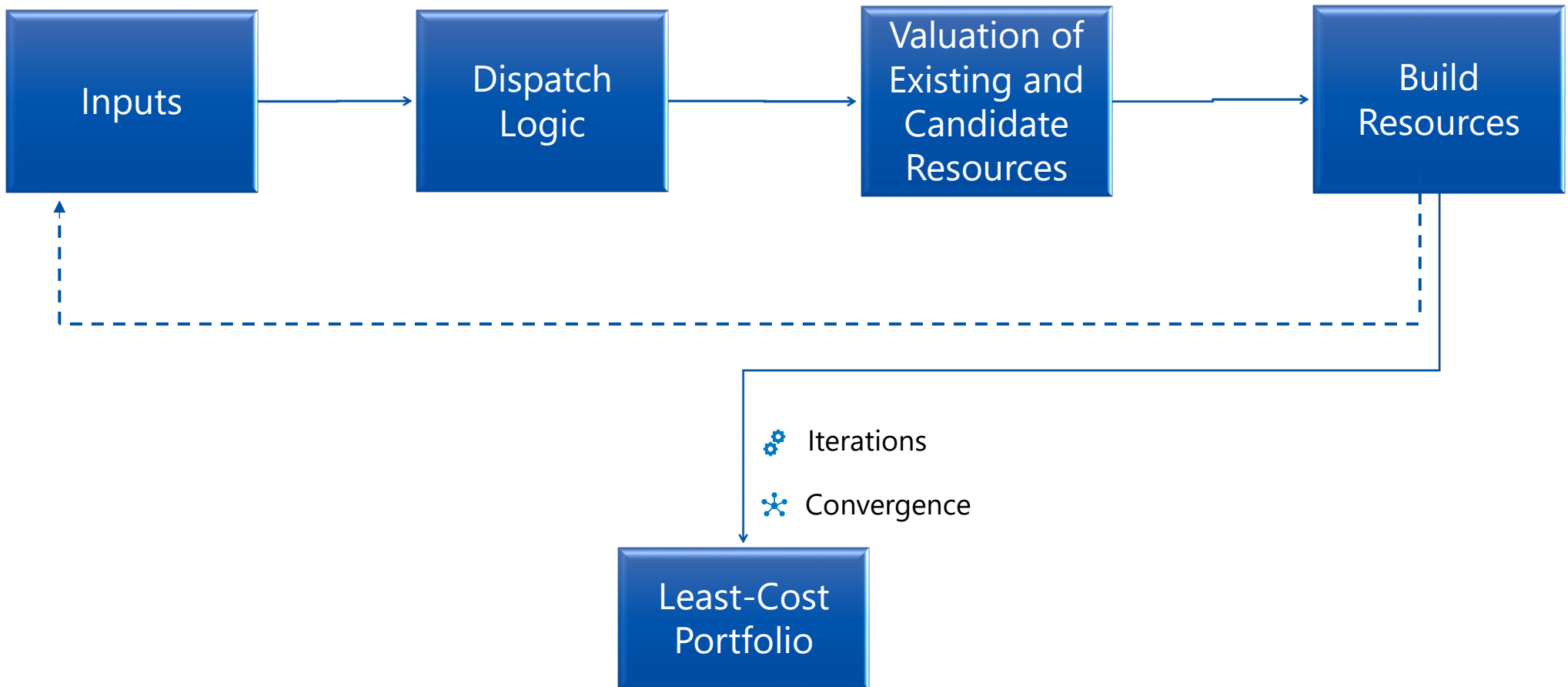
Resource Adequacy



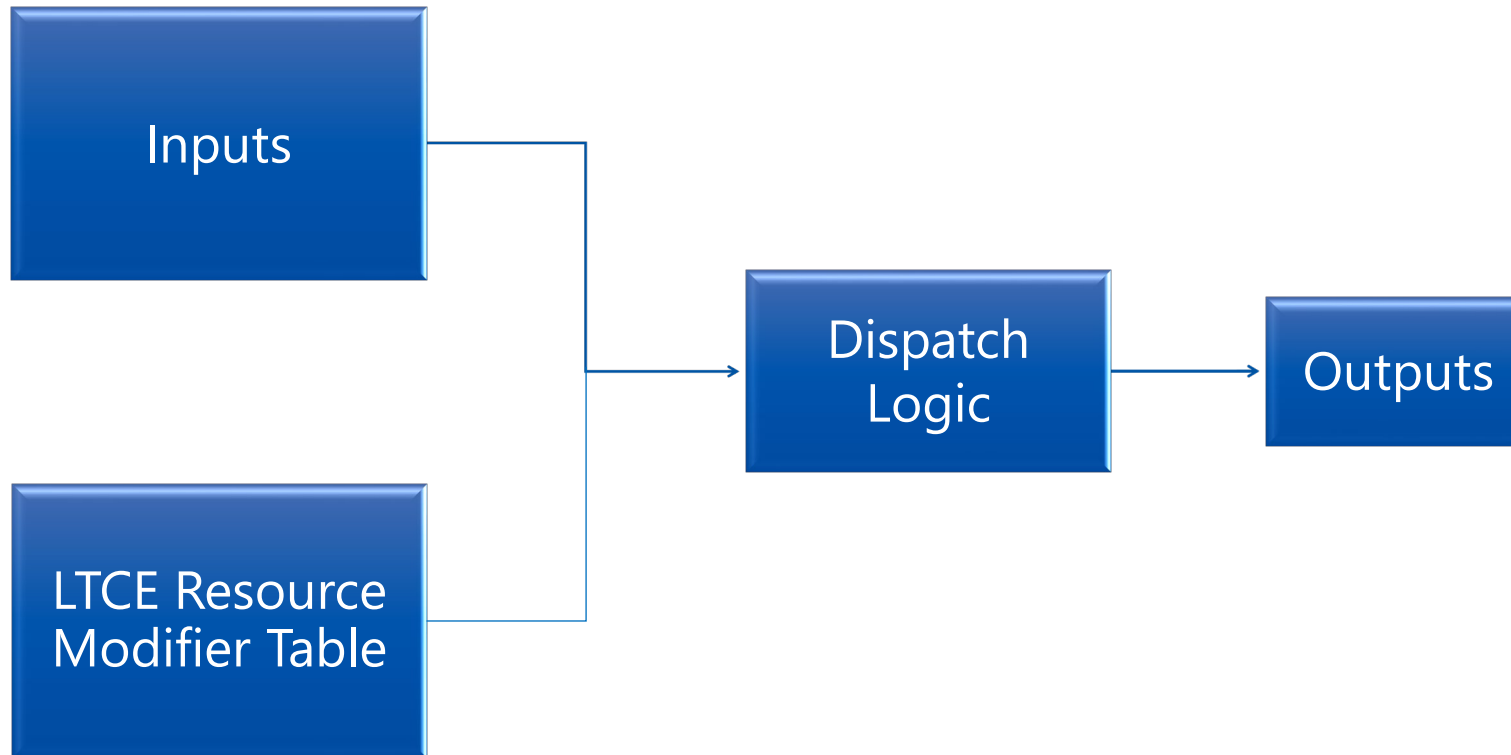
Policies



# LTCE Model Flow Diagram



# PCM Flow Diagram



# Outputs & Post-Processing

## Aurora Outputs



Resource  
Generation



Total Costs



Imports



Exports



Renewable  
Curtailment



Water Use



Emissions



Excel

Extract high-level monthly data  
Analyze results  
Create dashboards



Power BI

Extract hourly data  
Create hourly generation  
visualizations



Revenue Requirements

Calculate total revenue  
requirements





# Deeper Dive – Environmental Regulation

---

**UniSourceEnergy**  
SERVICES

# Rules On the Books\*:

- GHG Emissions Reduction for Electric Generating Units (EGUs)
- Good Neighbor – interstate Ozone transport
- Water Resources

\*As of October 22, 2025



# Environmental Policy Considerations

- The change in federal administration, executive agency strategy, legislation, and/or legal challenges could impact the effectiveness, implementation, timelines of these rules.
- Environmental laws and regulations continue to evolve, which makes planning complicated. We need to make decisions and take certain actions now to comply with existing regulatory deadlines, and we recognize that future expectations are often uncertain.
- We work with Resource Planning and Operations to develop potential compliance pathways that are protective of the environment /our local communities and ensure the company's ability to continue to provide reliable, affordable power.





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

# Portfolios

# Portfolio Requirements

- ACC Decision No. 79589 – October 21, 2024
- Commission acknowledged UNSE's 2023 IRP and identified portfolio requirements for the 2026 IRP:
  - "include in the next IRP cycle an analysis of, at minimum, seven resource portfolios that are designed to evaluate the range of resource procurement actions."
  - "include... an analysis of a technology neutral resource portfolio, which is the least-cost method of safely and reliably meeting customers' energy needs without regard for their emissions reduction goals or any renewable or carbon emissions standards."

# Planned Portfolios: 2027 - 2041

Portfolio	Description
Technology Neutral	Least-cost analysis per Order 79589
Clean Energy Buildout	Includes only solar, wind, storage, PSH, nuclear, DSM/EE as new resources
High Load Factor Customer Growth	Includes a load forecast that contains higher growth than the current forecast



# RPAC Portfolios

- **UNSE would like to run 1-2 RPAC portfolios**
- **What kinds of portfolios is the RPAC interested in?**
- **Potential kinds of portfolios:**
  - Focus on technology type
  - Focus on policy
  - Focus on energy mix

Menti.com Code: 72937396

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

# Deeper Dive - Procurement



# Procurement Rules

- Arizona Administrative Code: Ch2. Fixed Utilities
  - R14-2-705 Procurement
  - B. A load-serving entity shall use an RFP process as its primary acquisition process for the wholesale acquisition of energy and capacity, unless one of the following exceptions applies.
    - Exceptions
  - C. A load-serving entity shall engage an Independent monitor to oversee all RFP processes for procurement of new resources
  - TEP engages with an Independent Monitor to facilitate the RFPs:
    - Collection of bids
    - Scoring bids
    - Anonymizing bids for company review
    - Oversee internal review of bids and verify fair selection

# All-Source Request for Proposals

---

- ASRFPs are issued seeking:

## **Supply Side Resources**

- Fossil Fuel Plants
- Nuclear Power Plants
- Energy Storage
- Solar
- Wind
- Hybrid

## **Demand Side Resources**

- Demand Response
- Energy Efficiency

# Agreement Types

---

- What kind of agreements do we seek?
- Purchase Power Agreements
  - Renewable Energy PPA
  - Energy Storage PPA
  - Thermal Tolling PPA
- Build-Own-Transfer Agreements
  - Renewable Energy BOTA / APA
  - Energy Storage BOTA / APA
  - Thermal BOTA / APA
- Load Management Agreements



# Projects from Recent ASRFPs

## **2025 ASRFP**

- Black Mountain Expansion – 196 MW simple cycle combustion turbines



Next Meeting:  
December 17  
10am – 12pm

