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September 6, 2023

### **MEMORANDUM**

**TO: Council Members**

**FROM: Annika Roberts**

**SUBJECT: PacifiCorp's 2023 Integrated Resource Plan**

#### **BACKGROUND:**

**Presenter:** PacifiCorp IRP team

**Summary:** This presentation will summarize findings from PacifiCorp's 2023 Integrated Resource Plan (IRP), focusing on key trends and areas of interest, inclusive of the company's multistate footprint. An IRP serves as a comprehensive decision support tool and road map for meeting PacifiCorp's objective of providing reliable and least-cost electric service to all their customers. The 2023 Resource Plan builds upon their progress towards goals laid out in prior plans and identifies investments in modernized transmission, renewable energy, demand response, and advanced nuclear resources. The plan, remaining responsive to the expanding arena of new state and federal regulatory requirements, will result in a 78% reduction of greenhouse gas emissions from 2005 levels by 2030 and a 90% reduction by 2035.

**Relevance:** Tracking and understanding where utilities are headed is critical to informing our mid-term assessment and next power plan.

**Workplan:** A.3.2. Coordinate with regional utilities on integrated resource planning and other activities to share plan findings and leverage utility insights and advancements.

**More Info:** <https://www.pacificorp.com/energy/integrated-resource-plan.html>



# PacifiCorp 2023 Integrated Resource Plan

September 12, 2023



# Systemwide Planning

# Connectivity, Resiliency – Energy Gateway



Approximately 1.9 million customers  
across six states

- **Pacific Power** serves Oregon, Washington and California customers.
- **Rocky Mountain Power** serves Utah, Idaho, and Wyoming customers.



This map is for general reference only and reflects current plans. It may not reflect final routes, construction sequence or exact line configuration.

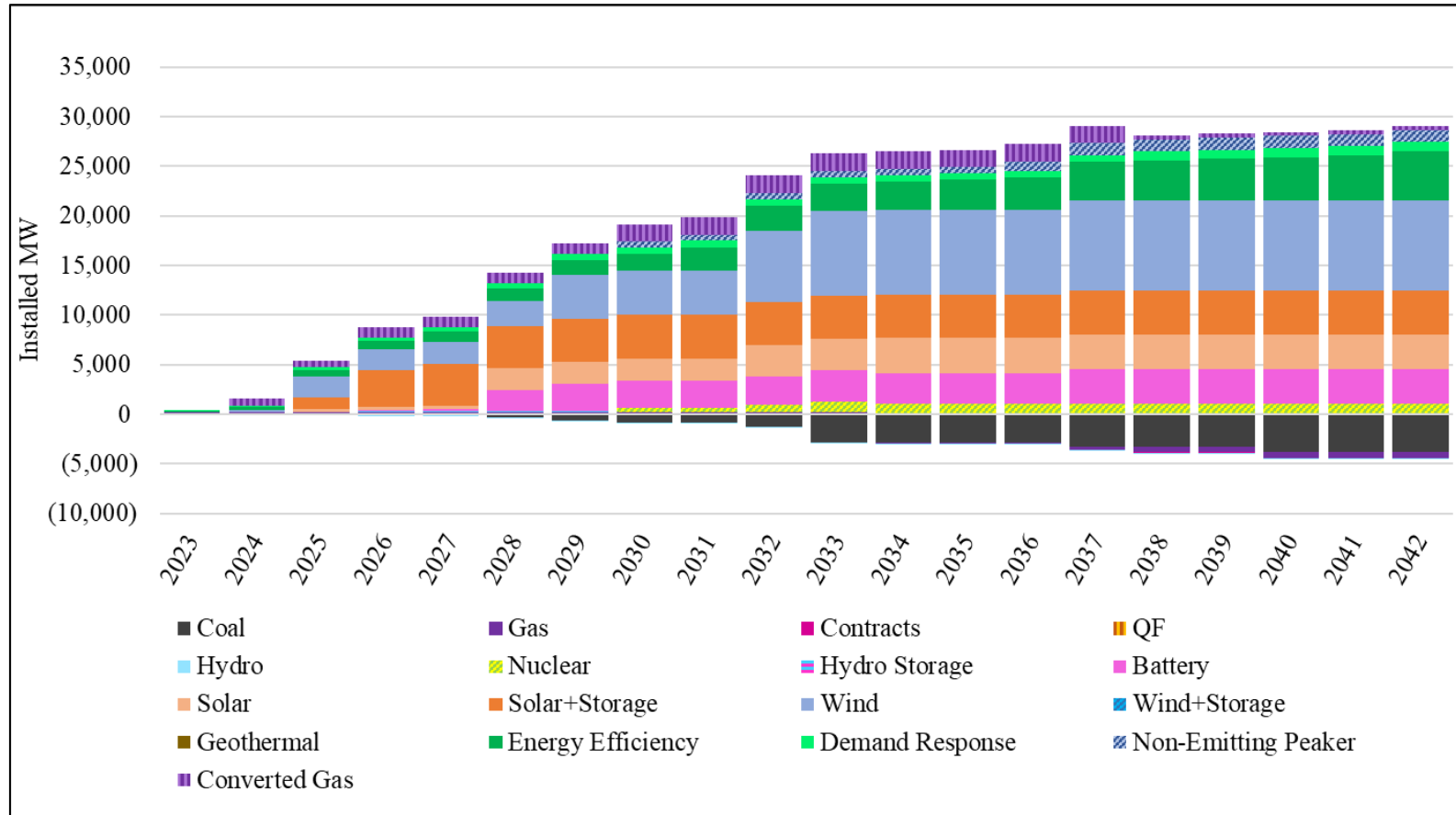
# ROAD MAP - Resources



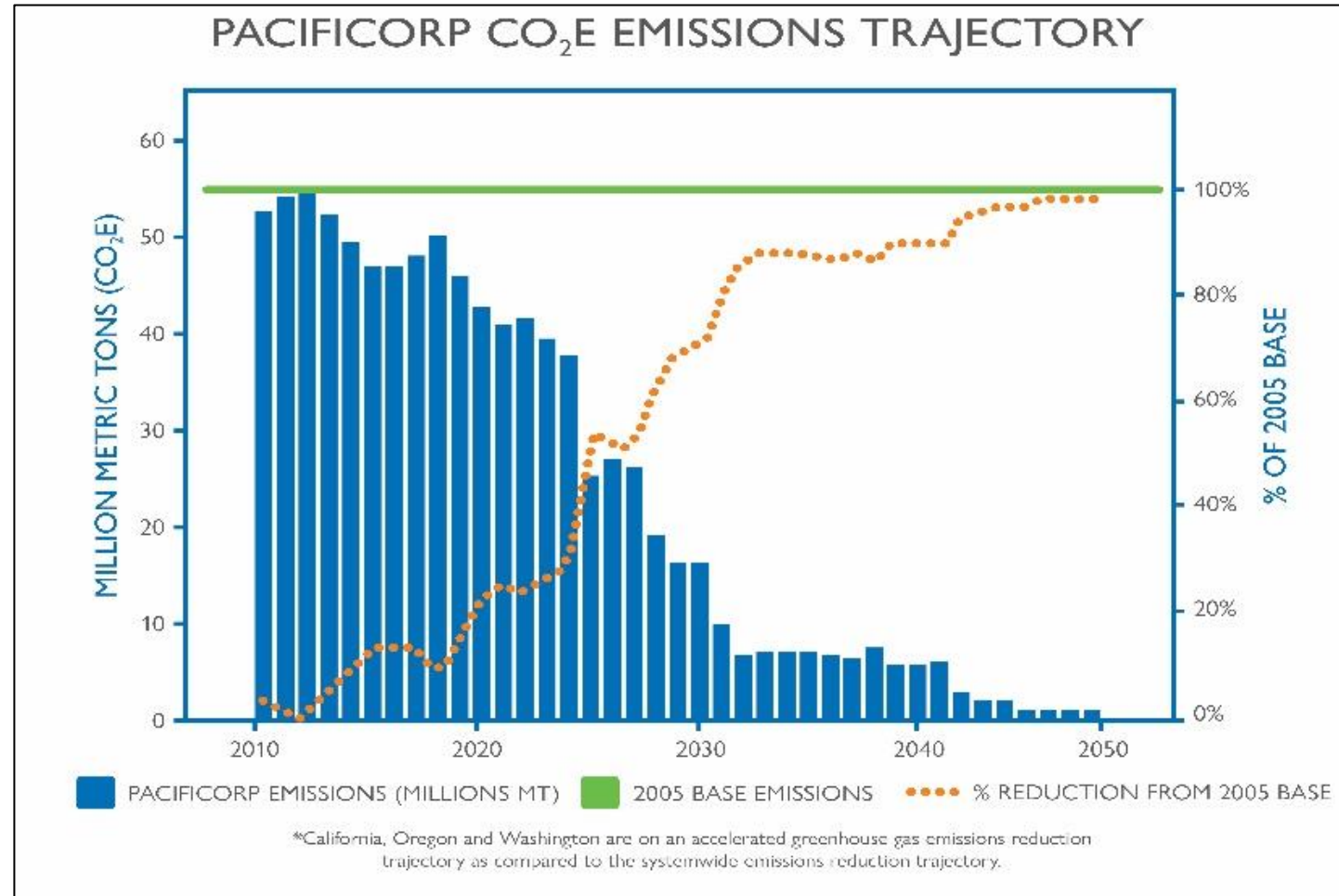
The 2023 IRP outlines PacifiCorp's bold vision for the West between now and 2042 and sets us on the path to:

- Continue our growth toward a grid powered by clean energy:
  - 9,111 megawatts of new wind resources.
  - 8,095 megawatts of storage resources, including batteries co-located with solar generation, standalone batteries and pumped hydro storage resources.
  - 7,855 megawatts of new solar resources (most paired with battery storage).
  - 4,953 megawatts of capacity saved through energy efficiency programs.
  - 929 megawatts of capacity saved through direct load control programs.
  - 500 megawatts of advanced nuclear (Sodium™ reactor demonstration project) in 2030, with an additional 1,000 megawatts of advanced nuclear over the long term.
  - 1,240 megawatts of non-emitting peaking resources that meet high-demand energy needs.

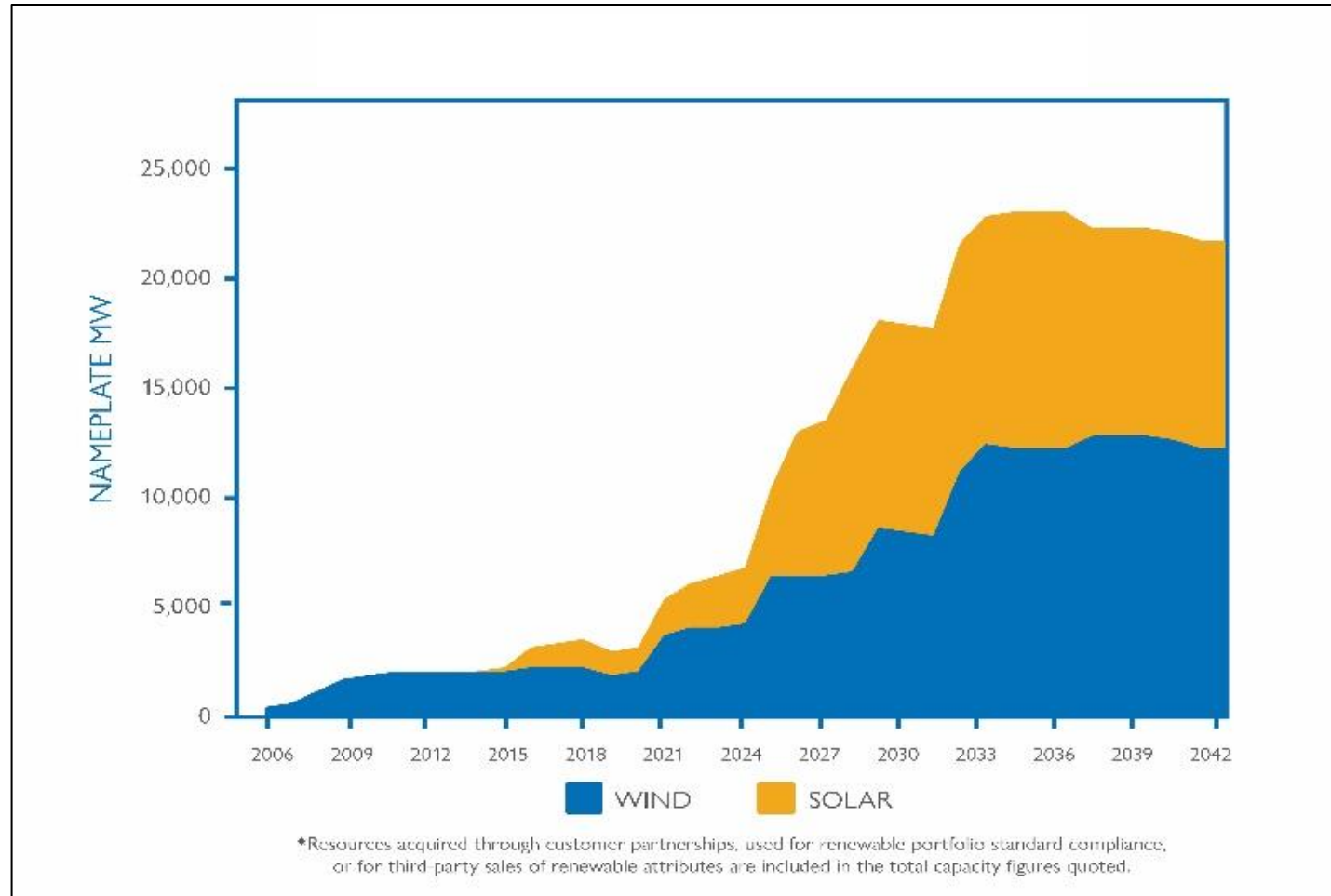
# Preferred Portfolio - All Resources



# Emissions

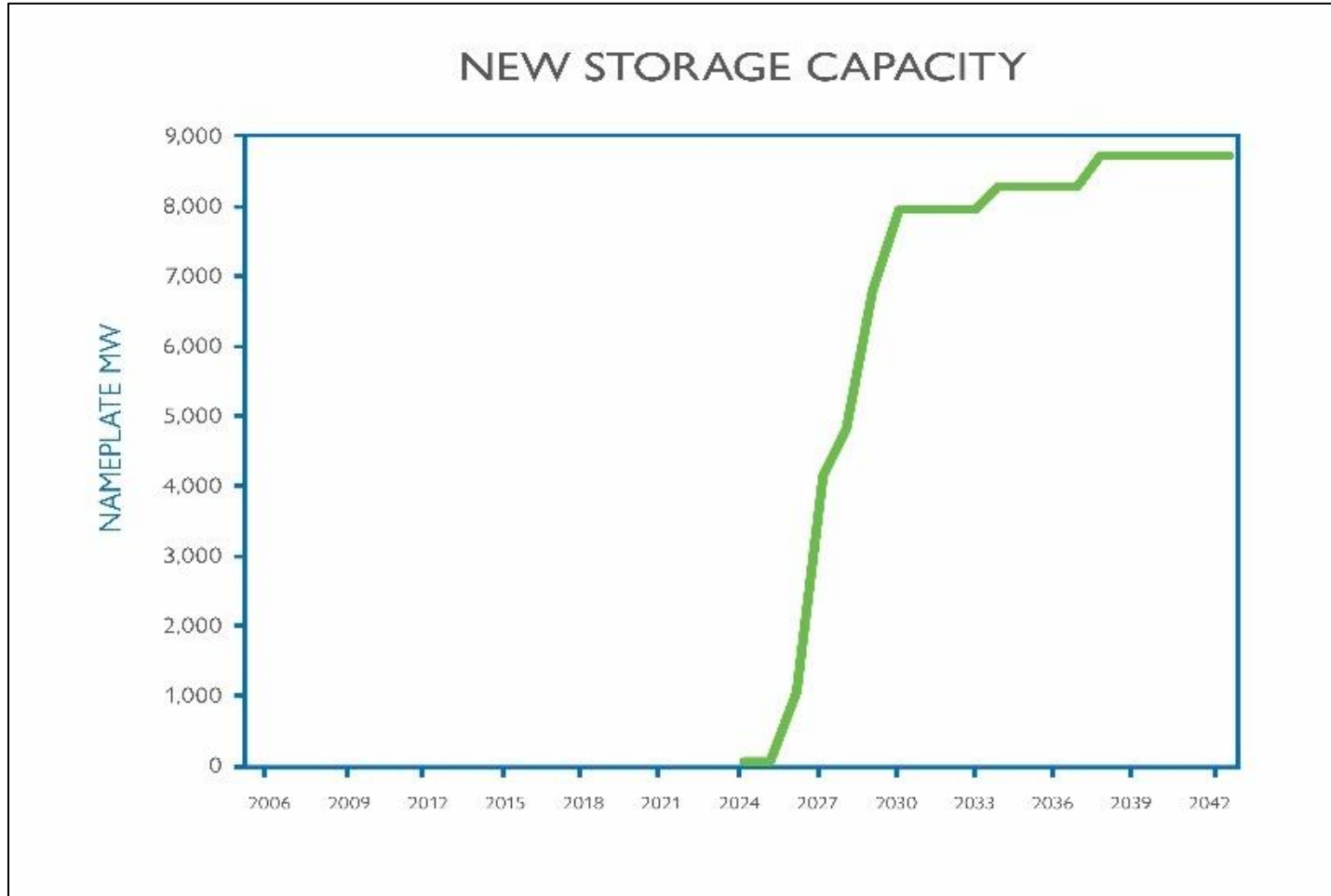


# Wind and Solar





# New Storage Capacity



# Building Partnerships



- Making electric vehicle ownership more accessible for customers and communities
  
- Co-creating energy solutions for the grid of the future
  - Wattsmart® battery program
  - Oregon Community Solar Program
  
- Planning for innovative storage resources
  - 11 pumped hydro feasibility studies in Utah, Wyoming, Oregon, Idaho and Washington
  
- Partnering for advanced nuclear
  - TerraPower and the U.S. Department of Energy

# Energy Efficiency / Demand response

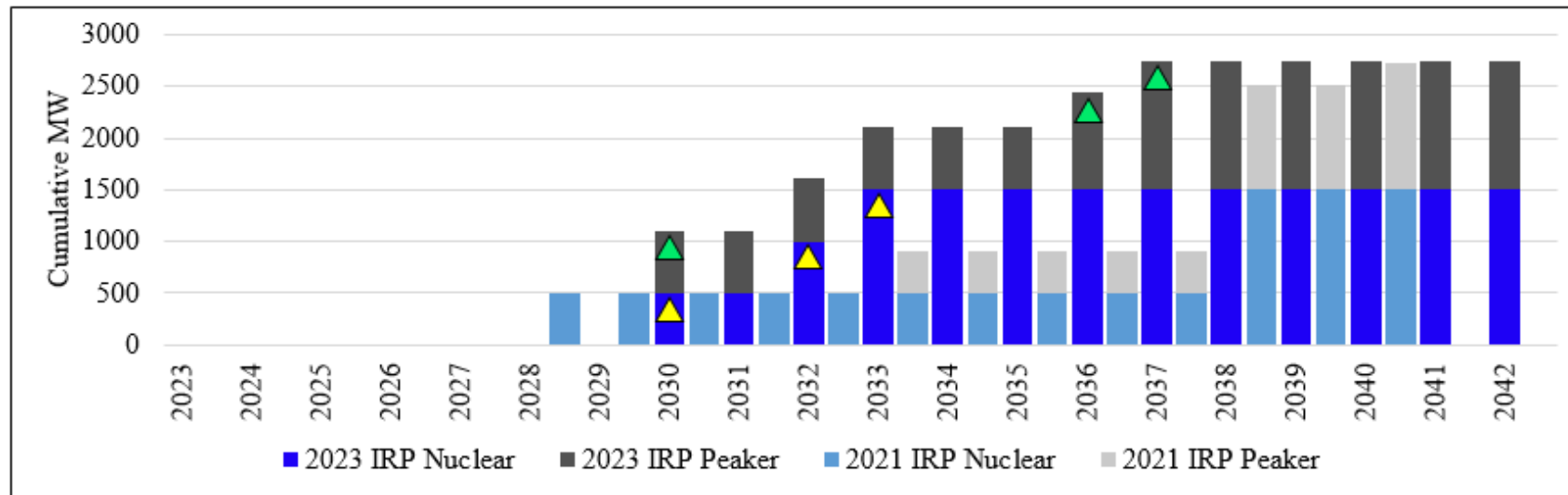


- In the coming years, our ongoing conservation and cost-effective demand-response initiatives will seek to deliver:
  - 799 megawatts of energy efficiency between 2023 and 2026
  - 372 megawatts of demand response between 2023 and 2026



# Non-emitting Resources

- 500 MW Sodium™ demonstration project is scheduled to come on-line by summer 2030. 1,500 MW of advanced nuclear by 2032.
- 606 MW of non-emitting peaking resources by 2030; 1,240 MW by 2037.
- New technologies are critical to the transition to clean energy.





# Washington Clean Energy Implementation Planning

# CETA Targets

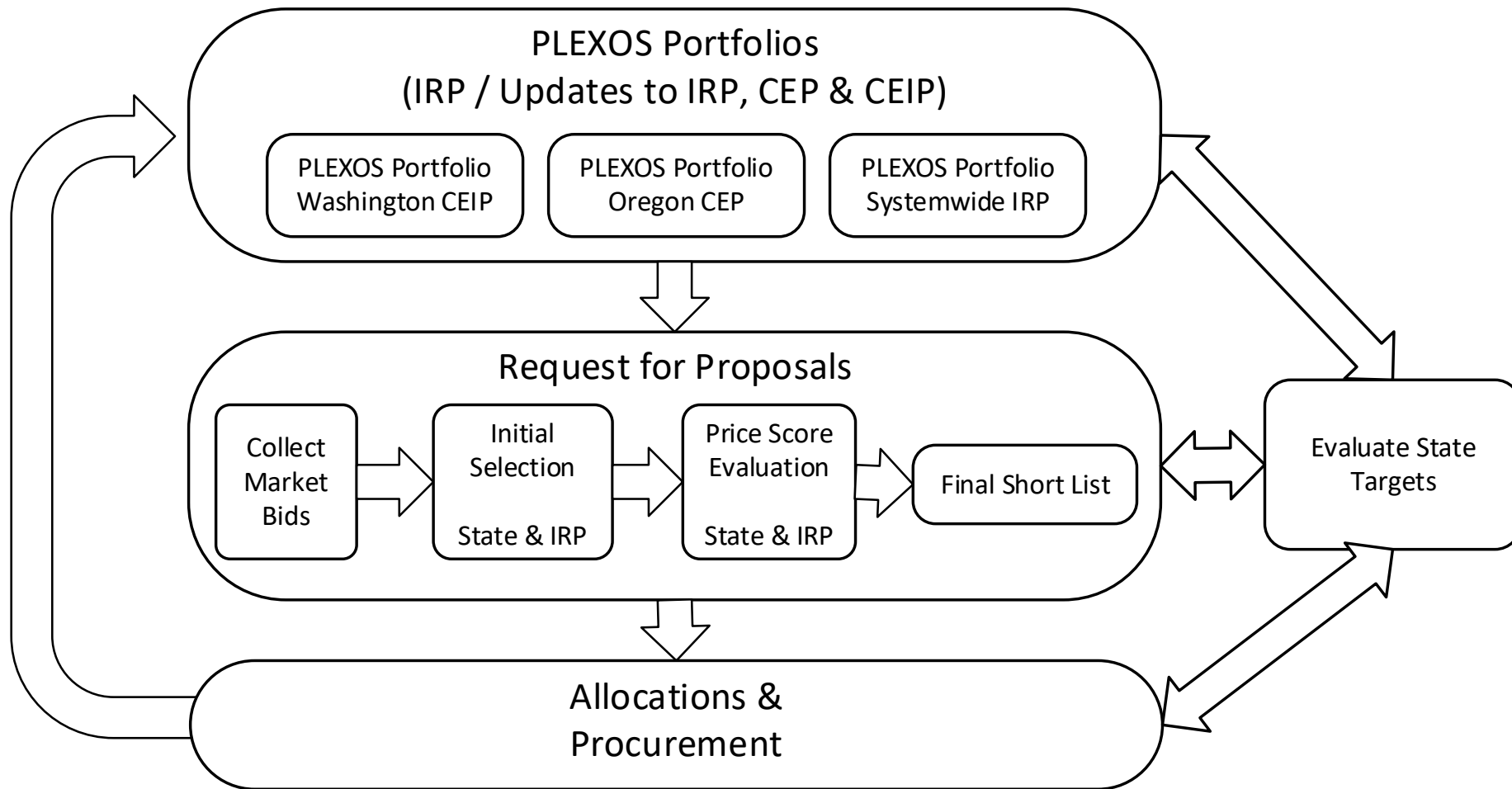
By the end of **2025**, each utility must remove coal-fired resources from its allocation of electricity to Washington retail electric customers

Beginning in **2030**, each utility must ensure all retail sales of electricity to Washington electric customers are greenhouse gas neutral

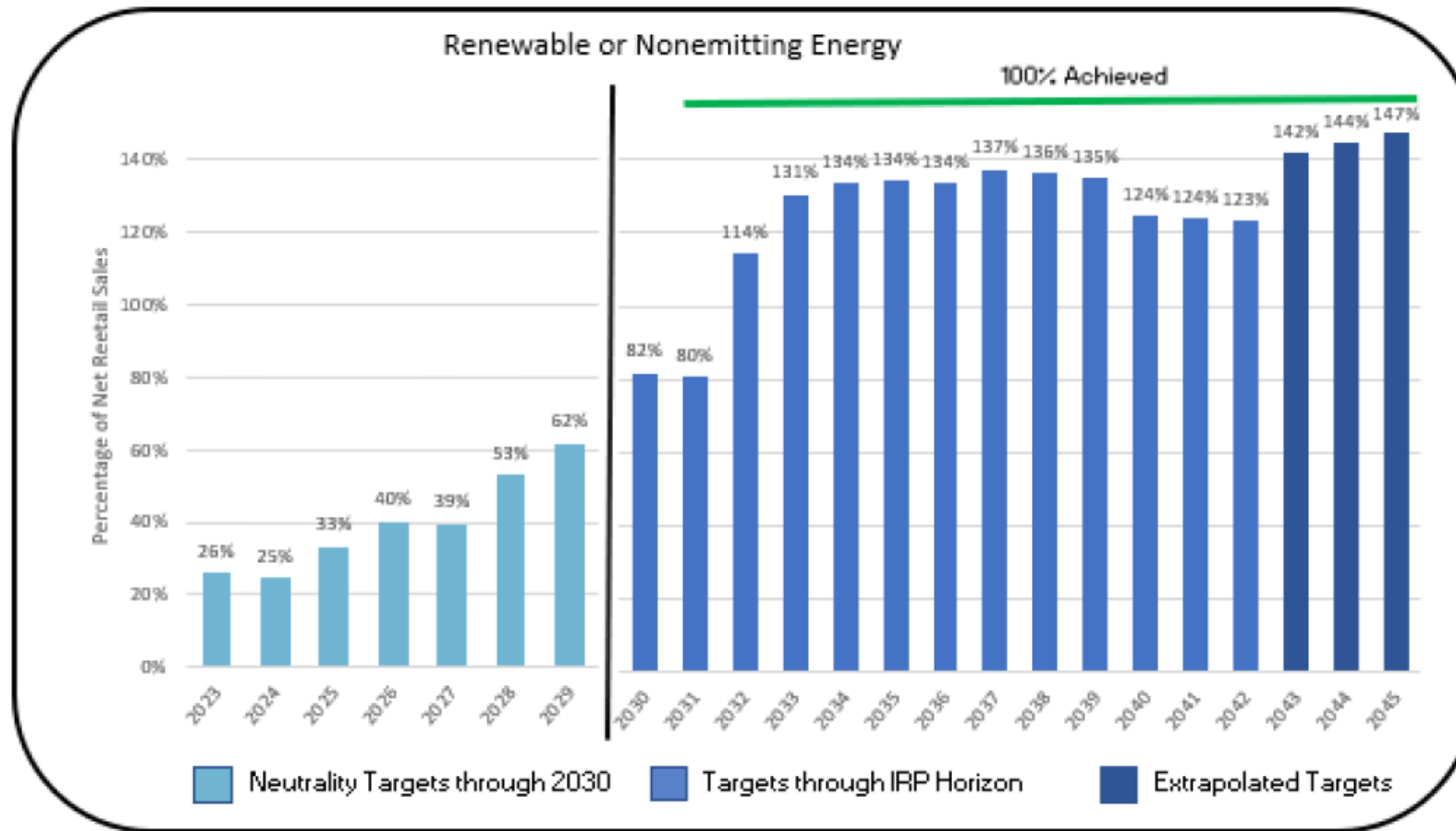
Beginning in **2045**, each utility must ensure that non-emitting electric generation and electricity from renewable resources supply 100% of all retail sales of electricity to Washington electric customers.



# Integrated Resource Planning updates and the CEIP



# 2023 Biennial CEIP Update Interim Targets

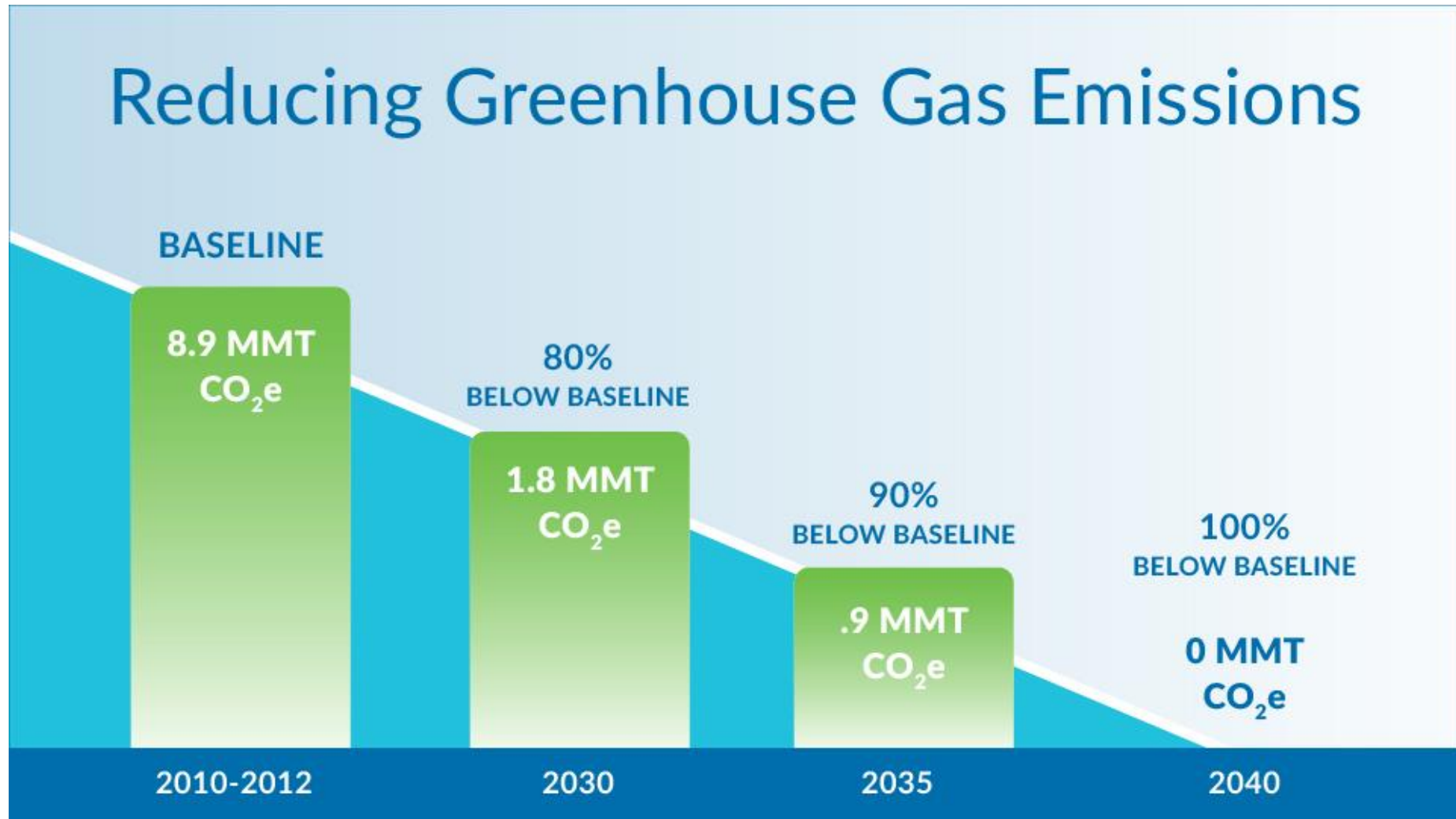


2023 Biennial CEIP Updated Interim Targets (from 2023 IRP Filing)

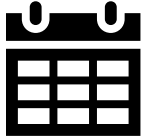


# Oregon Clean Energy Planning

# Clean Energy Plan Targets



# Long-term Resource Study Plan



**20-year planning horizon**  
Plexos optimization  
software to plan resource  
growth

- Optimization ensures least-cost, least-risk planning to meet all requirements
- Study method is consistent with the 2023 Integrated Resource Plan

## Clean Energy Plan (CEP) Portfolio Development Stages

1

2023 IRP preferred  
portfolio

2

Create CEP portfolio  
by adding small-  
scale resources to  
meet 2030 and  
beyond 10% Oregon  
requirement

3

Finalize CEP with  
additional emissions  
reduction pathways  
to achieve 2030 and  
beyond Oregon  
emissions targets

# Oregon Pathways

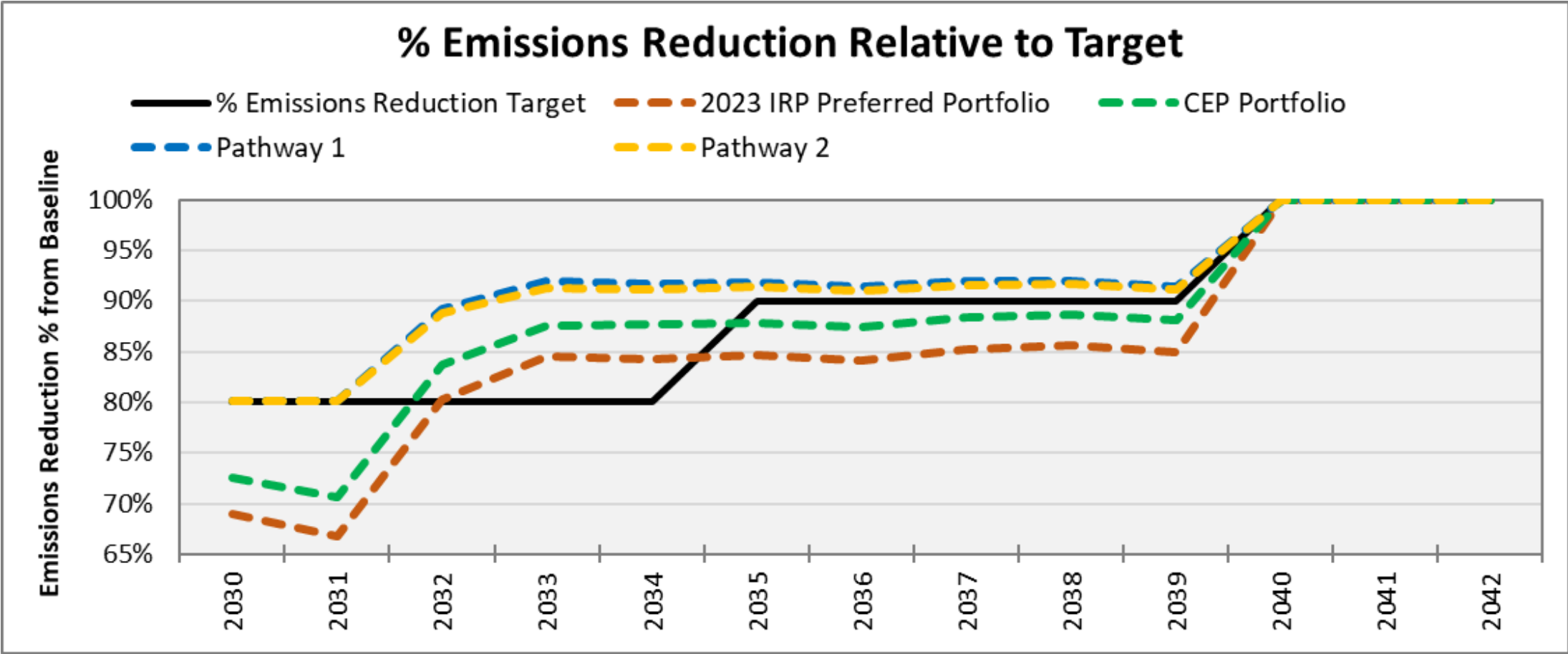
## Pathway 1

- Assumes an allocation structure where thermal resource allocation to Oregon customers is capped at an amount that supports emissions targets

## Pathway 2

- Assumes new large commercial load is served with 100% non-emitting generation through voluntary renewable options

# Pathways Achievement





**Next Steps**

# Next Steps

PacifiCorp will:

- Continue to pursue stakeholder engagement across a wide field of venues
- File CEIP biennial update in November
- File its 2023 IRP Update by March 31, 2024
  - Including target updates for both the CEP and CEIP
- Initiate its 2025 IRP public input process by February 2024