Northwest **Power** and **Conservation** Council

June 3, 2025

MEMORANDUM

TO: **Council Members**

FROM: **Jennifer Light, Director of Power Planning**

SUBJECT: **Power Plan Update**

BACKGROUND:

Presenter: Jennifer Light

Summary: The Power Division is preparing the Council's Ninth Regional Power Plan. Since this is a long process with many interconnected components, staff plan a standing item at Council meetings to provide members an update on the status of work to date and highlight next steps.

The division is entering the final stages of preparation for scenario modeling. Director Light will discuss the status of the final input and scoping elements, with a focus on understanding whether additional Council discussion is needed on any of the items. One specific item is an update on the discount rate, for which staff will provide a brief update and check in on whether more discussion is needed before locking in the assumption for the Ninth Plan.

Relevance: Under the Northwest Power Act, the Council is required to review its power plan no less frequently than once every five years. The Council initiated its review of the power plan in February 2025, with a goal of developing a final power plan by November 2026.

Workplan: B. Development of Ninth Power Plan

1

Reminder of Where We Are

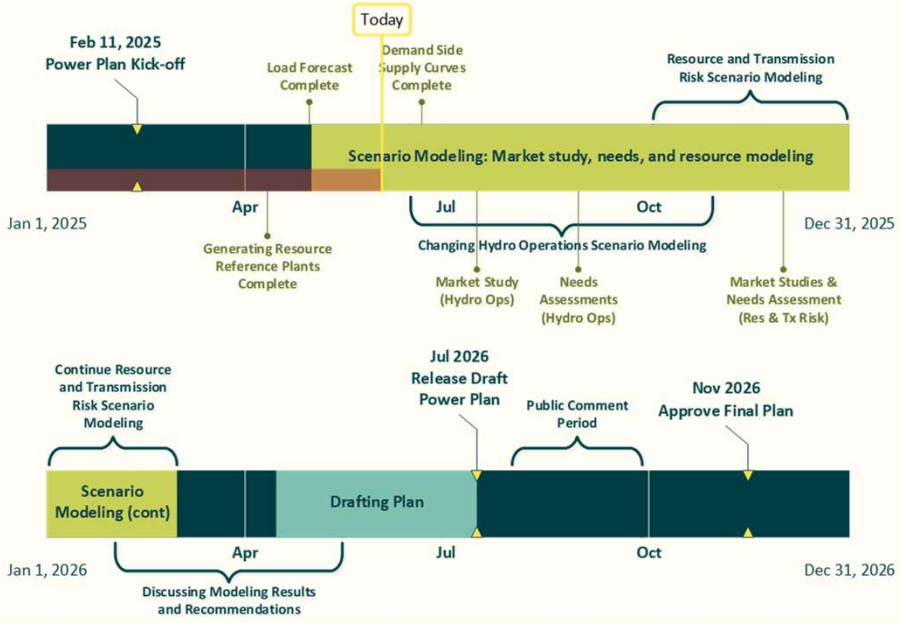
We've covered a lot!

Month	Council meeting agenda item
February (Portland, OR)	Power Plan Kickoff (2 hr) Proposed Natural Gas and Other Fuels Price Forecast (1 hr) Proposed Reference Plants for the Ninth Plan – Part 1 of 2 (1 hr)
March (Portland, OR)	Proposed Reference Plants for Ninth Plan – Part 2 of 2 (1.5 hr) Proposed Conservation Supply Curve – Part 1 of 3 (1 hr) Proposed Ninth Plan Demand Forecast – Part 1 of 2 (1 hr) Primer on Needs Assessment (45 min) Primer on WECC-Wide Buildout Study (45 min)
April (Portland, OR)	Approach to Social Cost of Carbon (15 min) Developing Demand Forecast Pathways (30 min) Proposed Rooftop Solar Potential (30 min) Outside the Northwest Load and Resources Assumptions (1 hr) Proposed Adequacy Criteria for Ninth Plan (45 min) Primer on OptGen/SDDP Model (45 min)
April Webinar	Proposed Ninth Plan Demand Forecast (2 hr)
May (Pasco, WA)	Proposed Conservation Supply Curve – Part 2 of 3 (1 hr) Proposed Demand Response Supply Curve – Part 1 of 2 (1 hr) Final Approach to Wildfire Risk for Ninth Plan (45 min) Hydrosystem Operations – Intersection between F&W Program and Power Plan (85 min)

2

DRAFT – SUBJECT TO CHANGE

Power Plan Timeline



3

Power Plan Elements Discussed

Cross Cutting Assumptions:	Forecast Period	Financial Parameters	Peak and Line Loss Assumptions	Climate and Weather Data	Natural gas and coal price forecasts
Treatment of Costs:	Existing policies and goals	Consistent treatment of costs	Environmental methodology	Approach to social cost of carbon	
Scoping Considerations:	Representation of existing system	New Resource & Transmission Risk Scenario Scope	Hydro Flexibility Scenario Scope		
Power System Model Inputs:	Load forecast trajectories	New generating resource options	New conservation potential	New demand response potential	New behind the meter potential

Color Key:
- Locked in
- Nearing completion
- More Council discussion to come
- Not yet discussed at Council

4

Background on the Discount Rate

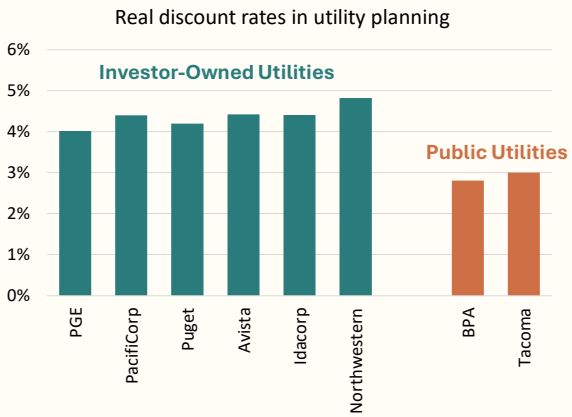
- Discount rates describe a time preference for money
  - Resources with a higher upfront cost (i.e. spending more today) will do better with a lower discount rate
  - Resources with a lower upfront cost but continued costs, such as fuel costs (i.e. spend more over time) will do better with a high discount rate
- Council uses a discount rate to compare new resources options on a present value basis
- Traditionally, the approach has been to use a single blended rate for the region based on best available data at the time of analysis
- In September 2024, staff presented the proposed discount rate for the Ninth Power Plan, and members asked for more information to better understand how big a dial this assumption is in planning and whether there might be a path to have multiple rates

Reminder of Proposed Approach

- Using updated data, staff created a regional blended discount rate of 3.7%

Utility ownership	Sales revenue breakout (EIA data)	Real discount rate	Blend
Public	40%	2.83%	3.70%
IOU	60%	4.29%	

- This was updated slightly from September 2024 to reflect changes in assumptions around funding for demand-side resources
- This value is similar to the 2021 Plan value of 3.75% and just slightly lower than the Seventh Plan value of 4%



Quick Test to Understand Impact of Discount Rate on Potential Results

- Staff did a quick assessment* to inform how big a dial this assumption is
  - Test compared Bonneville's rate (2.8%) vs regional blend (3.7%) in Aurora
  - Results showed a difference in builds consistent with the expectation that resources with a higher upfront cost will look better under lower discount rates
  - This is a dial, but staff does not believe it is a big dial compared to the uncertainty of loads, resource costs, and resource and transmission availability

By 2045 a lower DR led to:	
Wind + Solar Build	4%
Gas Build	2%
Thermal Dispatch	-4%
Storage Build**	-6%
Total Build***	-3%

Some Notes/Caveats:

* This was just a quick run using Aurora, which as some limitations. We chose Aurora based on timing and with the goal of seeing whether it would provide enough information to close out this discussion sooner rather than later.

** The 6% difference represents roughly a 4,000 MW difference of new builds. Staff consider this to be a small difference considering the size of WECC.

*** The total build in the earlier years was higher with a lower discount rate, consistent with the logic that higher upfront costs look better with a lower discount rate.

Staff Recommendation for Ninth Plan

- Staff recommends against using multiple discount rates in the analysis
  - We do not have sufficient data to set different discount rates by entity or resource
  - Even if we did, there isn't a clean way to use multiple discount rates in our analysis:
    - Applying a discount rate to a specific zone is not a clean mapping to the entity that would develop the resource
    - Models do not apply different discount rates by zone or resource to reflect the total cost (specific rates would apply to the fixed costs only, and the models' single, global assumption for discount rate would be used for the production cost)
- Staff recommend a single discount rate to represent the region (3.7%), but want to check-in as to whether more discussion/analysis is needed before members are comfortable

Are there other topics that need more Council discussion before we move to scenario modeling?

Cross Cutting Assumptions:	Forecast Period	Financial Parameters	Peak and Line Loss Assumptions	Climate and Weather Data	Natural gas and coal price forecasts
Treatment of Costs:	Existing policies and goals	Consistent treatment of costs	Environmental methodology	Approach to social cost of carbon	
Scoping Considerations:	Representation of existing system	New Resource & Transmission Risk Scenario Scope	Hydro Flexibility Scenario Scope		
Power System Model Inputs:	Load forecast trajectories	New generating resource options	New conservation potential	New demand response potential	New behind the meter potential

Color Key:
- Locked in
- Nearing completion
- More Council discussion to come
- Not yet discussed at Council

9

What's Coming Up?

Month	Council meeting agenda item
June (Missoula, MT)	Proposed Conservation Supply Curve – Part 3 of 3 (45 min) Proposed Demand Response Supply Curve – Part 2 of 2 (45 min) Scoping of Changing Hydro Operations Scenario (2 hr) ✓
July (Portland, OR)	Proposed Scope of Changing Hydro Operations Scenario (1 hr)
August – September	Needs Assessment Results for Changing Hydro Operations Scenario
October – January	Market Availability Studies for New Resource and Transmission Risk Scenario Needs Assessment Results for New Resource and Transmission Risk Scenario Presentations on other power plan topics to add to context of issues
February – April	Regional Optimization Results for All Scenario Modeling (multiple work sessions)

10

Questions?

11