

Clean Energy Plan Engagement Series June 21, 2024





This meeting will be recorded

Clean Energy Plan Engagement Series June 21, 2024, 9:00 - 12:00 p.m. PT



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Agenda

TIMING	ΤΟΡΙϹ	
9:00 AM	Objectives & Purpose	
9:10 AM	Regulatory & Clean Energy Plan Update	
9:25 AM	Integrated Resource Plan	
10:00 AM	Biennial Update	
10:30 AM	Break	
10:45 AM	Community Benefits Indicator: Resilience	
11:00 AM	Resilience Modeling	
11:15 AM	Community Based Renewable Energy: Pilot	
11:30 AM	Public Comment	
11:45 AM	Check Out, Summary & Next Steps	

Objectives

Clean Energy Plan Engagement Series Purpose

Provide an integrated lens on clean energy planning with expanded learning opportunities to foster a deeper understanding of programs and outreach while gathering public input.

- Communicate regulatory, Clean Energy Plan (CEP) filing, and biennial report updates
- 2. Explore the Integrated Resource Planning approach and modeling
- 3. Define resiliency in Community Benefit Indicators and introduce the Community Based Renewable Energy Resilience Hub pilot



Matthew McVee VP Regulatory Policy and Operations



Randy Baker Director, Resource Planning

Presenters



Christina Medina Manager, Stakeholder Policy & Engagement



Rohini Ghosh Director, Regulatory Projects



Lee Elder Load Forecasting Manager, Load & Revenue Forecasting





Jeffrey Daigle E Source Facilitator



Kevin Benson Director, Risk Assessment



Ryan Harvey Program Manager, Community Renewables



Source

Morgan Westberry E Source Facilitator

Regulatory Updates



Oregon Rate Updates



• General Rate Case

- Initial application February 14, 2024
- Request: \$322.4m, 17.9%
- Key cost drivers:

General GRC Drivers

Insurance Drivers

Driver	Est. Rev. Req.	Driver	Est. Rev. Req.
Gateway Transmission	\$68.6m	2023 Ins. Premium Deferral Amortization	\$15.6m
ROE to 10.3%	\$29.1m	Liability Ins	\$50.4m
New Wind Generation	\$20.9m	Catastrophic Fire Fund	\$77.7m
Wildfire Restoration Deferral Amortization	\$18.9m	WMP AAC True Up*	\$21.2m
Baseline Vegetation O&M Increase	\$17.0m		
Increased Cost of Debt	\$12.6m		
2020 Wildfire Restoration Capital	\$11.3m		
Cost Escalations	\$10.9m		

- Decision expected in December 2024
- Rates effective January 1, 2025

Oregon Rate Updates

- Transition Adjustment Mechanism (Annual Forecast of Net Power Costs)
 - Initial application February 14, 2024
 - Original Request: \$2.533 billion total company, or \$674.1m Oregon-allocated, for a decrease of \$18.3m, 1.0%
 - Final calculation of forecast net power costs will occur in November
 - Rates effective January 1, 2025
- Power Cost Adjustment Mechanism (Annual True-up of Net Power Costs)
 - Initial application May 15, 2024
 - 2023 actual PCAM costs were \$154.1m more than base net power costs forecast for 2023 for OR
 - After application of the deadband and sharing band in PCAM will request \$121.9m (including interest), spread over two years or ~3.5% rate increase
- Wildfire Mitigation Vegetation Management Mechanism
 - Initial application May 5, 2024
 - Request: WMVM decrease of \$7.9m or 0.4%
 - Rates effective November 5, 2024
- Wildfire Protection Plan Automatic Adjustment
 - Initial application July 2024
 - Request will be based on costs associated with the Wildfire Mitigation Plan currently under review by the Commission, with Commission deliberation during the June 25, 2024 public meeting

Clean Energy Plan

Clean Energy Plan Updates



<u>LC82 – docket number</u>

Integrated Resource Planning



Pacific Power's IRP Approach

The primary focus is the customer

- Maximum transparency
- Agnostic to technology
- Cost driver
- Reliability driver
- The first pass, is the least cost, least risk limited by system constraints
- The second pass, is the least cost, least risk limited by state constraints
 - No cost shifting for state compliance

Multi-State Approach

- Specific timing for milestones in six states
- Stakeholder feedback is critical to improving the quality of the work product
- Milestones will be delivered based on the most restrictive state timing
- Meetings are scheduled at Lloyd Center Tower but locations may be revised as technology becomes available at other locations

The Integrated Resource Planning Process



POWERING YOUR GREATNESS

Modeling Improvements: State Portfolio Integration



Previous IRP cycles sought to meet state level requirements through "layering on" needed resources for each state **after** the final selection of the system-wide least cost, least risk portfolio

As of the 2023 IRP Update, distributed on April 1st of this year, all portfolios representing PacifiCorp's six-state territory are instead integrated into a final preferred portfolio, so that state resources are optimal and not incrementally layered "on top".

- Initial runs are completed to represent the states, including an unconstrained run for those states with no additional state-specific policy requirements.
- The model run results are compared for all similarities and differences.
- Each portfolio's selections are incorporated into a new preferred portfolio, capturing common features of all model results, and also capturing each state's specific outcomes.

Modeling Improvements: Portfolio Integration Outcomes

Figure 1—Allocation of the 2023 IRP Update Preferred Portfolio Through 2032



Modeling Improvements: Example Integration of State Requirements

Oregon's small-scale requirement example:

- Factors are applied to all modeled resources:
 - Oregon's share of the resource (utility scale = roughly 25% share, small scale = 100% Oregon)
 - A ratio requiring 1 MW of small for every 9 MW of large
- A model run requiring small-scale compliance for Oregon results in 550 MW of small-scale solar and 200 MW of small-scale wind
- The total capacity of resources selected in every state's relevant model run are compared

EXAMPLE: Oregon's run has 3,800 MW of wind, the unconstrained run has 3,000 MW of wind

Approximately 25% of the 800 MW differential between the unconstrainted and Oregon-specific studies (200 MW) is integrated into the preferred portfolio, and it is all assumed to be small-scale to meet HB 2021 requirements

Modeling Improvements: Example Integration of State Requirements

Oregon's small-scale requirement factors applied to all modeled resources:

- Oregon's share of the resource (large=SG share, small=100% Oregon)
- A ratio that requires 1 MW of small for every 9 MW of large



Oregon's Small-Scale Compliant Results:

550 MW of small-scale solar 200 MW of small-scale wind

EXAMPLE: Oregon Small-Scale Wind

Assumptions:

- 25% (Oregon's share) of the Model Difference is integrated into the IRP Preferred Portfolio
- Resources assumed to be small-scale to meet HB2021 requirements



Tax Credit Modeling



Inflation Reduction Act

- New resources receive one of two types of tax credit IF in service by 12/31/2037
 - Production Tax Credit (PTC) based on the megawatthours of energy produced by a resource
 - Investment Tax Credit (ITC) an upfront tax credit on the build costs of a resource
- PTC is a 10-year credit
- The IRP has included these credits on all future resources built through 2037
 - Based on location or development, resources can be eligible for a bonus credit – ONLY the location bonus is applied in modeling

Infrastructure Investment and Jobs Act

- This law provides grants or other advantageous financing for projects
- PacifiCorp is pursuing these benefits on projects/investments currently on owned items
- Modeling challenge:
 - PacifiCorp may see reduced cost from developers in the future based on these benefits, but that is not guaranteed
 - From a risk standpoint PacifiCorp has chosen NOT to model any benefits to projects related to this act since these benefits are not guaranteed to pass to customers



Modeling of the U.S. Environmental Protection Agency's 111(d) Rule

This rule has significant limits on emissions

- PacifiCorp is in process of evaluating the impacts on operation of existing units
- Limits on emissions and constraints on how plants are allowed to operate will be modeled
- At this time, it is too early to speculate how the rule will impact the 6-state system as a whole

2025 IRP Public Input Meeting Schedule

2025 IRP Upcoming Meeting Dates and Milestones Calendar Year 2024 ^{1,2}				
Wed-Thurs June 26-27, 2024 – General Public Input Meeting 4				
Wed-Thurs July 17-18, 2024 – General Public Input Meeting 5				
Wed-Thurs August 14-15, 2024 – General Public Input Meeting 6				
Wed-Thurs September 25-26, 2024 – General Public Input Meeting 7				
September timeframe – Assumptions are locked down for November and December model runs				
Calendar Year 2025				
January 1, 2025 - Distribution of the 2025 Draft IRP				
Wed-Thurs January 22-23, 2025 – General Public Input Meeting 8				
Wed-Thurs February 26-27, 2025 – General Public Input Meeting 9				
March 31, 2025 – Filing of the 2025 IRP				

- 1. Washington law accelerates the IRP draft and final filing by 3 months. Alignment for Washington has been achieved through approved parts of a waiver request. The CEIP schedule remains out-of-sync.
- 2. The Public Input Meeting schedule has been reviewed to reasonably avoid conflicts with State Commission schedules and known events affecting stakeholders.

Additional Information

- 2025 IRP Upcoming Public Input Meetings:
 o June 26-27, 2024
 o July 17-18, 2024
- Public Input Meeting and Workshop Presentation and Materials:
 <u>Public Input Process (pacificorp.com)</u>
- 2025 IRP Feedback Forms:

o IRP Stakeholder Feedback (pacificpower.net)

- IRP Email / Distribution List Contact Information:
 - o IRP@PacifiCorp.com
- IRP Support and Studies:
 - o IRP Support & Studies (pacificorp.com)

Biennial Update



Draft Biennial Report; Key Considerations



Biennial Report



Section 6 of HB 2021 calls for the development of a biennial report that, in consultation with the CBIAG, must include the assessment and description of the following:

- Energy burden for residential customers
- Disconnections for residential customers
- Opportunities for contracting with businesses owned by women, veterans, or Black, Indigenous or People of Color
- Actions within environmental justice communities intended to improve resiliency
- Grid investments in environmental justice communities that facilitate compliance with clean energy targets
- Social, economic or environment justice co-benefits
- Review of annual customer satisfaction surveys
- Actions to encourage customer engagement
- Other items as determined by the utility and the CBIAG

Filling the Gaps



²⁴ CBI - Community Benefit Indicator

Parking Lot Items - Topics members raised that we were unable to address during a meeting

POWERING YOUR GREATNESS

Draft outline to be discussed in the Biennial Report

Community Summary	Introduction	Engagement & Outreach	Community Benefit Indicators (CBI)	Customer Experience	Timeline for future updates
 CBIAG background and summary on structure and engagement. Tribal Engagement background and summary on structure and engagement. 	 Overview of the layout of the report Mapping HB2021 items to specific pages 	 CBIAG – summary of the engagement Tribal engagement Other engagement spaces 	 Describe the initial development of the interim CBIs Collaboration Share updates on progress of the CBIs CBIs Framework Review Topics and Categories Surface any additional CBIs Describe the update to the CBIs, including: Engagement Feedback Actions and Impacts 	 Description of Pacific Power and voice-of- customer feedback mechanisms Operational data 	 Timeline showing when next related filings will take place Next steps





Community Benefit Indicators | Resilience



Current Community Benefit Indicator (CBI) Framework

	CBI Category	CBIs (Outcomes)	Metrics
	1) Posilion co	a) Improve Resiliency of Vulnerable Communities During Energy Outages	SAIDI, SAIFI, CAIDI at area level including major events
	I) Resilience	b) Reduce Frequency and Duration of Energy Outages	Energy Not Served (ENS) for IRP portfolios are included as an output from portfolio development
	2) Community Health and Well-being	a) Decrease Residential Disconnections	Number of residential disconnections by census tract
	3) Environment	a) Increase Energy from Non-emitting Resources and	Oregon GHG emissions (from Oregon-allocated resources)
		Reduce CO2e Emissions	Oregon allocated renewables
	4) Energy Equity	a) Decrease Proportion of Households Experiencing High Energy Burden	Average Energy burden by census tract, for low-income customers, bill assistance participants, Tribal members and for all customers
		b) Increase Efficiency of Housing and Small Businesses in Disadvantaged Areas*	TBD
			Headcount of DSM program delivery staff & grants
			Public charging stations
	5) Economic	a) Increase Community-Focused Efforts and Investments	Pre-apprenticeship / educational program participation
			Energy supply resource development - workforce and spend
		b) Reduce Barriers for Disadvantaged Communities for Company Program Participation*	TBD

Interim Resilience Community Benefit Indicator Definition

Community Benefit Indicators (CBIs) are the desired outcome that utility actions could either incentivize, influence, or cause. Each CBI identifies a desired outcome, while metrics allow for PacifiCorp to monitor progress at achieving these outcomes.

Interim Resilience Community Benefit Indicators:

- Improve Resiliency of Vulnerable Communities During Energy Outages
- Reduce Frequency and Duration of Energy Outages

Resilience Metrics:

- SAIDI, SAIFI, CAIDI at area level including major events
- Energy Not Served (ENS) for IRP portfolios are included as an output from portfolio development

Resilience



What are Resilience & Reliability?

They mean keeping the power on day-to-day and during extreme events

Resilience

the capacity to <u>withstand</u> or to <u>recover</u> quickly from difficulties; <u>toughness</u>.

Resilience in energy: preparedness of the system and its ability to cope with various hazards that can disrupt electricity.

Reliability

the quality of being <u>trustworthy</u> or of performing consistently well

Reliability in energy: availability of the electric system when it is needed.

Utility-Specific Data per Census Block Group



Overview: Review reliability metrics used in the analysis

Reliability Data (all-inclusive – MEDs and no MEDs):

- CAIDI = Customer Average Interruption Duration Index
- SAIDI = System Average Interruption Duration Index
- SAIFI = System Average Interruption Frequency Index



* Note: MED = **M**ajor **E**vent **D**ay.

Community Resilience

- In the CEP we discuss social vulnerability characteristics defined by FEMA as an indicator of community resilience including:
 - Human wellbeing
 - The economic and financial health of communities
 - Local infrastructure
 - The institutional capacity of the community to respond to disasters
 - Environmental characteristics including the likelihood of various types of hazard events
 - Wealth and income
 - The racial and ethnic composition of a community
 - Age
 - The access and function needs (AFN) population

How do these characteristics make a community vulnerable or resilient to power disruptions?

Community Vulnerabilities to Long Duration Power Outages



• Being at risk of detrimental health effects due to a longduration power outage.

Preparedness:

 Impacts to outages are more severe when individual or household is unprepared.



Evacuation:

• People are most vulnerable when they intend to evacuate but face obstacles in doing so.

Health Vulnerabilities to Outages

- Indicators of health vulnerabilities include, but are not limited to:
 - Indicators of temperature vulnerabilities
 - Heart disease (CDC)
 - Diabetes (CDC)
 - Asthma (CDC)
 - Younger and Older Populations (under 5, over 65) (Census)
 - 30-Year Temperature Norms (OSU Prism)
 - Summer peak month average daily t-max
 - Winter peak month average daily t-min
 - Populations with electrically dependent medical equipment
 - Nursing home residents (Census)
 - Medical flag (Utility data from CSS)
 - Populations with ambulatory difficulties (Census)
 - Difficulty going up or down stairs
 - Critical medical facilities (Utility data from CSS)



Preparedness Vulnerabilities to Outages

- Indicators of lack of preparedness include, but are not limited to:
 - Lower median age (Census)
 - Non-English-speaking households (CSS)
 - Lower median income (Census)
 - Available from Census
 - LID indicator from (CSS)
 - SNAP/Food Stamp recipients (Census)
 - Educational attainment (Census)
 - Multi-family housing (CSS)
 - Elderly adults who live alone (Census)
 - Households with children under 6 (Census)



Evacuation Vulnerabilities to Outages

- Measures that indicate higher intent to evacuate include, but not limited to:
 - Households with children (Census)
 - Higher average household size (Census)
- Measures that indicate barriers to evacuation:
 - Households with 1 or more persons with a disability (Census)
 - Lower household income (Census)
 - Availability of emergency facilities (lower number of facilities in proximity indicates higher barrier)
 - National Shelter System facilities with generation (National Shelter System database)
 - Utility Community Resource Center locations (Wildfire mitigation plan)
 - No access to vehicles (Census)
 - Critical public safety/protection facilities within area (Utility CSS data)



Community-Utility Resiliency with EJ40 Disadvantaged Communities Filter



*Shaded areas are communities the company serves that meet the criteria for a disadvantaged community as defined by EJ40

DISTRIBUTION SYSTEM PLANNING

Community-Utility Resilience (Green = High Resilience, Red = Low Resilience)

• Not EJ40 Disadvantaged Community • EJ40 Disadvantaged Community



Grid Resilience (Best Reliability -> Worst Reliability)



Community-Utility Resilience

Grid Resilience (Best Reliability -> Worst Reliability)

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Community-Based Renewable Energy Intersectionality



CBRE-RH Pilot Components

- 1. <u>TECHNICAL ASSESSMENTS</u>: Continue to provide feasibility studies (begun in 2020) to communities interested in better understanding the costs and requirements of solar and battery energy storage systems at <u>critical community facilities</u>
- 2. ONGOING PROJECT SUPPORT: Leverage expertise and provide supplemental funding to support the planning for, and installation of, the battery storage component of <u>planned and existing resilience projects</u> to provide grid-enabled system-wide benefits and learning outcomes
- **3. <u>GRANT MATCHING</u>**: Establish a mechanism to provide matching funds for communities seeking external grant awards for <u>resilience projects at critical facilities</u>



Provide a mechanism of support for communities that have yet to begin CBRE project development

Aid in the interconnection of funded, in-flight resilience projects with grid-enabled storage to capture takeaways & learnings with:

2a) Design Support2b) Incentive Offering2c) Ongoing Data Collection



Assist communities as they take advantage of existing funding opportunities

CBRE-RH Pilot CBI Intersectionality

Interim CBI Related to Community-Based Renewable Energy Projects:

Improve the Resiliency of Vulnerable Communities During Energy Outages

From the ODOE Study (2022): Unique (Potential) Attribute of Community-Based Renewable Energy Projects:

> "The key unique benefit for small-scale or community-based projects is local resilience."

CBRE-RH Pilot

ODOE Study on Small-Scale and Community-Based Renewable Energy Projects (Sept. 2022) (available https://www.oregon.gov/energy/Data-and-Reports/Documents/2022-Small-Scale-Community-Renewable-Projects-Study.pdf).

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Our Interim Resilience CBI: Improve Resiliency of Vulnerable Communities During Energy Outages

Input Opportunitiesby June 30

- 1. What metrics (related to the CBI above) might be tracked/measured, or prioritized, when considering community outreach about CBREs at critical facilities?
- 2. What are some effective methods we could use to reach critical facilities in communities prioritized with the resilience metrics?
- 3. How important do you perceive the timing of incentive payment delivery to be? And if applicable, what % of the award should be delivered prior to project completion?
- 4. Do you believe that the incentive payment should be tied to a specific project purpose or type of equipment?

Public Comment





CEP Engagement Series Calendar

Oregon Clean Energy Plan Engagement Series Public Meeting #3

When: September 2024 Where: Online

For more information: Oregon Clean Energy

Plan Updated Engagement Strategy

Please send feedback to <u>OregonCEP@PacifiCorp.com</u>

Additional Engagement Opportunities

Clean Energy Plan Engagement Series for Oregon Tribal Nations (Online) When: June 28, 2024 Time: 9:00 am – 12:00 pm Online: <u>https://esource.zoom.us/j/89043084177?p</u> wd=6IJL7RsInby5vwUUYhq53L0yUhrPoB.1

Community Benefits and Impacts Advisory Group Meeting (Online) When: July 18th, 2024 Time: 1:00 – 4:00 pm Online: https://esource.zoom.us/j/84476382295?pwd=Uiab zk7ehp4YqV4tp85kBwdp7001Y7.1

Details

coming

soon!