

Washington CEIP Technical Workshop

September 14, 2021



Meeting Agenda

1:00pm–1:15pm pacific: Introductions

1:15pm–1:30pm pacific: Overview of the 2021 IRP and CEIP workplan

1:45pm–2:15pm pacific: CETA Assessment Discussion

2:15pm–2:45pm pacific: Near-Term Procurement Actions and CEIP Development

2:45pm–3:00pm pacific: Wrap-up and Next Steps

PacifiCorp 2021 IRP Overview

- Based on an 18-month development cycle with extensive technical and data analysis and stakeholder-input, PacifiCorp identified P02-MM-CETA as the 2021 IRP preferred portfolio.
- The preferred portfolio includes significant investments in new renewables and storage:
 - By the end of 2024, the preferred portfolio includes the 2020 All-Source RFP final shortlist resources including 1,792 MW of wind, 1,302 MW of solar additions, and 697 MW of battery storage capacity – 497 MW paired with solar and a 200 MW standalone battery. During this time, it also includes the acquisition and repowering of Rock River 1 (49 MW) and Foote Creek II-IV (43 MW) wind projects.
 - Through the end of 2026, the preferred portfolio includes an additional 745 MW of wind and 600 MW of solar co-located with storage.
- Through 2040, the preferred portfolio includes 3,628 MW of new wind, 5,628 MW of new solar co-located with storage (including 95 MW of standalone solar), 1,400 MW of standalone battery and 4,781 MW of storage co-located with new solar resources, and a 500 MW pumped storage project.
- To facilitate the delivery of new energy resources, the preferred portfolio calls for construction of the 416-mile, 500-kilovolt Energy Gateway South transmission line by the end of 2024 and the Energy Gateway West Subsegment D.1 project - a new 59 mile high-voltage 230-kilovolt transmission line.
- For the first time, the preferred portfolio includes nuclear resources including the 500 MW SodiumTM advanced nuclear demonstration project in 2028. Through 2040, 2,726 MW of advanced nuclear and non-emitting peaking resources are included.
- The preferred portfolio continues significant investment in demand-side management with energy efficiency outpacing levels in the 2019 IRP. By 2040, the 2021 IRP includes 4,290 MW of energy efficiency capacity savings along with 2,448 MW of demand response programs.
- In the preferred portfolio, system CO₂ emissions are down from the year 2021 by 24 percent in 2025, 54 percent in 2030, and 73 percent in 2035, and 88 percent in 2040. Relative to a 2005 baseline, system CO₂ equivalent emissions are down 53 percent in 2025, 74 percent in 2030, 83 percent in 2035, 92 percent in 2040, 94 percent in 2045, and 98 percent in 2050.

IRP-to-CEIP Modeling Plan

The IRP preferred portfolio is an optimized least-cost, least-risk long-term resource plan:

- Modeled using Plexos modeling system.
- Considers system-wide cost, risk, transmission constraints, and resource adequacy.
- Considers federal and state energy policy, as applicable.

CEIP is informed by IRP preferred portfolio for specific Washington targets and actions:

- Resource modeling is done within Plexos.
- The preferred portfolio included an assessment relative to the requirements of CETA.
- Generally, for the assessment, resources were allocated based on existing regulatory agreements (2020 protocol and WIJAM) discussed in more detail in the following slides.

PacifiCorp's IRP-to-CEIP workplan provides additional detail on how the IRP informs CEIP development:

<https://www.pacificorp.com/energy/washington-clean-energy-transformation-act-equity.html>

IRP Outcome and Process

P02-MM

- P02-MM was the top-performing resource portfolio and was subsequently evaluated using the 2025, 2030, and 2045 requirements set forth in CETA and included in WAC 480-100-610 (1)-(3).
- Evaluation of the P02-MM portfolio against CETA targets required certain modeling assumptions to account for uncertainties related to the future of inter-jurisdictional cost allocation among the PacifiCorp states and resolution of outstanding CETA implementation issues.
- PacifiCorp currently allocates costs and benefits, including resource costs and benefits, to Washington according to the Washington Inter-Jurisdictional Allocation Methodology (WIJAM).



CETA Assessment

- Define Washington Retail Electric Load for the state of Washington to be total energy (MWh) annually, net of distributed generation and existing and optimized energy efficiency and demand-side management resources.
- CETA compliance target calculated annually as a percentage of retail electric load in each year. Under a four-year compliance window, an average annual shortfall of 49 MW shortfall was identified in 2030 – 2033.



Preferred Portfolio (P02-MM-CETA)

- The shortfall is addressed with a Washington-situs assigned 160 MW wind and solar resource co-located with storage in Yakima, Washington and maximizes use of transmission interconnection availability, in addition to incremental demand-side management resources in Washington.
- Extrapolation was done on the current trends in load growth and addition of new (renewable and non-emitting) resources and based on the end-of-life retirement of Chehalis in 2043, and demonstrates PacifiCorp is on track to meet the 2045 requirement: serving 100% of Washington with clean energy.

CETA-Assessment Assumptions

Existing and near-term

- Existing resources and those added before 2024: energy is allocated according to the 2020 Protocol and WIJAM
- For resources – including hydro – assumed Washington gets RECs equivalent to energy when RECs are acquired simultaneously and allocated to WA
- Voluntary resources and customer preference are not assumed to generate RECs for CETA compliance

Proxy (after 2024)

- Energy is allocated to Washington based on a proposed dynamic allocation method, assumed to be representative of a future agreement
- Assume all renewable and carbon non-emitting resources are system resources and CETA compliant (including new advanced nuclear and non-emitting peaker resources)

QFs

- For QF resources, energy allocation (and subsequent RECs) are based on 2020 Protocol and WIJAM
- Existing QFs system-assigned until end of 2029, then situs-assigned 2030 onwards. New QFs are system-assigned until end of 2023, then situs-assigned 2024 onwards. WA QFs are situs-assigned
- If REC entitlement differs from generation, the REC entitlement assumption was assumed

DSM

- In accordance with rule RCW 19.285.040 the energy efficiency and demand-side management resources for Washington customers are chosen based on the efficient bundles in the social cost of carbon scenario (P02-SCGHG) as specified in WAC 194-40-110

How the IRP Informs CEIP Components

IRP Preferred Portfolio
(P02-MM-CETA)

The interim and specific targets in the 2022 CEIP are informed by the preferred portfolio:

- Coal-fueled resources are removed from WA allocation of electricity by 2025
- Chehalis is the only thermal resource allocated to Washington as of 2030, and is removed from allocation of electricity before 2045
- Renewable resources allocated to WA per WIJAM and 2020 protocol

The CEIP specific actions are driven by action-plan selections as part of the P02-MM-CETA portfolio:

- The 2020 All Source RFP identifies resources to be online by 12/31/2024
- The 2021 DR RFP identifies near-term programs in Washington
- The 2022 All Source RFP identifies resources and programs to be delivered by 2026; for elements that can be online by year-end 2025, the resources may be included in the list of specific actions

The Incremental cost calculation will be done in accordance with the rules in WAC 480-100-660(4)

Highlights of PacifiCorp's Near-Term Actions

- The 2021 IRP resource plan furthers investments in new wind and transmission, while adding significant new solar and storage resources, demand side management resources, and for the first time, advanced nuclear.
- Finalize agreements to add 3,294 MW of renewable and storage resources to the system.
- Begin additional procurement of resources in 2022. The 2021 IRP preferred portfolio includes approximately 1,345 megawatts (MW) of new proxy solar and wind resources, 600 MW of collocated storage capacity and 274 MW of new proxy demand-side resources by the end of 2026.
- Add over 500 MW of new energy efficiency, 67 MW in WA by 2024.
- Add over 550 MW¹ of demand response programs, 62 MW in WA by 2024.
- Construction of high-voltage transmission projects that serve as the east-west backbone for moving power throughout the region: the 416-mile Gateway South line, the 59-mile Gateway West (Segment D.1) line, and the 290-mile Boardman-to-Hemingway line.
- Continue work toward adding a 500 MW advanced nuclear demonstration project in 2028.

¹ 550 MW also includes resources in the process of being procured from the Company's previously issued DR RFP and identified in previous IRPs.

Proposed Supply-Side Specific Actions

Project Name	Bidder	Technology Type	Location	Resource Capacity (MW)	Battery Capacity (MW)
Anticline	NextEra	Wind	Wyoming East	100.5	n/a
Cedar Springs IV	NextEra	Wind	Wyoming East	350.4	n/a
Rock Creek I*	Invenergy	Wind	Wyoming East	190	n/a
Rock Creek II*	Invenergy	Wind	Wyoming East	400	n/a
Boswell Springs	Innergex	Wind	Wyoming East	320	n/a
Two Rivers	Blue Earth Renewables LLC & Clearway Renew LLC	Wind	Wyoming East	280	n/a
Cedar Creek	rPlus Energies	Wind	Goshen ID	151	n/a
Rocket Solar II	DESRI	Solar with Battery	Utah North	45	12.5
Fremont	Longroad Energy	Solar with Battery	Utah South	99	49.5
Rush Lake	Longroad Energy	Solar with Battery	Utah South	99	49.5
Parowan	First Solar	Solar with Battery	Utah South	58	58
Hornshadow I	enyo energy	Solar with Battery	Utah South	100	25
Hornshadow II	enyo energy	Solar with Battery	Utah South	200	50
Green River I & II	rPlus Energies	Solar with Battery	Utah South	400	200
Hamaker	ecoplexus	Solar with Battery	Southern OR	50	12.5
Hayden 2	ecoplexus	Solar with Battery	Southern OR	160	40
Dominguez I	Able Grid	Battery Storage System	Utah North	n/a	200
Glen Canyon	sPower	Solar Photovoltaic	Utah South	95	n/a

- PacifiCorp's specific actions in the CEIP will be added to the system between January 1, 2022 and December 31, 2025.
- Projects shown to the left are from PacifiCorp's 2020 all-source RFP (2020 AS RFP) and will have commercial operation dates of no later than 12/31/2024. PacifiCorp is currently in final negotiations with the project bidders and is working to finalize terms.
- In addition to the 2020 AS RFP, PacifiCorp's 2021 IRP has identified ~1,345 of incremental renewable energy and storage need by the end of 2026. PacifiCorp is beginning a second procurement process (2022 AS RFP) to support that incremental need. To the extent that 2022 AS RFP projects are able to be online by the end of 2025, they will be considered for inclusion in the list of 2022 CEIP specific actions.

Draft Demand-Side Specific Actions

- **Continue to deliver energy efficiency programs and savings**
 - Energy efficiency programs are available to residential, business and irrigation customers
 - Increased focus on delivery to named communities
 - At least 202,367 MWh of energy efficiency by the end of 2025 (equivalent to energy use from ~26,000 homes)¹
 - Includes Home Energy Reports
 - Exceeds sum of 2022-2025 energy efficiency selections (156,018 MWh) from the 2021 IRP preferred portfolio
- **Deliver new demand response (DR) resources in WA by the end of 2025 targeting 78 MW**
 - New DR programs will be available to residential, business and irrigation customers
 - Includes both existing (RFP DR) and new (DR Winter, DR Summer) resources selected in the 2021 IRP

¹ EPA Calculator: <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

Draft Other Utility Actions



Language

Improve language accessibility by assessing needs, reviewing current programs, identifying gaps, and developing clear plans and processes for action



Outreach

Continue to identify and expand outreach to non-profits that provide services to Named Communities with the goal of increasing grant applications and approvals



EV Rebate

Establish an Electric Vehicle (EV) Supply Equipment rebate program that provides additional support for low income and customers living in multi-family dwellings



LI Bill Assistance

Implement and communicate modified Low Income (LI) Bill Assistance program that includes enhancements to expand customer eligibility.



Education

Develop a webpage to host educational resources



Incentives

Increase incentives for many common energy efficiency upgrades to improve project economics



Residential Disconnects

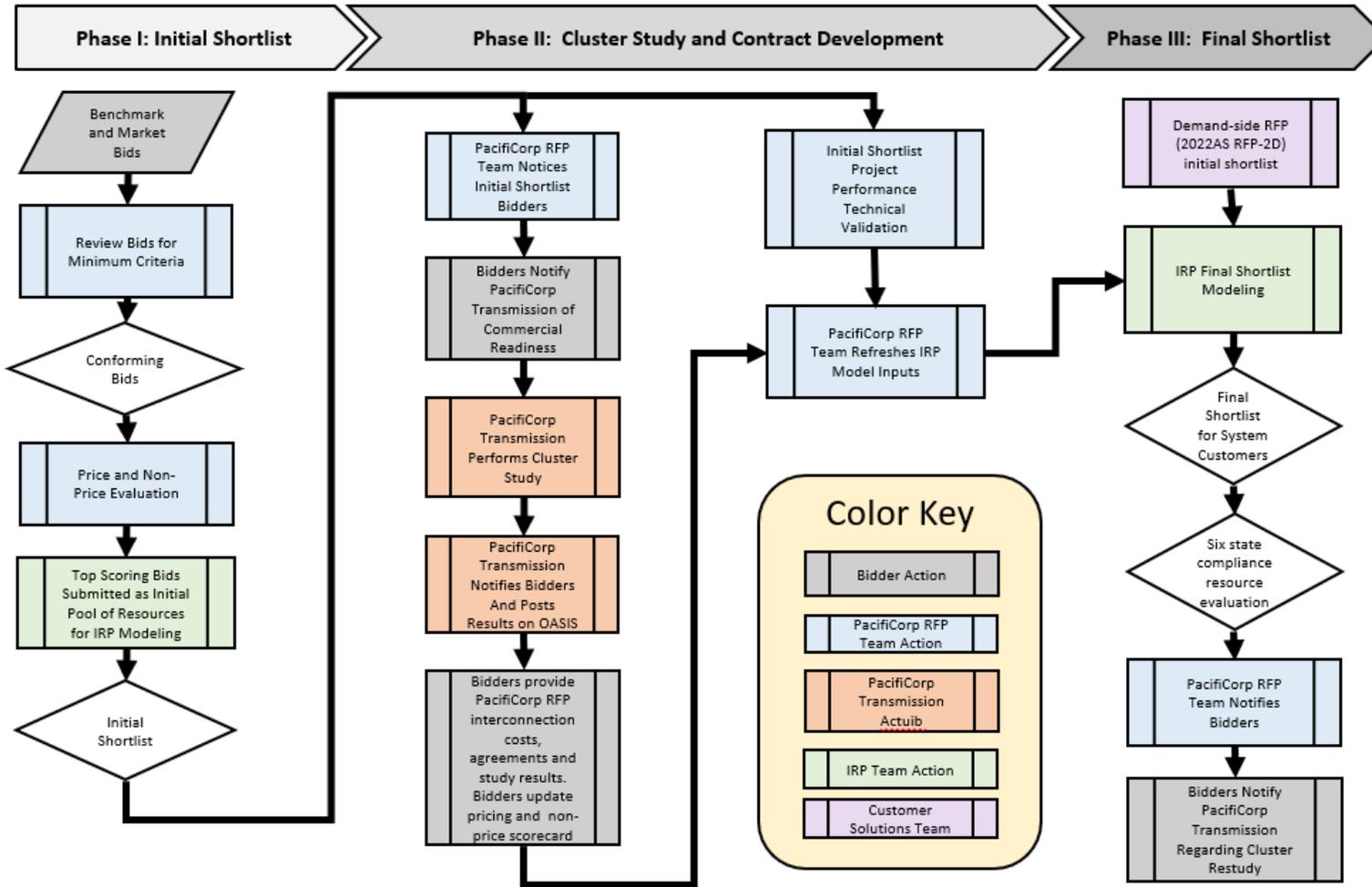
Develop a plan to reduce residential customer disconnections

All Source Request for Proposals Process

2022 Process (2026 commercial operation)

Process Step	Date	Durations
Utah notice filed	08/31/2021	Normally filed 60 days before RFP to give commission time to hire independent evaluator (IE)
IRP filed	09/01/2021	
Oregon docket opened	09/02/2021	To begin approval process for IE and scoring and evaluation methodology
Washington IE process started	09/03/2021	
RFP filed in Oregon	10/18/2021	
Utah RFP application filed	10/20/2021	
RFP filed in Washington	10/22/2021	Must occur within 120 days of filing IRP
Utah decision on RFP	01/07/2022	65-85 days from filing
Washington RFP approval	01/11/2022	75 days from RFP filing
Oregon RFP approval	01/11/2022	80 days from filing
RFP issued to market	01/12/2022	Must occur 30 days from WA RFP approval
RFP bids due	02/15/2022	35 days from issue
Initial shortlist	05/13/2022	81 days from bid
Cluster study deadline	05/16/2022	
Cluster study results	11/12/2022	
Best final pricing	12/02/2022	
Final shortlist filed	01/17/2023	

2022 All Source Requests for Proposal – Evaluation and Scoring Methodology



Notes

Phase I: Benchmark bids are evaluated and scored before any market bids are opened. Bidders submit self-scored non-price scorecard for PacifiCorp RFP team to review and audit. IRP ISL modeling will impose a MW limit at each location and select the optimal combination of resources for each location and resource type. The capacity limit by type will be based on the maximum interconnection capacity assumed as an input to the 2019 IRP.

Phase II: Cluster study determines the direct costs of interconnection and the network upgrade costs for each resource selected to the initial short list that does not already have a completed interconnection study or interconnection agreement.

Phase III: Bidders provide PacifiCorp with the interconnection costs from their signed interconnection agreement, interconnection study or cluster study results. Bidders update bid pricing and non-price scorecards to PacifiCorp. Results from the demand-side RFP are provided to IRP Team along with updated supply-side RFP inputs. The IRP model identifies the top performing supply-side and demand-side resources for consideration to the final shortlist portfolio.

Components of Clean Energy Implementation Plan (CEIP) Filing

Interim and Specific Targets

- Company updates **pathway to 2030 (carbon-neutral)** and **2045 (100% renewable and non-emitting)** goals, including **what actions can be taken over the next four years** to move toward targets.

Specific Actions and Narrative

- To support interim and specific targets, PacifiCorp will detail actions to be taken over the next four years: **projects (utility-scale and distributed), programs, company initiatives and other compliance actions**. Will include as much info as possible: project type, technology, price, etc.

Incremental Cost and Rates Calculation

- Determines the **total cost to retail customers** of Clean Energy Transformation Act compliance. Incremental cost is calculated as the difference between the CETA-compliant portfolio and the alternative lowest reasonable cost portfolio.

Customer Benefit Indicators and Public Participation

- PacifiCorp actively encourages **participation from the public** and Washington customers and filed a public participation plan to outline how we will seek and incorporate feedback. This chapter details how PacifiCorp took feedback into account and through collaboration with stakeholders, **developed Customer Benefit Indicators**.

Alternative Compliance Need

- Discusses the **risk of the company being unable to meet the four-year targets** (after 2030), 2030 targets, and/or 2045 targets. Should also include a risk mitigation plan through the alternative compliance options available to utilities under CETA.

CEIP Next Steps

Continued Opportunities for Feedback:

- 9/15/2021 – Equity Advisory Group Fifth Meeting
- 10/6/2021 – CEIP Second Public Meeting
- 10/20/2021 – Equity Advisory Group Sixth Meeting CEIP Public Meeting
- 11/10/2021 – CEIP Third Public Meeting
- 12/15/2021 – Equity Advisory Group Seventh Meeting
- No later than 1/1/2022 – CEIP Filed

To join the CEIP distribution list or submit comments, questions, and recommendations, please contact us at: CEIP@pacificorp.com

The most up-to-date materials, meeting dates, and information can be found at:

<https://www.pacificorp.com/energy/washington-clean-energy-transformation-act-equity.html>