

October 5, 2022

***VIA ELECTRONIC FILING***

Public Utility Commission of Oregon  
Attn: Filing Center  
201 High Street SE, Suite 100  
Salem, OR 97301-3398

**Re: Docket UM 2225 – PacifiCorp’s Response to OPUC Staff’s Straw Proposals on Analytical Improvements**

PacifiCorp d/b/a Pacific Power (PacifiCorp or Company) respectfully submits these comments in response to the Public Utility Commission of Oregon (Commission) Staff’s Straw Proposals on Analytical Improvements, including planning for decarbonization, treatment of fossil fuel resources, and additional data transparency topics.<sup>1</sup>

PacifiCorp appreciates the significant effort and consensus-building that the Commission and Staff have facilitated over the past year. Staff has identified several areas of agreement between the various stakeholders, and PacifiCorp believes that these efforts will lead to a faithful implementation of House Bill (HB) 2021.

The Company also notes that rulemaking proceedings remain a helpful and effective vehicle to address any important and contested issues that arise in the current and future Staff Straw Proposals. Rulemakings provide parties the opportunity to review and comment on specific proposals, and for the Commission to consider and discuss any complexity or nuances presented. These much narrower and discrete rulemaking proceedings could be administered concurrently and would not delay the Commission’s investigation in this docket.

In the event the Commission does not pursue a rulemaking or contested case proceeding for significant or contested issues, the Commission should instead consider whether the issue needs firm resolution in this initial investigation. HB 2021’s decarbonization goals are decadal. The Commission and utilities have plenty of time to refine and revisit issues to ensure that utilities are on a reasonable track to meet the statutory goals.

Fundamentally, investigative proceedings identify and resolve uncontested issues, while rulemakings and contested case proceedings resolve contested issues. The Commission can—and

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<sup>1</sup> *In re OPUC’s HB 2021 and CEP Investigation*, Docket No. UM 2225, Analytical Improvement Straw Proposal (Sept. 6, 2022).

should—take a measured approach if it determines that any given issue needs additional vetting or opportunities for further development.

PacifiCorp thanks Staff and the Commission for the process to date, and recommends the following modest revisions discussed below.

## **I. Planning for Decarbonization Targets**

### **A. Clean Technology Scenarios**

Regarding specific clean technology scenarios:

- The Company believes that the definition of “clean hydrogen” is both broad enough to provide utility discretion to implement the definition, but also specific enough for utilities to incorporate the definition in good faith. Because most of the variable cost associated with production of clean hydrogen is electricity, PacifiCorp expects to derive hydrogen fuel costs from its own electrical generation cost estimates for clean resources, rather than rely upon on external forecasts.
- Regarding long-duration storage, the Company considers pumped hydro and storage with a duration greater than four hours to be long-duration. The economics of additional storage duration deteriorates rapidly due to the low frequency of long-duration events, such that the effectiveness of storage with a duration longer than eight or 10 hours is limited unless the additional duration has a very low incremental cost. Nonetheless, the Company is willing to produce a sensitivity to assess the relative value of an extremely long duration technology, perhaps using operating characteristics of an iron-air battery.
- Regarding offshore wind, the Company intends to include the resource as an option in every scenario, including its “base scenario,” and will only remove or modify any offshore wind option for specific sensitivities.

The Company also notes that its Plexos modeling software provides not only cost-sensitivity analyses, but also relative operational strengths of each type of resource. This means that the model will select combinations of resources accounting for operational synergies. This is core functionality of the portfolio optimization including resource, retirement, and transmission option selections, and should align quite well with Staff’s clean energy technology scenarios.

That said, the Company would like to avoid testing redundant scenarios wherever possible, as this is already inherent to the Plexos modeling optimization and solution capabilities. PacifiCorp’s “micro resource” modeling technique allows for detailed reporting on the benefits of all resources, including options that were not selected. This allows for cost-effectiveness assessment and exploration of synergies among resources without requiring model runs for

various combinations, and additional specific clean technology scenarios is duplicative and unnecessary.

The Company represents that each resource option is backed by the best available data, and that the relative risk among these resources is comparable except in the very near-term. For example, the risk associated with lithium-ion batteries is dependent on supply risks and demand, which are being driven by world events and legislation. The risks associated with new natural gas facilities is not driven by new technologies or demand, but rather by long-standing state and federal policy trends that cast the long-term viability of any emitting resources into doubt. In short, while the risk factors vary in nature, there are no low-risk resources in the current environment.

Any Commission requirements or suggestions on specific alternative technology scenarios should not lose sight of already robust utility modeling processes, processes that the Company represents already accomplishes the aims of the contemplated alternative scenarios. The Company already models the best available data, and if clean hydrogen, long duration storage, and/or offshore wind contribute to the most appropriate least-cost, least-risk portfolio of resources to meet HB 2021's goals, then the Company's modeling will select those resources.

## **B. Demand Scenarios**

The Company represents that its anticipated portfolio development aligns well with Staff's proposed electrification and climate change and extreme weather demand scenarios.

Regarding electrification, the Company's base load forecast used for integrated resource plan (IRP) portfolio development includes the most realistic expectation for transportation electrification based on current and expected electric-vehicle adoption trends, including impacts from the recently enacted Inflation Reduction Act. Further, the base load forecast also incorporates the Company's most realistic expectations for building electrification initiatives. For example, PacifiCorp currently produces a high load scenario that increases the base load forecast by taking into consideration for four major factors: (1) better than expected economic activity; (2) the upper bound of model error; (3) climate change temperatures that are higher than base forecast climate change assumptions; and (4) lower private generation expectations. The Company believes that any additional electrification load would reasonably fall within the bounds of Company's high load scenario.

Regarding climate change and extreme weather, the Company's base IRP forecast, or the reference case, will incorporate median climate change temperatures, as determined by the median between Representative Concentration Pathway (RCP) 4.5 and RCP 8.5 temperatures. These climate change projections rely on publicly available temperature forecasts from the

Bureau of Reclamation.<sup>2</sup> The high load scenario will rely on temperatures as determined by RCP 8.5. The high load scenario will therefore evaluate a more extreme climate scenario than contemplated in the base IRP forecast.

### **C. Regional Development Scenarios**

PacifiCorp does not expect participation in a regional resource adequacy (RA) program to significantly impact its load and resource requirements over time. The “impact” of a regional RA program on the IRP would be analogous to the Company’s Front Office Transaction limit: extra diversity would imply additional market purchases could be made, at least some of the time, to maintain system reliability. PacifiCorp has already captured regional diversity benefits in this fashion through the Front Office Transaction limit and its actual market transactions for many years. As a result, the regional RA program is more likely to only smooth the existing process and ensure that any available megawatts of capacity do get deployed when needed elsewhere.

PacifiCorp would also note that there is a significant disconnect between utility load and resource capacity contribution values, and any utility RA program coincident peak and RA program resource capacity contribution values. Resources that look better under the RA program than the utility’s view would provide financial benefits, in terms of reduced need for forward capacity purchases, but in some regard, this is really just assumed wholesale sales value. Because the RA program capacity contributions are expected to be updated annually, the long-term value of RA program value will always be less certain than the utility’s forecasts of its own system.

Accordingly, PacifiCorp does not believe that additional regional development scenarios are necessary at this time. The Company does expect its experience with regional RA programs to inform its baseline assumptions going forward and will look for opportunities for appropriate alternative scenario analysis in the future.

Regarding transmission utilization, the Company intends to model expansion resources constrained by generation limits, such as Large Generator Interconnection Agreements (LGIA’s) and not by nameplate-based interconnection limits. This will allow for additional resource builds to benefit from synergies of different technologies. The Company’s 2021 IRP already modeled this assumption for collocated storage and battery but plans to expand this strategy for most (or possibly all) resource combinations.

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<sup>2</sup> United States Department of the Interior, Bureau of Reclamation, March 2021, Managing Water in the West, Technical Memorandum No. EVN-2021-001, West-Wide Climate Risk Assessments: Hydroclimate Projections (available at: <https://www.usbr.gov/climate/secure/docs/2021secure/westwideseurereport1-2.pdf>).

Regarding regional transmission expansion, as a multi-state entity the Company is a driver for regional transmission expansion where each system-wide study generates regional diversification. This allows the connection of more renewable and non-emitting resources. As a test, it may be appropriate to allow certain large, long-term transmission upgrades to be selected on a linear rather than integer basis, allowing the model to select anywhere between 0 percent and 100 percent of a new line, rather than all or none of it, under the assumptions that multiple entities will participate in the project. This would identify opportunities for joint participation with other regional entities. PacifiCorp intends to implement this proportional resource and transmission approach for the transmission options associated with offshore wind resources but does not intend to implement this approach for other transmission options. Staff's recommended proposal aligns well with PacifiCorp's anticipated approach.

#### **D. Greenhouse Gas (GHG) Emissions Constraints**

The Company does not have concerns with Staff's recommended GHG emissions constraints proposals.

The 2023 IRP will demonstrate compliance in 2030 and 2035 under the median assumption, which will include climate change impacts on load and hydro in every year. While the Company intends to estimate compliance in every scenario, this depends on cost allocation assumptions which may not be updated for every scenario because the Company's state-allocation methodology may be too resource-intensive to conduct at the most granular level for every model run. Because an update to the Multi-State Protocol is still in discussion, many allocation assumptions used in the 2023 IRP will necessarily remain subject to change. However, the complete state-allocation assessment will be performed on the preferred portfolio and the studies leading up to it that inform its final composition.

Regarding 2040 targets, the Company appreciates Staff's acknowledgement of challenges in achieving the zero emissions requirement in 2040. As competitive portfolios begin to emerge in the 2023 IRP analysis, additional considerations are anticipated to achieve a final compliant preferred portfolio. Based on current understandings, the Company anticipates that every scenario, including the base case, will be reliable in every year unless this is demonstrated to be impossible under the constraints of the scenario. The same weather and hydro assumptions used to select the preferred portfolio will be used to assess resource adequacy in all of the medium gas/medium carbon price-policy scenarios, except where assumptions are modified for a particular sensitivity. In addition, Oregon's allocation of non-emitting resources in 2040 and beyond will be sufficient to cover its share of the resource adequacy requirements for the system.

### **E. Key Long-Term Decarbonization Planning**

The Company does not have material concerns with Staff's key long-term decarbonization planning questions.

Regarding particular critical junctures, the 2023 IRP will include a narrative assessment of the relative merits of key scenario outcomes focused on costs relative to benefits. The Company has included this type of narrative and analysis as a qualitative assessment of unmodeled risk and anticipates doing so again. For example, if a study with \$20 million of increased costs reports dramatically reduced emissions, the Company may select that scenario for its preferred portfolio. This decision would represent the assumed value of unmodeled risk and equates to a "low-regret" decision point. Similarly, the 2023 IRP will include an acquisition path analysis that addresses the consequences of identified key assumptions in the preferred portfolio becoming untenable.

## **II. Treatment of Fossil Fuel Resources**

### **A. Retirements and Conversions**

The Company appreciates that Staff is not recommending specific straw proposals on this issue and believes that it is better suited for development in future IRPs/clean energy plans (CEPs).

Generally, the Company notes that in addition to present value revenue requirement costs and benefits, many factors determine whether or not conversion of a unit to a different fuel is practical: the capabilities of existing equipment, the remaining life of the resource and proximity and infrastructure that would support any alternative fuel supplies, and how relevant state and federal policies impact resource operations. The Company has will continue to build on materials presented in its September 1 and 2, 2022 IRP public input meeting and intends to continue to explain the basis for options available or denied to each resource.

### **B. Operational Changes**

The Company recommends that the Commission decline to adopt requirements on this issue at this time. The current proposed analyses appear to combine IPR/CEP planning processes, with oversight of specific utility resource operations that are more appropriate in rate proceedings or resource-specific operational investigations. Issues regarding any operational changes to utility operations can be re-visited after initial utility CEPs have been filed and considered.

That said, PacifiCorp will identify whether general operational changes are necessary for Oregon to continue to participate in its expected allocation of coal resources through 2029 and gas resources through 2039 given HB 2021's portfolio and emissions requirements. However, this

analysis will be general, given the significant uncertainty related to allocations under the Multi-State Protocol.

The Company also notes that for the 2023 IRP it does not anticipate that re-dispatching fossil fuel resources will be necessary within the Action Plan window to achieve Oregon policy objectives. In particular, the proposed Ozone Transport Rule is expected to result in significant reductions in emissions from fossil fuel assets in the near term, such that additional changes may not be necessary until much later in the study horizon, if they are required at all.

Additionally, the Company intends to report the allocation of sales and GHG to each state for the preferred portfolio and does not anticipate sales of fossil-fuel based generation within the Action Plan window. In the event any fossil-fuel sales are identified in the preferred portfolio and Action Plan, the Company will provide a description of the transactions.

### **III. Additional Data Transparency**

#### **A. GHG Emissions**

The Company recommends the Commission not adopt specific requirements for reporting GHG emissions across the Western Interconnect. PacifiCorp's IRP identifies direct emissions as part of its fuels portfolio and can identify deemed emissions as part of unspecified-source market purchases. PacifiCorp's emissions from unspecified resources are then quantified in the IRP consistent with the Oregon Department of Environmental Quality's (ODEQ) designated default emissions factor. But beyond these already robust GHG reporting processes, PacifiCorp does not have the ability to identify GHG emissions across the Western Interconnect as part of its IRP modeling. Besides these practical problems, the recommendation raises significant jurisdictional, resource, and staffing concerns if utilities are required to report West-wide GHG emissions for specific resources.

Regarding providing emissions assumptions for existing and proxy resources, the Company has no operational concerns with the proposal, however it could result in unnecessary repetition if assumptions need to be reported for each resource. Instead, the Commission should consider recommending utilities provide emissions assumptions only for types of resources (solar, wind, etc.). This would avoid reporting emissions assumptions for potentially thousands of specific resource units, when the same reporting emissions assumptions are used to inform only a dozen or so specific types of resources.

Regarding providing GHG emissions trajectories, emissions associated with serving Oregon customers are calculated consistent with ODEQ methodology, reported in tables and graphs consistent with requirements developed in partnership with ODEQ. The Company has no concerns with Staff's proposal, assuming that utilities are only required to model a select number

of alternative scenarios as discussed in Roadmap Topic 3 (recommending “a set of alternative IRP portfolios that test different paces of GHG reductions . . .”). The Company has significant resource and staffing concerns if utilities must list emissions trajectories for all modeled resources.

## **B. RECs**

Green Energy Institute, Metro Climate Action Team, and Climate Solutions recommend the Commission require utilities to retire the RECs associated with energy delivered to Oregon retail electric customers.<sup>3</sup>

HB 2021 is unambiguous: utility compliance is directly tied to longstanding DEQ reporting statutes and rules that do not require REC retirement for energy to account for emissions associated with the underlying resource (even though the topic has been raised several times).<sup>4</sup> When compliance is based specifically on the emission attributes of the underlying generating resource, this results in an emissions-based or generation standard, not a REC-based or electricity delivered standard. And while the Commission’s public interest standard of decision in Section 5 is necessarily broad to permit the Commission the discretion to weigh the specific facts and circumstances of utility CEPs,<sup>5</sup> this standard cannot somehow insert into HB 2021 what the Legislature explicitly chose to omit.

Stakeholders understand that HB 2021 is an emissions-based generation standard. The REC retirement issue was discussed at length during drafting negotiations of HB 2021. Climate Solutions was at the table for those discussions.<sup>6</sup> Stakeholders achieved consensus on the language “electricity shall have the emission attributes of the underlying generating resource.”<sup>7</sup> This language was included to explicitly differentiate between the competing generation or delivery standards. The Commission should rely on the plain language of the bill, and previous

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<sup>3</sup> *In re Commission HB 2021 Investigation*, Dkt. UM 2225, GEI, MCAT, CS Roadmap Acknowledgement and Community Lens Comments (Sept. 6, 2022).

<sup>4</sup> HB 2021, § 7 “For the purposes of determining compliance with sections 1 to 15 of this 2021 Act, electricity shall have the emission attributes of the underlying generating resource.”

<sup>5</sup> *Id.* § 5(2) (“The Public Utility Commission shall acknowledge the clean energy plan if the commission finds the plan to be in the public interest and consistent with the clean energy targets set forth in section 3 of this 2021 Act..”).

<sup>6</sup> *See generally*, HB 2021 Legislative Record, Support for House Bill 2021-A and -46 Amendment, Comments of Climate Solutions and Oregon Environmental Council (May 13, 2021) (“The HB 2021-A and the -46 amendments represent thoughtful negotiation with many stakeholders representing diverse interests in an ambitious and pragmatic 100% clean policy for Oregon. Energy stakeholders representing the utilities, energy service suppliers and ratepayer advocates, along with renewable developers, climate, environmental justice and community representatives have worked together for many months to find common ground. We have collectively reached consensus on the HB 2021-46 amendment up for your consideration. This bill and the -46 amendments represent a well-crafted 100% clean energy policy for Oregon.”) (available [here](#)).

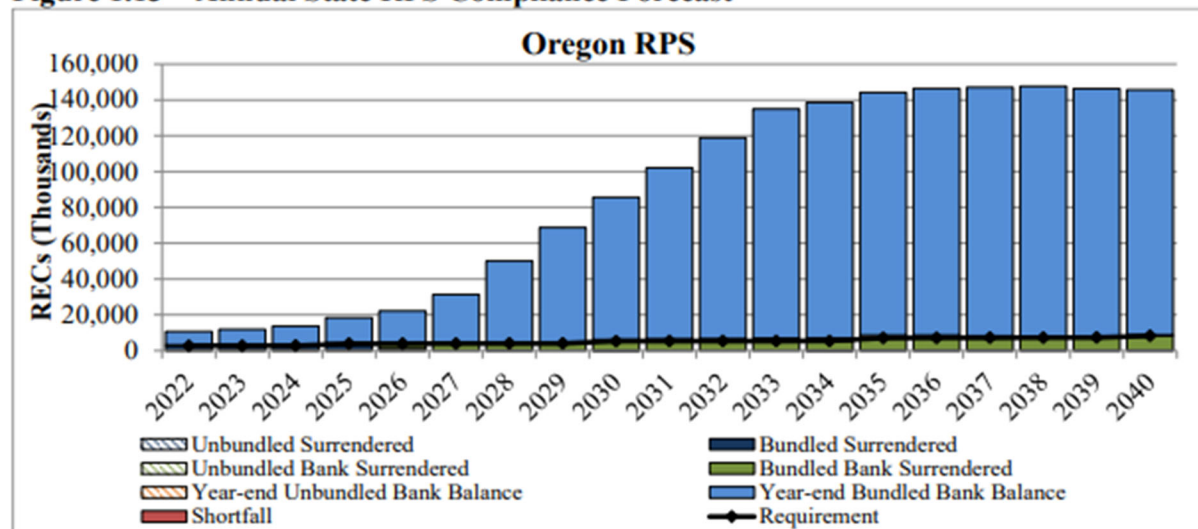
<sup>7</sup> HB 2021, § 7.



stakeholder legislative testimony, to conclude that HB 2021 requires an emissions-based generation standard and no additional REC considerations.

While RECs are not relevant to HB 2021, this straw proposal nonetheless recommends that utilities use the IRP as a venue to report forecasted OR-allocated RECs, and their treatment, from the preferred portfolio. Besides expanding the scope of the Commission’s investigation to issues outside HB 2021 and what is required for utility CEPs, PacifiCorp notes that all IRPs and IRP updates already include a comprehensive forecast of RECs allocated to OR, itemized by their treatment, that reflects the preferred portfolio. See Figure 1.13 from PacifiCorp’s 2021 IRP Update:<sup>8</sup>

**Figure 1.13 – Annual State RPS Compliance Forecast**



This figure and the underlying data illustrate PacifiCorp’s planning assumptions that all eligible Oregon RPS RECs are retained for use for RPS compliance (either retired or banked), and that PacifiCorp does not sell or transfer Oregon-allocated RECs to out of state customers. PacifiCorp does not have more current or itemized forecast information than what is displayed in the IRP and IRP updates. Additional transparency into actuals exist in PacifiCorp’s annual RPS reporting, PacifiCorp’s annual fuel mix reporting to ODOE (which is required to provide a REC-based accounting view), and annual filings to the OPUC that detail REC supply for voluntary programs.

<sup>8</sup> *In re PacifiCorp’s 2021 IRP Update*, Executive Summary, at 14, Figure 1.13 (available [here](#)).

### **C. Fossil Fuel Operations**

While historical generation and heat rate data for fossil resources is publicly available in Federal Energy Regulatory Commission Form 1, the Company's forecast of unit-level resource output and heat rate is considered confidential, as it can provide counterparties with information about the Company's needs that will distort their offerings of power and/or generation resources, to the detriment of retail customers. The Company is not opposed to providing aggregate forecast data by fuel type.

### **D. Data Standardization and Accessibility**

The Company does not have concerns with Staff's straw proposal on this issue and looks forward to working with Staff and stakeholders.

## **IV. Conclusion**

PacifiCorp appreciates the Commission's diligent efforts in this investigation, and respectfully requests the Commission consider the comments provided above.

Sincerely,



Shelley E. McCoy  
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PacifiCorp