

# PacifiCorp - Stakeholder Feedback Form

## 2023 Integrated Resource Plan

PacifiCorp (the Company) requests that stakeholders provide feedback to the Company upon the conclusion of each public input meeting and/or stakeholder conference calls, as scheduled. PacifiCorp values the input of its active and engaged stakeholder group, and stakeholder feedback is critical to the IRP public input process. PacifiCorp requests that stakeholders provide comments using this form, which will allow the Company to more easily review and summarize comments by topic and to readily identify specific recommendations, if any, being provided. Information collected will be used to better inform issues included in the 2023 IRP, including, but not limited to the process, assumptions, and analysis. In order to maintain open communication and provide the broader Stakeholder community with useful information, the Company will generally post all appropriate feedback on the IRP website unless you request otherwise, below.

Date of Submittal 2022-07-01

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Title:

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\*Organization: Sierra Club

Address: 824 South 400 West, Suite B103

City: Salt Lake City

State: UT

Zip: 84101

Public Meeting Date comments address: 06-10-2022

Check here if not related to specific meeting

List additional organization attendees at cited meeting:

IRP Stakeholder public meeting attendees;  
WRA, UCE, OR CUB, OR PUC, WA UTC, UT OCS, UT  
PUC, WY PSC, ID PSC, Interwest, UAE, WIEC,  
and more.

**\*IRP Topic(s) and/or Agenda Items:** List the specific topics that are being addressed in your comments.

Greenhouse Gas and Renewable Portfolio Standards; GHG emissions profiles, Methane leakage / State Policy Update; CETA non-compliance, REC accounting / Load Forecast Development; Climate weather modeling / Supply-Side Resource Alternative Fuel; Hydro power, Hydrogen ready gas resources, Battery resource options; 2021 IRP Acknowledgement Update; Reliability assessment data, No-Natrium analysis



Check here if you do **not** want your Stakeholder feedback and accompanying materials posted to the IRP website.

**\*Respondent Comment:** Please provide your feedback for each IRP topic listed above.

1) Greenhouse Gas and Renewable Portfolio Standards: On the June 10th meeting with stakeholders Dan McNeil committed to provide greater access to the GHG emissions profiles for resource portfolios and welcomed suggestions on how to achieve this. Sierra Club supports this effort and would suggest the following information be included; a) Specific tonnage for each GHG pollutant for each scenario, to be provided in spreadsheet, and also visually represented in presentation materials. b) Major pollutants, including GHG pollutants, should be included in the table: CO<sub>2</sub>, NO<sub>x</sub>, SO<sub>2</sub>, methane, particulate matter. Total methane emissions should account for methane leakage. c) Separately, include total lifecycle emissions from all energy sources in the supply table. d) A table should be included in presentation materials that compares total GHG emissions between portfolios. 2) State Policy Update. a) CETA non-compliance: Sierra Club requests a presentation on how PacifiCorp will be addressing the filing in Washington that the company failed to meet CETA requirements in the 2021 IRP, and how the company will adjust for the 2023 IRP. b) REC accounting: In the public meeting on June 10th, Zepure Sahumayan committed to look into how Pacificorp accounts for RECs, as CA, OR, WA, and UT state laws and programs look to retire or claim specific percentages of renewable energy credits. Sierra Club supports this analysis and specifically requests a description of how the company will account for RECs in comparison to the resulting power when RECs are retired or held

\* Required fields

for a specific program purpose. i) What is the resulting energy mix for each state, once state programs have been taken into account? This will help clarify that states cannot take credit for clean energy production that is not bundled to generate capacity, and provide accurate accounting for new clean energy capacity that each state must acquire to meet state law. In all cases, null power should not count in achieving state clean energy goals. ii) We recommend that for each scenario in the 2023 IRP, the company make a distinction between bundled clean energy and null power to provide an accurate accounting of each state's energy mix. 3) Load Forecast Development a) Climate projected weather vs. 20-year normal: Lee Elder requested feedback on his presentation on climate projected weather considerations. i) Sierra Club supports the inclusion of climate projected weather as a basis of the 2023 load forecast. This approach would take the best-available science into consideration, and more accurately project future load, since we know peak temperatures will continue to rise as climate change increases weather volatility. Utilizing best-available science should always be a best practice for IRP inputs. ii) With the implementation of climate projected weather, Sierra Club recommends that a 20-year normal weather sensitivity be included in the 2023 IRP to provide an analysis of the impact of changing weather patterns on portfolio selections. 4) Supply-Side Resource Alternative Fuel a) Hydro-Power: Sierra Club recommends that PacifiCorp update its 2023 IRP for anticipated hydro power capability in light of changing climate conditions. As PacifiCorp has noted in previous fuel dockets, low yearly hydro projections significantly impacts resource availability, requiring PacifiCorp to rely, in the short term, on its current fossil fleet. Long-term decreased hydro projections require long-term planning to replace hydro output with other clean energy options. b) Hydrogen ready fossil gas resource option: Sierra Club believes this resource was included in response to certain concerns from parties to not include new gas in the 2021 IRP. Sierra Club believes the decision to not include new gas due to stranded asset risk was correct and least-risk for customers. Sierra Club opposes the inclusion of hydrogen ready gas resource options, without the inclusion of analysis on hydrogen supply infrastructure to be co-located with the potential resource site. Additionally, PacifiCorp should model hydrogen paired with clean energy. c) Battery resource options: Sierra Club strongly recommends that PacifiCorp consider multiple long duration battery types in the supply side resource options, and evaluate these technologies accurately as mature resources when demonstrated by widespread commercial adoption. i) Include multiple market-ready options; including 5, 6, and 8 hour duration lithium ion batteries. Correct price assumptions from the 2021 IRP. PacifiCorp assumed a capital cost of \$4,622/kW for an 8-hour battery, while NREL's ATB projects the cost to be \$2,280 to \$2,563/kW in 2023 and \$1,848 to \$2,413/kW in 2025. ii) PacifiCorp should include the 100 hour iron-air battery technology in the supply side resource options, as suggested by other parties. Great River Energy in Minnesota and Georgia Energy are both in the development stage with this technology. To the extent that PacifiCorp continues to model demonstration energy projects, such as Natrium, the Company should similarly include battery technology. 5) 2021 IRP Acknowledgement Update a) Randy Baker noted that PacifiCorp is interested in making reliability assessment data more available so stakeholders can see which resources were modified for reliability adjustments. In order to timely provide this information to stakeholders and allow for meaningful feedback, Sierra Club strongly urges the Company to comply with Oregon IRP Guidelines, and Utah stakeholder requests, and provide a fully completed, draft IRP, open to public comment and revision, prior to final submission. b) Randy Baker also committed to looking at a no-Natrium analysis that addresses impacts to near term resource selection that may be forgone due to the Natrium. Sierra Club strongly supports this analysis, as we suspect that near-term, cost effective renewable energy options were suppressed in the models where Natrium had been manually selected. i) We would recommend further, based on current commission feedback, that the Natrium plant be excluded from preferred portfolio selection until more specific pricing data is available and a complete risk assessment can be conducted.

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**Data Support:** If applicable, provide any documents, hyper-links, etc. in support of comments. (i.e. gas forecast is too high - this forecast from EIA is more appropriate). If electronic attachments are provided with your comments, please list those attachment names here.

\* Required fields

## **PacifiCorp Response (date 8/5/2022)**

### **State Policy Update:**

PacifiCorp is currently litigating whether it correctly accounted for specific requirements of the Washington Clean Energy Transformation Act (CETA) as part of its 2021 Clean Energy Implementation Plan. PacifiCorp will withhold discussion on this issue until after the Washington Commission has reached a decision on PacifiCorp's alleged non-compliance. Further questions can be directed to PacifiCorp Attorney Zachary Rogala.

### **REC Accounting**

PacifiCorp agrees to include a system generation mix chart in the 2023 IRP publication that is informed by renewable energy credit (REC) entitlement from system resources to the extent that information is known at the time of the filing. The chart will distinguish renewable generation with and without RECs. In addition, the 2023 IRP publication will include renewable portfolio standard (RPS) REC positions for Oregon, Washington and California as has been done in past IRP publications. The IRP however, is not the appropriate venue to produce state-specific fuel mix forecasts informed by individual state REC treatment and fuel mix disclosure regulations. This type of analysis would require making policy assumptions for states that do not currently have fuel mix reporting regulations, and for states that do, fuel mix reporting is dependent on multi-state protocol allocations which are not available beyond 2024.

### **Load Forecast Update**

Thank you for your input regarding climate change. The Company will decide on the treatment of climate change weather soon. As you suggest, regardless of which weather assumption is used in the base forecast, the other will be provided as weather sensitivity in the 2023 IRP.

### **Supply-Side Resource Alternative Fuel:**

a) The 2023 Supply-Side Resource table includes electrolysis facilities co-located with hydrogen-fueled generating resources.

b) The Company has hired WSP as a Consultant to provide cost and technical information for renewable generation resources for the 2023 IRP. The consultant has been asked to provide current capital and O&M cost estimates (AAACE Class) and performance information for a 1) 200 MW AC, 2) 500 MW AC and 3) 1,000 MW AC (usable energy, beginning of life) battery (or similar) energy storage systems (BESS) with energy capacity of 4 hours. The consultant has been asked to provide an incremental cost for additional duration for battery storage options. The Consultant has been asked to recommend power and duration options for gravity energy storage systems and provide the same scope of cost and performance data for such systems. Gravity energy storage systems shall include, but not be limited to crane designs and rail car designs. Consultant is using the ATB database to develop baseline updated cost estimates. The Consultant is attempting to obtain the requested information from multiple technology suppliers to validate ATB estimates, however, some vendors may choose not to provide information.

### **Reliability Data**

PacifiCorp appreciates the feedback regarding the desire for additional reliability information and for a draft IRP. Regarding additional data, the company is committed to providing reliability assessment details for each study as part of its evolution of Plexos reporting.

### **Draft IRP**

\* Required fields

Regarding a draft IRP, the company's position is that the discussion and feedback regarding the inputs and methodologies of the IRP remains the most efficient and unbiased method for IRP development. The company does not believe there is enough time in an IRP cycle to allow for the drafting, meaningful review, development of new inputs, incorporation of changes and rerunning models prior to filing to accommodate a draft IRP which would not offer significant advantages over what is already present in the public input meeting series and materials. This appears to the company as completing the IRP twice and introducing the prospect of conflicting stakeholder feedback based not on the integrity of the development process but rather upon optimized outcomes.

#### **“No Natrium” Study**

The “no Natrium” sensitivity was performed in the 2021 IRP and the company anticipates it will be performed again. This sensitivity is expected to account for the possibility of earlier resource adoption in the optimization. If Natrium is not assumed as a base study assumption, the sensitivity will instead be “with Natrium.” The decision to include Natrium as a base assumption is dependent on many factors including updates to available information and model performance.

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**Recommendations:** Provide any additional recommendations if not included above - specificity is greatly appreciated.

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Please submit your completed Stakeholder Feedback Form via email to [IRP@Pacifcorp.com](mailto:IRP@Pacifcorp.com)

Thank you for participating.