

PacifiCorp - Stakeholder Feedback Form

2021 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 2021 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	Click here to enter date.
*Name: Ernest Rogers	Title: Vice chair	
*E-mail: ernie.e.rogers@gmail.com	Phone: 801-899-5867	
*Organization: Utah Valley Earth Forum		
Address: 2608 E Canyon Crest		
City: Spanish Fork	State: Utah	Zip: 84660
Public Meeting Date comments address: 6/18/2020	<input checked="" type="checkbox"/>	Check here if not related to specific meeting
List additional organization attendees at cited meeting:	Click here to enter text.	

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

Check here if any of the following information being submitted is copyrighted or confidential.

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.

Recommend avoidance of lithium battery storage

Lithium battery storage was developed for mobile applications where weight is critical. Lithium batteries are an essential component of electric vehicles, and supplies of the battery components (lithium and cobalt) are limited. Demand for lithium batteries for transportation, both automobiles and trucking, is expected to remain high. In contrast, PacifiCorp's battery storage is stationary. Cost, lifetime, and safety are the main drivers in utility applications. Therefore, IRP modeling should be focused on battery technologies better suited to PacifiCorp's need. One such battery is the Znyth battery, made by EOS Energy Storage,

PacifiCorp's highest purpose is to serve its customers. Charging of electric vehicles is rapidly becoming an important service. PacifiCorp can facilitate development of this market by avoiding use of lithium battery storage. One medium utility-size lithium battery storage unit supplying 200 MW for four hours contains enough battery material for construction of 50,000 electric cars. Indeed, with proper planning, these electric cars can represent a manageable load for PacifiCorp.

The company and its customers will benefit by PacifiCorp's avoidance of lithium batteries for energy storage, in favor of equally good non-lithium alternatives.

PacifiCorp Response:

In the 2019 Integrated Resource Plan (IRP), lithium-ion batteries were the most competitive energy storage technology identified in PacifiCorp's Renewable Resources Assessment, provided as Appendix P in the 2019 IRP. As a result, the costs and operational characteristics of lithium-ion batteries were the primary energy storage resources modeled in the 2019 IRP. However, specific chemistries are not relevant to the IRP results, which are instead driven by costs and operational characteristics. During procurement, costs and operational characteristics are again the key factors, rather than specific chemistries. The presence of specific energy storage types in the IRP preferred portfolio only indicates configurations that are expected to be competitive and does not preclude other options. PacifiCorp has commissioned a study of the cost and performance characteristics of renewable resources as well as energy storage. PacifiCorp will share the results of that study at a future public meeting and will also discuss its proposed plan to model an array of options that reasonably capture the range of benefits energy storage is projected to be able to provide.

<https://eosenergystorage.com>

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.

[Click here to enter text.](#)

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

[Click here to enter text.](#)

Please submit your completed Stakeholder Feedback Form via email to IRP@PacifiCorp.com

Thank you for participating.