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 2020-08-28

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*Organization: City of Kemmerer

Address: City Hall

City: Kemmerer State: WY Zip: 83101

Public Meeting Date comments address: ☐ Check here if not related to specific meeting

List additional organization attendees at cited meeting:

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

Energy Efficiency (supply side)

☐ 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.

Energy Efficiency--Can you have a technical conference discussing supply-side energy efficiency: The efficiency of coal vs gas vs hydro vs wind vs solar vs smaller nuclear reactors battery battery vs coal with gasification vs coal versus carbon capture. Would like to hear some analysis that compares all of these both with and with energy subsidies so that consumers can get a better idea of what really is more affordable, not only when it comes to their power bill but also when it comes to the national tax burden of these subsidies. IRP Resources: Wou

PacifiCorp Response:

It is not clear how the term “efficiency” is being contemplated in this comment. Efficiency is often used to refer to the conversion of fuel to the production of energy. For instance, the efficiency of a gas-fired facility and a coal-fired facility is captured in a heat rate, measured in Btu/kWh. The heat rate represents the level of fuel required (Btu) to generate a unit of electric output (kWh). A lower heat rate asset is more efficient at converting energy from a fuel source to electric output than a higher heat rate asset (i.e., it takes less fuel to produce a kWh of electric energy from an asset that has a 7,000 Btu/kWh heat rate than it does from an asset having a 10,000 Btu/kWh heat rate). This measure of efficiency is not directly transferable to other assets. For instance, a solar or wind facility does not consume fuel and so these asset types do not have a heat rate or a measure of efficiency that aligns with a heat rate for a fossil-fuel asset. Storage assets, such as pumped storage or battery energy storage systems measure efficiencies as a loss rate, which is a measure of the amount of energy required to charge a battery (or to pump water to a higher elevation for a pumped storage asset) relative to the amount of energy that is ultimately produced when the battery is discharged (or when water is released from a pumped storage facility). A higher percentage generally represents a higher level of charge/discharge efficiency. However, this metric is also not directly comparable to the heat rate of a fossil-fuel asset or to a non-fuel asset that does not experience losses (i.e. storage). In this context, tax credits would have no impact on the efficiency of different assets.

Given the nature of the question and the discussion of tax credits, PacifiCorp assumes that the question may be referring to the levelized cost of energy (LCOE) associated with different types of assets (i.e., the cost per MWh of output represented as $/MWh). The levelized cost of energy is presented in the 2019 IRP (Volume I, Chapter 6, Table 6.2, specifically the column labeled "Total Cost and Credits $/MWh"). The information for different asset types is presented with and without production tax credits (PTCs) or investment tax credits (ITCs), as applicable. PacifiCorp has not yet performed these calculations for the 2021 IRP, but this information will be presented in the supply side resource table when the IRP is filed next year. PacifiCorp notes, that the LCOE only summarizes cost elements of different assets and is provided for informational purposes only. It does not provide any insight on value, which can vary considerably among different types of resources that have different attributes (i.e., generation profiles that vary over time). Moreover, to calculate an LCOE for a dispatchable resource, such as a coal-fired or gas-fired asset, one has to assume some level of generation (the denominator in the $/MWh LCOE figure). Projected dispatch from a dispatch model may vary considerably from the level of generation used to calculate the LCOE, making it difficult to compare LCOE figures from dispatchable resources to non-dispatchable resources.

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.

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

I recommend you put coal-fired power back into your long-term IRP given it's likely superior efficiency vs other sources.

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

Thank you for participating.

* Required fields