ITEM NO. RA1

PUBLIC UTILITY COMMISSION OF OREGON
STAFF REPORT
PUBLIC MEETING DATE: November 1, 2022

REGULAR X CONSENT ____ EFFECTIVE DATE N/A

DATE: October 24, 2022

TO: Public Utility Commission

FROM: Caroline Moore

THROUGH: Bryan Conway **SIGNED**

SUBJECT: OREGON PUBLIC UTILITY COMMISSION STAFF:
(Docket No. UM 2225)
Near-term guidance on Analytical Improvements in the first Clean Energy Plans and associated Integrated Resource Plans.

STAFF RECOMMENDATION:

Approve Oregon Public Utility Commission (OPUC or Commission) Staff's initial expectations for Analytical Improvements and direct PacifiCorp (PAC) and Portland General Electric (PGE) to consider this analytical guidance in developing each utility's first Clean Energy Plan (CEP) filings and associated Integrated Resource Plan (IRP).

A clean version of Staff's final recommendations is provided in Attachment 1.

DISCUSSION:

Issues

1. Whether the Commission should approve OPUC Staff's (Staff) initial expectations for planning for decarbonization targets, treatment of fossil fuel resources, and additional data transparency summarized in Attachment 1.
2. Whether to direct PAC and PGE to consider this guidance in developing each utility's first Clean Energy Plan (CEP) filings and associated Integrated Resource Plans (IRP).

Applicable Rule or Law

Oregon House Bill (HB) 2021, codified as ORS 469A.400 to 469A.475, requires the state's large investor-owned utilities (IOUs), PAC, and PGE, and electricity service suppliers (ESSs) to decarbonize their retail electricity sales with consideration for direct benefits to local communities. The emissions reduction targets established under ORS 469A.410 require electric companies to reduce greenhouse gas (GHG) emissions as follows:

- By 2030, 80 percent below baseline emissions level.
- By 2035, 90 percent below baseline emissions level.
- By 2040 and beyond, 100 percent emissions-free.

The development of Clean Energy Plans is the foundation of HB 2021's decarbonization framework. ORS 469A.415(1) and (2) requires IOUs to, "develop a clean energy plan for meeting the clean energy targets set forth in ORS 469A.410 concurrent with the development of each integrated resource plan," and file the plan with the OPUC and Oregon Department of Environmental Quality (DEQ).

ORS 469A.415(4) describes the analytical requirements and other considerations for developing the CEP. ORS 469A.415(5) describes the actions and investments that may be proposed in a CEP. ORS 469A.420 outlines the requirements and considerations for the Commission to acknowledge the CEP.

Requirements for Integrated Resource Plans (IRPs) are provided in OAR 860-027-0400. Per OAR 860-027-0400(2), IRPs must satisfy the requirements of Commission Order Nos. 07-002, 07-047, and 08-339.

Analysis

Background
The Commission opened Docket No. UM 2225, Investigation into Clean Energy Plans, on January 11, 2022. The investigation began with an initial scoping questionnaire, followed by a workshop to refine and prioritize issues.[1] Staff released a work plan based on the scoping process on April 4, 2022.[2] The work plan is designed to prioritize the most important near-term recommendations to bring to the Commission while facilitating meaningful input and shared learnings. The work plan is summarized in the table below.

[1] Docket No. UM 2225, Staff's Investigation Launch Announcement, January 11, 2022, accessed at: https://edocs.puc.state.or.us/efdocs/HAA/um2225haa142050.pdf.
[2] Docket No. UM 2225, Staff's Work Plan Announcement, April 4, 2022, accessed at: https://edocs.puc.state.or.us/efdocs/HAH/um2225hah91948.pdf.

Work stream	Objective	Status
1. Planning Framework	Answer threshold questions about how the first Clean Energy Plans fit into the planning landscape among Integrated Resource Plans (IRP) and Distribution System Plans (DSP).	On May 31, 2022, the Commission adopted Staff's threshold "Planning Framework" proposal:[3] • CEP filed with IRP (Commission exception for undue burden). • CEP consistent with the IRP analysis and IRP Action Plan. • CEP describes how the CEP/IRP meet HB 2021 requirements. • Utilities provide annual updates on utility actions and progress toward the annual goals described in the CEP with IRP update. • No action on compliance penalties in UM 2225.
2. Roadmap Acknowledge-ment	Clarify expectations for the roadmap of decarbonization actions presented in the CEP, including the annual goals and metrics, considerations for CEP acknowledgment, and reporting progress in line with annual goals.	On October 6, 2022, the Commission adopted Staff's Roadmap acknowledgement recommendations, including: • CEP uses IRP planning and acknowledgement horizons. • CEP includes annual goals and actions per resource type, including community based renewable energy projects (CBREs) and voluntary actions. • CEP includes metrics for portfolio analysis and reporting actuals in updates for emissions reductions, cost, and community benefits indicators (CBIs). • CEP actions balance cost, risk, pace of emissions reductions, and community benefits and impacts. • CEP acknowledgement considers HB 2021 targets, consistency with IRP and relationship to other plans, and effectiveness of community engagement. • CEP actions show annual reduction in GHG emissions. • IRP updates include progress toward CEP goals, measured impacts across metrics, DEQ reports.
3. Engagement and Other Procedural Issues	Establish procedural requirements for the Clean Energy Plans, including engagement during development of the first CEP and procedural rules for the filing, review, and acknowledgement.	Utilities finalized their Planning Engagement Strategies August 4, 2022.[4,5] Staff circulated draft procedural rules October 11, 2022, and requested written comments by November 3, 2022.[6]

[3] See Docket No. UM 2225, Commission Order No. 22-206, June 3, 2022.
[4] Id., PacifiCorp's Oregon Clean Energy Plan Updated Engagement Strategy, August 4, 2022, accessed at: https://edocs.puc.state.or.us/efdocs/HAH/um2225hah161643.pdf.
[5] Id., Updated Clean Energy Plan (CEP) Engagement Strategy from Portland General Electric Company, August 4, 2022, accessed at: https://edocs.puc.state.or.us/efdocs/HAH/um2225hah165755.pdf.
[6] Id, Staff's Proposed CEP Rule Language, October 11, 2022, accessed at: https://edocs.puc.state.or.us/efdocs/HAH/um2225hah93812.pdf.

4. Community Lens	Clarify analytical expectations for implementing CEP requirements related to risk-based resiliency analysis, offsetting fossil fuels with community-based renewable energy analysis, community-based resources and community benefits into utility planning analysis.	On October 6, 2022, the Commission adopted Staff's Community Lens Analysis recommendations, including: • CEP includes a CBRE potential analysis, using CBIs, to inform annual acquisition targets for CBREs and a description of activities to meet those targets. • CBRE acquisition actions should help facilitate emissions reductions and be developed with communities and with input from Staff and stakeholders. • Develop quantifiable and measurable CBIs for resilience, health and community well-being, environmental impacts, energy equity, and economic impacts. • CEP includes CBRE proxy in portfolio modeling to examine fossil offset opportunities from CBREs. • CBRE analysis includes additional resiliency planning practices. Staff will present an additional Grid Modernization Lab Consortium report and its key takeaways to the Commission at a December 15, 2022 Special Public Meeting.[7]
5. Analytical Improvements	Using any remaining time, create opportunities for shared learning and identify any near-term needs to adapt current analytical practices to HB 2021.	In the time available, there were three topical workshops and Staff has circulated proposals for near-term guidance in those areas: planning for decarbonization targets; treatment of fossil fuel resources; additional data transparency.[8] This second set of near-term guidance will be brought before the Commission at the November 1, 2022 Public Meeting.

The purpose of this Staff report is to present recommendations resulting from the Analytical Improvements work stream to the Commission for consideration. Staff greatly appreciates participants commitment to this effort and the insights and perspectives that shaped the Staff recommendations. Staff developed these recommendations based on the process described in the table below.

[7] Id., Staff's Resiliency Planning Standards and Practices, September 7, 2022, accessed at: https://edocs.puc.state.or.us/efdocs/HAH/um2225hah113046.pdf.
[8] Id., Staff's Analytical Improvements Straw Proposal, September 6, 2022, accessed at: https://edocs.puc.state.or.us/efdocs/HAH/um2225hah123338.pdf#page=3.

Date	Action	Notes
7/27	Planning for Decarbonization Targets Workshop	National experts on decarbonization planning discussed best practices, challenges, and priorities. DEQ provided an overview of their emissions accounting methods. Staff presented draft concepts for key decarbonization strategy questions to be answered by the IRP and CEP, scenario analysis to be performed in the IRP, and constraints on emissions reductions across futures in the IRP.
8/10	Treatment of Fossil Fuel Resources Workshop	PAC and PGE presented on approaches to modeling fossil resources in previous IRPs, including retirement analysis, and Staff presented draft concepts related to modeling fossil resource retirement, conversion, and operational changes in the next CEP and associated IRP.
8/26	Data Transparency and Attribution Workshop	Staff presented draft concepts for its priorities for additional data reporting and transparency practices and attribution in the next CEP and associated IRP. Participants shared additional priorities for data transparency and attribution.
9/7	Staff presented its straw proposal for Analytical Improvements recommendations at a workshop for clarification and to allow stakeholders to share initial feedback.	
10/5	Staff received written comments on its straw proposal	Comments received from: Center for Resource Solutions (CRS);[9] Columbia Riverkeeper;[10] Green Energy Institute at Lewis & Clark Law School (GEI), the Sierra Club, Metro Climate Action Team Steering Committee (MCAT), Multnomah County Office of Sustainability, NW Energy Coalition, Rogue Climate, Climate Solutions, and the Oregon Citizens' Utility Board (the Energy Advocates);[11] GEI, the Sierra Club, MCAT, and Kathy Moyd;[12] Kathy Moyd;[13] Northwest Environmental Defense Center (NEDC);[14] Oregon Solar + Storage Industries Association (OSSIA);[15] PAC;[16] PGE;[17] Renewable Northwest (RNW);[18] and The Columbia River Inter-Tribal Fish Commission (CRITFC)[19]

Staff Strategy for Analytical Improvements Recommendations

The Analytical Improvements recommendations cover high priority analytical topics not addressed by the Roadmap Acknowledgment and Community Lens Analysis recommendations presented to the Commission on October 4, 2022. Consistent with the previous set of recommendations, they are meant to help avoid a major mismatch in

[9] CRS comments, accessed at: https://edocs.puc.state.or.us/efdocs/HAC/um2225hac144239.pdf.
[10] Columbia Riverkeeper comments, accessed at: https://edocs.puc.state.or.us/efdocs/HAC/um2225hac17435.pdf.
[11] Energy Advocates comments, accessed at: https://edocs.puc.state.or.us/efdocs/HAC/um2225hac163851.pdf.
[12] GEI, the Sierra Club, MCAT, and Kathy Moyd's comments, accessed at: https://edocs.puc.state.or.us/efdocs/HAC/um2225hac164159.pdf.
[13] Kathy Moyd comments, accessed at: https://edocs.puc.state.or.us/efdocs/HAC/um2225hac171331.pdf.
[14] NEDC Comments, accessed at: https://edocs.puc.state.or.us/efdocs/HAC/um2225hac161117.pdf.
[15] OSSIA comments, accessed at: https://edocs.puc.state.or.us/efdocs/HAC/um2225hac17810.pdf.
[16] PAC Comments, accessed at: https://edocs.puc.state.or.us/efdocs/HAC/um2225hac163559.pdf.
[17] PGE Comments, accessed at: https://edocs.puc.state.or.us/efdocs/HAC/um2225hac161954.pdf.
[18] RNW comments, accessed at: https://edocs.puc.state.or.us/efdocs/HAC/um2225hac171053.pdf.
[19] CRITFC comments, accessed at: https://edocs.puc.state.or.us/efdocs/HAC/um2225hac172032.pdf.

expectations in the first CEP and associated IRP that defers progress toward the ambitious HB 2021 goals. Staff's recommendations are focused on minimum expectations for the first CEP and accompanying IRP. Expectations and guidance for CEPs, IRPs, DSPs, and other related efforts are expected to evolve as parties work through the first CEPs and associated implementation efforts.

In addition, these recommendations highlight Staff's top modeling and data priorities given the introduction of CEPs and other HB 2021 elements to the increasingly lengthy and complex IRP construct. Staff designed the Analytical Improvements work stream to help develop a baseline of understanding of planning to decarbonization targets and to capture the most important near-term analytical recommendations that could be identified within the time available.[20] Through this process, Staff identified recommendations that are mostly additive to current IRP practices. However, these recommendations should help focus analytical efforts by signaling what Staff is most interested in understanding through the first CEP and associated IRP. Staff hopes to advance discussion of IRP streamlining, including data standardization, and procurement approaches before PAC and PGE file the second CEP and associated IRP and RFPs.

Staff's initial Analytical Improvements proposal is included in Attachment 2 and covers the following topic areas:

- Planning for Decarbonization Targets,
- Treatment of Fossil Fuel Resources, and
- Additional Data Transparency (including attribution).

The remainder of the Staff report describes the feedback received on the straw proposal and explains the revisions and clarifications made in response. Staff notes that some of its initial straw recommendations have been reordered for clarity and cohesion and any language changes are described under "Staff Response".

Planning for Decarbonization Targets

The first workshop within the Analytical Improvements work stream included a discussion with national experts in deep decarbonization planning. The experts emphasized that modeling a reliable and decarbonized electric system is an evolving field which requires consideration for major uncertainties and dependencies. The discussion also touched on further analytical considerations for a just and equitable transition of the electric system. While it's reasonable to assume near-term actions will focus on large-scale procurement of available non-emitting technologies (e.g., solar,

[20] Additional details of Staff's intent for this work stream can be found in its UM 2225 investigation work plan, pp. 7-8 accessed at: https://edocs.puc.state.or.us/efdocs/HAH/um2225hah91948.pdf#page=7.

wind, some battery storage technologies), modeling in the out years may focus more on identifying critical paths, challenges, and forks in the road.

Staff developed analytical recommendations based on what Staff believes will be most important to explore and understand in the first CEP and associated IRP from a decarbonization planning perspective. These recommendations are designed to:

- highlight easy wins;
- identify major challenges;
- explore the critical pathways to a fully reliable and decarbonized system; and
- understand the impact of major long-term uncertainties on near-term utility resource needs, costs, and benefits.

The proposal includes a list of key planning questions that PAC and PGE should explicitly answer in their plans along with several high priority portfolio modeling requests, including:

- **Clean energy technology scenarios:** Test scenarios where emerging technologies with deep decarbonization value become available before the 2040 zero emissions target.[21] At minimum, test clean hydrogen, long-duration storage, and offshore wind.
- **Demand scenarios:** Test the highest priority drivers of uncertainty surrounding customer load and system needs. At minimum, model electrification and climate change/extreme weather with a minimum level of rigor.
- **Regional development scenarios:** Test scenarios where key regional efforts come to fruition before the 2040 zero emissions target. At minimum, test efforts to develop a regional resource adequacy (RA) program, changes in regional transmission access (e.g., RTO), and the buildout of additional transmission capacity in the region.
- **GHG emissions constraints in IRP modeling:** Constrain portfolio analysis to provide reasonable near-term investment strategies while exploring key challenges and dependencies for long-term deep, reliable, and affordable decarbonization.

Clean Energy Technology Scenarios – Stakeholder Comments
Parties generally agree that testing emerging technologies is a priority for the upcoming plans and that clean hydrogen, long-duration storage, and offshore wind are appropriate technologies to include. However, parties propose a range of modifications and additions to Staff's proposal.

[21] For reference, a resource with a deep decarbonization value may be well suited to meet system needs during the times that it is toughest to displace the need for fossil fuel resources.

PGE is the least supportive of Staff's recommendation and believes that clean hydrogen and long-duration storage technologies are, "too uncertain to include in the 2023 IRP without exacerbating planning uncertainties and thereby complicating discussions on best near-term courses of action."[22] They proposed to provide a table of information about the current status of emerging technologies and "test action plan robustness by modeling a generic carbon free dispatchable resource, and a generic long duration storage resource." [23]

PAC confirmed that it is planning to test all three emerging technologies in the 2023 IRP, but plans to include these resource options in portfolio optimization. PAC believes that Staff's suggestion for dedicated technology scenarios would be duplicative.

The Energy Advocates suggested that rather than using discrete scenarios to test specific options, utilities should optimize across the options to identify a preferred "baseline scenario" and use sensitivity analysis to test key variations from that scenario. This recommendation spanned the technology, demand, and regional development scenario proposals. They urged Staff to provide the utilities with more specific guidance regarding the development of a "baseline scenario" and key alternatives or sensitivities and they suggested that the utilities provide "technology development plans for any options not yet commercially available."[24] The Energy Advocates also noted that some signatories had concerns with the environmental and community impacts of the technologies that Staff proposed the utilities consider.

RNW suggested that the guidance should also include medium duration storage (12-14 hours) and that long-duration storage modeling should be evaluated across full years rather than in individual weeks as Staff initially suggested. RNW also suggested that offshore wind be available up to 3 GW in the near-term and that longer term scenarios consider offshore wind buildout in greater amounts.

Regarding the definition of "clean hydrogen", both PGE and PAC propose that the Commission adopt a relatively broad definition that would allow them some flexibility in modeling hydrogen resources. For example, PGE proposes that clean hydrogen must have associated emissions that are lower than the unspecified emission rate. The Energy Advocates, RNW, OSSIA, and Kathy Moyd suggested that clean hydrogen should have zero associated GHG emissions and flagged potential issues with hydrogen, including leakage and NOx emissions, and suggested that utilities be required to address these risks transparently within their plans. Parties also question

[22] PGE comments, p. 2.
[23] PGE comments, p. 3.
[24] Energy Advocates comments, p. 2.

whether hydrogen created using emitting energy sources are consistent with the statutory term "nonemitting electricity" used elsewhere in HB 2021.[25]

Clean Energy Technology Scenarios – Staff Response
Staff's objectives are to understand whether/how future availability of these technologies impacts near-term needs and strategies and to begin identifying critical paths, dependencies, and challenges over the long-term. These insights are needed to test the robustness of the action plan and to inform the Commission and other decision makers in policy, industry, and research and development spaces. Staff appreciates the robust thinking around these scenarios and believes that IRP modeling allows a range of reasonable approaches to gain these insights.

In response to PGE, Staff is open to the use of generic resources to serve this purpose as long as the insights are grounded in real technologies, their potential capabilities, their impacts, and their costs.

In response to PAC, Staff notes that portfolio optimization models are valuable for identifying an optimal set of actions under a specific set of conditions, but they aren't necessarily good at signaling the implications of pursuing different pathways or at identifying actions that are robust across very different conditions. Staff has recommended scenario analysis to glean insight into these questions, but Staff is comfortable being less prescriptive about the use of 'scenario analysis' if PAC can identify a different approach that provides these quantifiable insights.

In response to the Energy Advocates, Staff agrees that combining certain scenarios is probably a value add, (e.g., combining technologies with transmission access). However, Staff is concerned that there may be too much uncertainty across the technology, demand, and regional development scenarios to derive insights from a single integrated baseline scenario. Staff believes that the utilities should combine scenarios where it creates important insights, but that exploring the implications of individual scenarios will provide more insight into potential benefits, critical paths, and risks of regret for near term actions.

Staff agrees with the Energy Advocates' suggestion that the utilities should describe their development plans for technologies that are not yet commercially available, especially if their analysis identifies them as high value opportunities. Staff suggests that this information be provided as part of the utilities' responses to Question 5 on the list of Staff's Key Planning Questions described later in this Staff report.

[25] ORS 469A.400(7).

Staff supports RNWs suggestions related to storage technology assumptions. Staff is comfortable testing scenarios that show offshore wind availability beyond the amount projected in regional studies for now, but does not believe that a minimum expectation to test above this amount is needed at this time.

Staff appreciates the responses to the question about the meaning of 'clean hydrogen' and has learned that parties may be relatively far apart in their interpretation of HB 2021 as it relates to this topic. Staff's initial read of the CEP requirements in ORS 469A.415 is that annual goals may include actions that include the acquisition of nonemitting generation resources, and that this requires consideration of emissions created when electricity is generated, not when the fuel is produced. This is consistent with the current DEQ emissions accounting methodology and Staff is not aware of another DEQ regulation specific to the generation of hydrogen. This does not mean that the utilities should ignore the GHG and pollution reduction benefits of hydrogen produced by renewable energy resources.

The first CEP/IRP will be a helpful testing ground for the utilities to begin to explore hydrogen-based technologies for investment in the out years. Utilities should consider generation that utilizes hydrogen fuel created with relatively lower emissions power sources, particularly if the power sources behind the hydrogen production will provide greater emissions reductions as the grid gets cleaner. More prescriptive guidance related to hydrogen technologies may be appropriate for future planning cycles, but Staff is comfortable with the current utility interpretation and has not added a requirement for the clean hydrogen scenario to rely on hydrogen produced only by renewable resources.

Finally, Staff appreciates the reminder that all clean technologies, emerging and currently available, have impacts on communities and the environment. Staff's final recommendation asks PAC and PGE to evaluate the risks of clean energy technologies alongside the benefits. Several of the CBIs proposed by the Energy Advocates may be useful in measuring these impacts, as well.

Staff's final recommendations allow the utilities to address key questions about emerging technology in a manner that aligns with their current modeling approaches and capabilities. Staff's minimum expectations do not prevent the utilities from responding to important recommendations related to opportunities to test combined scenarios and considerations for storage technologies and the scale of offshore wind available.

Demand Scenarios – Stakeholder Comments
PAC and PGE believe that their current approach aligns with Staff's recommendation. However, PGE does not believe that the approach to modeling climate change impacts should be prescriptive at this time.

The Energy Advocates and OSSIA propose that electrification assumptions be included in the Reference Case and that utilities test multiple high electrification scenarios that consider different rates of transportation and building electrification and that reflect current policies that incentivize adoption. The Energy Advocates also suggested that the utilities be required to test a resilience scenario where the utility identifies historical resilience events, quantifies how frequently those events have occurred across the historical record, and identifies planned actions in response to such events.

RNW noted that realistic electrification scenarios are evolving and suggested that the utility's assumptions should be made clear.

Kathy Moyd noted that electrification and climate change/extreme weather are interacting factors and that weather in all seasons should be considered for the demand scenarios.

Demand Scenarios – Staff Response
Staff appreciates that the utilities are already moving in the direction of Staff's proposal and understands that the rigor involved in modeling demand and uncertainty will evolve over time, particularly with climate impacts.

Staff also appreciates the comments that identified the interactions between electrification and extreme weather scenarios and suggestions for more granular differentiation between building and transportation electrification scenario requirements. Staff considers both electrification and climate change impacts to be important long term planning considerations in the context of HB 2021 but understands that multiple electrification scenarios may not be feasible for the first CEP.

Staff agrees with RNW that the electrification policy landscape is dynamic and supports the suggestion to make the policy driver assumptions clear. Staff believes that the electrification scenario(s) should capture the utilities' best attempt to reflect policy.

Staff's final recommendation focuses on the planning insights Staff seeks in the first plans and less on prescriptive methods. Staff hopes that this provides room for the utilities to make progress on parties' suggestions to investigate the differences between the impacts and requirements of vehicle electrification and building electrification on peak demand, load profiles, and resource adequacy. Staff expects that the utilities will

more specifically address the complex issues as data from other sectors evolves for future CEP/IRPs.

Staff also believes that the resilience scenario proposed by the Energy Advocates would be reflected in the risk-based resiliency analysis required by the community lens recommendations already adopted by the Commission.

Regional Development Scenarios – Stakeholder Comments
The value that parties expect to derive from the proposed regional development scenarios varied.

PAC does not expect participation in a regional RA program to significantly impact plans over time. They also described plans to test one approach to improved transmission utilization and they noted that Staff's recommendation aligns well with planned approach to transmission expansion.

PGE suggested that the WRAP program is too nascent to determine potential impacts on planning. PGE stated that they plan to test a transmission-unconstrained portfolio, and noted that RTO participation would look quite different and would encompass other categories of costs and benefits beyond transmission. PGE noted that this type of analysis could be pursued more holistically in future CEP/IRPs. PGE also stated that they expect transmission expansion to be part of the 2023 IRP.

The Energy Advocates noted that the regional development scenarios proposed by Staff "cannot be easily projected,"[26] and suggested that transparency into cost allocation be prioritized in considering regional coordination.

RNW generally agreed with Staff's proposal. RNW noted that WRAP participation should be tested as a sensitivity rather than in the Reference Case for the first plan, that improved transmission utilization also consider technology solutions, and that mixing and matching technology and regional development scenarios would offer useful insights.

OSSIA suggested that an additional transmission scenario be tested in which transmission is constrained due to high costs and long permitting timelines so that the utility's plans highlight the potential impacts of slow or delayed transmission expansion. OSSIA also suggested that scenarios testing improved transmission utilization should continue to include PURPA Qualifying Facilities.

[26] Energy Advocates comments, page 4.

Kathy Moyd suggested that the utilities be asked to discuss the relative benefits and drawbacks of each of the regional development options as well as RTO participation, rather than modeling all three of them separately.

Multiple stakeholders flagged this topic as an important one to continue to revisit in future planning cycles as regional developments evolve.

Regional Development Scenarios – Staff Response
Staff appreciates that there is uncertainty in the specifics of regional coordination proposals and how they might affect the utility's future plans. However, Staff maintains that efforts toward regionalization are motivated in large part by the challenge of maintaining reliability and affordability while achieving clean energy policy targets and that these are fundamentally resource planning questions. While past efforts at regionalization may have focused on reducing operational costs, a transition to clean energy resources brings with it a shift from fuel costs to fixed costs. The value of improved efficiencies in such a system may be realized not only through reduced fuel burn, but also through reduced resource needs. If regionalization efforts do not materially affect utility plans, Staff is concerned that the benefits of regionalization will not be realized.

At the same time, Staff understands that these are challenging analytical questions and that there is limited time to devote to such exercises prior to the 2023 IRPs and CEP. Staff's final recommendation focuses scenario analysis on transmission constraints ad expansion and allows flexibility to explore regional efforts in the first CEP/IRP. Staff expects that questions regarding regional efforts to be taken up more quantitatively and in more detail in future planning cycles.

GHG Emissions Constraints in IRP Modeling – Stakeholder Comments
The Energy Advocates, RNW, OSSIA, and Kathy Moyd supported Staff's proposal and PAC did not express concerns with Staff's proposal.

OSSIA suggested that Staff re-introduce guidance for the utilities to test straight-line paths to the 2030, 2035, and 2040 targets. RNW also suggested that Staff include items related to "course correction" in this set of recommendations.

PGE notes that they intend to test various C-levels, which represent the distribution of futures in which a portfolio meets the emissions reduction targets in HB 2021.[27] PGE also asked for clarity regarding Staff's intentions and the potential implications of planning to achieve targets under expected conditions. Finally, PGE stated that they do

[27] Staff believes that its proposal for 2030 and 2035 amounts to what PGE would call a C-50 scenario.

not believe that guidance for 2040 is necessary because they already plan to follow Staff's straw proposal guidance for 2040 in the 2023 IRP.

GHG Emissions Constraints in IRP Modeling – Staff Response
Staff's intention is for the first CEP/IRP to provide reasonable estimates for the actions required to achieve the clean energy targets in HB 2021 in a manner that best balances cost, risk, the pace of GHG reductions, and impacts and benefits to communities. Using PGE's language, a "C-level" that is very high (or requiring that utilities achieve the clean energy targets even under the most challenging of weather or hydro conditions) may lead utilities to overbuild the system. And adopting a C-level below 50 percent would mean that the utility would not expect to achieve the clean energy target under typical conditions. Staff seeks to avoid both of these outcomes.

Staff anticipates a discussion of how the Commission will determine compliance with HB 2021 targets in the years 2030, 2035, and 2040 separately from this investigation into the first CEP/IRP. As the regulatory process unfolds, we may gain insight regarding the most appropriate way to model compliance in future years within the CEP/IRP and utilities will have the opportunity to revise their approach for future plans as needed.

Staff continues to find the linear emissions constraint a relatively unhelpful planning exercise. Given the sophistication of utility optimization models and the insights gained by observing emissions reduction trajectories in response to other key variables, Staff has not prioritized this proposal for the first CEP/IRP. However, Staff prioritizes the exploration of multiple emissions reduction trajectories and will review a linear constraint portfolio if it is presented as an alternative trajectory in a utility plan.

Staff has not revised its recommendations in this area.

Staff's Key Planning Questions – Stakeholder Comments
The Energy Advocates and OSSIA supported Staff's proposal for questions that are most important for the utilities to answer in the upcoming CEP/ IRPs, informed by the previous four categories of portfolio analysis recommendations. PAC did not express concerns about Staff's proposal but adds that it plans to provide an "acquisition path analysis [for the 2023 IRP] that addresses the consequences of identified key assumptions in the preferred portfolio becoming untenable."[28]

[28] PacifiCorp comments, page 6.

PGE suggested that the long-term decarbonization planning questions are already reflected in the IRP Guidelines, but also expressed openness to further discussion.

The Energy Advocates and OSSIA suggested that the utilities also provide a plan to address barriers in the next 5-10 years. RNW suggests that "low regrets" actions may need to be expanded to achieve the policy goals of HB 2021.

Staff's Key Planning Questions – Staff Response
Staff agrees that the IRP Guidelines touch on many of the same themes that the long-term decarbonization planning questions delve into and notes that these topics have been discussed in the process of reviewing prior IRPs. These questions help the Commission to determine the reasonableness of a plan and to assess risks that may be difficult to quantify. They also help to provide information to other organizations and decision makers that could improve the viability or impact of the utility's plans. However, specific answers to these questions are not always included in filed IRPs and are not currently required by the IRP Guidelines. Especially as utilities increasingly leverage all source RFPs and develop other more flexible or nimble processes to implement their plans, these types of insights remain an important output of the long-term planning process.

Furthermore, as utilities seek to rapidly change their resource portfolios while facing a high degree of technology and cost uncertainty, these questions take on even greater importance. Staff believes that providing direct responses to these questions, rather than requiring stakeholders and the Commission to infer this information from various disparate analyses within the IRP, will help to improve the accessibility and usefulness of the utilities' plans.

Staff thanks PAC for sharing their plans with respect to the "acquisition path analysis" and notes that the proposed analysis is a good example of how a utility might address, in part, questions 3, 4, and 5.

Staff agrees that utilities should include plans for addressing barriers identified in the 5-10-year time frame. Staff acknowledges that some of these barriers may be out of the utility's control. In those circumstances, the utility may share information about how they are engaging with relevant organizations to improve the likelihood of success of their plans and outcomes for their customers.

Staff's final recommendation:
Staff recommends that PAC and PGE include narrative, supported by quantitative analysis where possible, answers to the following long-term decarbonization questions within the first CEP:

1. *What low regrets near term actions does the utility expect to perform relatively well regardless of future uncertainties in technology, demand, and regional developments?*
2. *What near term actions that the utility considered might have large negative long-term consequences (in terms of cost, risk, GHG emissions, or community impacts or benefits) under one or more future technology, demand, or regional development scenarios?*
3. *What are the critical junctures at which the utility's plan would materially change and what indicators will the utility use to identify whether those junctures are approaching?*
4. *What are the critical dependencies for the utility to successfully execute its long-term plan? What are the critical dependencies for the utility's plan to achieve the desired outcomes in terms of cost, risk, GHG emissions, and community impacts or benefits? What might be the implications of one or more of those critical dependencies failing?*
5. *What critical barriers need to be addressed to implement the utility's long-term plan? Which of these barriers can be addressed by the utility or the Commission and which of these barriers are out of the utility's or the Commission's control? Which of these barriers would need to be addressed in the next 5-10 years? The utility should include a plan for addressing those barriers identified in the 5-10 year time frame, including direct actions that can be taken by the utility and opportunities to coordinate with other involved entities.*

To inform their responses to Staff's decarbonization planning questions, PGE and PAC should, within portfolio analysis:

- *Quantitatively evaluate opportunities and risks of emerging technologies, including, at a minimum: clean hydrogen, long duration storage, and offshore wind;*
- *Quantitatively evaluate potential impacts associated with building and transportation electrification, informed by current policy initiatives, and climate change and extreme weather;*
- *Quantitatively evaluate the impacts of transmission constraints and future transmission expansion; and*

- *Evaluate the sensitivity of the plans to other opportunities for enhanced regional coordination, including RA programs and improvements in transmission utilization.*

To ensure that utility plans align with the clean energy targets in HB 2021, PAC and PGE's IRPs should:

- *Achieve the 2030 and 2035 clean energy targets under typical or expected weather and hydro conditions in those years. This should be demonstrated for the Preferred Portfolio and a set of alternative portfolios that test different paces of GHG reductions and different levels of community impacts; and*
- *Achieve resource adequacy in 2040 with no associated greenhouse gas emissions across the tested system conditions. This should be demonstrated for the Preferred Portfolio and a set of alternative portfolios that test different paces of GHG reductions and different levels of community impact.*

Treatment of Fossil Fuel Resources

During the second workshop of the Analytical Improvements work stream, Staff invited PAC and PGE to describe how they have modeled fossil resource retirements and operational changes in past IRPs, followed by a discussion of what Staff and participants believe the expectations for rigor of retirements, conversions, and operational changes should be in the first CEP/IRP.

In the workshop, Staff proposed that modeling retirements and conversions endogenously is a gold standard, and that scenario analysis has also provided meaningful insights for questions about coal retirements. However, given the intensity of the analysis and competing near-term priorities, it is not imperative to evaluate retirements and conversions as rigorously in the first CEP/IRP.

Staff proposed that operational changes are of great interest to Staff and many stakeholders who seek to better understand how near-term procurement, market participation, and DEQ's emissions accounting approach will drive near and long-term operational changes to be a component of PAC and PGE's HB 2021 compliance strategy.

Staff developed analytical recommendations that recognize utility modeling capabilities for retirements and conversion and focus modeling on transparency into the relationship between HB 2021 and fossil resource operational changes, which will provide the most tangible insights into HB 2021 compliance strategies for this planning cycle.

Fossil Fuel Retirements and Conversions – Stakeholder Comments
Parties generally agree that retirements and conversions will need to be considered as part of the HB 2021 strategy and that endogenous modeling is something that both utilities should move toward over time. PAC and PGE supported Staff's straw proposal to not prioritize minimum expectations for retirements and conversions in the first CEP/IRP.

The Energy Advocates urge the Commission to adopt guidance that encourages fossil fuel retirements and operational changes to reduce emissions near impacted communities and that recognizes the continued impacts of resources that are taken out of Oregon rates but that are not retired. They also suggested that methodologies for determining retirements should incorporate factors other than cost, including impacts to communities. The Energy Advocates also urged Staff to propose more specific methodological guidance regarding fossil fuel resources and suggested that utilities should be required to consider, though endogenous modeling or scenario analysis, coal and gas retirements in the first CEP given the limited time between the first CEP and 2030. Columbia Riverkeeper also urged the Commission to consider co-pollutants from fossil fuel resources when determining whether a CEP is in the public interest. Finally, the Energy Advocates warn against conversions to alternative fuels and suggest that the utilities address risks, including leakage and stranded asset risks, relative to non-emitting alternatives.

RNW suggested that utilities should be transparent about their rationale for including or excluding conversions and that utilities should consider fuel price risk and stranded asset risk in those determinations.

Fossil Fuel Retirements and Conversions – Staff Response
Staff agrees that rigorous analysis of fossil fuel resource retirements and conversions will be important planning exercises under HB 2021. However, more prescriptive guidance does not need to be prioritized the first CEP/IRP given the amount of time to develop these capabilities and the likely focus on other actions in the action plan window.

That said, PAC and PGE should begin preparing for more robust analysis of retirements and conversions in the next CEP/IRP if they do not currently have those capabilities, including endogenous retirement and conversion modeling and consideration of factors outside of cost, such as community impact and benefits, in determining retirement and conversion decisions.

Staff appreciates discussion of the disproportionate impact that fossil resource generation has on nearby communities and believes that CBIs should begin to make progress in measuring these impacts.

Staff has not included additional analytical rigor in its final recommendation.

Fossil Fuel Resource Operational Changes – Stakeholder Comments
PAC and PGE do not support Staff's proposal to focus modeling rigor and transparency on fossil fuel resource operational changes. PGE argues that Staff's proposal is outside of the scope of HB 2021 because it asks for information beyond generation to serve retail load and cautions that planning forecasts may not align with actual operations.

PAC suggested that the analysis would be more appropriate for a rate proceeding and also indicates that they do not anticipate re-dispatch of fossil fuel resources or sales within the action plan window to comply with HB 2021.

The Energy Advocates and RNW generally support Staff's proposed guidance, but also suggest that information regarding out-of-state sales be provided for all generation, and not limited to the sales that help to achieve the clean energy targets set forth in HB 2021. The Energy Advocates further argue that operational changes that have related environmental or health benefits are important for the Commission to consider in determining whether the utility's plan is in the public interest, per HB 2021. They note that there may be environmental or health benefits regardless of whether the power serves Oregon customers or is sold to an out-of-state counterparty.

Fossil Fuel Resource Operational Changes – Staff Response
Staff believes that the Analytical Improvements work stream has succeeded in identifying a major area of divergence between the utilities and other parties prior to the first plans being filed. Staff believes that progress can be made in this area in the near-term through planning transparency, and that this will serve as a jumping off point for an ongoing discussion of fossil resource dispatch in compliance, planning, cost recovery, and other venues throughout the implementation of HB 2021.

Staff believes that exploration of operational changes that impact the utility's GHG emissions per the DEQ accounting rules are not only a high priority for Staff and stakeholders, but within scope of the CEP. HB 2021 specifically states that the utility may rely on operational changes to achieve GHG emission reductions[29] and requires the utility to act as soon as practicable to reduce emissions.[30] HB 2021 also requires a

[29] ORS 469A.415(5) states that, "Actions and investments proposed in a clean energy plan may include… changes in system operation…and any other necessary action."
[30] ORS 469A.415(6).

balance of a host of traditional and community-based tradeoffs in acknowledging the CEP.[31]

If operational changes are part of the utility's plan, then Staff believes that the Commission needs enough information to understand the implications of the utility's operational changes in terms of cost, risk, and community impacts and benefits to fully consider the reasonableness of the utility's plan. In particular, community impacts could be quite different between a plan that involves applying an operating limit to a plant versus continuing to generate from that plant but selling some portion of its output to an out-of-state counterparty. In addition, the terms of out-of-state sales could have significant implications for the value of a resource to Oregon customers, some of which would be ultimately captured through power costs as suggested by PAC, but some of which may also be important for resource planning, including the resource adequacy contribution of the resource. Staff believes that the CEP/IRP is an appropriate venue for the Commission to consider the planning implications of any operational changes that the utility intends to leverage to comply with HB 2021.

Staff appreciates PGE's concern that forecasted operations may not align with actual operations. Staff notes that while this may be true, forecasted operations could have a significant impact on the utility's plans for HB 2021 compliance and are therefore integral to the consideration of the utility's plan. To the extent that the utility has adopted modeling assumptions that are explicitly out of alignment with current operational practices (for example, by applying an operating limit, emissions constraint, or GHG price to dispatch), this could have significant implications for the other actions that the utility plans to make to comply with HB 2021 or on the success of the utility's plan in achieving GHG reductions. As such, Staff continues to prioritize transparency around these assumptions and their implications.

Staff's final recommendation:

For the first CEP and associated IRP, if the Preferred Portfolio relies on fossil fuel resource retirements or conversions to reduce GHG emissions, the utility should:

- *Provide a rationale for and describe the risks associated with the retirement or conversion; and*
- *Identify whether each planned retirement reflects plans to decommission the plant or plans to exclude the plant from Oregon rates.*

[31] ORS 469A.420(2).

For the first CEP and associated IRP, if the Preferred Portfolio relies on operational changes relative to expected economic dispatch to reduce GHG emissions, including, but not limited to, application of operating or emissions constraints, inclusion of a GHG emissions cost in dispatch decisions, or out-of-state sales of fossil fuel generation, the utility should:

- *Quantify the impacts of those operational changes relative to expected economic dispatch in terms of generation (curtailed, reduced, or sold) and GHG emissions (avoided); and*
- *Describe how the utility intends to implement those operational changes (e.g. through the development of operating or emissions limits, application of GHG emissions penalties, or execution of contracts with out-of-state entities), to the extent that they impact forecasted GHG emissions in the Action Plan window.*

Additional Data Transparency

The final effort in the Analytical Improvements work stream focused on capturing priorities for data, reporting, and transparency not covered by previous recommendations. This topic received the least time but surfaced important areas of divergence and high-priority requests for data transparency the first CEP/IRP.

As Oregon steps out into an uncertain and complex planning arena, Staff believes that it is critical to promote accessibility and to begin developing an understanding of major complexities within the CEP/IRP and utility compliance strategies. Therefore, Staff captured a final list of specific reporting and data visualization requests for the upcoming CEP and/or IRP. These recommendations were originally organized within the following categories:

- **GHG Emissions:** requested level of detail and format for reporting GHG emissions per resource and portfolio, including resource emissions assumptions.
- **Renewable Energy Certificates:** requested level of detail and format for reporting the utilities' intended treatment of RECs generated or acquired throughout the planning horizon.
- **Fossil Fuel Resource Operations:** requested level of detail, narrative, and format for reporting generation and heat rate from fossil resources.
- **Data Standardization and Accessibility:** proposal to develop standard data reporting templates by February 2023 and require CEP to written and organized for accessibility.

Staff recognizes that these are prescriptive recommendations. Staff's goal is to prioritize and streamline reporting in utility filings, not to overwhelm with added administrative burden.

GHG Emissions – Stakeholder Comments
Staff received a range of constructive feedback on the GHG emissions reporting proposal.

PAC and PGE do not support a specific requirement to report GHG emissions across the Western Interconnect. PAC did not object to the other reporting items proposed, but offered suggestions to reduce the amount of data reported in the CEP without loss of meaningful information, specifically consolidating resource lists that share common DEQ assumptions and limiting the number of portfolios for which GHG emissions data is reported within the CEP. PGE did not express specific concerns with the other requested information, but they objected to the prospect of requiring specific graphs in the CEP to communicate information.

The Energy Advocates and RNW generally supported increased transparency around GHG emissions. The Energy Advocates suggested that the first CEP provides an opportunity to test GHG reporting through a regional lens and also suggested that the CEP include graphs that track GHG emissions from Oregon generators to better understand local impacts of operating fossil fuel resources. NEDC also suggested that communities near fossil fuel plants should have access to information about how those plants operate and that stakeholders should have transparency into out-of-state sales of fossil fuel generation.

RNW supported increased transparency into GHG emissions and suggested that the Commission has authority to consider emissions beyond the DEQ methodology. RNW did not express a preference for a specific format for this data but suggested that the utilities should prioritize both streamlining and granularity in reporting data transparently.

GHG Emissions – Staff Response
Staff finds that there is agreement that a certain level of detail regarding GHG emission data is a priority for stakeholders in reviewing the utilities' resource plans.

With regard to emissions impacts outside of Oregon, Staff appreciates how difficult it may be to model the impact of utility resource actions on total regional emissions in the manner Staff initially proposed. Staff believes that this information can be estimated using the GHG information already requested in the Roadmap Acknowledgement recommendations on October 6, 2022.[32] Specifically, if the utilities report GHG emissions associated with market purchases and sales, then the relative impacts on emissions outside of Oregon may be estimated based on the net emissions associated with market purchases and sales. For this reason and those raised by the utilities, Staff

[32] Docket No. UM 2225, Commission Order No. 22-390, issued October 25, 2022.

has not included GHG emissions reporting across the Western Interconnect in its final recommendation.

To reduce the amount of data and to avoid issues related to confidentiality, Staff's final recommendations request specific information for the Preferred Portfolio and for the alternative portfolios that test different paces of GHG reductions and community impacts and benefits and suggest that the utilities aggregate some of this information by fuel type. To provide more information about locational impacts without creating confidentiality issues, Staff's final recommendation also requests resource-specific locational and cumulative, rather than annual, emissions information.

With regard to requirements for specific graphs, participants in this investigation have made it clear that transparency and accessibility are persistent barriers to engagement in utility IRPs. Staff hopes that specificity and consistency across utility metrics and graphs will make it easier for the utilities to identify data presentation approaches that increase the understandability of their plans.

Renewable Energy Certificates – Stakeholder Comments
The Energy Advocates, RNW, CRS, NEDC, Sierra Club, MCAT, GEI, and Kathy Moyd supported Staff's proposal to include Renewable Energy Certificate (REC)-related reporting in the IRP in interest of transparency. CRS proposed specific language that more clearly delineates between the different categories of RECs and the Energy Advocates expressed support for this proposal.

CRS, NEDC, Sierra Club, MCAT, GEI, and Kathy Moyd also urged the Commission to provide clarity regarding whether associated RECs must be retired in order to recognize clean generation for the purposes of HB 2021 compliance. They argue that failure to retire associated RECs would lead to double-counting of the contribution of clean generation between Oregon and other jurisdictions, which could affect the integrity of Oregon's RPS program, the Oregon Clean Fuels Program, other REC-based programs, and contracts.

PAC and PGE disagree with this interpretation of HB 2021, do not view REC reporting as relevant to HB 2021 compliance, and do not believe that additional reporting requirements are necessary beyond their current practices in the IRP.

Renewable Energy Certificates – Staff Response
Staff believes that it is important to understand how utilities plan to use the RECs generated or acquired through their resource strategies in a post-HB 2021 planning landscape. Staff's initial read of HB 2021 is that it does not require a REC to be retired

for a resource to be considered emissions-free.[33] Staff understands that this is also consistent with DEQ's emissions accounting methodology. However, that does not obviate important questions about how the utilities intend to manage and account for these assets, which are paid for by ratepayers and fundamentally impacted by the HB 2021 emissions accounting framework (CRS outlines these implications excellently in their comments). Further, the treatment of these assets may have implications for the economics of new resource acquisitions and the implementation of other sections of HB 2021, such as the customer supported renewables and other CBRE opportunities.

Staff does not intend to run major compliance and regional REC accounting questions to ground in this planning investigation. Staff believes that those questions should be addressed when Staff is able to launch a broader investigation into HB 2021 compliance issues, collaborate further with DEQ on compliance review for the HB 2021 target years, and delve into RPS and HB 2021 compliance issues.

Staff appreciates that some of the requested REC information is already reported in IRPs and Renewable Portfolio Implementation Plans. Until larger compliance and regional REC accounting discussion occur, Staff believes that it is reasonable to ask the utilities to share their current thinking on the treatment of RECs associated with generation that will be reported as emissions-free in planning projections, planning updates, and eventually considered emissions-free in HB 2021 compliance review. This transparency will provide a point from which future discussions can launch. It will also help customers and communities engage in discussions related to voluntary products and CBRE development.

Staff's final recommendation included additional detail based on feedback from CRS and supported by other stakeholders.

Fossil Fuel Resource Operations – Stakeholder Comments
PAC and PGE oppose Staff's straw proposal, noting that historical data would be duplicative with their FERC Form 1 requirements and that forecasted unit-level generation and heat rate data would provide counterparties with information about the Company's needs that will distort their offerings of power and/or generation resources. PAC expressed more comfort providing this information on an aggregate basis by fuel type.

The Energy Advocates supported Staff's proposal for transparency into unit-level data and noted that data aggregated by fuel type does not provide adequate information to

[33] ORS 469A.430 states that, "For the purposes of determining compliance with ORS 469A.400 to 469A.475, electricity shall have the emission attributes of the underlying generating resource."

understand impacts to communities. RNW further suggested that unit-specific capacity factor information may be helpful in identifying opportunities for unit retirements.

Fossil Fuel Resource Operations – Staff Response
Staff appreciates utility concerns about publishing unit-specific information but agrees that this information is of increasing importance when planning to 100 percent emissions reduction targets and in understanding impacts on specific communities.

Staff's final recommendation attempts to balance these considerations by requesting annual generation, emissions, and heat rate data aggregated by fuel type as well as unit-specific cumulative, rather than annual, GHG emissions information. Staff hopes that this information will help inform affected communities without compromising confidentiality. As RNW notes, more granular information may be needed for some analysis of the utilities' plans. The IRP Guidelines recognize that confidential information may be protected through use of a protective order. To the extent that the additional data may be commercially sensitive, it can be included in a CEP/IRP, and shared subject to an applicable protective order.

Data Standardization and Accessibility – Stakeholder Comments
PAC, PGE, the Energy Advocates, RNW, and OSSIA support Staff's straw proposal to collaboratively develop a standard data reporting approach.[34] The Energy Advocates suggested that PUC Staff lead the conversations around data transparency and that both utilities engage in the process at the same time for the sake of efficiency. PGE suggested that the PUC lead the process through a third-party community-based organization facilitator.

The Energy Advocates and OSSIA also suggested that Staff and stakeholders develop a common understanding of what data will be public versus confidential at the outset of the process. The Energy Advocates specifically urged PAC to share recordings of their IRP meetings and suggested that the utilities be required to "record and post IRP meetings, presentations, and stakeholder feedback for both the IRP and the CEP processes."[35]

OSSIA listed additional data that they believe should be provided publicly, including "interconnection information, capacity, data for modeling and forecasting, hosting capacity analysis, and daytime minimum load (among others)."[36] OSSIA also suggested

[34] Workshop discussion included reference to Avista's 2021 IRP information provided on its website as an example of standard data presentation approach: https://www.myavista.com/about-us/integrated-resource-planning.
[35] Energy Advocates comments, page 11.
[36] OSSIA comments, page 3.

that Staff and stakeholders should be able to submit data requests as the CEP is being developed.

Data Standardization and Accessibility – Staff Response
Staff appreciates stakeholders' interest in participating in further discussions regarding data transparency and looks forward to further discussion moving forward.

Staff believes that posting meeting recordings is important for accessibility and recommends that PAC do so moving forward.

Staff appreciates the additional requests for interconnection-related information and points parties to the distribution system planning process, which has been focused on developing, publishing, and improving this information. To the extent that the CEP/IRP can point to this information, Staff is supportive.

Staff notes that the request for stakeholders to be authorized to submit data requests while a CEP is being developed would require opening a Commission docket and creating a more formal process all at a time when the utility is still developing the CEP and IRP for filing. Staff believes the process outlined in IRP Guideline 2.a that envisions significant public involvement using more informal means to exchange information and ideas serves, at present, to better promote public engagement during the development of the CEP/IRP.

Staff will also consider utility responsiveness to requests for information when reviewing the accountability requirements adopted as part of the Roadmap Acknowledgment recommendation Topic No. 6 on October 6, 2022.

Annual Cost Reporting – Staff Update
Staff's Roadmap Acknowledgement recommendations proposed an annual normalized revenue requirement for use as a portfolio scoring metric and to report historical actuals for comparison within the IRP Update. The Commission did not adopt Staff's recommendation and agreed with Staff that it may be more appropriate as a transparency recommendation than an acknowledgement consideration. The Commission asked Staff to consider how annual cost information might be included as a data transparency item in a manner that addresses concerns related to potential misinterpretation of the information.

Based on input from stakeholders throughout the process, Staff continues to believe that gross revenue requirement data is difficult to conceptualize. Staff received direct requests for $/kWh context for portfolio costs and proposed normalizing annual costs by

the total forecasted retail sales as a compromise for those who requested that the utilities provide more comprehensive rate impact projections in the CEP.

Staff clarifies that it does not seek rate impact projections or any reflection of costs by customer class. Nor does Staff think it's possible to reflect the timing with which investments may be incorporated into rates.

Staff seeks to put revenue requirement projections into units that readers will find useful. The normalized annual cost metrics will help stakeholders understand the relative cost impacts of various paces of GHG reductions and helps to control for cost increases associated with electrification.

To help avoid confusion while also providing important data in a transparent way, Staff proposes that the CEP report include both annual costs and annual costs divided by retail sales for the Preferred Portfolio and key alternative portfolios. Staff does not propose that this information be communicated as an "annual average rate," that it be framed as an "annual goal", or that it be provided for historical years. Staff believes that the utilities could include a brief disclaimer that explains what the normalized revenue requirement projection data does and does not convey.

Staff's final recommendation:
The first CEP, or a designated section of the IRP that contains all information required by HB 2021, should be written for an introductory audience and include definitions of all key terms and acronyms.

The first CEP, or a designated section of the IRP that contains all information required by HB 2021, should also include:

- *A table that lists the GHG emissions assumptions for each existing and proxy resource modeled in the IRP, developed in partnership with DEQ.*
- *A table that lists the cumulative forecasted GHG emissions from each existing and proxy resource in the Preferred Portfolio under the Reference Case over the entire analysis horizon (at least 20 years) and the location of each emitting resource.*
- *The following graphs, which should include forecasted data under the Reference Case over the entire analysis horizon (at least 20 years) and at least three years of historical data:*
    - *Total annual portfolio GHG emissions, calculated in a manner consistent with the DEQ methodology, for the Preferred Portfolio and a set of alternative portfolios that test different paces of GHG reductions and different levels of community impacts.*

- *The total forecasted annual revenue requirement to serve Oregon customers for the Preferred Portfolio and a set of alternative portfolios that test different paces of GHG reductions and different levels of community impacts. This graph may exclude historical data if the forecasted revenue requirement does not approximate all costs borne by Oregon customers.*
- *The total forecasted annual revenue requirement to serve Oregon customers, divided by the total forecasted retail sales in Oregon, for the Preferred Portfolio and a set of alternative portfolios that test different paces of GHG reductions and different levels of community impacts. This graph may exclude historical data if the forecasted revenue requirement does not approximate all costs borne by Oregon customers.*
- *Total annual GHG emissions by fuel type for resources in the Preferred Portfolio.*
- *Annual GHG emissions to serve Oregon customers by fuel type for the Preferred Portfolio.*
- *Total annual generation by fuel type for resources in the Preferred Portfolio.*
- *Annual generation serving Oregon customers by fuel type for the Preferred Portfolio.*
- *Annual weighted average heat rate by fuel type for resources in the Preferred Portfolio.*

In the 2023 IRP, PGE and PAC should provide a table that describes the utility's annual plans for the use of RECs associated with renewable energy generated by or contracted to the utility in the Preferred Portfolio under the Reference Case over the entire analysis horizon (at least 20 years). The table should clearly delineate between RECs that are expected to be:

- *Retired on behalf of Oregon customer load for RPS compliance in Oregon;*
- *Retired on behalf of Oregon customer load for voluntary sales;*
- *Retired on behalf of customer load in a different state (for either compliance or voluntary sales);*
- *Banked for future Oregon compliance;*
- *Banked for compliance in a different state;*
- *Sold to a different Oregon provider;*
- *Sold to an entity outside of Oregon; and*
- *Banked and then sold either in-state or out-of-state.*

Staff, utilities, and all interested stakeholders should collaboratively develop by February 1, 2023, an agreed upon approach to capturing additional standardized information and data related to their CEP and how they will make it publicly available in a similar fashion on their websites.

PAC should, moving forward, post any recordings made of IRP public input meetings on its website, and if a recording is not available, provide a general summary of comments received at the meeting.

Conclusion

Staff's approach to the Investigation into Clean Energy Plans is designed to prioritize planning activities and key near-term issues to the Commission. The Analytical Improvements recommendations build upon the Roadmap Acknowledgement and Community Lens Analysis recommendations and highlight what Staff believes is most important to explore and convey with first CEP and associated IRP. While Staff did not cover all of the analytical ground that it set out to, including streamlining opportunities for planning and associated procurement details, Staff believes that the expectations and priorities within its recommendations will help utilities focus utility analysis, develop more accessible plans and processes, and avoid major mismatches that incumber progress toward the state's goals.

Staff greatly appreciates the insights and perspectives provided in workshops and written comments. This process highlighted the number of areas where parties are aligned, as well as a few key areas where establishing expectations upfront will be beneficial. It also surfaced important compliance issues to be addressed over time.

A clean version of Staff's final recommendations is provided in Attachment 1.

PROPOSED COMMISSION MOTION:

Approve Staff's initial expectations for Analytical Improvements and direct PacifiCorp and Portland General Electric to consider this analytical guidance in developing each utility's first Clean Energy Plan filings and associated Integrated Resource Plan.

Attachment 1. Summary of Staff's Recommendations

Planning for Decarbonization Targets

Staff recommends that PAC and PGE include narrative, supported by quantitative analysis where possible, answers to the following long-term decarbonization questions within the first CEP:

1. What low regrets near term actions does the utility expect to perform relatively well regardless of future uncertainties in technology, demand, and regional developments?
2. What near term actions that the utility considered might have large negative long-term consequences (in terms of cost, risk, GHG emissions, or community impacts or benefits) under one or more future technology, demand, or regional development scenarios?
3. What are the critical junctures at which the utility's plan would materially change and what indicators will the utility use to identify whether those junctures are approaching?
4. What are the critical dependencies for the utility to successfully execute its long-term plan? What are the critical dependencies for the utility's plan to achieve the desired outcomes in terms of cost, risk, GHG emissions, and community impacts or benefits? What might be the implications of one or more of those critical dependencies failing?
5. What critical barriers need to be addressed to implement the utility's long-term plan? Which of these barriers can be addressed by the utility or the Commission and which of these barriers are out of the utility's or the Commission's control? Which of these barriers would need to be addressed in the next 5-10 years? The utility should include a plan for addressing those barriers identified in the 5-10 year time frame, including direct actions that can be taken by the utility and opportunities to coordinate with other involved entities.

To inform their responses to Staff's decarbonization planning questions, PGE and PAC should, within portfolio analysis:

- Quantitatively evaluate opportunities and risks of emerging technologies, including, at a minimum: clean hydrogen, long duration storage, and offshore wind;
- Quantitatively evaluate potential impacts associated with building and transportation electrification, informed by current policy initiatives, and climate change and extreme weather;
- Quantitatively evaluate the impacts of transmission constraints and future transmission expansion; and
- Evaluate the sensitivity of the plans to other opportunities for enhanced regional coordination, including RA programs and improvements in transmission utilization.

To ensure that utility plans align with the clean energy targets in HB 2021, PAC and PGE's IRPs should:

- Achieve the 2030 and 2035 clean energy targets under typical or expected weather and hydro conditions in those years. This should be demonstrated for the Preferred Portfolio and a set of alternative portfolios that test different paces of GHG reductions and different levels of community impacts; and
- Achieve resource adequacy in 2040 with no associated greenhouse gas emissions across the tested system conditions. This should be demonstrated for the Preferred Portfolio and a set of alternative portfolios that test different paces of GHG reductions and different levels of community impact.

Treatment of Fossil Fuel Resources

For the first CEP and associated IRP, if the Preferred Portfolio relies on fossil fuel resource retirements or conversions to reduce GHG emissions, the utility should:

- Provide a rationale for and describe the risks associated with the retirement or conversion; and
- Identify whether each planned retirement reflects plans to decommission the plant or plans to exclude the plant from Oregon rates.

For the first CEP and associated IRP, if the Preferred Portfolio relies on operational changes relative to expected economic dispatch to reduce GHG emissions, including, but not limited to, application of operating or emissions constraints, inclusion of a GHG emissions cost in dispatch decisions, or out-of-state sales of fossil fuel generation, the utility should:

- Quantify the impacts of those operational changes relative to expected economic dispatch in terms of generation (curtailed, reduced, or sold) and GHG emissions (avoided); and
- Describe how the utility intends to implement those operational changes (e.g. through the development of operating or emissions limits, application of GHG emissions penalties, or execution of contracts with out-of-state entities), to the extent that they impact forecasted GHG emissions in the Action Plan window.

Additional Data Transparency

The first CEP, or a designated section of the IRP that contains all information required by HB 2021, should be written for an introductory audience and include definitions of all key terms and acronyms.

The first CEP, or a designated section of the IRP that contains all information required by HB 2021, should also include:

- A table that lists the GHG emissions assumptions for each existing and proxy resource modeled in the IRP, developed in partnership with DEQ.

- A table that lists the cumulative forecasted GHG emissions from each existing and proxy resource in the Preferred Portfolio under the Reference Case over the entire analysis horizon (at least 20 years) and the location of each emitting resource.
- The following graphs, which should include forecasted data under the Reference Case over the entire analysis horizon (at least 20 years) and at least three years of historical data:
    - Total annual portfolio GHG emissions, calculated in a manner consistent with the DEQ methodology, for the Preferred Portfolio and a set of alternative portfolios that test different paces of GHG reductions and different levels of community impacts.
    - The total forecasted annual revenue requirement to serve Oregon customers for the Preferred Portfolio and a set of alternative portfolios that test different paces of GHG reductions and different levels of community impacts. This graph may exclude historical data if the forecasted revenue requirement does not approximate all costs borne by Oregon customers.
    - The total forecasted annual revenue requirement to serve Oregon customers, divided by the total forecasted retail sales in Oregon, for the Preferred Portfolio and a set of alternative portfolios that test different paces of GHG reductions and different levels of community impacts. This graph may exclude historical data if the forecasted revenue requirement does not approximate all costs borne by Oregon customers.
    - Total annual GHG emissions by fuel type for resources in the Preferred Portfolio.
    - Annual GHG emissions to serve Oregon customers by fuel type for the Preferred Portfolio.
    - Total annual generation by fuel type for resources in the Preferred Portfolio.
    - Annual generation serving Oregon customers by fuel type for the Preferred Portfolio.
    - Annual weighted average heat rate by fuel type for resources in the Preferred Portfolio.

In the 2023 IRP, PGE and PAC should provide a table that describes the utility's annual plans for the use of RECs associated with renewable energy generated by or contracted to the utility in the Preferred Portfolio under the Reference Case over the entire analysis horizon (at least 20 years). The table should clearly delineate between RECs that are expected to be:

- Retired on behalf of Oregon customer load for RPS compliance in Oregon;
- Retired on behalf of Oregon customer load for voluntary sales;
- Retired on behalf of customer load in a different state (for either compliance or voluntary sales);
- Banked for future Oregon compliance;
- Banked for compliance in a different state;
- Sold to a different Oregon provider;

- Sold to an entity outside of Oregon; and
- Banked and then sold either in-state or out-of-state.

Staff, utilities, and all interested stakeholders should collaboratively develop by February 1, 2023, an agreed upon approach to capturing additional standardized information and data related to their CEP and how they will make it publicly available in a similar fashion on their websites.

PAC should, moving forward, post any recordings made of IRP public input meetings on its website, and if a recording is not available, provide a general summary of comments received at the meeting.

Staff's Straw Proposals on **Planning for Decarbonization Targets**, **Treatment of Fossil Fuel Resources**, and **Additional Data Transparency Topics**

Chapter 1: Planning for Decarb Targets

- Topic #1: Clean Energy tech scenarios
- Topic #2: Demand scenarios
- Topic #3: Regional Development scenarios
- Topic #4: GHG emissions constrains in IRP modeling
- Topic #5: Key long term decarb planning questions

Chapter 2: Treatment of Fossil Fuel Resources

- Topic #1: Fossil fuel retirements and conversions
- Topic #2: Fossil fuel operational changes

Chapter 3: Additional Data Transparency Straw Proposal

- Topic #1: GHG emissions
- Topic #2: Renewable Energy Credits
- Topic #3: Fossil fuel resource operations
- Topic #4: Data standardization and accessibility

Oregon Public Utility Commission

Staff's Straw Proposal on Decarbonization Planning

Oregon Public Utility Commission

Review: Decarbonization Modeling & GHG Emissions Accounting Workshop (July 27)

Key Scenario Analysis Questions

Are these the right questions? Are we missing any?

These are good / right questions

These look good.

I like the crtical questions and believe they should be specifically added to the IRP guidelines as required outputs.

Mixes of EE and ★ High Penetration DG - esp as alt's to TX costs & risks

Cost of Pain = Outage Cost flowing through when bad things happen (what is capacity worth to prevent?)

Will Staff recommend that the OPUC consider the difficulties that that the three presenters addressed during the meeting today: specifically the high costs and overbuild with the last mile towards achieving a 100% decarbonized (the last 5-10%)

Suggest scenario approach considers differing needs for pre-2030 versus 2040. For example, 'forks in the road' is mostly applicable to post-2030 outcomes.

What MUST we do in the near term, not just low regrets, but necessary actions

What are the consequences for failure of utility to meet the target

How should scenarios change or be required re: transmission schedules and costs?

Are there specific sub-questions that we should be assessing on these topics?

Under critical barriers, ★ given that transmission has a 10+ year lead time, we should probably highlight potential transmission needs

Forks in the road - when will we analyze the alternatives if transmission is not available? (e.g., high penetration DERs?)

Realism about improbability of BPA ever joining a RTO.

with respect to the costs and risks regret - specify the costs and risks to rate payers - the cost of pain for ★★ LOLEs)

For high regrets: Any increased infrastructure for natural gas, especially if it can't handle pure hydrogen

Tech Scenarios

What clarifying questions do you have about the proposed tech scenarios?

All of these scenario parameters need additions detail and definition. Electrification needs to be specified by residential, commercial and industrial sectors, even by building types, etc.

How will the Commission define "clean hydrogen" -- there are many definitions out there and they're not all equally robust

Concern that hydrogen isn't actually non-emitting. New evidence indicating short-term climate forcing risk

Is commercially available limited to domestic production or does it also include global avialability?

These are emerging and new technologies. What about different scales - e.g. small scale and community renewables

How to manage IOU unrealistic proposals dominating/biasing models

What's missing?

Spot Check Limiters on assumptions re: Unachievables (eg NEPA timelines for new TX)

Low Run Rate Fossil Units

High Proliferation DG batteries

Overbudget & Delay Scenarios

Offshore wind should be included in the first round due to potential long lead time and need for clear off take signals

Important to know what the cost of not meeting the target is so that it can be fairly evaluated against the preferred portfolio

Demand Scenarios

What clarifying questions do you have about the proposed demand scenarios?

How do we ensure IOUs aren't "sole parties selecting scenarios?

What's missing?

Massive data center proliferation , including as competing with new generation supply avail for IOUs

Demand response resources

electrolysis demands to support transportation & agg decarbonization

Major &/or targeted EE proliferation scenarios (and how they might avoid other needs or challenges)

Regionalization Scenarios

What clarifying questions do you have about the proposed regionalization scenarios?

How will we determine what's realistic?

Some attention to interconnection queue reform

The timing implications of of state clean energy strategy implementation on workforce

If there is a change in regional grid control, how will that affect IRPs?

Planning for Decarbonization Targets Straw Proposal

Treatment of Fossil Fuel Resources Straw Proposal

Additional Data Transparency Straw Proposal

Clean technology scenarios:

- ***Clean hydrogen.*** Staff recommends that the utilities test at least one scenario where clean hydrogen becomes available for selection before 2040.
- ***Long duration storage***. Staff recommends that the utilities test at least one scenario where long duration storage (e.g. storage with several days of duration or seasonal storage) becomes available for selection before 2040.
- ***Offshore wind***. Staff recommends that the utilities test at least one scenario where offshore wind becomes available for selection before 2040.

Question:

- Is the phrase "Clean Hydrogen" clear enough about which types of hydrogen may be included while providing flexibility for utility implementation in consultation with DEQ's determinations of emissions of forecasted resources?

Planning for Decarbonization Targets Straw Proposal

Treatment of Fossil Fuel Resources Straw Proposal

Additional Data Transparency Straw Proposal

Demand scenarios

- ***Electrification.*** Staff recommends that the utilities adopt realistic electrification assumptions in the IRP Reference Case and test at least one High Electrification scenario in which electric demand aligns with the electric technology adoption assumptions that the Company clearly articulates in their IRP
- ***Climate change and extreme weather***. Staff recommends that the utilities test at least one scenario that accounts for the potential for more frequent extreme weather events, based on a publicly available forecast of climate change related weather impacts. (Utilities should also work toward including climate change in reference case long-term IRP forecasts. This scenario should look at a more extreme climate scenario than the reference case.) If a utility does not quantitatively evaluate such a scenario, Staff recommends that the utility describe the key weather events that drive resource adequacy challenges on their system and quantify how frequently those events have occurred across the historical record.

Questions:

- Is requiring "realistic electrification assumptions" clear enough language? Staff's goal is to recognize the uncertainty surrounding policies to decarbonize other sectors while also highlighting the need to begin testing the policies' impact on the electric system to the extent feasible?
- Are electrification scenarios most useful for examining the preferred portfolio over time or comparing portfolios?

Planning for Decarbonization Targets Straw Proposal

Treatment of Fossil Fuel Resources Straw Proposal

Additional Data Transparency Straw Proposal

Regional development scenarios

- ***Participation in a regional Resource Adequacy (RA) program***. Staff recommends that the utilities test a scenario that demonstrates the portfolio impacts of participation in a regional RA program. In this scenario, the utility should demonstrate how the load and resource diversity benefits of a regional RA program would affect their resource needs and resource decisions.
- ***Transmission utilization***. Staff recommends that the utilities test a scenario where access to transmission is not limited by current transmission rights. This scenario could, for example, explore the implications of the establishment of a regional transmission operator, participation in a regional organized market, and/or other measures that could result in improved efficiency of transmission operations or contracts.
- ***Regional transmission expansion***. Staff recommends that the utilities test a scenario where regional transmission expansion enables access to more diverse renewable resources.
- Staff recommends that the utility test at least one of the technology scenarios with and without participation in an organized market with liberalized transmission or in a regional transmission expansion scenario.

Planning for Decarbonization Targets Straw Proposal

Treatment of Fossil Fuel Resources Straw Proposal

Additional Data Transparency Straw Proposal

Questions:

- Is it more meaningful to model participation in a regional RA program as a scenario or reference case assumption?
- Are there specific assumptions required to make the RA program scenario meaningful e.g., constrain capacity need to the level assigned by the WRAP program?
- Would it be meaningful to discuss the difference between a forward showing RA program and an operational/reserve sharing program?
- Are there other high priority transmission scenarios or combinations of transmission and technologies?

Planning for Decarbonization Targets Straw Proposal

Treatment of Fossil Fuel Resources Straw Proposal

Additional Data Transparency Straw Proposal

GHG emissions constraints in IRP modeling

- The IRP should achieve the 2030 and 2035 clean energy targets under typical or expected weather and hydro conditions in those years. The utility should demonstrate this for the Preferred Portfolio, any alternative portfolios that were considered for selection or in designing the Action Plan, and in all of the technology, demand, and regional development scenarios tested by the utility.
- The IRP should achieve the 2040 clean energy target across the same weather and hydro conditions that are considered within the utility's resource adequacy analysis. More specifically, the utility must show that in 2040, the portfolio can achieve resource adequacy with no GHG emissions. The utility should demonstrate this for the Preferred Portfolio, any alternative portfolios that were considered for selection or in designing the Action Plan, and in all of the technology, demand, and regional development scenarios tested by the utility.

Planning for Decarbonization Targets Straw Proposal

Treatment of Fossil Fuel Resources Straw Proposal

Additional Data Transparency Straw Proposal

Key long-term decarbonization planning questions

Staff recommends that the utilities use the scenarios described in Topics #1-3 to explore the following long term planning questions and to include narrative (and quantitative where possible) answers to these questions within the CEP:

1. What low regrets near term actions perform relatively well across all of the scenarios?
2. What near term actions might have large negative consequences (in terms of cost, risk, GHG emissions, or community impacts or benefits) under one or more of the scenarios?
3. Are there any critical junctures in relation to the scenarios at which the utility's strategy would materially change and what indicators will the utility use to identify whether those junctures are approaching?
4. Does the utility's long-term plan or the expected performance of the long-term plan have any critical dependencies related to the uncertainties explored through scenarios (e.g. availability of a technology or transmission infrastructure, or the expansion of regional coordination)? What would the implications be for the long-term plan if one or more of these scenarios were to occur?
5. What barriers to implementation would need to be addressed to implement the utility's long-term plan under each scenario? Which of these barriers can be addressed by the utility or the Commission and which of these barriers are out of the utility's or the Commission's control? Which of these barriers would need to be addressed in the next 5- 10 years?

Quick break: 5 min

Oregon Public Utility Commission

Staff's Straw Proposal on Treatment of Fossil Fuel Resources

Oregon Public Utility Commission

Review: Treatment of Fossil Fuels and Operational Resources Workshop (8/10)

We discussed: "What expectations do you have for how utilities treat fossil resources in the CEP, that staff should consider incorporating into straw proposal guidance?"

Oregon Public Utility Commission

Planning for Decarbonization Targets Straw Proposal

Treatment of Fossil Fuel Resources Straw Proposal

Additional Data Transparency Straw Proposal

Fossil Fuel Retirements and Conversions

- Staff proposes that specific requirements for modeling retirements or conversions does not need to be prioritized for the first IRP/CEP but expects that this capability be adopted for future planning cycles.
- Staff also encourages the utilities to be clear about their rationale for including or not including conversions in this first IRP/CEP.

Planning for Decarbonization Targets Straw Proposal

Treatment of Fossil Fuel Resources Straw Proposal

Additional Data Transparency Straw Proposal

Fossil fuel resource operational changes

- If the Preferred Portfolio relies on operational constraints or other non-market-based reductions to the dispatch of fossil fuel resources within the Action Plan window, the utility should describe how it intends to implement those operational changes within the Action Plan. Will operational constraints be placed on individual units, or on the system as a whole?
- If the Preferred Portfolio relies on sales of fossil fuel-based generation to out-of-state counterparties to achieve the clean energy targets set forth in HB 2021, the utility should quantify those sales and the associated GHG emissions.
- If the Preferred Portfolio relies on sales of fossil fuel-based generation to out-of-state counterparties within the Acton Plan window, the utility should describe how it intends to make those sales within the Action Plan.

Discussion

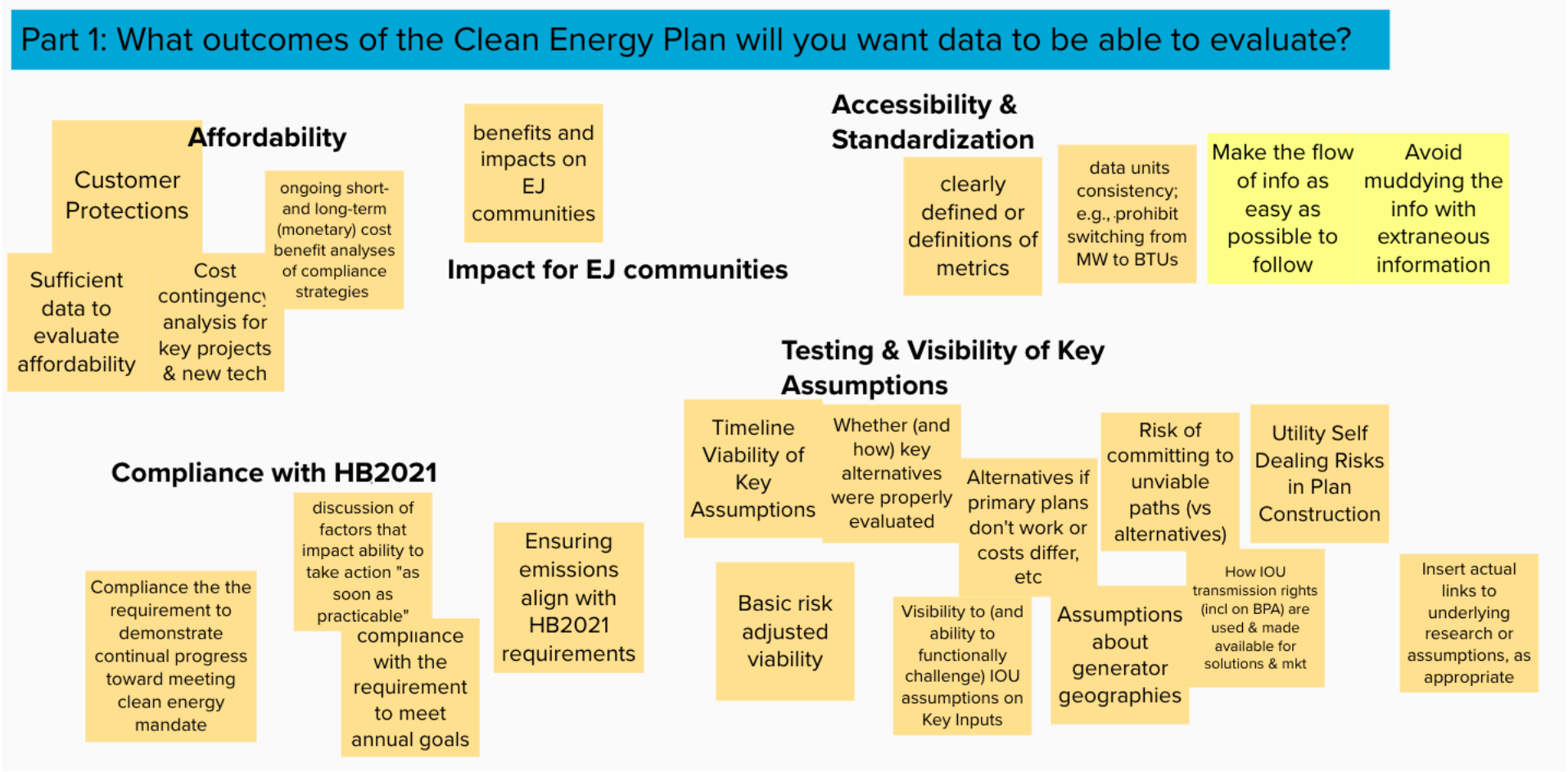
Given what you've heard in this workshop so far, what is becoming clearer to you about what the first round of CEPs could look like? What excites you?

Oregon Public Utility Commission

Staff's Straw Proposal on Additional Data Transparency Topics

Oregon Public Utility Commission

Review: Data Transparency & Attribution Policy Workshop (8/26)



Oregon Public Utility Commission

Planning for Decarbonization Targets Straw Proposal

Treatment of Fossil Fuel Resources Straw Proposal

Additional Data Transparency Straw Proposal

GHG Emissions

- Utilities should report the total estimated annual GHG emissions across the Western Interconnect under various portfolios, including the Preferred Portfolio.
- Utilities should include a table that lists the emissions assumptions for each existing and proxy resource modeled in the IRP, developed in partnership with DEQ.
- Utilities should include in the CEP a graph of portfolio GHG emissions by year for the preferred portfolio, important sensitivities, and each scenario in Chapter 1 of this straw proposal.

Questions:

- Is it more useful to see how the regional emissions change over time or compare regional emissions between different portfolios
- Simplified way to convey the impacts on regional emissions?
- Relevant portfolios?

Planning for Decarbonization Targets Straw Proposal

Treatment of Fossil Fuel Resources Straw Proposal

Additional Data Transparency Straw Proposal

Renewable Energy Credits (RECs)

- In the IRP, utilities should report the expected number of RECs that will be generated or acquired by the utility for all existing and projected resources in the preferred portfolio. Utilities should specify the RECs that will be retired on behalf of the utility/all customers, retired on behalf of voluntary customers, banked, or sold or otherwise transferred to customers in another state or an entity that is not captured by the previous list.
- Utilities should report this for each year for the Preferred Portfolio (for Oregon-allocated RECs).

Questions:

- Does this capture the transparency needed from PacifiCorp as a multi-state utility?
- Is there any information related to the impact of participation in CAISO's extended day-ahead market (EDAM) or energy imbalance market (EIM) on the attribution of emissions to Oregon customers under HB 2021 that can or should be reported in the first IRP/CEP?

Planning for Decarbonization Targets Straw Proposal

Treatment of Fossil Fuel Resources Straw Proposal

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Fossil Fuel Resource Operations

- Utilities should report total annual generation and average heat rate for each fossil resource, explaining any impacts on generation and heat rate of operational changes and/or emissions constraints.
- Utilities should provide graphs in the CEP with 3 years of historical generation and average heat rate data for its fossil fuel resources.

Questions:

- Would it still be useful for the utility to report projected data on an aggregate level by fuel type?

Planning for Decarbonization Targets Straw Proposal

Treatment of Fossil Fuel Resources Straw Proposal

Additional Data Transparency Straw Proposal

Data Standardization and Accessibility

- Staff, utilities, and all interested stakeholders should collaboratively develop by February 1, 2023 an agreed upon approach to capturing standardized information and data related to their CEP and how they will make it publicly available in a similar fashion on their websites.
- The IRP/CEP, or a designated section that contains all of the information required by HB 2021, should be written for an introductory audience and include definitions of all key terms.

Questions:

- Who can facilitate this process? Does it need to be done separately for each utility?
- What are parties' preferred processes for addressing issues related to the designation of confidential information?