



October 5, 2022

Via electronic filing

Oregon Public Utility Commission

Attn: Filing Center

puc.filingcenter@puc.oregon.gov

**Re: UM 2225 Investigation into Clean Energy Plans
Comments of Renewable Northwest on Staff’s Analytical Improvements Straw
Proposal**

Renewable Northwest (“RNW”) appreciates the opportunity to comment on the Straw Proposal filed to docket UM 2225 by Oregon Public Utility Commission (“Commission”) Staff on September 7, 2022, regarding Analytical Improvements. In these comments, we address the straw proposal items in the order presented by Staff. Overall, we agree with the analytical improvement topics raised and offer thoughts as applicable, and generally refer to our September 7 comments on the Clean Energy Plan (“CEP”) straw proposal as the proposed analytical improvements support the CEP’s purpose and work. Where appropriate, we have noted this interplay and overlap. We continue to offer our deep appreciation to Staff for their work on the proposal, thank the Commission for its consideration of these comments, and look forward to continued engagement in this crucially important docket.

I. COMMENTS

A. Planning for Decarbonization Targets

RNW generally supports Staff’s suggestions on analytical improvements around planning for decarbonization targets and offer specifics below on support and suggestions. We agree with Staff’s view that these various scenarios can and should have a “mix and match” flexibility to allow for exploration of scenarios and best outcomes during the utilities’ planning process. We also note the importance of allowing for continual improvements and revisions to these analyses in future plans, in order to acknowledge and allow for an evolving energy landscape in Oregon and the region. In preparing our comments, we considered these analytical improvements in the framework suggested for the CEP - with a 2-4 year action plan window and a 20 year plan.

Topic # 1: Clean technology scenarios

RNW supports Staff’s approach and suggestions for modeling future scenarios -- especially the purpose, which Staff proposes is to “identify how long-term availability of each of these options might influence near term actions.” We previously suggested in our September 7 comments on the CEP that Staff should “incorporate specific guidance on long lead-time resources.” Requiring these scenarios is a step towards this outcome, and RNW underscores the importance of long lead-time resources in meeting Oregon’s clean energy mandates and achieving decarbonization.

We agree with modeling **hydrogen** as a long-term resource and emphasize the need for greater clarity on the definition of “clean hydrogen.” As there are many avenues for hydrogen production, it should be clear in Staff’s definition the expectations for energy and emissions associated with “clean hydrogen” production. Specifically, RNW suggests that the production costs, associated emissions, and electricity demand for clean hydrogen generation, at a minimum, should be abundantly clear in any analysis. The end use for the hydrogen should also be clear, as well as any emissions impacts resulting from its use. Should a utility use any resources other than “clean hydrogen” as defined by Staff, the utility should provide a clear and transparent explanation as to why the resources were selected and adequately and accurately model the emissions impacts from those resources. Ultimately, generating electricity from hydrogen produced in a manner that results in greenhouse gas emissions is inconsistent with the policy reflected in HB 2021.

We fully support the inclusion of **long-duration storage** in the required scenarios and recommend a couple of improvements: specifically, including medium-term storage and valuing long-duration storage on an hourly basis. Staff defines long-duration storage as that “with several days of duration or seasonal storage” - we would like to suggest the inclusion of medium-duration storage with durations up to 12-14 hours in near-term IRP modeling. These medium-duration assets include Li-ion, flow battery technologies, and pumped storage which are capable of meeting firm capacity needs for multiple hours during morning and late evening peaks. On the topic of hourly evaluation, as per recent research¹, it is essential for long-duration storage resources to be assessed and valued in full-year (8760) hourly production cost modeling, instead of picking particular weeks in a year to value them, which is currently common in utility IRP models.

¹ Long Duration Energy Storage for California’s Clean, Reliable Grid. Stragen Consulting. 2020. https://static1.squarespace.com/static/5b96538250a54f9cd7751faa/t/5fc9815caa95a391e73d053/1607440419530/LDES_CA_12.08.2020.pdf

For **offshore wind** resources, we support including this as a long lead resource and would like to note that OSW is already being considered for modeling in current IRP cycles. This more proximal OSW resource will be limited to 3GW given the current leasing plans of the Bureau of Ocean Energy Management for Oregon with the expected production timeline of early 2030². Given this context, we suggest noting this more near term resource with the cap of 3GW production and look at resources exceeding 3GW for longer term resource planning and modeling. Given the investment threshold for these resources, it will be important to model this resource at a cost-effective size - meaning that the project sizes are typically near 1GW. RNW has also offered this feedback in ongoing IRP cycles.

Staff also mentions **cost uncertainties** when considering these long-lead resources. As these are emerging technologies, it is important to include any federal or state incentives that would support the development of these technologies - such as those included in the recent Inflation Reduction Act or the 15GW of Floating OSW by 2035 initiative from the White House. Also related to these cost uncertainties are Oregon utilities' potential participation in a regional market or other initiative, which we will discuss further in this Chapter's Topic #3.

Topic #2: Demand scenarios

We agree that the uncertainty in hydroelectric power production driven by climate change is an important factor to consider. Recent studies including Bureau of Reclamation's 2021 Secure Water Act report³ as well as the most recent 2021 Power Plan has shown the importance of assessing climate-adjusted baseline data for both river flows and load forecasts. There is little doubt that the river flow patterns are changing causing a shift in hydro power production. The region is moving towards higher demand hours in the summer which would require utilities to procure resources that can meet the resource adequacy requirements in the late summer evenings.

In regards to Staff's question regarding the clarity of "realistic electrification assumptions," we see the benefits of adding more clarity to this language. Given that policies around electrification of transportation and other sectors seem to be accelerating, it is reasonable to see "realistic electrification assumptions" as consistent with what is currently considered a "high electrification" scenario. Regardless, having a clear understanding of how utilities are considering electrification scenarios will be beneficial. We acknowledge that despite these accelerating electrification policies, that the utilities serve different areas of the state which may have varying degrees of electrification. As such, it could be beneficial to leave flexibility in the electrification assumptions while also requiring sufficient clarity and discussion of what assumptions are considered. The presentation of electrification scenarios is useful both for examining preferred portfolios over time and comparing portfolios. As these scenarios will

² <https://www.boem.gov/renewable-energy/state-activities/Oregon>

³ Water Reliability in the West - 2021 SECURE Water Act Report. U.S. Department of the Interior. 2021

inform the understanding of an important piece of future demand, having as much clarity as possible on assumptions will support a meaningful IRP/CEP process.

Topic #3: Regional development scenarios

Again, RNW generally supports Staff’s recommendations on modeling participation in a **regional RA program and transmission expansion scenarios** to consider impacts of access to more diverse resources. It will be important that utilities clearly include any cost implications with these initiatives, as best as they are able to capture. The ability to access and make best use of existing and future resources, like those discussed in Topic #1, will be a key piece of future system reliability and accessing lowest cost resources. We also offer some specific comments on these regional considerations.

We suggest it would be reasonable to model **Western Resource Adequacy Program (WRAP)** related metrics, especially the capacity contributions or “qualified capacity credit (QCC)” in a scenario rather than a reference case as the program does not have a binding participation until 2025 with a transitional pathway. The forward showing requirements could be assessed as base case once a utility commits to transition from the non-binding to the binding phase of the WRAP.

For **transmission utilization** scenarios, we support this inclusion and suggest that grid enhancing technologies (ex: DLR or topology optimization) should be considered as part of this analysis. While we see the urgent need for more transmission capacity, we equally see the need for ensuring we are using our existing - or any future - transmission infrastructure in the most efficient manner. This will be key to keeping down transmission build costs and also allow for enhanced near term use of existing transmission while future transmission is planned and built, as needed.

These regional scenarios will greatly benefit from Staff’s proposed flexibility of “mixing and matching” by pairing with the future resource scenarios discussed in Topic #1, and allowing for revisiting these scenarios in future cycles. Combining these future resource scenarios with regional scenarios allows for consideration of a broader set of resources to ensure resource adequacy and also to consider cost implications for these emerging technologies. It will be important to consider how a regional approach may or may not offer more reasonable costs for supporting and selecting emerging technologies which may have a high entry costs to the market. It will be important to understand the impacts of regional markets and enhanced transmission scenarios, sending important signals to the market about emerging technologies⁴, and providing more clarity on regional planning and coordination. As this is a dynamic and evolving area, it will be important to keep revisiting these scenario requirements moving forward.

⁴ Also see RNW September 7, 2022 comments for further discussion of market signals

Topic #4: GHG emissions constraints in IRP modeling

This suggested analysis framework of the scenarios is robust and important. RNW agrees with maintaining the ability to modify analysis in future cycles based on lessons learned to allow for inclusion of evolving conditions. This analysis discussion will be important for utilities to explore and explain for Staff and stakeholders their considerations for meeting clean energy mandates, while balancing against unrealistic resource buildout as Staff has rightly raised. As Staff flagged in its straw proposal, the ability to consider trade-offs will be an important part of this analysis and discussion.

In addition to what Staff proposes, RNW also sees this section as key to the concerns raised in previous conversations around “course correction” and the ability to ascertain if utilities are heading in the right direction to meet the clean energy mandate and interim benchmarks. While possible course correction may not be a specific intention delineated by Staff for this section, RNW suggests this section is a natural “fit” for consideration of this aspect. How this analysis takes shape, if at all, in this section we leave to Staff’s discretion, but see the value in flagging this opportunity.

Topic #5: Key long-term decarbonization planning questions

RNW suggests that “low regrets” actions need to be expanded moving forward in resource acquisition. The urgency of climate action and the need (and statutory mandate) to make continual, meaningful progress towards clean energy mandates and benchmarks will require a more forward leaning approach to acquisition of emerging technologies and resources. Per HB 2021, “The commission shall ensure that an electric company demonstrates continual progress as described in subsection (4)(e) of this section and is taking actions *as soon as practicable* that facilitate rapid reduction of greenhouse gas emissions at reasonable costs to retail electricity consumers.” (Emphasis added) While “low regrets” is a reasonable, responsible approach to acquisitions, we strongly recommend that this approach be balanced with the urgency required for action, clean energy buildout, and accelerated approaches to adding new resources.

B. Treatment of Fossil Fuel Resources

Topic #1: Fossil fuel retirements and conversions

RNW agrees with Staff that utilities should be clear in their rationale for including or not including conversions in the first IRP/CEP cycle. Utilities should provide transparent metrics and explanations of their decisional methodology to justify their fossil fuel conversion, including consideration of factors like fuel price uncertainty, federal tax incentives, thermal capacity

derates, and other relevant factors. Fuel price uncertainty stands out as particularly relevant given recent gas-related electricity price spikes throughout the United States and the current geopolitical environment, but another relevant factor is the risk of conversions resulting in stranded assets. The economic risks arising from stranded assets should be studied and analyzed in scenario analyses in the context of an IRP. This can be done by calculating the stranded asset risk in dollars as a share of the overnight capital cost of the resource depending on the fraction of its expected lifetime⁵. For example, if a utility plans to construct a combined cycle power plant with expected lifetime of 30 years, the IRP modeling should consist of scenarios with modeled lifetimes of 5, 10 and 15 years thereby allowing early retirements. The difference in net present value of costs (or revenue requirements) of the portfolios would portray the economic stranded risk of the asset. More often than not, based on previous experiences, thermal resource capacity tends to be replaced with cleaner alternatives before their expected lifetime.

Topic #2: Fossil fuel resource operational changes

RNW continues to view the Commission's role as a regulator of GHG as clear and mandatory post-HB 2021. This role goes beyond simply assessing target compliance with HB 2021's core accounting framework.⁶ The suggested analytical improvements on fossil fuel resources further support Staff's August 9, 2022 straw proposal and recommendation that the Commission consider GHG emissions broken out by fossil fuel resources, market purchases, and market sales. RNW supports analytical improvements to more broadly capture emissions of any continued fossil fuel generation. We encourage expanding Staff's suggestion to capture out-of-state use of fossil fuel generation resources to include any fossil fuel generation. This will ensure an accurate picture of emissions impact of utility actions and consistent with PUC authority as a GHG regulator.⁷

We support allowing flexibility in this analysis, and look forward to utilities' comments on what analysis is feasible in this regard.

C. Additional Data Transparency

Topic #1: GHG emissions

⁵ Quantifying the regional stranded asset risks from new coal plants under 1.5 °C. Edwards et al. 2022.

⁶ Please see RNW June 10, 2022 and September 7, 2022 comments for previous discussion of OPUC authority as GHG regulator.

⁷ Please see RNW September 7, 2022 comments for further discussion of emissions metrics and data categories to capture utility action emission impacts.

RNW generally supports the suggestion to look at GHG emissions more broadly and to capture the full emissions impacts of utility operations. We see this as consistent with HB 2021 section 5 which discusses GHG impacts as additive to the HB 2021 targets:

“(2) The Public Utility Commission shall acknowledge the clean energy plan if the commission finds the plan to be in the public interest and consistent with the clean energy target set forth in section 3 of this 2021 Act. In evaluating whether a plan is in the public interest, the commission shall consider:

- (a) Any reduction of greenhouse gas emissions that is expected through the plan, and any related environment or health benefits;”

Given this direct connection between public interest and greenhouse gas emissions, RNW suggests it is reasonable and within the Commission’s authority to require more broad reporting of emissions from utility activity. As such, analytical improvements that provide greater transparency into these emissions support and are consistent with this section of HB 2021.

The presentation of this data can take different forms, and RNW has no specific preference at this time regarding data presentation. We see the utility in streamlining information for ease of stakeholder commentary and accessibility. However, streamlining should be balanced with providing enough granularity to meaningfully review and analyze data to indicate and reflect actual progress towards benchmarks and 2040 mandate levels. In other words, we suggest that a streamlined presentation and detailed numbers approach should be a “both/and” scenario, not an either/or.

Topic #2: Renewable Energy Credits (RECs)

Renewable Northwest supports Staff’s proposal for reporting and transparency around the disposition of RECs associated with power used for HB 2021 compliance.

Topic #3: Fossil fuel resource operations

RNW appreciates the importance of data transparency and understands the need to balance transparency with confidentiality. We generally defer to Staff on determining this balance. With regards to aggregate level by fuel type reporting, we see this as providing some level of understanding around continual progress towards decreased emissions from fossil fuel generation. However, it may be necessary to consider more detailed reporting as fossil fuel generation curtailment and facility retirement are modeled in IRP scenarios. Having more detailed data to understand the emissions implications of specific facility retirement or continued operation would be a helpful metric to justify facility retirement selection/plans, especially to the extent the Commission is considering incorporating the pace of GHG emission reductions into

IRP guideline 1c. For example, with a shift in the federal policy landscape from the recent Inflation Reduction Act, transitioning from fossil fuel power plants to clean energy technologies may need to be studied more granularly as part of detailed techno-economic analyses. Fossil fuel power plant capacity factors, in particular, will provide stakeholders and the Commission information on the costs and benefits of keeping the plant running and other alternatives like replacement with clean energy resources or technologies like carbon capture and storage over the long term.

Topic #4: Data standardization and accessibility

We support and agree with efforts to increase data accessibility and understanding of the IRP/CEP process which is a complicated process to begin with and increasingly so with the transition to 100% clean energy. As this transition has implications for all Oregonians, supporting broader understanding and access to data is an important piece of the process.

II. CONCLUSION

Again, we appreciate the opportunity to offer these comments on Staff’s Straw Proposal for Analytical Improvements for HB 2021 implementation and the Commission’s consideration of these comments. We welcome any follow up questions, as needed. We repeat our appreciation for Staff’s work in developing the Straw Proposals and look forward to continued engagement in this docket.

Respectfully submitted this 5th day of October, 2022,

/s/ Diane Brandt

Oregon Policy Manager
Renewable Northwest
421 SW Sixth Ave. #1400
Portland, OR 97204
(503) 223-4544

/s/ Max Greene

Deputy Director
Renewable Northwest
421 SW Sixth Ave. #1400
Portland, OR 97204
(503) 223-4544

/s/ Sashwat Roy

Technology and Policy
Manager
Renewable Northwest
421 SW Sixth Ave. #1400
Portland, OR 97204
(503) 223-4544