



www.community-renewables.org

Oregon Public Utility Commission
201 High Street SE, Suite 100
Salem, OR 97301-3398

April 26, 2021

Re: UM 2011 Comments

Dear Chair Decker, Commissioner Tawney and Commissioner Thompson,

The Community Renewable Energy Association (CREA) submits these comments for consideration in UM 2011. CREA considers this a docket of substantial importance, given its reach and implications across a wide variety of matters, including understanding the financial value of what reliable capacity means as relates ratepayers, and the protection of ratepayers from capacity shortfalls, as well as the understanding and evaluation of new resources in planning, procurement, and other matters. It is also an excellent opportunity to advance understanding and methods on these critical matters, particularly given the well known pending multi-thousand MW capacity shortage issues facing the Pacific Northwest markets¹, the recent year's events, including capacity shortage related blackouts in Texas in February 2021 and in the CAISO in August 2020 (both during this docket's duration). The Texas extreme winter weather event has cost estimates ranging up to over \$100B, or even over \$200B². The CAISO rolling blackouts, which nearly caused a grid collapse³ (which would have had even higher costs),

¹ <https://www.ethree.com/e3-projects-substantial-capacity-shortfall-in-the-pacific-northwest/#:~:text=E3%20Projects%20Substantial%20Capacity%20Shortfall%20in%20the%20Pacific%20Northwest,-December%202%2C%202019&text=A%20new%20E3%20study%20finds,do%20not%20fill%20this%20gap.>

² <https://www.texastribune.org/2021/02/25/texas-winter-storm-cost-budget/>; <https://www.cbsnews.com/news/texas-winter-storm-uri-costs/>

³ <https://www.greentechmedia.com/articles/read/final-analysis-of-californias-august-blackouts-has-few-surprises-but-some-proposed-solutions>

CREA therefore urges Staff and stakeholders in this docket to examine capacity valuation and capacity compensation frameworks more in-depth, as well as surrounding methodological questions and approaches to determining key inputs, which are critical to properly valuing capacity for policy and planning affecting the protection of Oregon ratepayers, as well as market price signals, to facilitate assuring sufficient creation of delivery of sufficient capacity to serve the customers of Oregon’s regulated utilities reliably. In particular, this docket should review and quantify capacity value, including pursuit and development of critical frameworks for critical inputs—such as avoided resources and solar generation contributions— rather than engaging in purely theoretical conversations. While Staff asserts that capacity compensation frameworks are not at issue in this docket, significant space in both the Energy+Environmental Economics report and the Staff comments are devoted to a discussion of this topic. Indeed the definition of the docket purpose is to determine the “value” of capacity. Ultimately, what is the “value” of capacity if not the price someone is willing to pay for secure it, as well as the cost of its absence, in terms of the price paid when it fails to reliably exist?

This docket was opened to give Staff and stakeholders the “opportunity to look at the issue of valuing capacity holistically and consistently across dockets and technology types.”⁴ Part of the justification for opening this docket was that “[t]he capacity provided by a resource to the electric system plays a central role in determining that resource’s overall value and therefore, informs fair compensation to that resource.”⁵ This issue of compensation therefore is intricately tied to the question of how capacity should be valued.

Conceptually, capacity is intricately tied to reliability. To ensure reliability, we project peak capacity needs and then make sure we have enough capacity resources sitting around ready to meet those needs.

If new capacity needs are projected, then we look at how much capacity new resources can contribute to the need and how much we are willing to pay to ensure that those resources come online. This exercise has become much more complex with:

- changing load patterns due to extreme weather events caused by climate change;
- the removal/retirement of baseload fossil fuel resources from the existing capacity mix;
- the lack of new traditional capacity resources (gas turbines) in the development pipeline;
- the addition of more variable energy resources to the existing capacity mix; and
- the rate of technological change in new variable energy resources.

Each of these items should be examined fully in this capacity investigation, as getting any one of them wrong can mean that an inaccurate capacity price signal is sent, and insufficient capacity gets constructed. CREA recommends workshops to examine each of the following critical areas:

⁴ Order No. 19-155, Appendix A at 2 <https://apps.puc.state.or.us/orders/2019ords/19-155.pdf>.

⁵ Id.

1) Avoided Resource: First, this docket should review the avoided resources concept, in light of the realities around what types of resources are possible and/or are most likely capable of being constructed in the future to meet capacity needs. Recent trends, and the absence of gas facilities in interconnection queues, such as Bonneville's, and the recent death of the Windchaser gas project, the last major gas project being developed in Oregon, suggest that the avoided resource is no longer a gas turbine. The value of the avoided resource can no longer therefore remain a gas turbine. Indeed, E3, in its PUC presentation for this docket, explicitly agreed that the avoided resource could not be a resource that can't or won't be built. Most likely, to construct a dispatchable resource, one would have to develop a standalone battery. Other resource options, such as pumped storage, or some sort of hybrid resource like Portland General Electric's recent Wheatridge Solar+Storage project, may be relevant. The Wheatridge project may provide one example of a proxy resource for this investigation to explore, as would standalone storage. This docket, which explicitly discusses quantification of value of capacity in terms of gas turbine costs and ELCCs, cannot close without addressing this critical issue. The availability of such resources in the development pipeline must also be considered. A workshop should be held discussing the surrounding questions, options, and creating a path forward to identify and price the appropriate avoided resource, and identifying subsequent process to pursue in this docket on this topic.

2) Resource Availability, Timelines, and Scarcity. Second, capacity must be valued in a time-informed manner. Capacity's value varies over time, as E3's market capacity shortage study points out, as it is affected by generation retirement, the proliferation of additional renewables in the generation mix, and is limited as well by the development pipeline available. The PUC's approach to capacity valuation should be a time adjusted stack which takes into account questions such as: When are units being retired (eg Colstrip)? How does that affect capacity needs in what years? What capacity resources can be available to solve this shortage? This docket should review the forward curve of expected capacity losses and the existing pipeline for resource development. Are there sufficient resources in the pipeline to keep up with resource retirements and expected growth? What is the price/value of capacity if it is *impossible or unlikely* to build new capacity in a certain timeline?

3) Ratepayer Financial Exposure to Capacity Shortages: Third, this docket should examine the costs to the ratepayers when there is inadequate capacity. As other comments noted, the reality today is that there is no perfect capacity resource, as resources that have previously been assumed to be reliable under normal circumstances now face operational limitations under the increasingly extreme weather patterns as seen in California and Texas.⁶ Such events call into question the underlying assumptions about reliability and capacity and the price a person is willing to pay to avoid such events.

⁶ Renewable Northwest Opening Comments at 2 <https://edocs.puc.state.or.us/efdocs/HAC/um2011hac165442.pdf>; NW Energy Coalition Opening Comments at 2 <https://edocs.puc.state.or.us/efdocs/HAC/um2011hac8419.pdf>.

Ultimately, the PUC should know what its ratepayers exposures to financial harm for lack of capacity is, to avoid the types of multi-billion dollar financial trauma (and loss of life) events from load loss experienced in California and Texas by their energy providers and ratepayers. Some customers received \$1000 or multi-\$1000 bills. In Texas, hospitals could not provide service and lives were lost. Are Oregon ratepayers (IOU customers or otherwise) exposed to these issues? How exposed? What are the probabilities and costs of such events, especially those identified in the E3 study (low hydro year events)? *After the warning signals sent to Oregon regulators and other markets, it would be negligent of the Oregon Public Utility Commission to not explore, analyze, and quantify the cost exposures to the utilities, and especially its customers, should comparable events occur for Oregon.* Whether due to Oregon IOUs' own direct failures, the cumulative Pacific Northwest's failures or deficiencies, or the surrounding markets, such as the CAISO, given the interconnectedness, and particularly given the spectacular dearth of new dispatchable generation available in development pipelines to provide new reliable capacity for Oregon utilities (or others elsewhere), there is clearly a significant risk for Oregonians, one that could be financially devastating for many Oregonians if costs for such failures were passed through (as would be the default case) to ratepayers.

The PUC must quantify that financial exposure, the probabilities of that occurring, and use such values to inform capacity values available to the market, and inform the planning decisions for Oregon IOUs, including how much expenditure is justified (which is proportional to load loss and market failure events likelihood and price) by IOUs to protect from those events. This harm price must be a reference in capacity valuation, particularly where new generation cannot be promptly developed or to incentivize its creation to serve the market.

A workshop on this topic should examine triggering events, probabilities, PNW market issues, retirements, types of costs appropriate to consider, effects of climate change and other factors on the probability of such events, and past price spikes (recent February 2019 and August 2020) and various sensitivities, as well as what methods are appropriate for quantifying this ratepayer exposure.

4) ELCC Attributes of Contributing and Avoided Resources. Fourth, this docket should review the resource characteristics of avoided resources, as well as key resources likely to contribute to capacity need, in particular solar and hybrids. Solar is and will be pivotal to meeting energy and capacity needs going forward especially as it can be paired with storage to create synergistic and predictable contributions to capacity needs. It should have price signals reflecting that. If the utilities send the right price signal about where and when they need capacity, solar projects or solar+storage can be designed and operationally structured to meet those needs. Further, with the rapidly accelerating technological advancements in this area, old assumptions about solar are no longer accurate. A detailed review of the resource characteristics in this docket can and should inform effective valuation and pricing.

We note at a basic level that the current ELCC's for solar in Oregon seem just plain wrong. As raised by NewSun Energy in LC 73, the underlying study is problematic, issues haven't been properly investigated, and input data needs validation. The PUC needs to, through a workshop process, with expert stakeholder support, ensure a methodology is developed that values solar's contributions appropriately, including with hybrids, and if delivering into key winter or evening hours. Ultimately the current PGE values are just wrong and this must be fixed, with due input.

NOTABLY, in a December 29, 2020 report to the California PUC, titled "*Southern California Edison Company, San Diego Gas & Electric Company, and Pacific Gas and Electric Company's Second Effective Load Carrying Capability Study Submission*", those utilities found values for hybrids 80-100%.

Table 2. Recommended ELCC Values for 2026 (expressed as a percentage of assumed interconnection capability)

Region	1-Hour Tracking PV Hybrid	2-Hour Tracking PV Hybrid	4-Hour Tracking PV Hybrid	1-Hour Wind Hybrid	2-Hour Wind Hybrid	4-Hour Wind Hybrid
CA-N	94%	95%	100%	86%	89%	94%
CA-S	95%	97%	100%	91%	93%	95%
AZ APS	94%	94%	97%	90%	95%	97%
NM EPE	93%	91%	95%	90%	95%	97%
BPA	N/A	N/A	N/A	84%	88%	90%
CAISO	94%	96%	100%	89%	91%	94%
Average	94%	94%	98%	88%	92%	95%

Table from California PUC Joint Utilities Report on Hybrid Resources ELCCs

5) Capacity Value Pricing Signals:

The process should also consider what time blocks are most appropriate and ensure that price signals are developed to incent development to serve those, and delivery during times of need. Time of day multipliers and other structures, which may depart from Mid-C time HLH/LLH time blocks, may be more appropriate.

Specific Docket Policy Questions

Feedback on certain policy question Staff raised:

- **Sufficiency/Deficiency Period and Stairstep Proposals:** While CREA likes the creative aspect of the proposal, given the value and need for capacity to be continually developed and contribute, to have a transition up from the sufficiency to the deficiency

period, any transition needs to be *in advance* of the deficiency period, not afterwards. While Staff's proposal wasn't 100% clear, to the extent Staff's proposal is to have a transition stairstep in QF pricing *after* QF PPA signatures, CREA opposes that. Ultimately, C

- **Gas Resource as Capacity Avoided Resource:** Per comments above, this is no longer a feasible avoided resource and should be discontinued and replaced with viable resource(s).

- **ELCC for Solar:**
 - Need geographic contributions reflecting diverse project locations near Oregon high desert powerlines and reflecting portfolio benefits.
 - Prices should be paid in key windows of need.
 - Failure rates should be assumed for QFs being developed
 - Should evolve over time relative to other facilities retirements
 - Hybrid resources should be permitted and considered.

CONCLUSIONS

In sum, this docket should continue to work towards developing a holistic and consistent capacity valuation methodology across resource types and applications, but CREA is concerned that insufficient space has been devoted to quantifying that value and digging into the details. In particular, the Joint Utilities (who have the most resources of any stakeholder in this process) noted that they felt there was insufficient time to develop their opening comments and that they anticipated providing detailed factual analysis regarding the implications of Staff's proposals during the next round of comments.⁷ This docket, therefore, should continue to explore these issues as indicated above and give all stakeholders and opportunity to review and collaboratively discuss these important topics.

Finally, a word of encouragement and opportunity: This docket is a superb opportunity to address, contribute to, and hopefully help solve the single largest issue (and risk) facing Oregon's ratepayers. I hope we can work together to get the most of the opportunity this docket presents.

Signed,
-mwm
Mike McArthur
Executive Director

⁷ Joint Utilities Initial Comments at 1 <https://edocs.puc.state.or.us/efdocs/HAC/um2011hac1675.pdf>.

Community Renewable Energy Association.