



TO: Commissioners Carlson, Barofsky, McRae, Schlossberg, and Brown
FROM: Brian Booth, Chief Energy Resources Officer, Megan Capper, Energy Resources Manager; Ben Ulrich, Interim Power Planning Supervisor; Aaron Bush, Energy Resource Analyst; Aaron Orlowski, Communications Specialist
DATE: February 24, 2023
SUBJECT: IRP Sensitivity Analysis and Public Engagement Update
OBJECTIVE: Information

(NOTE - This memo varies from standard Board format, as the content will be integrated into the final report documents.)

Issue

Consistent with Board direction, in December 2022, staff completed a public draft of an Integrated Resource Plan (IRP), outlining a potential resource strategy for EWEB's long-term energy needs. Because the draft IRP included a single reference case portfolio, the IRP modeling team outlined additional sensitivity and portfolio analysis which they planned to complete prior to release of the 2023 IRP in June. This memo provides an update on work to date, including initial results from three sensitivity analysis and the public engagement process.

Background & Discussion

In November 2022, staff presented the Board with a calculated reference case, providing a benchmark energy resource portfolio. The box at right, which was included in our November memo, emphasizes that the reference case is not a preferred or expected portfolio. Rather, it is a calculated portfolio based on modeling inputs and an initial set of assumptions. The three sensitivity analyses listed below were selected as the starting point for creating comparisons to the reference case:

- 15% Planning Reserve Margin
- High Electrification and Load Growth
- High Transmission Costs

The Calculated Reference Case is a suggested portfolio based on modeling results and certain inputs and assumptions. These results are not EWEB's preferred or expected portfolio, but instead are computed results which act as a benchmark for further iteration, informing EWEB's future strategic decisions.

Sensitivity analysis helps determine the impacts of individual or combined future assumptions and the types of actions that will be resilient in the future under a variety of different conditions. By comparing suggested resource portfolios for different futures, we can identify themes for the types of actions we can be confident will yield positive results. For instance, if our modeling nearly always suggests we procure battery storage, we can be confident that procuring battery storage will be a resilient choice, even in the face of an uncertain future. This memo reports limited initial sensitivity modeling results.

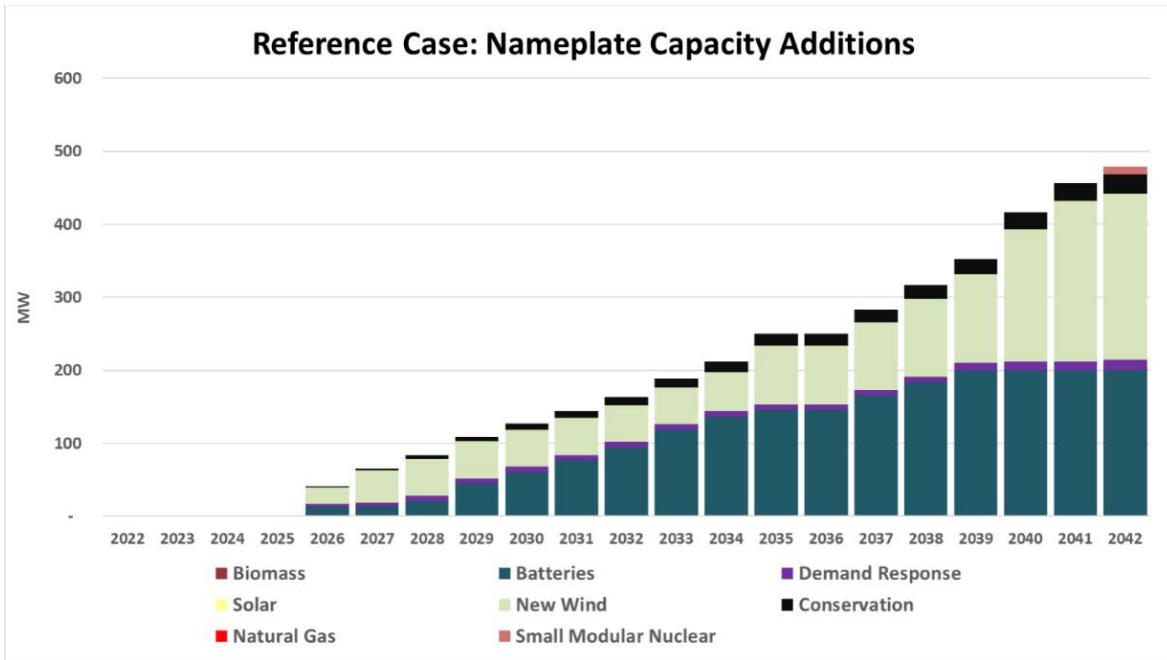
The memo also highlights feedback received to date in our early public outreach processes. Initial customer comments show an interest in; 1) understanding the impacts of climate change on EWEB's needs and resources, and 2) assessing the value of rooftop solar or other local resources in EWEB's portfolio. This feedback, along with input received in subsequent public forums and from the Board, will help inform prioritization of further sensitivity analysis.

Refresher: Reference Case Results

To supplement the future assumed continuing contract with BPA, the reference case selected primarily wind, batteries, conservation, and demand response resources to address forecasted growth throughout the study period. These resources align with our average and peak energy needs, and/or can be dispatched to take advantage of within-day market price volatility. For example, the specific wind resources that were selected tended to have winter-peaking profiles, so they would be more likely to generate during cold-fronts and higher winter needs. Batteries and demand response programs are 'dispatchable' and can turn on or off to align with daily peak needs or high market prices. The model also selected a small modular nuclear facility late in the study period, indicating that there may be a future role for firm, dispatchable, clean resources.

Key Assumptions

- Results assume typical planning conditions, including median water years.
- EWEB's BPA contract is assumed to continue throughout the study period (post-2028), with cost adjustments for inflation starting in 2027.
- Resource costs are based on publicly available information, compiled, and synthesized by E3, a leading energy consulting firm.
- EWEB's portfolio is constrained to meet Board policy SD15, such that it will be 95% carbon-free by 2030.
- Additional assumptions are listed in the Appendix (e.g. transmission availability, resource costs).



Sensitivities Comparison

Part of the goal of an IRP is to provide robust analysis that presents information about the risks or benefits to different resource approaches or decisions. In this context, staff selected the initial sensitivities because these are likely to be key drivers of EWEB’s needs and portfolio in the coming decades. The table below highlights some key questions staff hope to explore:

What can we learn from sensitivity analysis?	
Sensitivity Name	Questions the sensitivity can help answer
High Electrification	How does rapid electrification impact the amount of peaking capacity needed for EWEB’s portfolio? How do portfolio composition and cost compare to the reference case? This is not “Full Electrification” as some applications/ sectors of the economy are excluded.
15% Planning Reserve Margin	What types of resources are most cost effective for meeting a planning reserve margin? How does this impact portfolio cost? Does a planning reserve margin reduce market risk? Does meeting a planning reserve margin move up resource acquisition timelines?
Higher Transmission Cost	How does the portfolio change if transmission costs are higher or new transmission is unavailable? What is the change in portfolio cost if we cannot access renewable resources sited far away from Eugene?

For each of these sensitivities, staff made changes to specific modeling inputs. In general, staff attempted to change only one variable at a time so that any differences in outcome could be attributed to that change. Later, altering several input variables will be used to analyze future “scenarios”. The table below includes a brief description of the difference in assumptions between the reference case and sensitivity analysis.

Reference Case Inputs			
Reference Case Input	The model was required to select enough resources to meet average peak winter load.	Business as usual load growth, plus ‘Base Case’ electrification from EWEB’s 2021 Electrification Study (primarily electric vehicles).	Transmission costs were based on current BPA and Northwestern Energy rates with assumed inflation.
Sensitivity Inputs			
Sensitivity	15% Planning Reserve Margin	High Electrification	High Transmission Costs
Sensitivity Input	The model was required to select enough resources to meet average peak winter load, <i>plus</i> 15% additional peaking capacity.	EWEB’s load growth is higher than reference case due to heating electrification of 50% of existing residential building stock. By 2042, EWEB’s peak need is 8% percent higher than the reference case.	Reference case transmission costs are doubled by 2032, and MT/WY wind resources are not available until 2030.

Key takeaways from initial sensitivity studies:

Resource Timing

- If we assume a 15% planning reserve margin (PRM) to set risk tolerances, EWEB has earlier resource needs.
 - If we used this reliability planning metric, we would need to acquire new resources now.
- If we assume higher electrification load, the model selected more dispatchable resources earlier in the study period.
 - Because the impacts of electrification are not expected to be material until around 2030, the portfolio is not substantially different before then.
- If we assume higher transmission costs, the model did not select wind resources until later in the study period (2037 compared to 2026 in the reference case).

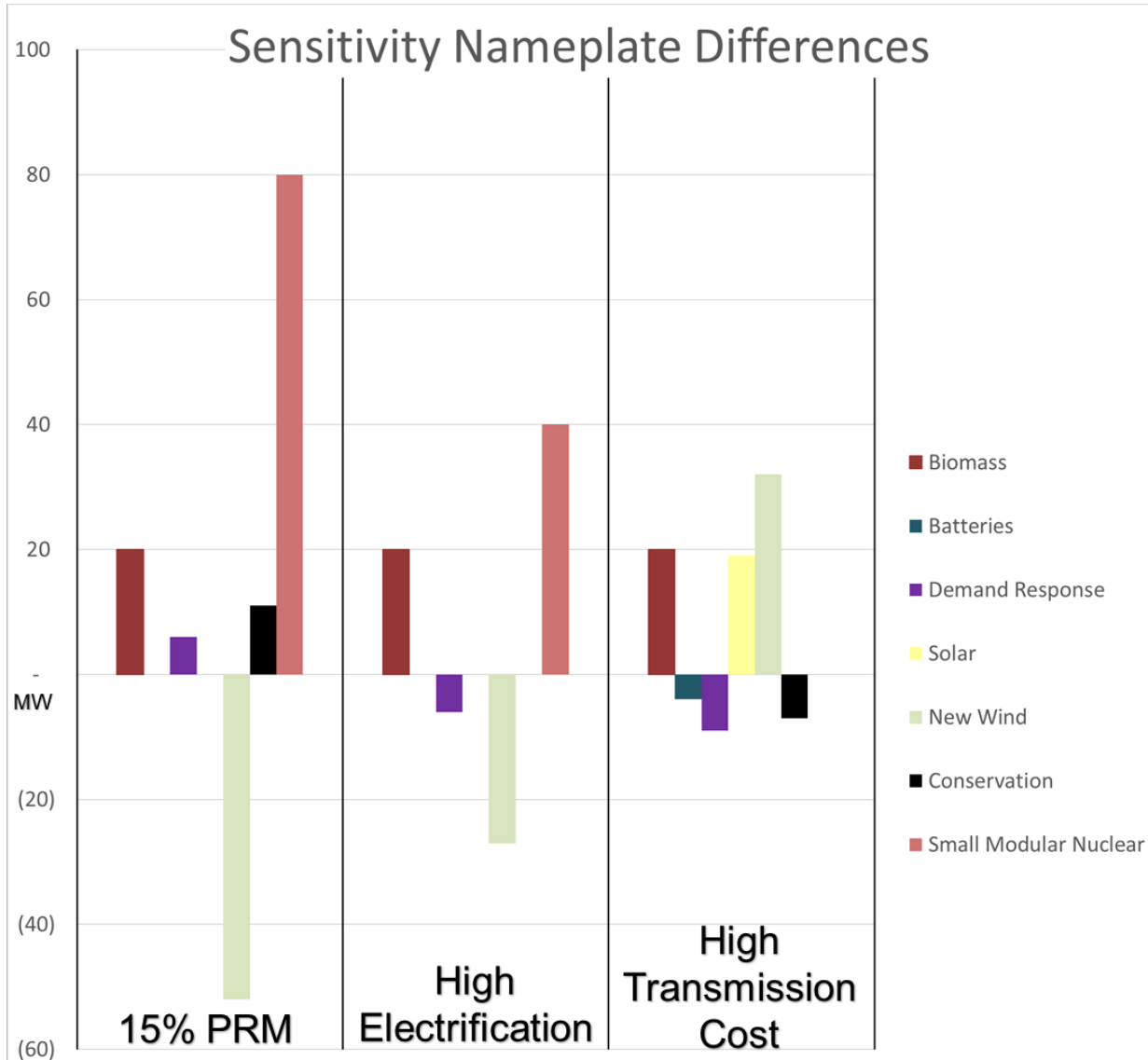
Resource Selection

- Batteries make up a substantial portion of the portfolio across these sensitivities as well as in the reference case.
- Conservation, demand response, wind, and small modular nuclear are selected in different quantities across these sensitivities and the reference case.
- All of the sensitivities selected the maximum amount of biomass (20 MW).
- Increasing peak capacity needs (either from 15% PRM or high electrification) increased the amount of dispatchable resources in the calculated portfolio (such as biomass and SMR nuclear).
- In the high transmission cost sensitivity, local 'community-scale' solar becomes cost-competitive and is selected in the portfolio in the early 2030's.
- Even with higher transmission costs, wind resources were still selected as part of the calculated least-cost portfolio.

Portfolio Costs

- Increases in peak capacity needs under the 15% PRM and high electrification sensitivities drive higher total portfolio costs compared to the reference case.
 - The potential rate impact and market risk of these sensitivities will be explored more fully in future analysis.
- Portfolio costs are most divergent towards the end of the study period, as capacity needs, and portfolio composition are least similar.
- Managed EV charging represents an opportunity to dramatically reduce peak demand and total portfolio costs.

The chart below shows the difference between resources in sensitivity portfolios and the reference case across the total study period. A negative number indicates that fewer nameplate megawatts of a resource were selected than in the reference case, while a positive number indicates that more were selected.



Sensitivity: 15% Planning Reserve Margin

The 15% planning reserve margin sensitivity examines the cost impacts and resource selection of EWEB procuring supply beyond what is needed to serve a 1-in-2 peak winter load. This type of sensitivity is useful for understanding what might be required to meet potential future planning obligations that would be required as part of participation in the Western Resource Adequacy Program (WRAP).

The WRAP is a newly formed, voluntary program intended to incentivize investment in generating resources to maintain a reliable electric grid. The WRAP has been a high-priority regional effort supported by both public and private utilities and other electric system stakeholders. Participation in the WRAP would require EWEB to demonstrate that we have procured sufficient resources or resource contracts to cover our expected 1-in-2 peak loads *plus* a planning reserve margin. This reserve margin represents an additional obligation that would be put on every load-serving entity (e.g. EWEB and other utilities) in the program. The goal of the WRAP is to provide a clear signal for needed resource development to ensure a reliable electricity supply, as well as to spread the cost of this investment equitably among participants.

The details of the program, including planning reserve margin obligations, are still being developed. While EWEB does not currently have an obligation to directly participate in the WRAP, it is likely we will have regional reliability planning obligations in the future, either as a direct participant, or as a result of BPA's participation in the WRAP. EWEB has signaled our intent to participate in the WRAP in the future, but given current information, EWEB would not expect to join a 'binding' WRAP program before 2028, consistent with BPA's current timeline. While 2028 is still several years away, we would need to have clarity on our needs and obligations well in advance to make appropriate investments or resource decisions.

Staff used a 15% planning reserve margin in the sensitivity because this has historically been sufficient to meet electric reliability standards¹. However, as additional variable energy resources are added to the electric grid, it is expected that higher planning reserve margins will be needed. For example, the Western Electric Coordinating

Peak Load Planning Standards

- Utility planners use "1-in-2" to refer to the likelihood of a load event occurring. A 1-in-2 peak event is an 'average' peak load, expected to occur once every two years – in other words, it has a 50% chance of occurring in any given year.
- A planning reserve margin (PRM) is the procurement of additional resources beyond 1-in-2 or other standards as a 'safety net' to ensure that if an unexpected outage or extreme weather event occurs, the utility will have enough resources to serve load.
- The 15% planning reserve margin sensitivity required the model to select enough resources to provide peak capacity 15% greater than EWEB's 1-in-2 peak winter load.

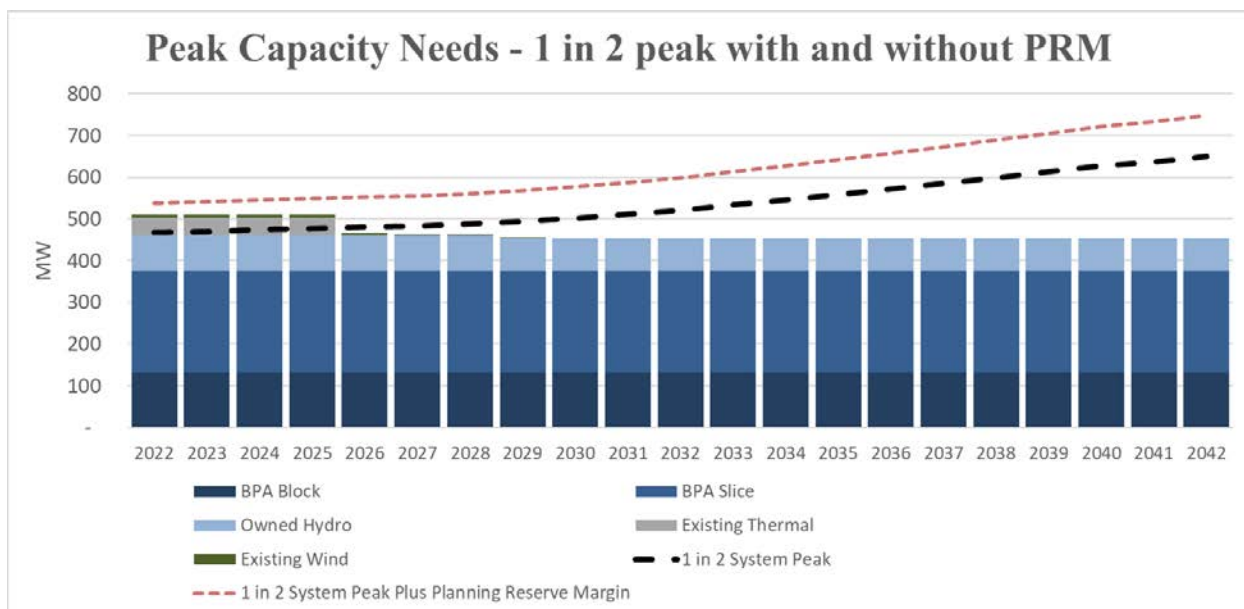
1 [Western Assessment Northwest Power Pool-Northwest Report 20210226.pdf \(wecc.org\)](https://www.wecc.org/2021/10/22/20210226.pdf)

Council's (WECC) 2022 Western Resource Adequacy Assessment found that an 18% reserve margin would be required in 2023 to ensure reliability, compared to a 15% reserve margin in 2021². This change was primarily due to the retirement of coal and gas generation and the addition of wind, solar, and battery resources between the study periods.

Resource Needs with a Planning Reserve Margin

A notable feature of the 15% planning reserve margin sensitivity is the fact that it pushes EWEB's resource needs much earlier than in the reference case. **This is because adding a planning reserve margin increases EWEB's needs as a matter of risk tolerance and would compel us to procure more resources, even though our physical circumstances remain the same.**

In the chart below, the dotted black line represents EWEB's current planning standards and risk tolerance. Using this metric, EWEB currently has enough peaking capacity to meet average peak winter needs. However, under a planning standard with a planning reserve margin, there is a gap between the metric and our current resource capability. Throughout the study period, this 15% reserve margin equates to between 70-100 megawatts (MW) of additional peaking capacity beyond the reference case needs.



It is important to keep in mind that the 'day-one' gap does *not* mean that EWEB must go out and immediately buy a resource or power purchase agreement. However, it does show that using different planning standards, or choosing to participate in the WRAP, will alter how we manage our long-term portfolio. This would be a strategic organizational decision made with further analysis and discussion of the impacts to EWEB and our customers.

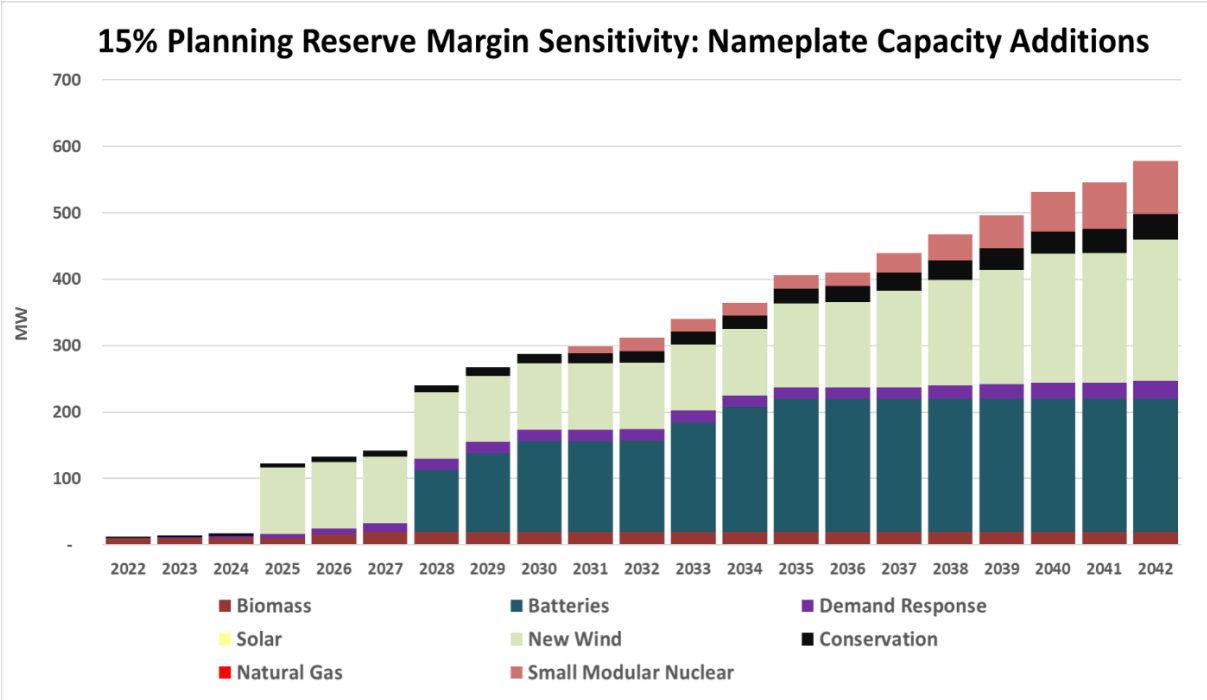
² [2022 Western Assessment of Resource Adequacy.pdf \(wecc.org\)](https://www.wecc.org/Reliability/2022%20Western%20Assessment%20of%20Resource%20Adequacy.pdf)

<https://www.wecc.org/Reliability/2022%20Western%20Assessment%20of%20Resource%20Adequacy.pdf>

Resource Selection with a 15% Planning Reserve Margin

Under the 15% PRM sensitivity, biomass and conservation resources were added in the first study year (shown at the lower left of the chart below in year 2022). Wind was added in similar amounts and timeframes compared to the reference case. Notably, the model added small modular nuclear (SMR) generation in greater amounts and much earlier in the study period compared to the reference case.

SMR nuclear and biomass facilities are dispatchable resources capable of generating on demand. This makes them valuable for meeting EWEB’s required peaking capacity without contributing substantial generation at other times when we does not need the energy. This indicates that while batteries and renewable resources can play a role in serving EWEB’s needs, dispatchable resources will likely be important for meeting peak needs or a planning reserve margin.



This modeling result also ties into EWEB’s broader market risk tolerance, as being “long on average” (having more energy than EWEB needs in most months) creates a dependence on surplus energy market sales to recoup initial investment costs. The more variable renewable resources are added to EWEB’s portfolio, the more surplus energy sales increase because the that energy does not perfectly match EWEB’s hourly needs. This surplus energy position exposes EWEB’s portfolio to the risk of falling market prices in the future. Diversifying the portfolio with dispatchable resources in addition to renewable resources can allow the portfolio to meet EWEB’s peak capacity needs without exacerbating issues of surplus energy generation.

Sensitivity: High Electrification and Load

The passage of the Inflation Reduction Act in 2022, as well as Oregon’s mandate that new, light-duty vehicles be 100% non-emitting by 2035, and the City of Eugene’s potential ban on natural gas in new residential construction has created policy pressure that increases the likelihood of high levels of electrification over the next decades. With this electrification, EWEB would see higher load in our service territory, which would increase both average and peak demand. For this sensitivity, staff increased average and peaks energy needs to reflect the Aggressive Carbon Reduction scenario from EWEB’s 2021 Electrification Study³.

The table below shows a summary of the findings from the study for both the Base Case (which is used in the IRP reference case, assuming unmanaged charging) and the Aggressive Carbon Reduction (ACR) scenario. The ‘High Electrification’ IRP scenario assumes ACR load, unmanaged Electric Vehicle (EV) charging, and an average peak load impact from space heating based on an equal mix of the three heat pump technologies (not all customers will electrify with the same technology).

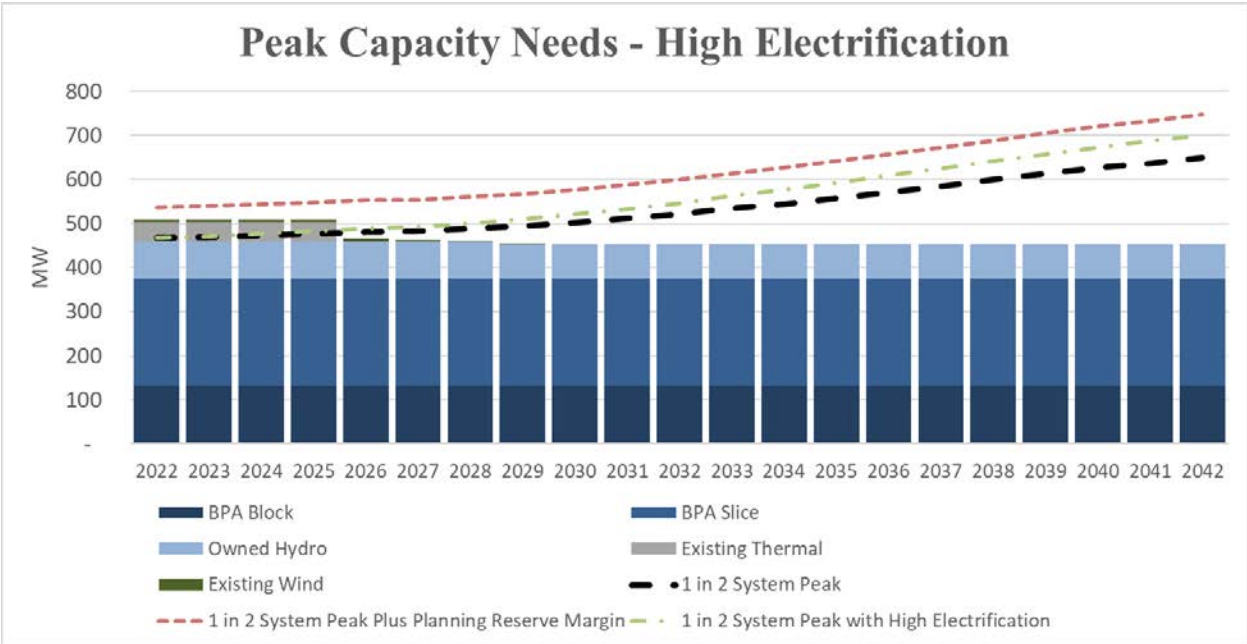
2040 - Base Case					
Electrification Measure	% Electrified	Average Energy Increase (aMW)	% Increase	1-in-10 Peak Increase (MW)	% Increase
Electric Vehicle - Managed	85%	57	21%	77	15%
Electric Vehicle - Unmanaged	85%	57	21%	131	26%
Heat Pump Water Heater	50%	1	0.3%	1.5	0.3%
Standard Heat Pump	0%	Without significant incentives or mandates, impactful space heating electrification is unlikely if driven by participant economics (consumer choice).			
Cold Climate Heat Pump	0%				
Dual Fuel Heat Pump	0%				
2040 - Aggressive Carbon Reduction					
Electrification Measure	% Electrified	Average Energy Increase (aMW)	% Increase	1-in-10 Peak Increase (MW)	% Increase
Electric Vehicle - Managed	95%	63	24%	85	17%
Electric Vehicle - Unmanaged	95%	63	24%	145	28%
Heat Pump Water Heater	85%	2	1%	3	1%
Min. Standard Heat Pump*	50%	8	3%	33-61	6-12%
Cold Climate Heat Pump*	50%	4	2%	17-31	3-6%
Dual Fuel Heat Pump*	50%	6	2%	Minimal	Minimal

*Space heating energy impacts shown assume 100% of space heating electrification assuming a single technology to illustrate that space heating technology choice matters. In reality, customers will choose a mix of the 3 different space heating technologies. Peak impacts are presented in ranges due to uncertainty regarding coincident load of units. Utilizing AML data in the future, EWEB could better estimate the coincident load of these space heating technologies.

Resource Needs with a High Electrification

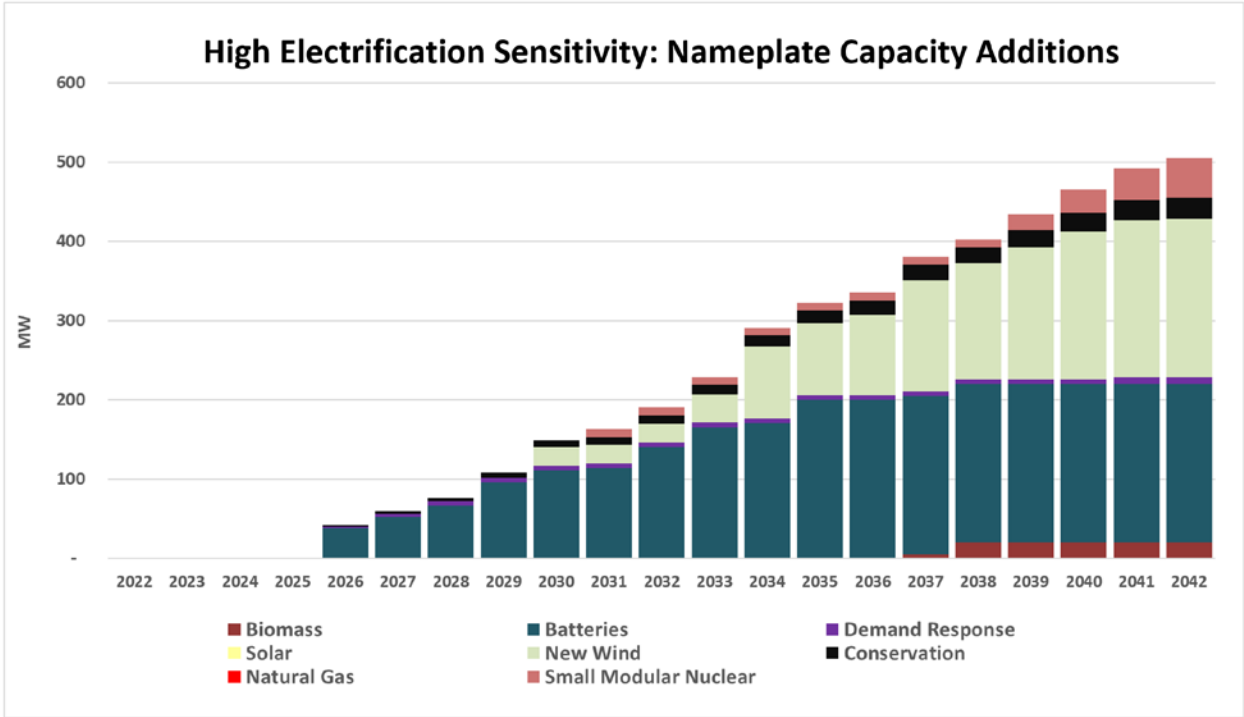
The dotted green line in the Peak Capacity Needs chart below represents EWEB’s 1-in-2 peak winter needs under the high electrification sensitivity, and the dotted black line represents EWEB’s 1-in-2 peak needs in the reference case. The difference in peak needs between these sensitivities grows over time as electric demand for building heating increases peak loads in the high electrification sensitivity.

The sensitivity assumes that by 2040 approximately 50 percent of residential & small commercial heating units would voluntarily switch from gas to electric. While the sensitivity does not explicitly estimate the impacts of the potential gas ban on new residential construction, it does assume that both *new and existing* units would transition to electric heat. Roughly 25 percent of EWEB’s current residential building stock currently uses gas heat.



Resource Selection with High Electrification

The high electrification calculated portfolio included similar types of resources to the 15% planning reserve margin and reference case studies, but on a different timeline. Notice that in the chart below there are no resource additions prior to 2026, as electrification (from vehicles or buildings) is not expected to have a major impact on load before then. After 2030, the high electrification sensitivity selects more dispatchable energy resources than the reference case (biomass and SMR nuclear). This addition of a nuclear facility in 2030/2031 mirrors the timing of the 15% planning reserve margin study.



Both the high electrification and 15% PRM sensitivities have higher total peak needs than the reference case. Combining these scenarios would be a 'highest case' forecast and likely represents our maximum resource need. In other words, if EWEB's load were higher due to electrification and EWEB had a planning reserve margin obligation, peak winter needs could be 800 MW in 2042, compared to about 650 MW in the reference case. Similar to the 15% PRM sensitivity, as EWEB's winter peak needs grow, the calculated portfolio begins to include more dispatchable resources such as biomass and small modular nuclear. The addition of those dispatchable resources displaces some wind resources built in the reference case, resulting in 27 MW less total wind nameplate compared to the reference portfolio.

Sensitivity: High Transmission Cost

The high transmission cost sensitivity examined portfolio selection if transmission costs were roughly double what they are today. This assumption was driven by the Bonneville Power Administration's (BPA) transmission planning documentation, which shows transmission constraints as well as increased need for capital spending that is expected to drive up overall transmission costs.

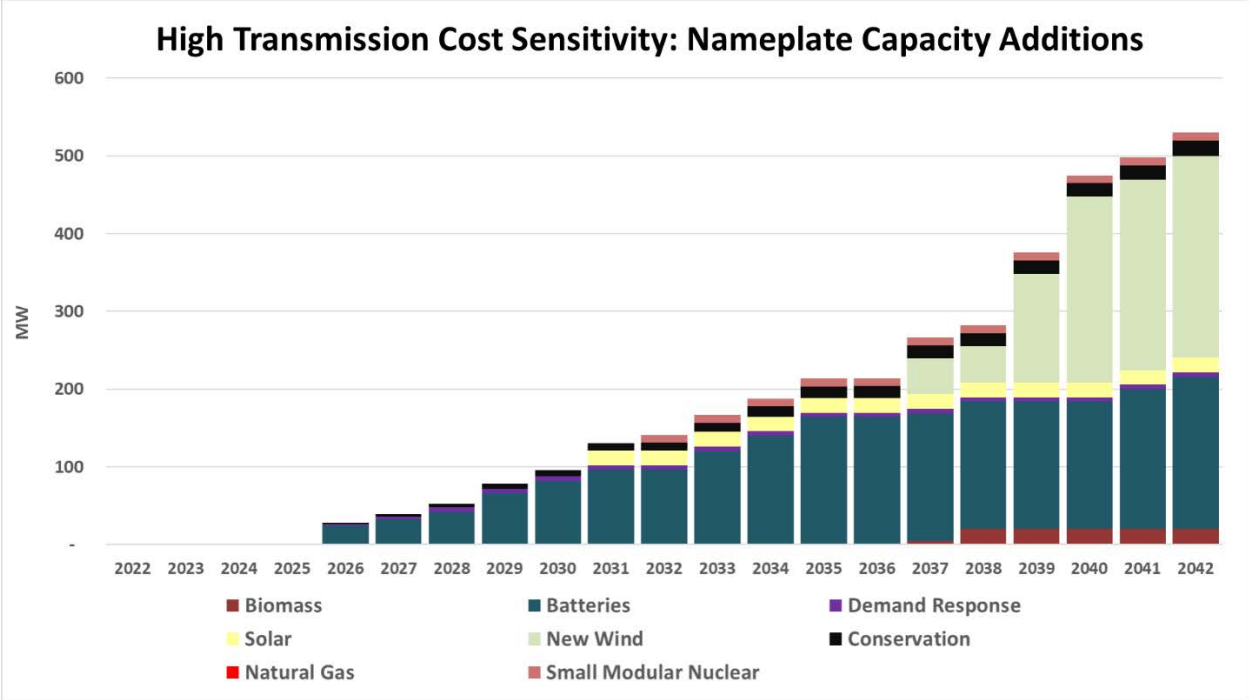
For this sensitivity, staff added additional costs to any resource that would not be directly connected to EWEB's system. Community and rooftop solar, as well as demand response, batteries, and conservation are the primary resources considered in the IRP that did not see increased cost from this. In addition, the model was not able to select Montana or Wyoming wind resources until 2030 to reflect time delays associated with development of new transmission lines.

Resource Selection with High Transmission Costs

Because the transmission sensitivity did not alter EWEB's demand relative to the reference case, it did not add resources prior to 2026. However, because transmission costs are substantially higher than the reference case, the model selected primarily battery resources to meet capacity needs before 2030. This reliance on batteries early in the study period to meet increases in EWEB's peak demand assumes that market purchases, BPA hydro and other variable renewable resources currently owned by EWEB will provide sufficient *energy* to meet EWEB's needs in the first 10 years of the study period.

In 2031, the model selected about 20 MW of community solar, and in 2032 selected the same 10 MW of small modular nuclear resource as the reference case. New wind resources weren't selected until 2037. This is in contrast to the reference case, which selected Wyoming wind in 2026. The wind selected in this sensitivity was primarily located in Oregon and Idaho, indicating that the higher winter capacity factors of Montana and Wyoming wind did not outweigh the increased cost of bringing wind across multiple transmission providers.

The high transmission cost portfolio included 32 MW more nameplate wind capacity than the reference case by the end of the study period. This is likely due to the fact that additional Oregon and Idaho wind nameplate MWs are required to meet the same peak capabilities as Wyoming wind.



As the table at right shows, assumed increases in transmission costs leads to community-scale solar becoming cost competitive with wind on an energy basis (local solar is still more expensive than wind for meeting peak winter needs). This comparison illustrates how impactful transmission can be on the annual cost of energy from different resources.

2042 Cost Comparison (includes inflation)	Reference Case	High Transmission Cost
Community Solar	\$101 / MWh	\$101 / MWh
Wyoming Wind	\$79 / MWh	\$160 / MWh
NE Oregon Wind	\$61 / MWh	\$104 / MWh

Portfolio Cost Comparison

The chart below shows the preliminary cost difference between different sensitivity results. These portfolios have only been examined under a single market price forecast, and further risk and market analysis will be required to understand how total costs and risk may vary over time. The second column below lists portfolio Net Present Value (NPV), which is the total present value of portfolio costs between 2022 and 2042 ‘discounted’ to account for inflation at 2.5% annually. Portfolio NPV analysis can be helpful for converting future costs into today’s dollars and can be used to compare alternatives. The next column to the right of portfolio NPV shows a percentage cost difference compared to reference case results. The final column shows the portfolio cost difference for a single year at the end of the study period (2042). The Aurora model that staff are using in IRP analysis selects resources to minimize costs across the entire study period, rather than in an individual study year.

Sensitivity Cost Comparison			
Sensitivity	Portfolio NPV (in \$1,000’s)	Percent Cost Difference Portfolio NPV	Annual Percent Cost Difference in 2042
Reference Case	\$2,146,000	0%	0%
High Transmission Cost⁴	\$2,265,000	6%	15%
15% Planning Reserve Margin	\$2,476,000	15%	25%
High Electrification⁵	\$2,273,000	6%	10%

In general, these sensitivities include assumptions that add costs (high transmission cost) or increase EWEB’s resource needs (high electrification and 15% planning reserve margin) relative to the reference case. For this reason, it is intuitive that sensitivity portfolio costs would be higher than under the reference case. Notably, the planning reserve margin sensitivity increases total portfolio NPV more than other sensitivities, as it requires the addition of substantial peaking capacity across all years of the study. Increased portfolio costs under the high transmission cost sensitivity reflect the fact that EWEB must choose more expensive resources to avoid transmission costs, as well as pay for those higher transmission fees. The high electrification study increases total resource acquisition and costs related to this.

⁴ Assuming higher transmission costs would naturally increase the cost of the calculated portfolio. The costs shown here have been adjusted to make the High Transmission Cost sensitivity comparable to the Reference Case and reflect the cost implications of the model selecting alternate resources in response to a changed transmission cost assumption.

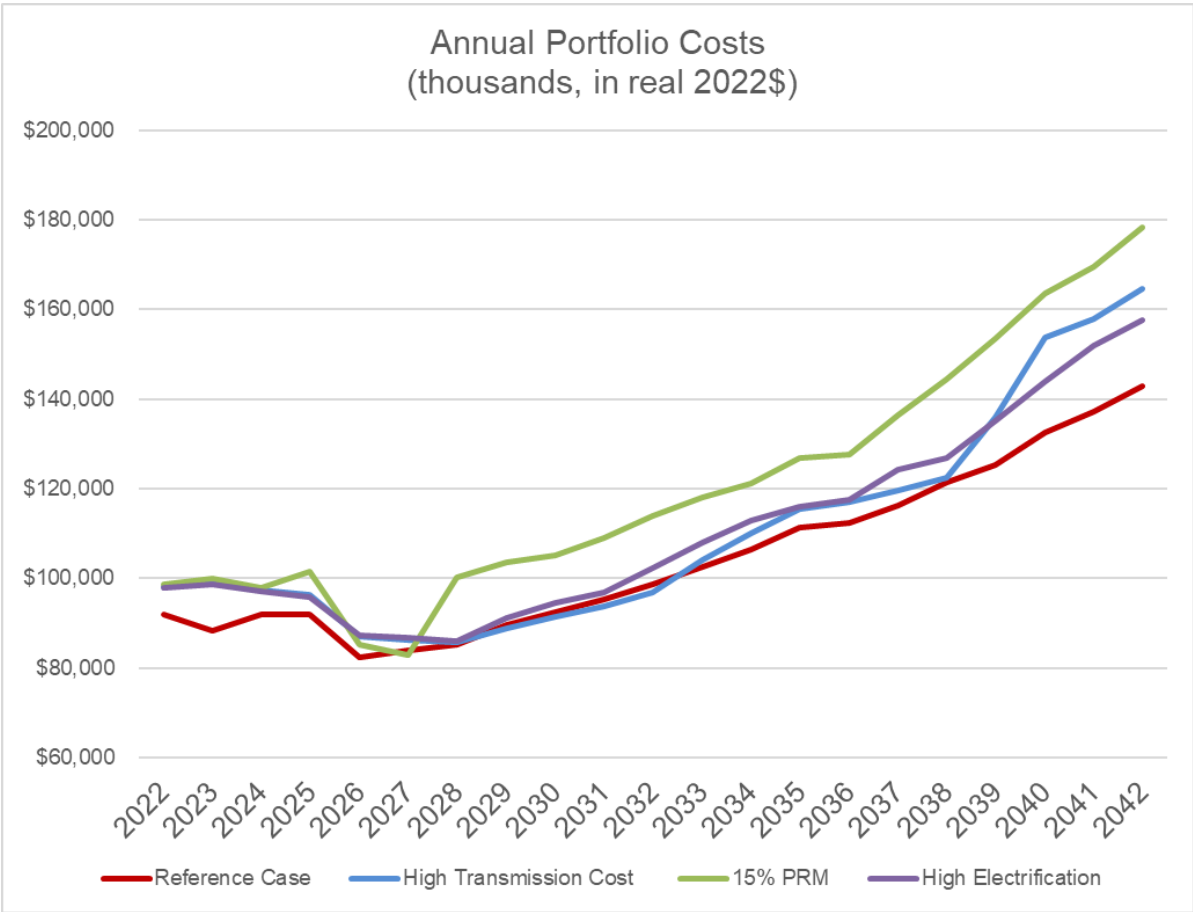
⁵ Assumes unmanaged EV charging

As described in the draft IRP and earlier memos, these portfolio costs do not crosswalk 1:1 to customer power rates. EWEB's load is forecast to increase across these sensitivities, as well as the reference case, which means that costs would be spread among more customers purchasing more megawatt-hours of electricity. Additionally, individual resource decisions and cost assumptions, as well as local incentives and programs, will significantly impact portfolio cost and power rates. Finally, these portfolios have only been examined under a single market price forecast, and further risk and market analysis will be required to understand how total costs and risk may vary over time.

These cost differences can be used to provide context for the financial impact of future decisions or outcomes. For example, in this particular set of sensitivity results, the financial impact of a 15% planning reserve margin is more significant than higher transmission costs or higher electrification. This can be useful as EWEB considers the impacts of the Western Resource Adequacy Program on EWEB's portfolio costs as well as inform potential action plans or strategies coming from this IRP. For example, strategies that help EWEB reduce peak load and PRM obligations could have a greater financial impact than strategies that help EWEB avoid higher transmission costs.

Portfolio Cost Comparison by Year

The chart below shows the modeled cost of each sensitivity portfolio by year. In general, they show that EWEB’s *near-term* costs are relatively flat, with primary differences coming from assumptions about cost (high transmission) or planning standards (15% PRM). The dip in costs across portfolios in 2026 is due to the expiration of existing contracts that either do not need to be replaced to meet 1-in-2 planning standards, or are replaced with more cost-effective alternatives. In general, after 2028, portfolio costs increase incrementally to keep pace with expected load increases due to electrification. The exception to this is the high transmission cost sensitivity, where costs increase substantially after 2037 when wind resources are added.



Portfolio Cost Benefit of Managed EV Charging

Electric vehicle (EV) charging is expected to be a major contributor to EWEB’s total demand over the next several decades. However, the way that this load impacts peak versus average energy consumption is uncertain and will influence portfolio needs and costs. In the reference case and high electrification modeling, EV charging is “unmanaged”, meaning EV charging is assumed to contribute directly to peak demand because customers are charging based on when it is most convenient to them. This would equate to every EV owner in EWEB’s service territory plugging in their car to charge from 5-9 p.m., hours that are already high demand.

However, the 2021 Electrification Study also showed a *managed charging scenario* which assumed EWEB could move EV charging away from peak times (through time-of-use rates or other customer programs) and consistently reduce peak demand by about 60 MW (40%) compared to unmanaged charging. Because EWEB’s portfolio requirements in the IRP are based on peak winter load, changes to the peak forecast can influence total resource selection and total portfolio costs.

To test the impact of shifting charging away from peak hours, staff altered the peak demand calculation in the high electrification sensitivity to reflect the values in the 2021 Electrification Study’s Aggressive Carbon Reduction (ACR) scenario. As a result, EWEB purchased 94 MW less of nameplate capacity over the study period and reduced total portfolio costs by about 11%. The chart below shows the comparison of portfolio costs with and without managed EV charging. Notably, the cost difference in 2042 is 18%, as electrification is expected to be a large driver of EWEB’s needs by that time.

Managed EV Charging Cost Comparison			
High Electrification Sensitivity	Portfolio NPV (in \$1,000’s)	Percent Cost Difference Portfolio NPV	Annual Percent Cost Difference in 2042
Unmanaged EV Charging	\$2,273,000	0%	0%
Managed EV Charging	\$2,014,000	-11%	-18%

The actual costs and efficacy of managed EV charging programs are uncertain. However, this initial sensitivity result points to it potentially being a very high-value option that could defer investments in additional resources or transmission and distribution infrastructure. In addition, if EWEB has a 15% (or more) planning reserve margin obligation in the future, the financial benefits of having lower system peaks are even greater than the 11% portfolio cost reduction shown above.

Public Engagement Update

This update addresses three elements of public engagement related to the draft IRP, which is proceeding as planned. These include:

- Notable public engagement activities.
- A new process for educating the Board and community on emerging topics.
- Initial themes from public comments.

Public engagement activities so far

To date, EWEB staff have hosted presentations with key stakeholder groups, published content on digital channels such as social media and eweb.org, published a fact sheet for customers' bill insert, and earned news media coverage. Town hall events and presentations have typically attracted several dozen community members apiece. Highlights are below:

Town Halls and Staff Presentations

- *All Public town hall:* EWEB hosted a town hall open to all community members Feb. 21 to share information about the IRP and hear feedback.
- *City Club presentation:* Frank Lawson presented on the IRP to the [Eugene City Club](#), on Jan. 20.
- *Eugene Climate Collaborative town hall:* Staff shared information about the draft IRP and answered questions.
- *Local Social and Environmental Group town hall:* Staff shared information about the draft IRP and answered questions.
- *Neighborhood presentations:* EWEB staff discussed the IRP at three neighborhood association meetings in 2023: the Friendly Area Neighbors, the Downtown Neighborhood Association, and the Whiteaker Community Council Neighborhood Association. Additional neighborhood association presentations are planned.

Earned Media

Staff targeted media pitches that resulted in at least nine earned media stories. These include an interview on Oregon Public Broadcasting's midday public affairs show *Think Out Loud*, which aired across the state of Oregon. Links to media stories are below:

- Oregon Business (Feb. 3, 2023): [EWEB Spokesperson on How the Utility is Preparing for Rising Demand](#)

- City Club of Eugene (Jan. 22, 2023): [EWEB's Plan for Getting Us the Electricity We Need \(KLCC recording\)](#)
- KVAL (Jan. 20, 2023): [EWEB forecasting electricity demand in Eugene](#)
- KEZI (Jan. 20, 2023): [Eugene Water and Electric Board gives the rundown on its plan for the future](#)
- OPB's Think Out Loud (Jan. 4, 2023): [Planning for Eugene's power needs](#)
- KEZI (Jan. 3, 2023): [EWEB has plan to provide enough energy for electric cars](#)
- Register-Guard (Dec. 21, 2022): ["EWEB looking for input as it plans for energy future, draft suggests wind, batteries"](#)
- KEZI (Dec. 16, 2022): ["EWEB plots roadmap for Eugene's energy future"](#)
- KLCC (Oct. 26, 2022): ["KLCC's Oregon Rainmakers: Frank Lawson, General Manager of the Eugene Water & Electric Board"](#)

Bill insert

EWEB's [February bill insert](#), which is received by all residential and commercial customers who get paper bills, featured the IRP.

Education on emerging topics of interest

EWEB staff have launched a process to educate the Board and the community on topics of interest by creating and developing a series of “briefings”. The first briefing seeks to answer [whether solar is a good fit for our community's energy needs](#).

Additional briefings will be forthcoming. Topics will be determined based on Commissioner and public feedback. Initial ideas under consideration are:

- Why batteries are being selected in modeling analysis, and tradeoffs of energy storage.
- Exploring potential IRP outcomes and Action Plan, and the process for EWEB to acquire a new energy resource.
- How EWEB's resource planning decisions contribute to our community's decarbonization goals

These briefings will be shared with the Board directly and will be published on EWEB's website at eweb.org/IRP under “Document library.”

Initial themes from public comment

Engagement activities have so far resulted in more than a dozen formally submitted comments and questions, as well as approximately 50 informal comments and questions posed during in-person presentations. The comments and questions frequently express preference for particular resources, but don't directly suggest avenues for further analysis. The IRP team is using these comments to identify issues worth further investigation.

So far, questions and comments have chiefly revolved around climate change and environmental protection – issues that many vocal members of the Eugene community care a great deal about. However, this sample does not necessarily represent our community as a whole. Based on previous customer survey work presented to the Board in August 2022, we know that customers overall prioritize reliability and affordability ahead of environmental responsibility, and that the issue is polarizing. Continuing community dialogue and creating inclusive outreach processes will be important for helping to weigh these tradeoffs in the future.

Some specific themes of responses so far are:

- **Climate change and environmental protection:** Many respondents are concerned about EWEB’s environmental impact, such as carbon emissions resulting from power generation, mining impacts for lithium for batteries, and disposing of nuclear waste. These respondents also wonder how EWEB might adapt to future constraints on hydropower.
- **Local generation and energy efficiency:** Some respondents support expanding solar incentives, and others are interested in energy efficiency as a key method of reducing environmental impacts.
- **Customer programs:** Many respondents are interested in the types of programs EWEB will offer to help customers reduce energy use or shift energy use to off-peak times through demand response. Some large customers are wondering if custom programs could be developed in partnership with them to reduce energy use.

Some comments offer aspirations for the future that EWEB can’t necessarily achieve on our own, but which illustrate the community’s interest in diversity, equity and inclusion being considered as part of this process. One commenter wrote:

“EWEB needs to do everything it can to restrict any electric transition to real needs, not extravagances like private cars in the city! Electric trams, local electric trains, community pumped storage, community geothermal ... all of these are much better megawatt investments than electric private cars and private heat pumps.”

Recommendation & Requested Board Action

No action is requested at this time. The information is provided to facilitate Board understanding and discussion.