Resource Planning Advisory Group feedback report

Meeting details

- Thursday, March 26, 2026, 1:00 p.m. - 3:00 p.m.
- Virtual webinar hosted by PSE and facilitated by Triangle Associates
- Links to:
  - Presentation
  - Agenda
  - Meeting recording

Feedback

The following records participant questions and PSE responses from the public comment opportunity and comments submitted via online feedback form or email to isp@pse.com. Meeting materials are available on the clean energy planning website.

PSE endeavors to provide clarity in responses but subsequent follow-up may be required at times. Please direct any follow-up clarifications to isp@pse.com. *PSE responses are in teal italics.*

1. RPAG member feedback

Quinn Weber on behalf of the Washington Utilities and Transportation Commission, April 2, 2026 via isp@pse.com

General Comments

Staff acknowledges PSE's commitment to iterate in future versions of the cost test to appropriately and accurately account for all impacts reflected in lowest reasonable cost and the public interest. During this cycle, Staff encourages PSE to flag specific areas where they intend to improve by the next ISP. For example, if PSE intends to qualify something in this ISP, such as host customer NEIs, it would help both the

RPAG and Staff to know that PSE has a plan for future monetization or quantification. Likewise, if PSE has identified barriers to accounting for equity impacts in the cost test, Staff recommends PSE let the RPAG know it has a plan to address those barriers.

Necessary impacts for the cost test were not included in the agenda for the March RPAG, including:

- health and safety,
- other environmental, equity, and
- host customer impacts.

While Staff appreciates the scope of ground that PSE must cover to fully address the cost test and its strategic use of its other advisory groups to "divide and conquer", Staff is concerned that PSE is not providing an opportunity for RPAG members to weigh in and give feedback on PSE's most recent plans and proposals.

Thank you for recognizing and acknowledging the challenges with the scale and timing of topics. PSE notes that RPAG members and the public can provide feedback via email, web form, or phone. PSE continues to encourage feedback via all possible methods given the limited time RPAG members have available for meetings.

Staff reiterates its recommendation provided in the February RPAG feedback as well as comments made at the March RPAG, specifically that that "impacts be measured and communicated to account for different scales and perspectives of who will bear a cost or burden." Certain benefits may accrue to the utility system, society, customers, and participants to varying degrees. Staff recognizes PSE's response in the February RPAG feedback report that limitations, such as portfolio-level analysis of generic resources, make it difficult to pinpoint customer perspective. Staff encourages PSE to provide detail and clarity regarding the various perspectives that benefits accrue to, to the extent possible, in future conversations on the cost test and decision framework. At this stage, high-level and proxy detail on whether a benefit goes to the utility system, society, customers, and participants would likely be sufficient.

Thank you for your feedback.

Cost Test

Health and Safety

As noted above, health and safety were not included in March RPAG. In the February RPAG, PSE proposed defining health and safety as "meeting existing health and safety requirements" and measuring it through "consistency with existing health and safety requirements",

presumably through a "yes/no" requirement. In PSE's February RPAG feedback report, PSE indicated that "*Absent receiving actionable and timely feedback through the engagement process, we expect this question to be binary (yes/no) for the 2027 ISP."* As RCW 80.86.020(11) requires that the Commission must consider long-term and short-term public health and health and safety concerns as a component of the public interest determination, Staff believe that PSE's current approach may not be sufficient to fully capture this impact area and align with statute.

In agreement with comments made by an RPAG member at the March meeting, Staff strongly recommends that PSE monetizing health and safety impacts within the cost test. Namely, Staff recommends PSE monetize health and safety impacts of outdoor air pollutants (including SO2, NOX, VOCs, PM2.5, and potentially including other relevant air pollutants such as HAPs and CO). A well-established methodology for this monetization is assigning a dollar value per ton to emissions over the length of the study period. Staff strongly encourages PSE to refer to the Environmental Benefits Mapping and Analysis Program - Community Edition (BenMAP-CE), https://www.epa.gov/benmap and the CO-Benefits Risk Assessment Health Impacts Screening and Mapping Tool (COBRA), https://www.epa.gov/cobra as possible tools and/or data sources for monetizing pollution.

Staff recommends that PSE consider monetizing the health impacts of conservation. An established methodology from the EPA can be found here: https://www.epa.gov/statelocalenergy/public-health-benefits-kilowatt-hour-energy-efficiency-and-renewable-energy-united. Staff notes a risk of double counting health impacts of conservation with the NEIs already incorporated into the modeling data, and encourages PSE to consider the risk of double counting conservation health benefits when considering this metric.

In agreement with an RPAG member's comment in the March RPAG, Staff encourages PSE to look into incorporating the impacts of indoor air pollution from natural gas appliances and heating on human health. This should be monetized if possible, or otherwise quantified or qualified. This impact measure should also consider the relevant benefits for indoor air pollution and human health from electrification.

Thank you for your feedback and specific sources. PSE will consider these sources as it continues to refine its cost test approach.

Other Environmental

As mentioned above, the "Other Environmental" category was not discussed at the March RPAG, but Staff believes there are various opportunities to monetize other environmental impacts that PSE currently proposes to quantify. Staff's understanding is that PSE currently proposes to quantify NOx, SOx, and PM2.5 in tons based on modeling outputs. In addition to being useful for health and safety metrics, EPA's BenMAP tool could be used to monetize the outputs in tons of PM2.5 and ozone precursors from PSE's models. EPA's COBRA tool is another option PSE could review for potentially monetizing other environmental metrics.

Thank you for your feedback and specific sources. PSE will consider these sources as it continues to refine its cost test approach and stay cognizant of any overlaps with Health and Safety category.

Reliability

Staff is concerned that PSE's current proposal for measuring reliability, to determine whether given portfolios meet certain reliability standards, likely misses how reliability impacts and costs accrue to customers.

Staff is encouraged to hear that PSE is looking into potentially using the ICE 2.0 tool for monetizing reliability impacts and costs to customers – this is one way to address Staff's concern above.

Staff would like to clarify that the ICE 2.0 tool is best suited to monetize costs occurring from short-term outages (less than 24 hours).

For further guidance on how to potentially monetize reliability, Staff encourages PSE to review Section 11 of the Avoided Energy Supply Components in New England 2024 report, which provides a concrete example of how the ICE tool can be used to monetize reliability for adoption by states.

The IEEE Guide for Collecting, Categorizing, and Utilizing Information Related to Electric Power Distribution Interruption Events could also potentially support PSE's efforts to collect the inputs and data needed to better measure reliability metrics (such as SAIDI and SAIFI), which can then be used as inputs to the ICE 2.0 tool.

Staff reiterates that the social impacts that PSE proposes to measure qualitatively should meet proposed standards (such as those laid out by FERC and NERC), Staff encourages PSE to go beyond thinking about what it means to meet those standards and both assess what the more granular impacts of meeting those standards would be, i.e. what impact would they have on the portfolio and if there are any actions needed to meet those standards what are they? Staff believes this will lead to a more robust Decision Framework.

Staff believes the NRL Valuing Resilience in Electricity Systems could serve as support for advancing PSE's ability to quantify and monetize resilience impacts.

Thank you for your feedback and specific sources. PSE will consider these sources as it continues to refine its cost test approach. In this first ISP, our electric distribution planning focuses on meeting the capacity demand in all scenarios. We do not focus on outage impacts in this ISP, as we assume reliability is maintained regardless of scenario. However, we do study outages on an annual basis through our delivery system planning process. We see opportunities this tool could provide when understanding outage impacts as it relates to DER use

and valuation, and that is an area we're continuing to evolve. PSE's analysis does account for the "granular impacts" of meeting standards. By ensuring that each scenario/sensitivity meets the same reliability and resilience standards the models are forced to build all the required infrastructure necessary to meet those standards. For example, by addressing overloaded distribution capacity, the scenarios ensure capacity is available to enable localized switching to isolate the impact of outage events. The costs of these different resource builds are captured in the overall portfolio cost.

Resilience

Staff is concerned that PSE's current proposal for measuring resilience, to determine whether given portfolios meet certain reliability standards, likely misses how resilience impacts and costs accrue to customers.

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Thank you for your feedback and specific sources. PSE will consider these sources as it continues to refine its cost test approach.

Risk Reduction Premium

Staff would appreciate it if PSE would provide an example of how the company intends to apply the risk reduction premium. For example, does PSE intend to calculate the difference between ceiling price and the expected price (in dollars), and apply it as an adder to emitting resources? If not, how does PSE intend to use this calculated value?

PSE intends to use the full ceiling price and apply to natural gas plants as a base assumption. This value is embedded in the analysis as a dispatch cost for thermal resources and can be seen in the reduced dispatch. We are evaluating sensitivities using different CCA prices.

Economic Development

Staff appreciates PSE's willingness to model the quantitative impacts of economic development within the cost test. While Staff does not recommend one model over others, Staff is generally comfortable with the JEDI model to account for economic development.

Staff reiterates its comments during the March RPAG to look at metrics beyond total job count and appreciates PSE's willingness to conduct a more holistic analysis of economic development. The JEDI model provides three categories of outputs: 1) on-site labor and professional services results, 2) local revenues and supply chain results, and 3) induced results. Staff believe that the second and third categories will better support ISP analysis.

The "job count" output can be either monetized or quantified. Staff recognizes that there are pros and cons to each approach, as outlined in the NSPM. Staff is interested in hearing PSE's preferred approach and recommends PSE consult the RPAG to understand if that approach is accepted by the larger group.

Staff recognizes that the JEDI tool quantifies impacts on a statewide level, Staff believes for economic develop perspective it makes sense to limit the maximum scope to Washington State and if PSE believes it can narrow those impacts to just its service territory it should present that as more granular analysis.

Staff recognizes EAG feedback to consider how economic development impacts might accrue to named communities, including long-term workforce development. Staff notes that this aligns with both the requirements of RCW 80.86.020(11) for the Commission to consider equity and how the ISP "would lead to new construction career opportunities for workers to perform work on construction and maintenance of new and existing renewable energy infrastructure" within the ISP approval process. Staff acknowledges PSE's comments that the JEDI model is limited by the locationality of where the project might be situated, but encourages PSE to consider how workforce development within named communities could be achieved.

During the meeting, Staff mentioned Wisconsin's work on measuring the economic impacts of their energy efficiency program. That report can be viewed here: https://assets.focusonenergy.com/production/inline-files/2024/WI-Focus-2019-22-Quad-III_Econ-Impacts_Final.pdf

Thank you for your feedback and specific sources. PSE will consider these sources as it continues to refine its cost test approach.

Host Customer Impacts:

Staff notes in the February RPAG, PSE proposed to define Host Customer Impacts as the cost to customers for electrification or demand-side measures and to measure the impact through direct costs to customers for purchase or installation. Staff reiterates its comments at the March CRAG and RPAG for PSE to consider and account for benefits in addition to costs. While many of these benefits are summarized in the NSPM for BCA of DERs, examples can include non-energy impacts (NEIs) such as home comfort or increased asset value, as well as decreased bill impacts for participants in a building electrification program. Staff is concerned that failure to account for benefits of host

customer impacts will not only bias portfolio selection within the Decision Framework, but will not comply with the statutory definition of lowest reasonable cost (RCW 80.86.010(22)) to account for "long-term costs and benefits". Staff further notes that excluding benefits goes against best practice. The NSPM "Principle 3, Ensure Symmetry" advises that without symmetrical treatment of costs and benefits there will be a sub-optimal and biased selection of resources. Additionally, NSPM "Principle 5, Account for Relevant, Material Impacts" indicates that using best available information to approximate hard-to-quantify impacts is preferable to assuming that they do not exist or that their value is zero. Staff recommends that PSE consider how it will account for host customer benefits of DERs and electrification within the decision framework, such as using approaches outlined in the NSPM, including proxy values, qualitative analysis, and alternative thresholds.

Staff notes that during the March CRAG, PSE noted the inability to account for NEIs within host customer impacts given the focus on portfolio-level analysis. Staff recognize that the more granular the analysis, the more accurately NEIs reflect the specific measure. However, Staff notes that, at the very least, proxy values for NEIs can be applied at the portfolio-level. Staff encourages PSE to refer to the NSPM Methods and Tools guide for more detail on how NEIs can be applied at the portfolio-level.

Staff notes that many benefits for host customers may be reflected elsewhere in the cost test and/or decision framework, such as resilience, reliability, and health and safety. Staff encourages PSE to clearly delineate where host customer benefits are accounted for within the overall analysis if they are not clearly articulated underneath a "host customer category".

Thank you for your feedback and specific sources. PSE will consider these sources as it continues to refine its cost test approach.

Load Updates

Staff recommends PSE evaluate the underlying assumptions around the drivers of less EV uptake, as the WA data does not support the assumption that federal policy changes are the primary driver of EV uptake trends.

Data from the WA Department of Licensing, Electric Vehicle Share of New Registrations | Data.WA | State of Washington, Shows that across WA approximately 10% of new vehicles registrations are EVs, even after the end of the federal tax credit and pre-Iran conflict energy shock. The ratio of new registrations is virtually the same in March 2025 vs. Feb 2026. What's different is the total number of cars registered. Washingtonians aren't buying fewer EVs so much as buying fewer *cars,* regardless of fuel type. Overall economic factors appear to be playing a much stronger role than any discrete policy change. While we do see a jump in the hard number of EV purchases in October 2025, as the federal tax incentive ended, the percentage of EV registrations in that month was not unprecedented (in Washington, total EV registrations reached 18% in at least two other instances since 2023).

Filtering for PSE's service territory shows a similar picture: after Federal policy changes took effect in 2026, at least 1 in every 10 cars registered was an EV. Additionally, car manufacturers are implementing permanent MSRP decreases on some of their best-selling models—for example, the MSRP of the popular Ioniq 5 has decreased by as much as $9,800 for the 2026 model year (depending on trim). Considering these facts, as well as the dramatic increase in fuel prices, and even gas shortages, as a result of the Iran conflict, Staff is concerned that reducing the EV load forecast in the baseline scenario is premature**.**

Thank you for your feedback. We agree with Staff that economics are a major driver of electric vehicle adoption. The EV adoption forecast used in the 2027 ISP is driven by both federal and state policy impacts and total cost of ownership, a calculation which is influenced by the availability of federal tax incentives. While it is true that reduced costs for some EV models may drive some adoption, the removal of federal tax incentives has increased the average total cost of ownership for passenger car EVs by 15%. Referring to the example of the reduced MSRP for the Hyundai Ioniq 5, we observe that Hyundai's comparable ICE crossover SUV is still priced $10,000 below the lowered Ioniq 5 price.

From 2024 to 2025, Guidehouse & the Washington State Department of Ecology[1] observed a drop in new EV purchases in Washington State. Furthermore, following the removal of federal tax incentives, Guidehouse observed another drop in EV purchases. While this is undoubtedly a combination of federal policy, the suspension of state policies (ACC II & ACT), wider consumer pullback in vehicle purchases, and tariff impacts, each of these drivers support the adoption of a lower forecast. Though Guidehouse expects that total cost of ownership will favor electric vehicles by the mid-2030s, several mitigating factors in the near term seem to be delaying the transportation electrification evolution for our customers.

Staff notes that the RPAG slides indicate host customer impacts are "embedded in the planning model" and acknowledges PSE's response (beginning around the ~59:40 mark) that Auora modeling doesn't have the capability to provide outputs for participant/non-participant costs. PSE goes on to say that they will be able to analyze what happens to participant costs for a larger building electrification program. Staff recognizes that PSE's Aurora model may not be able to conduct measure-level analysis. However, RCW 80.86.020(4)(h) requires PSE to file an ISP that includes low-income electrification programs and that, among other things, "provide demonstrated material benefits to low-income participants including, but not limited to, decreased energy burden…" Further, RCW 80.86.020(9) requires the cost test to be designed for the purposes of determining the lowest reasonable cost of decarbonization and low-income electrification measures. Staff questions how PSE will be able to fulfil these requirements without understanding how various electrification measures impact bills within a

[1] https://data.wa.gov/Transportation/New-Electric-Vehicle-Title-Activity-by-Year/2h2e-g4je

larger electrification and decarbonization portfolio. Staff encourages PSE to consider aggregating the average bill impact for participants of its building electrification programs within its portfolio to convey the potential benefit of lower bills for participants.

For the electric and gas supply modeling, we model all costs and develop a full portfolio cost and impacts from a customer perspective to try and find a portfolio that is the lowest reasonable cost across the whole system.

Froylan Sifuentes, Western Washington University Institute of Energy Studies, April 2, 2026 via feedback form.

With regards to the cost test, and specifically about the value/monetization of reliability. I think incorporating (or explaining why it's not usable) the ICE 2.0 tool that LBNL (and supported by PSE) developed can add some quantified cost/benefits to our reliability conversations. I'm glad you mentioned in the last meeting (3/26) that you were looking into it. It would be great to see how it can add value at the next meeting.

Thank you for your feedback and specific sources. PSE will continue to investigate what is possible and report back to the RPAG.

2. Unanswered RPAG member questions from meeting

I think some clarity about what the applicable standards are would be helpful and then making sure we're quantifying the contribution of ALL resources (including customer-side resources) toward meeting those standards. And, then I think the RPAG would benefit from some comparative analysis between PSE's methods and other similarly situated utilities. For example, I think the E3 study might undervalue the reliability/resilience value of DR and DERs in PSE's service territory, which is transmission constrained.

Thank you for your feedback. PSE will work to further document relevant standards in developing and describing the decision framework.

It would be great to try and capture the risk of extreme price volatility at natural gas hubs, on the scale of 3–5-day events.

Our long-term price forecasting methodology captures market volatility through Monte Carlo analysis rather than modeling singular events. Geopolitical disruptions often represent "black swan" events whose long-term impacts cannot be accurately assessed until sufficient time has passed to understand their lasting effects.

Our approach distinguishes between temporary price spikes—whether caused by geopolitical tensions or catastrophic events—and sustained shifts in fundamental gas market conditions. While short-term volatility from isolated events is not incorporated into our base forecasts, we maintain comprehensive risk management through multiple strategies. Operationally, we participate in the Western Region

Mutual Assistance Agreement (WRMAA), managed by the Western Energy Institute (WEI), which provides a formal framework for gas and electric utilities to share personnel, equipment, and resources during major emergencies. Financially, PSE employs several hedging strategies to mitigate the financial impact from unforeseen spiking events, providing protection against volatile price movements that could affect customer costs.

Any genuine structural changes in gas market fundamentals will be reflected in our modeling through our updated gas price forecasts, which we receive twice annually through our subscription service. This comprehensive approach—combining robust emergency preparedness, proactive financial hedging, and responsive forecasting methodology—ensures that evolving market fundamentals and sustained price shifts are captured in subsequent forecast cycles while maintaining both operational resilience and financial stability during unexpected events.

This integrated strategy provides a stable foundation for long-term planning while remaining responsive to meaningful changes in market conditions and prepared for both operational and financial challenges that could affect regional gas supply and pricing.

How much does this forecast consider the MSRP for used vehicles?

The forecast does not explicitly incorporate MSRP for used vehicles as a direct input. Instead, Guidehouse's electric vehicle adoption model focuses on total cost of ownership and the resale value of used electric vehicles is included in that calculation. Given their assumption that resold electric vehicles are already being charged and driven within our system, Guidehouse does not consider the price of used vehicles to be a significant driver of new load growth from electric vehicles

3. Public feedback

PSE did not receive public feedback from this meeting.