

# Puget Sound Energy Resource Planning Advisory Group (RPAG) meeting

## Meeting Summary

Wednesday, Jun. 12, 2024 | 10:00 a.m. – 1:00 p.m.

## Meeting purpose and topics

Below are the meeting topics of this Resource Planning Advisory Group (RPAG) meeting:

- Present an overview of the equity in the PSE customer journey
- Present the benefits and burdens of generic electric resources
- Present updates to the electric portfolio benefits analysis methodology
- Present an overview of the gas portfolio equity analysis
- Receive feedback from the RPAG on PSE’s approach to measuring benefits and burdens of generic electric resources

## Agenda

Time	Agenda Item	Presenter
10:00 a.m. – 10:05 a.m. <i>5 min</i>	<b>Introduction and agenda review</b> <ul style="list-style-type: none"><li>• Safety moment</li><li>• Introductions</li><li>• Agenda</li></ul>	<b>Sophie Glass</b> , Facilitator, Triangle Associates
10:05 a.m. – 10:10 a.m. <i>5 min</i>	<b>Welcome and feedback summary</b>	<b>Phillip Popoff</b> , Director, Resource Planning Analytics, PSE
10:10 a.m. - 10:20 a.m. <i>10 min</i>	<b>Energy equity program overview</b>	<b>Troy Hutson</b> , Director, Energy Equity, PSE
10:20 a.m. – 10:30 a.m. <i>10 min</i>	<b>Equity in the Integrated Resource Plan (IRP)</b> <ul style="list-style-type: none"><li>• Overview of resource planning and the IRP process</li><li>• Incorporating equity feedback into resource planning</li><li>• Expanding equity conversations in the 2025 resource planning processes</li></ul>	<b>Brian Tyson, Manager</b> , Clean Energy Planning and Implementation, PSE
10:30 a.m. – 11:05 a.m. <i>35 min</i>	<b>Benefits and burdens of generic electric resources</b> <ul style="list-style-type: none"><li>• Overview of generic resources</li></ul>	<b>Alexandra Karpoff</b> , Energy Resource Planning Analyst, PSE

Time	Agenda Item	Presenter
	<ul style="list-style-type: none"> <li>How we assess burdens and benefits of various generic resources</li> <li>How we will use this assessment in the 2025 IRP</li> </ul>	
11:05 a.m. – 11:25 a.m. <i>20 minutes</i>	<b>Benefits and burdens example assessment</b>	<b>Kaitryn Olson</b> , Associate Energy Resource Planning Analyst, PSE
11:35 a.m. – 12:20 p.m. <i>45 min</i>	<b>Electric portfolio benefits analysis improvements</b> <ul style="list-style-type: none"> <li>Overview of portfolio benefits analysis</li> <li>Feedback we received on our 2023 portfolio benefits analysis process</li> <li>Updates to our analysis for 2025</li> </ul> <b>Maximum Customer Benefit sensitivity</b> <ul style="list-style-type: none"> <li>Regulatory framework for the maximum customer benefit sensitivity</li> <li>Benefits to potentially maximize</li> <li>PSE’s recommended maximum benefit sensitivity</li> </ul>	<b>Tyler Tobin</b> , Senior Energy Resource Planning Analyst, PSE
12:20 p.m. – 12:50 p.m.	<b>Gas portfolio equity analysis</b> <ul style="list-style-type: none"> <li>Gas IRP scope overview</li> <li>Gas resource alternatives</li> <li>Inputting equity to our gas IRP decision framework</li> <li>Assessing equity in our gas portfolio</li> <li>Gas customer benefit indicators</li> </ul>	<b>Hannah Wahl</b> , Associate Energy Resource Planning Analyst, PSE
12:50 p.m. - 1:00 p.m. <i>10 min</i>	<b>Next steps and public comment opportunity</b>	<b>Sophie Glass</b> , Facilitator, Triangle Associates
1:00 p.m.	<b>Adjourn</b>	<b>Sophie Glass</b> , Facilitator, Triangle Associates

The full meeting materials, including the agenda, and presentation are available online under the Jun. 12, 2024 meeting heading on the IRP website.

## Action items

On the following page is a summary of actions from the Jun. 12, 2024, RPAG meeting.

What	Who	When
Research the following question and include a response in the feedback report:	PSE	PSE is currently working on identifying a “community health” indicator and is looking to enlist

What	Who	When
<ul style="list-style-type: none"> <li>How is PSE defining community health?</li> </ul>		support from the University of Washington to help develop a better indicator and metric.
Update RPAG members about how the Utilities and Transportation Commission’s decision on preparing a new Integrated System Plan will impact the RPAG schedule.	PSE	July 17, 2024 RPAG meeting
Assess reconductoring and other potential methods for expanding existing transmission capacity in the IRP and/or ISP	PSE	Please see feedback report response #2.

## Introduction and agenda review

Sophie Glass, facilitator, provided an overview of the agenda for the meeting and welcomed RPAG members (see “RPAG members in attendance” on the last page for a list of RPAG members who joined this meeting).

## Filing update

Kara Durbin, PSE, provided an update about a recent filing that PSE made to the Utilities and Transportation Commission (Commission). PSE requested the ability to transition its 2025 IRP process towards preparing for a new Integrated System Plan (ISP) under House Bill 1589. PSE would like to get started on an ISP and needs enough time to conduct engagement with the public and advisory groups. PSE requested that the Commission make a decision by July 1, 2024. Based on the Commission’s decision, the July 17 RPAG meeting will either continue to be focused on gas scenarios or pivot to begin planning for the ISP. PSE will update RPAG members with any new information about how the ISP transition will impact the RPAG schedule. This meeting’s discussion about equity is relevant to PSE’s work in either an IRP or ISP.

## Feedback summary

Phillip Popoff, PSE, summarized the public feedback from the May 9 Local and Regional Delivery Infrastructure Needs public webinar. During the May 9 webinar, PSE heard feedback about delivery planning, particularly questions about which transmission solutions PSE is exploring. In the 2025 IRP, PSE is considering cross-Cascade transmission solutions, including solutions for transmission from Montana, Idaho, Wyoming, eastern Washington, Oregon, British Columbia, and transmission related to offshore wind.

PSE also heard public webinar participants recommend that PSE consider reconductoring transmission lines. Reconductoring is particularly complicated because it will impact the entire

transmission system, so it needs to be studied as part of the whole region's transmission process. Reconductoring local transmission lines is also complicated because there are many options that will each have different types of effects. PSE is looking further into this to ensure that the options are fully studied.

Finally, PSE received questions about whether it would consider biodiesel for a peaking energy source. PSE is transitioning away from biodiesel because it has a short shelf life and is more expensive than renewable diesel.

PSE responded to comments from RPAG members:

- RPAG member: It would be useful to have a walkthrough from transmission planners about how PSE is planning to assess reconductoring and other potential methods for expanding existing transmission capacity.
  - PSE response: PSE can include this information in the IRP or ISP.

## Energy equity program

Troy Hutson, PSE, provided an update on PSE's efforts regarding energy equity over the last 18 months.

PSE worked with the Equity Advisory Group (EAG) to develop three guiding principles: accountability, simplicity, and transparency. PSE is focused on three strategic goals:

1. Meeting regulatory requirements, including regional, state, and federal regulation
2. Operationalizing equity so PSE staff can incorporate equity into their work
3. Strengthening partnerships and enhancing engagement

PSE's equity justice framework emphasizes that equity is a process, not an outcome. The framework has four parts:

1. Recognition justice: Identifying the priority populations that PSE needs to focus on
2. Procedural justice: Engaging with those populations and meeting them where they are
3. Distributional justice: Providing benefits and reducing burdens
4. Restorative justice: Making structural changes that can be sustained into the future

PSE aims to be aligned and consistent in the way it shows up in communities throughout each part of the customer journey: customer relationships, billing relief, and programs to reduce energy consumption. The IRP is one part of the many areas in which PSE is working to embed equity. These areas also include resource acquisition, delivery system planning, facility design and siting, and Clean Energy Implementation Plan (CEIP) programs.

PSE responded to questions from RPAG members:

- RPAG member: In the IRP process, are there other ways that PSE is engaging customers beyond public webinars?
  - PSE response: Public engagement is a key aspect of procedural justice. PSE engages with the RPAG and EAG as advisory groups and with the public during public webinars. In addition, PSE has broader efforts to engage with customers and communities.

## Equity in resource planning (IRP)

Brian Tyson, PSE, provided a deeper dive into how PSE is considering equity in the resource planning process. PSE has two utilities, electric and gas, and must consider both utilities in its analysis. PSE files three different resource plans that occur over different time horizons. The IRP is a twenty-year resource plan that focuses on long-term needs and generic resources. As part of the 10-year Clean Energy Action Plan (CEAP) and four-year CEIP, PSE can use more specific information about who is being impacted by specific programs or products.

The IRP process begins with gathering data about resources and engaging with interested parties and customers. The purpose is to understand which resources can be used and how these resources impact customers. In past IRPs, PSE has used this information to conduct a portfolio benefit analysis to measure how customers may benefit from a particular portfolio using generic resources. This approach requires PSE to make assumptions about the magnitude of benefits, who receives those benefits, and the associated costs. This portfolio benefit analysis uses customer benefit indicators (CBIs), which were developed as part of the 2021 CEIP.

Since 2021, PSE has conducted engagement with the EAG, external parties, customers, and the RPAG. Throughout this engagement, PSE heard an interest in using a cost-benefit analysis, understanding benefits and burdens of each generic resource, weighting benefit categories and inherent trade-offs, and adding a climate change resilience indicator. PSE is incorporating the cost-benefit analysis and analysis of benefits and burdens. Based on continued engagement and internal work, PSE is considering weighting benefit categories and adding a climate change resilience indicator.

This meeting is part of a series of engagements about equity in the resource planning process. PSE discussed equity in the electric IRP at an EAG meeting in May and will discuss the gas IRP with the EAG in June. PSE held a public webinar in early June to discuss equity in the gas and electric IRP. In July, the RPAG will further discuss equity in the gas IRP.

PSE is working to further the energy justice core tenets in its 2025 IRP work. PSE is working towards recognition justice by understanding who may be burdened or benefited by each generic resource. The portfolio benefit analysis furthers distributional justice by understanding the magnitude and quality of these benefits and burdens.

## Feedback and discussion preview

Sophie invited RPAG members to use an online whiteboard to enter feedback as PSE described its proposed approaches. PSE is seeking RPAG members' feedback on whether they agree with the proposed approaches and whether they recommend including any other considerations.

## Benefits and burdens of generic electric resources

Alexandra Karpoff, PSE, provided an overview of the new approach that PSE is proposing to take in this IRP cycle to further its understanding of energy burdens and benefits.

During the 2023 Electric Progress Report (EPR) process, PSE heard from interested parties that it is important to understand the burdens and benefits resulting from the preferred portfolio selection. In the previous IRP cycle, PSE used a portfolio benefit analysis that was based on quantitative data. This cycle, PSE aims to build upon this equity approach by exploring the burdens and benefits inherent within the generic resources it is using in the IRP. PSE is looking at qualitative factors and considering who is impacted by the resource planning process. This qualitative approach allows PSE to address a broad generalized location associated with generic resources, which addresses the recognition justice tenet of energy justice.

Generic resources are placeholders that PSE uses in the IRP. PSE is exploring the equity considerations associated with these resources even though it may not necessarily acquire those resources. Resource acquisition happens in a process that is separate from the IRP. PSE uses generic resources to help optimize the sizing of different types of generating or storage resources and optimize the scheduling over its planning period. Equity is difficult to address using generic resources because there is no specific location or community associated with them.

To develop the generic resource burdens and benefits assessment, PSE reviewed existing literature about equity considerations associated with building real-world resources. In this literature review, PSE found recurring elements associated with more equitable outcomes in projects. PSE proposed using this set of recurring elements as metrics to guide a qualitative analysis of the impacts of generic resources.

These metrics exist across three scales of impact, which each have several associated metrics:

- Global impact
- Greenhouse gas emissions
- End of life effects
- Impact to PSE customers

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- Participation in clean energy programs
- Home comfort
- Frequency and duration of outages
- Access to reliable clean energy
- Energy cost burdens
- Impact to communities and land that are adjacent to or within the footprint of a new generic resource
- Sited in a disproportionately impacted community
- Local energy serviced provided
- Change in land use/viewshed
- Change in noise exposure
- Community safety
- Outdoor air quality
- Community health
- Creation of jobs
- Decommissioning effects
- Wildlife & plant community impacts

PSE plans to use these metrics to guide a qualitative equity assessment, which will be included as a narrative in the IRP. This analysis will inform PSE's portfolio benefit analysis and will help PSE better understand which portfolios contain the most equity enabling characteristics, which will help PSE select its preferred portfolio.

PSE responded to questions and comments from RPAG members:

- RPAG member: Will the decommissioning and recycling metrics take into account the Washington state law that requires all solar panels to be recycled starting in July 2025? PSE should take that into account because the end of life of a solar panel will look different in Washington compared to other states.
  - PSE response: PSE will consider state and local laws that are in place.
- RPAG member: How will the benefits and burdens assist in the preferred portfolio selection?
  - PSE response: PSE has an approach to feed this assessment into its scores of different elements. This approach will be described in detail later in this meeting.

RPAG members shared the following verbatim comments using the virtual whiteboard:

- Several burdens/benefits cite "change in XYZ" (like "change in noise exposure") whereas others just cite "outdoor air quality". Should include "**change in** outdoor air

- quality" since some resources will change this. Same for community safety, community health, environmental impacts.
- Decommissioning / recycling of resources should take into account WA state law (e.g., required PV recycling beginning 2025)
  - Topics such as "noise annoyance" feel like they could be veering into clean energy misinformation. These topics should be based in rigorous scientific evidence (which I'm sure PSE is considering!)
  - <- related to this: outdoor air quality has a much greater impact on adverse community health effects than noise exposure does. are those differences being weighed appropriately?
  - Flagging a similar concern about the 0-1 ranking of noise being on par with air quality or GHG emissions. It looks like PSE is not weighting these qualitative concerns
  - Some of the benefits/burdens listed are also accounted for in PSE's IRP analysis elsewhere (e.g., reliability benefits in the resource adequacy analysis, and GHG emissions built into CETA standards). What additional benefit is there in including those in this way as well?
  - Please provide definitions for each burden/benefit :)
  - End of life effects of nuclear facilities are weighted the same as solar/wind. Concerned that this scoring system causes these types of discrepancies surrounding equity.

## Burdens and benefits example assessment

Kaitryn Olson, PSE, described how PSE can assess a generic resource's benefits and burdens using the example of land-based wind. At the global scale, land-based wind does not emit greenhouse gases. End-of-life waste is produced because turbine blades are typically not recycled. At the PSE customer scale, wind is a low-cost and clean form of energy. At the project footprint scale, land-based wind contributes to land use changes, view changes, noise, wildlife impacts, disconnections to the job market, and end-of-life effects. More research is needed to fully understand the form and scale of these impacts.

PSE provided another example using utility-scale lithium-ion batteries. At the global scale, batteries are a non-emitting resource and have one-fourteenth the lifetime carbon dioxide emissions of a coal-fired power plant. Recycling batteries can be expensive. At the PSE customer scale, batteries contribute to reliability because they can be used when variable resources are not generating. They are also lower cost than other storage options. At the resource footprint scale, batteries can pose safety risks due to fire. There is also a possibility of increased noise, but this can be mitigated using sound barrier walls. Batteries contribute to minimal job creation in the long term. If the battery is located within the service territory, it could serve the community in which it is located.



PSE responded to questions and comments from RPAG members:

- RPAG member: PSE is already required by CETA to meet certain standards for using non-emitting resources at the global scale and providing reliability in the form of resource adequacy. Does this approach represent a double counting of these benefits?
  - PSE response: PSE is in the process of refining which metrics it is considering. The next step for refining this tool is following guidance for selecting metrics that do not overlap or double count. All the portfolios that PSE is developing meet reliability needs. This tool helps PSE compare different portfolios that meet customer needs and standards by providing additional nuance. However, if the proposed approach results in double counting, PSE can reconfigure its metrics.
- RPAG member: How are the benefits and burdens weighted to account for different levels of impact?
  - PSE response: The burdens and benefits assessment is a qualitative and narrative approach to consider impacts on a high and broad level. Later in this meeting, PSE will further discuss how it will use the benefits and burdens assessment to evaluate each portfolio.

## Electric portfolio benefits analysis improvements

Tyler Tobin, PSE, shared an overview of the portfolio benefits analysis tool, including improvements that PSE has made since 2023.

PSE developed the [portfolio benefit analysis tool as part of the 2023 EPR](#). The objective of the tool is to help PSE see which portfolios provide the most equity-enabling benefits through quantitative measures. For the 2025 IRP, PSE is developing a scorecard methodology that moves away from the relative automated process used in 2023. This new approach better aligns with PSE's overall equity approaches, is more transparent and easier to understand, and better allows PSE to compare portfolios across multiple time horizons.

As part of this equity analysis approach, PSE translates the qualitative measures from the benefits and burdens assessment into binary scores; each resource option receives a score of zero or one for each of the equity metrics. Then, PSE uses its long-term capacity expansion model, AURORA, to develop a preferred portfolio based on various sensitivities. This will result in portfolios composed of different mixes of resources. PSE then conducts its portfolio benefit analysis, which averages the equity metric scores for different resources to assign an equity-enabling score to each portfolio.

PSE responded to questions and comments from RPAG members:

- RPAG member: I like that this approach includes analyzing potential equity benefits up front rather than at the end of the process.
- RPAG member: What does AURORA do with these equity scores?
  - PSE response: AURORA does not look at the equity scores. AURORA's process works concurrently with the benefits and burdens analysis.
- RPAG member: Is the binary metric the level of discrimination being used in this analysis?
  - PSE response: Yes, the level of resolution PSE chose to apply to its scoring is zero or one. A score of one indicates that the resource does not confer a burden and a score of zero indicates that it does confer a burden. PSE chose to use this methodology because it is simple, transparent, and aligns with similar work conducted in the distribution system planning process.
- RPAG member: The binary metric of zero or one is an appropriate level of depth for generic resources.

PSE's portfolio benefit analysis methodology includes four steps:

1. Score generic resources for each of the equity metrics. This is an extension of the burdens and benefits analysis and uses a binary scoring system of zero or one to indicate whether the resource confers a benefit for each metric.
2. Extract results from the AURORA analysis. AURORA provides a list of resources that each portfolio includes. PSE aggregates this information for each of the portfolios and extracts the total cost of each portfolio.
3. Aggregate equity metrics on a portfolio basis. PSE multiplies individual generic resource scores by the percentage of the portfolio that they compose. This results in an overall portfolio score. Currently, the metrics are weighted equally. As this process evolves, PSE can consider adding weights to specific metrics that may be more important to the majority of customers, but significant engagement is needed first because opinions of benefits and burdens can differ greatly across different people's perspectives.
4. Review portfolio equity scores and compare them to portfolio cost. This results in a scatterplot showing the relative equity benefits and cost burdens across all the portfolios. PSE can use this information to help develop a preferred portfolio that balances equity-enabling features and cost.

This methodology includes several major differences and improvements from the 2023 EPR. In the 2023 EPR, generic resources were scored solely based on the AURORA portfolio output. In the 2025 IRP, resources are scored on a qualitative basis for each equity metric. In the 2023 EPR, all aggregation was performed on a relative basis, which meant that whenever a new portfolio was added, all the scores would change. To improve transparency, the 2025 IRP

aggregation is performed on an absolute basis. The 2023 EPR used total portfolio cost. In the 2025 IRP, PSE is using normalized portfolio cost based on peak demand, which allows PSE to compare portfolio costs for different time horizons.

PSE shared its initial recommendations about how to determine whether a resource category should receive a score of zero or one. RPAG members provided feedback on these initial recommendations:

- RPAG member: There could be double counting issues with criteria like reliability, cost, and greenhouse gas emissions that appear in other parts of the resource planning analysis.
  - PSE response: Double counting is an issue to consider. Resources can contribute to resource adequacy, Clean Energy Transformation Act (CETA) goals, non-energy benefits, and flexibility benefits, many of which overlap within AURORA. PSE welcomes additional feedback from RPAG members about this.
- RPAG member: There could be an issue with the end-of-life effects metric because different resources can have significantly different impacts. For example, decommissioning nuclear resources is very different than decommissioning a solar farm. This could present a weakness with the binary scale.
  - PSE response: Yes, the binary scale is beneficial because of its simplicity and transparency, but a challenge with it is that it cannot quantify these very different impacts. PSE encourages RPAG members to share any examples of other utilities' approaches to scoring generic resources for equity.
- RPAG member: Some of the metrics are similar enough to each other that they may pose double counting issues. For example, increasing participation in clean energy programs and improving access to reliable clean energy have a lot of overlap.
  - PSE response: Yes, some indicators are related. PSE chose to start with the metrics that appeared in literature reviews to encompass as many CBIs as possible. PSE is open to feedback about specific metrics that are related enough to be combined into one item.
- RPAG member: Developing an approach for quantifying equity is a difficult problem. Using a binary approach will include some arbitrary decisions and potential double counting. It will result in a muddled picture, especially if metrics are not weighted. PSE must remember that the result will be helpful, but very affected by arbitrary decisions. Because this is focused on generic resources, there are no specific impacts. This score is just an indicative first step.
- RPAG member: In PSE's previous Conservation Potential Assessment (CPA), there was differentiation between the way each conservation measure was valued. This differentiation included a bonus for measures that were installed in named

communities. The CPA is a good place to look for examples of approaches to consider non-energy impacts. For many of these impacts, it may be difficult to assign a monetary value, but doing so may help convert these metrics into a form that AURORA can use.

- RPAG member: What are the next steps in the process?
  - PSE response: After gathering feedback from the EAG, RPAG, and public webinar, PSE will determine what it can implement and when. PSE will share any changes it makes to the proposed approach in the feedback report or future communications.
- RPAG member: How is PSE defining community health? Can RPAG members weigh in on that definition?
  - PSE response: PSE will follow up in the feedback report. PSE does welcome feedback from RPAG members on specific metric definitions.

PSE shared a chart comparing the draft equity enabling scores for the generic resources from the 2023 EPR. The highest-scoring generic resources were demand response, energy efficiency, and distributed energy resources solar. The lowest scoring were nuclear and offshore wind.

PSE showed scatterplots comparing the 2023 EPR and 2025 IRP with equity on the X axis and portfolio cost on the Y axis. Based on the compositions of the portfolios, PSE can understand which resource mixes are more desirable and select portfolios that enable more equitable outcomes at a reasonable cost.

## Maximum customer benefit sensitivity

PSE described its approach to running a maximum customer benefit sensitivity. Washington state regulations require PSE to run at least one sensitivity that models maximum customer benefit. This includes ensuring that all customers benefit from the transition to clean energy through the equitable distribution of energy and nonenergy benefits, a reduction of burdens to vulnerable populations and highly impacted communities, long-term and short-term public health and environmental benefits, a reduction of costs and risks, and energy security and resiliency.

PSE examined which of the equity metrics align with the categories listed in state law, and considered which types of resources provide value to those metrics. PSE found that conservation, demand response, and distributed solar and storage align best with the equity metrics and energy and nonenergy benefits.

Based on this analysis, PSE developed a recommended maximum customer benefit sensitivity that maximizes distributed energy resources, demand response, and conservation in the portfolio.

RPAG members provided the following feedback:

- RPAG member: The maximum customer benefit sensitivity is an extreme case. It may risk losing the economic benefits that would be gained from optimizing the economic level of those resources. However, this portfolio will be very illuminating for PSE to run.
- RPAG member: Considering that one of the customer benefit sensitivities is reduced energy cost burden, how is PSE incorporating cost into this analysis?
  - PSE response: Cost was one of several metrics that made up the maximization criteria. PSE is also running a reference portfolio that represents the least cost. PSE can look at these two portfolios together to learn about which types of resources contribute to these different sensitivity cases. Neither is likely to become the preferred portfolio.

RPAG members shared the following verbatim comments using the virtual whiteboard:

- Trying to understand weighting in this model as well, and I apologize if I missed that description! Specifically weighting of cost and customer benefits that are lower tier (such as noise?). I.e., maximizing noise reduction but sky-rocketing costs does not feel like maximum customer benefit.
- "Land use changes" does not have the same equity impacts on customers as frequency of outages. Similar weighting concern.
- If PSE is only considering DERs, DR, and Conservation for max customer benefit, would recommend some consideration of cost. The function of this sensitivity seems like it will only illuminate the high cost of distorted use of DERs, DR, and Conservation (?)

## Gas portfolio equity analysis

Hannah Wahl, PSE, presented PSE's equity approach for the 2025 gas IRP. PSE is evaluating resource alternatives that can meet customer needs while incorporating cost-effective decarbonization. This evaluation includes four levers:

1. Energy efficiency: Energy efficiency programs reduce customer usage through energy efficient appliances and home upgrades. The energy efficiency team is developing a dedicated equity application to evaluate further.

2. Targeted electrification: Currently, PSE is piloting a low-income focused electrification program.
3. Alternative fuels: PSE is evaluating alternative fuels that could use existing infrastructure while conferring more benefits. Currently, PSE is focusing on renewable natural gas and green hydrogen.
4. Natural gas: PSE is evaluating current and potential future natural gas pipeline contracts

To incorporate equity into its IRP decision framework, PSE will run each portfolio through its gas equity scorecard analysis to assign an equity score to each portfolio.

PSE developed a gas equity scorecard assessment to help predict how well a portfolio will enable the distribution of burdens and benefits. PSE is using the same methodology as for the electric portfolio benefit analysis, but with different CBIs and resources. The methodology includes four steps:

1. Resource scoring: Each resource will receive a unique scorecard describing its ability to contribute to more equitable outcomes. The resources will be scored on a binary scale; if they contribute positively to the criteria, they receive a score of one, and if they do not, they receive a score of zero. The scoring criteria are made up of customer benefit indicators. The gas equity scorecard analysis aims to measure the holistic impacts of a given mix of resources.
2. Extracting portfolio results from a capacity expansion model: PSE will use a model called PLEXOS to inform the composition of each portfolio and quantity of each resource.
3. Aggregating and normalizing portfolio metrics: PSE will calculate the percent composition of each resource for each portfolio. This composition will be normalized to allow PSE to compare portfolios across time, demand condition, and other factors. PSE will then multiply the portfolio composition by the equity score.
4. Reviewing equity metrics with respect to cost: PSE will include the total portfolio cost in its analysis, normalized to gross demand. Portfolios with the lowest cost and highest equity scores are considered the most desirable.

PSE originally adopted CBIs for the electric IRP as an approach to taking equity into consideration to comply with CETA. The first equity analysis was included in the 2023 ERP. The 2023 Gas IRP did not include an equity analysis, so the 2025 IRP is the first opportunity to incorporate equity into the gas IRP. The 2025 Gas IRP will incorporate the same CBI categories as the electric IRP, except it will not the ones specific to electric. These CBIs include indicators and metrics that address energy benefits, nonenergy benefits, reduction of burdens, environment, resilience, risk reduction, and energy security. PSE provided an overview of resource-based scores based on the CBIs. The highest-scoring resources are renewable natural gas and energy efficiency.

RPAG members shared the following feedback:

- RPAG member: Some of the CBI categories overlap with each other (e.g., improving access to clean and reliable energy seems to overlap with reliability). This presents a concern with double counting.
- RPAG member: Outdoor air quality is a factor used in the electric IRP that would make sense to also use on the gas side. Under that indicator, conservation and electrification would capture that benefit.
- RPAG member: Some of the metrics used to capture some of the indicators (e.g., improving home comfort) do not fully track from the original category across through the indicator and metric.

To illustrate the potential results of this methodology, PSE conducted the proposed equity analysis approach on the 2023 gas IRP portfolios. The highest scoring portfolios were electrification scenarios.

RPAG members shared the following feedback:

- RPAG member: It is surprising that targeted electrification was not included in improved access to clean reliable energy.
  - PSE response: This ties into PSE's decision to not score targeted electrification in the resilience CBI. PSE excluded it because the gas system is designed for a higher standard of reliability than the electric grid.
- RPAG member: It seems that targeted electrification was ruled out of two other indicators for the same reason, which could cause a double counting issue.
- RPAG member: Multiple indicators, such as decreased frequency and duration of outages, also include reliability, which could pose double counting issues.
- RPAG member: Uncertainty around future availability of alternative fuels also presents a reliability issue.
  - PSE response: This is helpful feedback. PSE will continue thinking about this internally based on this input.
- RPAG member: When comparing normalized cost, is it normalized per metric ton of gas in the system or gas capacity? In the electric IRP, it was normalized around peak capacity.
  - PSE response: PSE is normalizing against gross demand of gas.

## Next steps

- June 19, 2024: Feedback form for this meeting closes
- July 17, 2024: RPAG meeting on gas modeling process scenarios and resource alternatives

## Public comment

The public comments shared during this meeting can be viewed online in the feedback report posted under the June 12, 2024 heading on the PSE website.

## Attendees<sup>1</sup> (alphabetical by first name)

1. Byron Harmon
2. Charlie Inman
3. Don Marsh
4. Jaclynn Simmons
5. James Adcock
6. Jennifer Gross
7. Jon Lange
8. Joshua Dennis
9. Kathleen Campbell
10. Leona Haley
11. Noemi Ortiz
12. Paul Barrager
13. Sofya Atitsogbe
14. Sophie Major
15. Taylor Nickel
16. Weber, Quinn

## RPAG members in attendance

1. Ezra Hausman
2. Fred Heutte
3. Froylan Sifuentes
4. Jim Dennison
5. Joel Nightingale
6. John Ollis
7. Katie Chamberlain
8. Megan Larkin
9. Stefan de Villiers

## Presenters

1. Alexandra Karpoff, PSE
2. Brian Tyson, PSE
3. Hannah Wahl, PSE
4. Kaitryn Olson, PSE
5. Kara Durbin, PSE
6. Phillip Popoff, PSE
7. Troy Hutson, PSE
8. Tyler Tobin, PSE

## Other PSE staff

1. Brett Rendina
2. Elizabeth Hossner
3. Jennifer Coulson
4. Ray Outlaw
5. Wendy Gerlitz

## Facilitation staff



## RPAG Meeting Summary

1. Emilie Pilchowski
2. Pauline Mogilevsky
3. Sophie Glass
4. Will Henderson

[🔗](#) These numbers do not include viewers on [PSE's YouTube livestream](#)