

Feedback Report

RPAG Meeting

Meeting details

- Tuesday, December 12, 2023 10:00 a.m. - 1:00 p.m.
- Virtual webinar hosted by PSE and facilitated by Triangle Associates
- Links to:
 - [Presentation](#)
 - [Meeting recording](#)

Feedback report

The following table records participant questions and PSE responses from the public comment opportunity and comments submitted via online [feedback form](#) or irp@pse.com. Meeting materials are available on the IRP [website](#).

Note: PSE aims to provide clarity in responses but subsequent follow-up may be required at times. Please direct any follow-up clarifications to irp@pse.com.

No.	Date	Interested party	Submitted via	Question or comment	PSE response
1	12/9/23	Meghan Anderson	irp@pse.com	Thank you for the webinars. I support Don Marsh’s comments. I do not support using hydrogen in any blend in the natural gas delivery systems. This is anticipating a resource that won’t be available due to a variety of reasons. Renewable natural gas will only be available in very small quantities 3-5%. Please plan on trimming and decommissioning the natural gas system as the only viable path forward. PSE has a responsibility to lead the way in our state. I support net metering and the green electricity purchases which I have supported for many years. I appreciate the important work you do. Thank you for the opportunity to comment.	Thank you for your comment. PSE is developing scenarios and sensitivities for the analysis and will consider this feedback. The scenarios and sensitivities will be presented during the March 25, 2024 RPAG meeting.

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2	12/9/23	Meghan Anderson	irp@pse.com	I do not support the “Preferred Portfolio” selection by PSE for the current natural gas IRP. I support Don Marsh’s, representing WCEC, written comments on this flawed approach. Why spend billions in paying for allowances when those monies could be used to build electric infrastructure to support an all-electric forecast? I recently installed a new cold climate heat pump in Ellensburg and my electric bill was cut in half. We have 48 solar panels in net metering with PSE and are grateful for this good program. We support the green programs at PSE and have participated in them on a voluntary basis. It is so disappointing to see the Preferred Portfolio approach and I don’t see how this supports Climate Commitment Act work at all. You are leading the way in the state and setting a very poor example. Please revise this IRP to support electrification fuel switching efforts and the CCA emissions reductions. Alternative fuels are a dead end for gas distribution.	Thank you for your comment. PSE is developing scenarios and sensitivities for the analysis and will consider this feedback. The scenarios and sensitivities will be presented during the March 25, 2024 RPAG meeting.
3	12/12/23	Don Marsh	Public comment	I’m Don Marsh speaking on behalf of the Washington Clean Energy Coalition and I’ve got many things that I want to say. I’m going to try to fit them into these tiny two minutes and we’ll see how it goes. The first this is when we were talking about maximum customer benefit – I agree that’s an important measure for this work and I think everybody would agree that one of the things that customers are really interested in is making sure their ratepayer dollars are being used as efficiently as possible to achieve the decarbonization goals that we’re all pursuing. We still feel pretty skeptical that hydrogen is the best or delivers that maximum benefit when it’s used to displace natural gas in the distribution system. We think that it delivers much better bang for the buck if it’s used for industrial heat that was mentioned today. Shipping and aviation, those applications are where we think the highest use of hydrogen is and we’d like to see a very compelling case from PSE and future RPAG meeting that the use of hydrogen in the distribution system actually is delivering that maximum benefit. Another interesting topic was the question of gas – is it possible that there are some place that natural gas would be the least cost and if we’re thinking about that we should include the lifetime impact of the social cost of greenhouse gases in that calculation. So, if you’re extending your gas system and you’re going to be sending gas through it for decades, that adds up and maybe it’s not PSE’s customers that are directly paying for that but I don’t really want to participate in a system where I can save a few dollars on my monthly	<p>Thank you for your comment. PSE is developing scenarios and sensitivities for the analysis and will consider this feedback. We believe there is uncertainty about the availability and price of green hydrogen as a fuel for meeting needs of gas utility or electric utility customers. We will be working through whether to explore those uncertainties through scenarios/sensitivities or in some other way. The scenarios and sensitivities will be presented during the March 25, 2024, RPAG meeting.</p> <p>Thank you also for your feedback related to available programs. Our new programs and pilot programs help us learn more about what programs to offer and how to offer programs that meet our customers’ needs.</p>

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				<p>bill but I'm condemning future generations to an impoverished planes, and lower species and all that, so I think that's important.</p> <p>Electrification is also more likely to qualify for IRA funding and less likely to be impacted by rising costs for CCA allowances. When we're talking about geolocation of trimming the gas system I would be happy is PSE could just concentrate on the parts of their territory where they serve both gas and electric so they're not impacting another electric utility and they're still keeping those customers which I think they would appreciate keeping those customers in the fold. Finally, I was very enthusiastic to participate in the TOU program in which I was a stakeholder while that was being developed and I figure I might as well try consuming the product that I was advocating for so I found out that the EV tier was already fully subscribed, and they said I would try another tier, and then when I tried that I was prevented from signing up because I do have solar panels, so I'm a net metering customer. Then I tried signing up for Flex Smart and turns out that none of the thermostats that PSE will work with will work with my variable speed heat pump. I found out I can't sign up for any of the programs that I would like to participate in, and I guess that's an example of mismatch. Thank you.</p>	
4	12/12/23	Jim Adcock	Public comment	<p>James Adcock, electrical engineer, MIT, a long-time, dozen plus years participant in these kind of things. My notes from this meeting:</p> <p>1) Hydrogen -- I express concerns about many possibilities for double counting of the supposed environmental benefits of this this fuel. Only the actual end use of renewable hydrogen represents an actual environmental benefit -- and not the renewable electricity which goes into generating this hydrogen.</p> <p>2) I express concerns that Puget is suggesting having private one-on-one RPAG meetings. This goes against Puget's commitment to make these meetings public. I suggest instead, that if an organization cannot make almost all of the meetings with either a primary or an alternate, then maybe it is time for that organization to drop out. RPAG is supposed to represent a real commitment from the representative organizations -- who signed up promising to represent ratepayers.</p>	<p>Thank you for your comment.</p> <p>With regard to bullet #4, PSE remains committed to meeting its 2030 objectives under CETA. As noted in the recently filed Biennial CEIP Update, PSE is evaluating and/or negotiating with other counterparties for additional resources to help meet PSE's renewable and non-emitting energy and capacity needs consistent with the requirements of CETA. Among these resources, PSE has identified several offers that are currently in contract negotiations. Combined, these offers represent over 1,000 MW of additional wind and solar energy that would help meet PSE's 2030 CETA target and over</p>

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				<p>3) These are supposed to be Technical Meetings with invited technical experts from Organizations -- and suppose to represent ratepayers. But this cannot happen unless Puget actually presents technical content. Two meetings now, and no real technical content or discussions have happened. So I would encourage Puget to actually get on with it.</p> <p>4) In this context I will express concerns again about Puget's apparent lack of urgency towards actually meeting the CETA 2030 80% actually clean requirement. Puget accepted less than 1/2 of one percent of the qualified all source RFP offers. I am concerned, that in actuality, what is going to happen instead is that Puget is going to build new additional Gas Generation. Recently Puget has been generating nearly 1,000 Megawatts of Natural Gas Generation, and doing so 24/7.</p> <p>Ok, I will shut up now and respect Puget's boundaries even though I don't agree with them, thank you very much.</p>	<p>500 MW of additional CETA-compliant capacity resources. For example, on Dec. 7, 2023, PSE announced an agreement on the Beaver Creek wind farm with an expected initial nameplate capacity of 248 MW.</p>
5	12/12/23	Virginia Lohr	Public comment	<p>I'm Virginia Lohr, a PSE customer on Vashon. Today I want to speak about something you probably already know but I think it's extremely important to remind ourselves of this and act with the urgency this knowledge requires of rational human beings. Dr. James Hansen is a preeminent climate scientist and a member of the National Academy of Sciences and of course the scientist famous for speaking truth to Congress about global warming in 1988. Dr. Hansen and numerous colleagues published their latest findings this September in an article titled Global Warming in the Pipeline. They conclude that Earth's climate is on track to warm significantly more than the projections made by the UN intergovernmental panel on climate change. The conclusions from Dr. Hansen and his co-authors about how much global warming is already baked into our climate is devastating knowledge for anyone who cares about life as we have known it on this planet. Carbon dioxide in the air is increasing and has already reached levels that have not existed for millions of years. This is mindboggling. This elevates high impact, low probability events to high impact, high probability level. We should be frightened by this information. James Hansen is quoted as saying that for not already acting sufficiently upon warnings about the climate crisis quote "we are damned fools" unquote. It's past time to stop such foolish behavior.</p>	<p>Thank you for your comment.</p>

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				People involved in the IRP process are in privileged positions. I hope we will all act responsibly and quickly. Thank you.	
6	12/12/23	Jim Adcock	irp@pse.com	<p>1) Hydrogen -- I express concerns about many possibilities for double counting of the supposed environmental benefits of this this fuel. Only the actual end use of renewable hydrogen represents an actual environmental benefit -- and not the renewable electricity which goes into generating this hydrogen.</p> <p>2) I express concerns that Puget is suggesting having private one-on-one RPAG meetings. This goes against Puget's commitment to make these meetings public. I suggest instead, that if an organization cannot make almost all of the meetings with either a primary or an alternate, then maybe it is time for that organization to drop out. RPAG is supposed to represent a real commitment from the representative organizations -- who signed up promising to represent ratepayers.</p> <p>3) These are supposed to be Technical Meetings with invited technical experts from Organizations -- and suppose to represent ratepayers. But this cannot happen unless Puget actually presents technical content. Two meetings now, and no real technical content or discussions have happened. So I would encourage Puget to actually get on with it.</p> <p>4) In this context I will express concerns again about Puget's apparent lack of urgency towards actually meeting the CETA 2030 80% actually clean requirement. Puget accepted less than 1/2 of one percent of the qualified all source RFP offers. I am concerned, that in actuality, what is going to happen instead is that Puget is going to build new additional Gas Generation. Recently Puget has been generating nearly 1,000 Megawatts of Natural Gas Generation, and doing so 24/7.</p> <p>5) In terms of actual Puget conservation programs, Puget makes it very difficult for individual ratepayers to actually see what programs are being offered, but the little bit I have been able to explore, I was shocked to see how few and inferior the vendors are that Puget offers, and how few and inferior the heat pumps those vendors offered. I don't understand why Puget can't just accept any such conservation efforts</p>	Thank you for your comment.

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				<p>recognized by the IRS, so why ratepayers can't just pick their own choice of heat pumps, and vendors.</p> <p>6) Weatherization. Many years ago I had a Puget-sponsored weatherization team come to my house. Results: "Oh actually your house is pretty good." They did not bring the promised Infrared Camera, nor the promised pressurization air leak test door.</p>	
7	12/19/23	Jim Dennison, RPAG member, Sierra Club	irp@pse.com	<p>Thank you for PSE and Triangle Associates' work preparing and facilitating the December 12 RPAG meeting. Below is Sierra Club's feedback from the December RPAG meeting. This high-level feedback reflects the meeting's early discussion of broad resource planning themes and approaches. We intend to refine and elaborate on these points as the planning process continues.</p> <p>IRP Process, Timing, and Scope</p> <ul style="list-style-type: none"> • Sierra Club supports PSE continuing to strengthen the coordination between its gas and electric system planning, as we recommended in our comments on PSE's 2023 IRP. This coordination will become increasingly important as building electrification drives interactions between changes on the gas system and changes on the electric system. We look forward to engaging with PSE on the new challenges and questions this will present, such as determining how much electric load growth should be attributed to building electrification versus other factors like population growth and transportation electrification. One such topic that came up in the RPAG meeting is the limited number of gas system scenarios whose impacts on the electric system can be modeled, given the complexity of performing additional electric system model runs. In light of this limitation, it is especially important to carefully design realistic building electrification scenarios that draw on best practices and the Company's learnings to date, as described further below. Modeling analysis that only confirms known obstacles to meeting decarbonization targets is far less valuable than analysis that explores ways to overcome these obstacles. • At the RPAG meeting, PSE suggested that some issues related to the IRP will need to be addressed by policymakers, rather than PSE. New policies will undoubtedly play important roles in decarbonizing PSE's gas and electric systems and affect future resource planning. But this does not diminish PSE's responsibility to assess its best 	<p>Thank you for your comments.</p> <p>IRP Process, Timing, and Scope PSE intends to file a joint gas and electric IRP on March 31, 2025. While we are not able to combine the IRP and CEIP within the current regulatory timeframe, we are working to better align those documents for the 2025 cycle and will consider this feedback.</p> <p>Gas and Electric Scenario Themes PSE is developing scenarios and sensitivities for the analysis and will consider this feedback, especially pertaining to availability/cost of alternative fuels, the pace of electrification, and the social cost of greenhouse gases. The scenarios and sensitivities will be presented during the March 25, 2024, RPAG meeting.</p>

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				<p>options for meeting existing regulatory requirements, including equitable decarbonization targets under the CCA and CETA. PSE's IRP should identify and plan for the portfolio of options that meets these requirements and system demand at lowest reasonable cost. For PSE's gas system, we expect this portfolio will involve significant levels of building electrification, requiring innovative approaches to resource procurement, system management, and customer programs.</p> <ul style="list-style-type: none"> • Sierra club supports finding a way to align the CEIP and IRP timelines, as Lauren McCloy suggested at the RPAG meeting. This will facilitate greater efficiency, coordination, and public participation. <p>Gas and Electric Scenario Themes</p> <ul style="list-style-type: none"> • Sierra Club urges PSE to require that its modeled gas system portfolios achieve PSE's proportional share of the direct GHG reductions needed to meet the Climate Commitment Act's statewide emission cap, as Lauren McCloy suggested at the RPAG meeting. As discussed in our comments on PSE's 2023 IRP, overreliance on CCA allowances creates significant risk for PSE's customers and for achieving Washington's decarbonization policies, and is inconsistent with the UTC's lowest reasonable cost standard for IRPs. While PSE may evaluate the potential role of CCA allowances in some sensitivity scenarios, allowances should be limited to a relatively small percentage of PSE's total emission reductions in any such scenarios, and PSE should generally assume that allowances are purchased at the ceiling price unless those purchase are extremely limited. • To the greatest extent possible, PSE's resource selection should account for the full range of costs and benefits associated with different resources. This should include stranded asset risks associated with gas system investments (which in many cases would need to be retired early to meet decarbonization targets), non-energy benefits associated with electrification (including access to cooling and associated climate resilience benefits, as well as health benefits from improved air quality that can be quantified and monetized using tools like EPA's COBRA model), costs and risks of alternative fuels (discussed further below), and equity impacts such as how costs and benefits are distributed. • PSE's gas system scenarios should incorporate best practices related to electrification from other states and utilities, as well as 	

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				<p>learnings to date from PSE’s decarbonization study, electrification pilot, and targeted electrification strategy. These should include, for example, fully leveraging state and federal incentives and other non-utility funding sources, prioritizing whole home retrofits for low-income customers, co-deploying electrification and weatherization wherever possible to improve efficiency and minimize reliance on backup heat, limiting partial electrification to cases where it does not prolong reliance on the gas system by unnecessarily incentivizing new gas equipment, using smart water heating controls to minimize contributions to peak load, geographically targeting incentives in areas with greater gas capacity constraints¹ and less electric capacity constraints, and exploring zonal electrification/gas system pruning. We recognize that not all relevant results of PSE’s ongoing studies will be available at the time PSE develops its scenarios, and the nature of some strategies may make it difficult to incorporate them into scenarios with a high degree of precision. But this should not stop PSE’s IRP from incorporating the best available thinking on electrification strategies, to the greatest extent feasible (including through reasonable high-level assumptions and qualitative discussion as appropriate).</p> <ul style="list-style-type: none"> • Sierra Club remains concerned about the use of alternative fuels (such as biogas and hydrogen) in PSE’s distribution system, based on their high cost, limited availability, health and safety risks, questionable decarbonization benefits, and potential to produce stranded asset costs by delaying electrification that will ultimately be needed to meet decarbonization targets. We have expressed these concerns in numerous filings to the UTC, including comments on PSE’s 2023 IRP (which we are happy to provide to PSE). Several RPAG members expressed similar concerns in the December meeting, and the Massachusetts Department of Public Utilities recently found that “RNG and hydrogen blending are new, unproven, and uncertain technologies” whose costs and risks should presumptively not be borne by utility customers. We look forward to seeing PSE’s updated assumptions about the costs, availability, and risks of alternative fuels as this IRP progresses, and we hope that these updates will account for our concerns. • PSE should perform robust non-pipe alternative analyses for any potential gas infrastructure projects identified through the IRP process. These analyses should apply best practices for electrification 	

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				<p>strategies and account for the full range of NPA benefits, as discussed above. PSE should explore frameworks for performing streamlined NPA analyses for smaller projects so that NPA opportunities are not missed.</p> <ul style="list-style-type: none"> The U.S. EPA has developed updated social cost of greenhouse gas estimates that are significantly higher than the estimates currently used in PSE’s analysis. PSE should consider performing sensitivity analyses that incorporate EPA’s latest SCGHG estimates. <p>Cadmus Conservation Potential Assessment</p> <ul style="list-style-type: none"> We appreciate Cadmus’s presentation on the Conservation Potential Assessment and look forward to reviewing its draft. Wherever possible, the assessment should incorporate the costs, benefits, and best practices identified above. <p>Thank you for considering these comments, and we look forward to the next RPAG meeting.</p> <p>¹ For a framework on this type of strategic geographic targeting, see Pacific Gas and Electric’s Gas Asset Analysis Tool, a gas system map that enables PG&E and partners to evaluate pipeline segments based on risk, GHG reduction, equity and cost. California Public Utilities Commission, R.20-01-007: Long-term Gas System Planning, PG&E Opening Comments on ALJ Ruling Directing Parties to File Comments on Staff Gas Infrastructure Decommissioning Proposal (Feb. 24, 2023), at 5, 9.</p>	
9	12/19/23	Megan Larkin, RPAG member, Climate Solutions	irp@pse.com	<p>Dear PSE IRP Team,</p> <p>Climate Solutions appreciates the opportunity to provide comments on the December 12 Resource Planning Advisory Group (RPAG) meeting on Puget Sound Energy (PSE)’s 2025 Integrated Resource Plans for electricity and natural gas. Climate Solutions is a Northwest-based clean energy nonprofit advocacy organization with the mission of accelerating clean energy solutions to the climate crisis. The Northwest has emerged as a center of climate action, and Climate Solutions is at the center of the movement as a catalyst, advocate, and campaign hub.</p> <p>The December 12 RPAG meeting covered a wide variety of IRP topics, including but not limited to IRP work plan updates, gas and</p>	<p>Thank you for your comment.</p> <p>I. PSE continues to develop an approach for addressing equity in the IRP process and recognizes that no single solution will be sufficient. While no environmental justice organization has applied for the RPAG to date, our conversations are ongoing. In addition, we are planning engagement with the EAG, and IRP and equity focused discussions in</p>

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				<p>electric scenario themes, and Conservation Potential Assessment (CPA) scope and design. The following comments therefore provide high-level feedback on IRP process, base case, and gas and electric scenario themes.</p> <p>I. The gas and electric IRPs should prioritize equity and the RPAG should include an environmental justice voice.</p> <p>Climate Solutions lauds the changes to the 2025 IRP process over the 2023 IRP process, including clear and accessible comment opportunities around public and RPAG meetings, and the establishment of the Resource Planning Advisory Group that creates room for more technical IRP discussion while still allowing for public participation, feedback, and transparency.</p> <p>An additional commitment Climate Solutions was happy to see on the 2025 IRP Process webpage is a commitment to more deeply integrate equity in future IRPs. During the 2023 IRP cycle, the Utilities and Transmission Commission (UTC) encouraged PSE to make a “concerted effort to solicit meaningful feedback during IRP development with a focus on groups who have been poorly represented historically.”¹ The Company should identify to the RPAG the specific actions it has taken, and the plans it has for future actions, to fulfill its commitment.</p> <p>One way PSE can and should advance equity is by increasing the diversity of its RPAG membership. We agree with comments made during the December 12 RPAG meeting that given the recent withdrawal of an RPAG member, PSE should resume its efforts to recruit a member from an environmental justice focused group. This perspective and area of expertise is sorely lacking from the table and is very much needed given the disproportionate impacts of energy burden, air pollution, and overall access to the clean energy transition for overburdened, vulnerable, and disadvantaged communities.</p> <p>In its presentation PSE correctly cites the statutory requirement that electric IRP scenarios must ensure all customers benefit from the transition to clean energy (RCW 19.405.040(8)).² However, PSE’s</p>	<p>both the public track and with the RPAG in June.</p> <p>II. The 2025 Gas and Electric IRP will be combined into one filing on March 31, 2025. The electrification analysis will include both gas and electric portfolio analysis. Gas and electric assumptions for both supply and delivery planning will be integrated as much as practical, given the current process. While we are not able to combine the IRP and CEIP within the current regulatory timeframe, we are working to better align those documents for the 2025 cycle and will consider this feedback.</p> <p>We plan to discuss our approach to gain feedback from the RPAG in the upcoming meeting on February 13, 2024.</p> <p>The CCA free allowance line was modeled in the 2023 Gas IRP, please see sensitivity C. However, in the 2023 Gas IRP, we limited the expectation of conversion of gas to electric appliances based on the rate at which current gas appliance are expected to burn out, so the emissions target did not hit that constraint. PSE will add a more aggressive electrification scenario to the list of scenarios and sensitives for consideration for the 2025 IRP.</p> <p>III. PSE began a comprehensive review of our delivery system</p>

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				<p>presentation leaves out an equally important piece of the requirement: the equitable reduction of burdens to vulnerable populations and highly impacted communities. Considering the equitable reduction of burdens must be prioritized when PSE is assessing alternative energy resources and location of utility infrastructure projects that have been proven to increase health risks and worsen outdoor air quality. For example, although blending hydrogen into combustion gas turbines can reduce carbon emissions, it can also increase nitrogen oxide (NOx) emissions up to six times that of methane,³ further burdening highly impacted communities with existing gas combustion turbines. Through its RPAG and in its IRP, PSE must explicitly assess and address these types of potential inequitable outcomes.</p> <p>II. PSE should allow RPAG to weigh in on base case assumptions and its electric and gas IRPs should align.</p> <p>Climate Solutions would like PSE to clarify the RPAG’s role in establishing the gas and electric IRP base case scenarios. From the timeline presented, many of the base case assumptions appear to be finalized by the end of Q4 2023 or the beginning of Q1 2024. However, the RPAG, which was created in part so that experts could weigh in on technical decisions, has not yet had the chance to discuss base case assumptions. PSE should clarify the decision-making timeline for base case assumptions, and we request an opportunity for the RPAG to discuss, and respond with comments, on the base case assumptions before they are locked in. Relatedly, PSE should clarify how the results of its targeted electrification pilot will inform the gas and electric resource assumptions and base case load forecasts.</p> <p>Finally, we are disappointed that PSE says that the deadline to combine its electric and gas IRPs in 2025 has passed. We are uncertain why PSE did not move forward with a combined IRP in this cycle. Indeed, PSE brought forth legislation in 2023 that, amongst other things, explicitly authorizes the UTC to direct a combined utility to combine its gas and electric IRPs. The need for combined planning is already being acknowledged by public utility commissions in other states: in its December 2023 Order in its Future of Gas proceeding, the Massachusetts Department of Public Utilities recognized that the</p>	<p>planning process in 2022, consistent with conditions in our 2022 general rate case. Through that process PSE incorporated equity into our cost benefit analysis through engagement with the Equity Advisory Group (Nov. 14, 2022, March 20, 2023, Nov. 13, 2023) and the IRP public track (Nov. 6, 2023). We plan to discuss delivery system planning and decarbonization during the Feb. 13, 2024 RPAG meeting. PSE does not have a full Integrated System Planning (ISP) process in place yet, but this IRP demonstrates we are continuing to move in that direction. To the extent PSE can develop and share various capital cost forecasts for the IRP scenarios, we will do so. Further, we can present the work for scenarios from the GRC gas decarb study, even though those scenarios may not perfectly align to the 2025 IRP scenarios.</p>

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				<p>clean energy transition will require coordinated planning between gas and electric systems.⁴</p> <p>At a minimum, the assumptions and outcomes of the electric IRP – including load growth, electrification rates, technical and cost assumptions of heat pumps – should be aligned with the assumptions used in the gas IRP. There will be huge impacts of electrification on both the electric and gas systems, and it is critical for resource planning to be aligned across both systems in order to responsibly plan for and meet customer needs.</p> <p>III. PSE should expand its electrification scenarios and allow the RPAG to weigh in on its capital investment planning.</p> <p>Climate Solutions appreciates that PSE has incorporated electrification scenarios for residential, commercial, and industrial end uses into its gas and electric IRPs starting in its 2023 IRP cycle. We recommend that PSE model additional electrification scenarios or sensitivities to reflect the different paces at which electrification can happen. It is not just policies that may drive building electrification, but there is also likely to be organic building electrification growth due to improved electric appliance economics and consumer preference. It is important to plan for the most likely policy-driven electrification scenarios (as well as policies that are already in place). For instance, it would be appropriate to model a building electrification scenario or sensitivity that aligns with the Climate Commitment Act (CCA)'s emissions reduction targets. Washington is moving towards a 100% clean energy economy, and with policy drivers such as the CCA, the Clean Buildings Act, the State Energy Codes, Washington's \$80 million investment in clean heat pumps for low- and moderate-income households, and the Inflation Reduction Act, building electrification will continue, and it is incumbent on PSE to understand the impacts to its electric and gas services from the transition occurring at different paces.</p> <p>Finally, Climate Solutions requests that PSE explicitly identify the utility's gas capital investment forecast necessary for each gas scenario or sensitivity. Climate Solutions also requests the opportunity</p>	

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				<p>to weigh in on those assumptions as PSE develops its electrification scenario/s. For instance, building electrification should have an impact on PSE's gas capital investment plans. Historically, it is our understanding that PSE assumes the same capital investment plan in gas scenarios and sensitivities despite the effects that an electrification scenario would have on the need for gas capital investments. For example, in a high building electrification scenario, PSE would need fewer capacity expansions, service lines, new meters, pipeline replacements, mandatory relocations, and can more robustly use pipeline repair in lieu of pipeline replacement. In its initial Clean Heat Plan, the Public Service Company of Colorado modeled that the gas capital investments would be reduced proportionately to its decrease in peak demand.⁵</p> <p>Figure 1: Public Service Company of Colorado's Clean Heat Plan Capex Forecasts by Scenario</p> <p>Figure JW1-SD-3: 2024-2050 Capital Investment</p> <p>When planning for increased load growth or infrastructure upgrades, there are several alternatives PSE can assess, including pipeline repairs and non-pipeline alternatives. Although pipeline repairs have shorter lives than a pipe replacement, repairs cost a fraction of the</p>	

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				<p>price⁶ and their shorter lives may better align with the remaining useful life of some parts of the system. Non-pipeline alternatives similarly can be a cost-effective tool for avoiding or deferring significant gas capital investments. By developing a portfolio of resources centered on energy efficiency, demand response, and targeted electrification, PSE can reduce costs, emissions, and risk of stranded assets and commodity price volatility by avoiding or deferring capital investments. Even if an individual demand-side resource has not passed the CPA standard for cost effectiveness, it may still be a viable resource for meeting the utility's needs because it may be part of a least cost option.</p> <p>IV. Conclusion</p> <p>Climate Solutions thanks Puget Sound Energy for the opportunity to comment on the fruitful discussion held during the December 12 RPAG meeting. We would appreciate more opportunity for the RPAG to discuss base case assumptions before they are solidified, and look forward to engaging in future RPAG meetings.</p> <p>¹ https://www.pse.com/en/IRP/Current-IRP-Process</p> <p>² https://www.pse.com/-/media/PDFs/IRP/2023/12122023/RPAGMeeting_Final.pdf?modified=20231207172407</p> <p>³ https://www.cleangroup.org/initiatives/hydrogen/areas-of-concern/</p> <p>⁴ https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/18297602</p> <p>⁵ Docket No. 23A-0392EG, Supplemental Direct Testimony and Attachments of Jack W. Ihle, on Behalf of Public Service Company of Colorado. October 17, 2023. Page 23, lines 9-10.</p> <p>⁶ Ackley, Bob. "Strategic Electrification in Washington, D.C.: Neighborhood Case Studies of Transition from Gas to Electric-Based Building Heating." For the Washington D.C., Department of Energy and Environment. December 14, 2022. Available at: https://edocket.dcpssc.org/apis/api/Filing/download?attachId=186471&guidFileName=a9254ec8-d08f-46ed-af0e-31b28d707139.pdf</p>	

