



June 5, 2023

Received
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Amanda Maxwell
Executive Director and Secretary
Washington Utilities and Transportation Commission
621 Woodland Square Loop SE
Lacey, WA 98503

Re: Comments on PSE's Final 2023 Gas Integrated Resource Plan (Docket UG-220242) and Final Electric Integrated Resource Plan Progress Report (Docket UE-200304)

Dear Amanda Maxwell,

Climate Solutions appreciates the opportunity to comment on docket UG-220242, Puget Sound Energy's Final 2023 Gas Integrated Resource Plan, and UE-200304, Puget Sound Energy's 2023 Electric Integrated Resource Plan Progress Report. Climate Solutions is a clean energy nonprofit organization working to accelerate clean energy solutions to the climate crisis. The Northwest has emerged as a hub of climate action, and we are at the center of the movement as a catalyst, advocate, and campaign hub.

The Utilities & Transportation Commission (UTC) must ensure that Puget Sound Energy (PSE) provides services that are equitable, reliable, and fairly priced. PSE is also obligated to comply with a growing number of climate and clean energy laws, including but not limited to the Climate Commitment Act (CCA) and the Clean Energy Transformation Act (CETA). To meet UTC requirements, state decarbonization policies, and equity requirements, it is imperative that PSE's gas and electric plans respond accordingly to rapidly changing economics for heating buildings and an increasing ratepayer demand for electrification. PSE is a combination utility providing both gas and electric services; as such, it must include modeling inputs and assumptions, resource scenarios, and methodologies that accurately reflect the conditions and evolutions of both the gas and electricity sectors. In the future we would like to see PSE combine its processes and plan for its gas and electric services holistically.

We are pleased to see that PSE incorporated several of our suggestions into the Final Gas IRP, including basing its preferred portfolio on a zero-growth sensitivity to account for recent statewide policy and market changes that will increase building electrification; incorporating climate change data into load forecasting; treating annual pipeline renewal as a resource alternative that can compete with other non-pipeline alternatives; and running an electrification scenario for both gas and electric that applies a carbon constraint based on the Washington 2021 State Energy Strategy's carbon reduction requirements. We also appreciate that the preferred portfolio's assumptions for availability and feasibility of alternative fuels have become more realistic over time, with the forecast for renewable natural gas (RNG) from the Pacific Northwest region lower than in the draft IRP in response to changing conditions.

However, we have concerns that PSE's preferred portfolio in its Final Gas IRP does not achieve necessary decarbonization, equity, and air pollution reduction requirements, is not positioned to legally meet CCA

requirements, nor does its methodology properly assess the impact wide-scale electrification will likely have on gas demand and decarbonization strategies. Therefore, we recommend the UTC does not acknowledge PSE's 2023 Final Gas IRP. We also have concerns that PSE's Final Electric Progress Report plans to build a new peaker plant when PSE is legally obligated under CETA to reduce, not increase, its greenhouse gas emissions. We have the following critiques.

I. The Final Gas IRP does not meet statutory requirements of the Climate Commitment Act or equity requirements.

The preferred portfolio's CCA compliance strategy relies significantly on purchasing allowances, which does not align with the intent of the law and likely exceeds what is allowed by law.

Within the past five years, Washington has passed climate laws that place it on a trajectory to cut its greenhouse gas emissions almost entirely. The Climate Commitment Act cap-and-invest program is intended to limit and reduce greenhouse gas emissions from the state's largest emitters to meet Washington's statutory target of a 95% emissions reduction below 1990 levels by 2050.

Under the CCA, individual companies are not allowed to purchase a number of allowances that exceed 10% of the total allowances. Given PSE's current emissions levels as the state's largest natural gas distributor, its emissions trajectory, and its preferred portfolio extending instead of reducing emissions levels, PSE may run into challenges meeting its compliance obligation without exceeding the allowance purchase limit in future years. It is possible that some of the difference could be made up from secondary auctions, but as PSE is required to consign an increasing amount of its allowances to auction each year, it will inevitably become harder to secure enough allowances to fill that gap without exceeding the 10% purchase limit.

A high reliance on allowances will also have implications for the cost burden on consumers. Allowances are increasing in price, and if PSE merely purchases allowances and passes on the costs to its customers, they will pay more without seeing any benefit. Customers will also be beholden to the rising cost of gas when they are kept on the gas system, as PSE plans to do rather than transitioning customers to electric. The preferred portfolio is risky to customers who will face increased gas prices and compliance costs.

PSE's preferred portfolio's compliance with the CCA is not in the spirit of the law, and does not reflect real-world conditions.

The CCA's emissions cap decreases accordingly with Washington's statutory emissions reduction targets: 45% by 2030, 70% by 2040, and 95% by 2050 compared to 1990 levels. However, PSE's preferred portfolio finds that the most "cost-effective" way for PSE to meet CCA's requirements is for PSE to reduce emissions 13% by 2030, and only 27% by 2045, making up the remainder of their emissions by purchasing carbon allowances at the ceiling price. The bulk of the actual emissions reductions comes from the use of RNG, green hydrogen, and conservation.

PSE's planned emissions reductions do not come anywhere close to meeting the statutory targets, and this misalignment displays the short-sighted approach PSE has taken in its IRP. As the entire state plans to

decarbonize, it is risky and negligent for PSE to keep its customers on gas. Furthermore, this preferred portfolio does not align with Washington's State Energy Strategy's least-cost scenario, which finds that electrification is the most cost-effective pathway.

The preferred portfolio does not adequately account for impacts to overburdened communities, particularly around air quality.

Purchasing carbon allowances without significantly decreasing natural gas fails to adequately account for the air quality impacts of natural gas and the equity implications that this pollution has on overburdened communities. Section 3 of CCA requires emitters to improve air quality as well; while rulemaking has not begun for Section 3, it is unreasonable for PSE to assume that gas use can continue at current rates while staying in compliance with CCA. Environmental justice is also codified statewide through the 2021 Healthy Environmental for All (HEAL) Act, requiring that public agencies consider environmental justice in their programs. PSE should also demonstrate an equitable distribution of benefits to overburdened communities in the Gas IRP, as an equitable distribution of benefits is considered to be in the public interest. The preferred portfolio fails to demonstrate an equitable distribution of benefits, in fact likely *decreasing* benefits to communities already disproportionately impacted by air pollution.

Additionally, while biodiesel and RNG may be lower- or zero-carbon fuels, their combustion still releases air toxics like nitrogen oxides (NOx) into the air, which are both criteria pollutants and important precursors for particulate matter. This increases outdoor air pollution and can also harm indoor air quality if RNG is used in gas cooking appliances. Similarly, blending hydrogen into natural gas as a combustion fuel will require a higher temperature for combustion, as hydrogen burns at a higher temperature than methane, and this increase in temperature will result in higher NOx emissions as well.

II. The Final Gas IRP and Electric Progress Report are biased towards supply-side resources.

The Final Gas IRP is biased towards supply-side resources and underestimates the potential for additional demand-side resources.

Consistent with our comments addressed to Puget Sound Energy during the IRP process, we are concerned that the Final 2023 Gas IRP applied the federal Inflation Reduction Act (IRA) incentives to supply-side resources but not to the gas demand forecast or demand-side resources. In July 2022, the federal government passed the Inflation Reduction Act, which includes substantial incentives and tax credits for clean energy including green hydrogen, wind and solar generation, and clean heating appliances like heat pumps. For both its electric and gas portfolios, PSE has applied the IRA production tax credits (PTCs) and investment tax credit (ITCs) for green hydrogen and renewable energy resources. However, PSE did not include the IRA's incentives for electric demand-side resources like air and water heat pumps, which will go into effect (be available to consumers) later this year. Customer adoption of electric heat pumps will significantly impact the electric and gas utility demand forecasts. By not incorporating the IRA incentives for electric heating appliances, PSE is likely overestimating the demand for gas and underestimating conservation opportunities on the electric system over the planning horizon.

PSE has many options to estimate how electrification will impact gas demand forecasts. For instance, PSE could develop a proxy analysis that estimates the impact to certain costs or to the electric and gas demand forecasts. However, modeling the IRA's impact on one set of resources and not the other, as PSE has done, will unnecessarily favor supply-side resources. In turn, PSE's Final Gas IRP does not calculate the impact IRA heat pump incentives will have on gas demand or future gas prices. Its preferred portfolio does not correctly analyze gas futures, and is not prudent for customers.

The preferred portfolio relies on faulty assumptions for alternative fuels and is risky for customers.

PSE is required to model commercially-available resources in its IRP. The preferred portfolio incorporates green hydrogen blended into natural gas pipelines starting in 2028. Green hydrogen is not currently commercially available in the quantities necessary for this blending, nor at the price that the Final IRP anticipates. Additionally, while green hydrogen may be cost-effective in the short-term due to PTCs, these tax credits are unlikely to continue through 2050. The preferred portfolio's current price estimates for RNG are also at the low end of current cost ranges, and competition with other hard-to-decarbonize sectors such as transportation will likely raise the costs. Not only will the costs be greater, but there may not even be future availability of green hydrogen to be used in the utility space due to the increased demand and competition.

The preferred portfolio also does not account for the feasibility and costs of blending hydrogen into natural gas pipelines without making significant upgrades to both gas infrastructure for safety, and to appliances on the customer ends. The preferred portfolio anticipates green hydrogen blending into natural gas to begin at 5% by energy – this is at the high end of likely blend capacity without infrastructure upgrades. Additionally, PSE relies on biased sources with vested interests in supporting the continued reliance on fossil gas – for instance, the “Hydrogen-Ready” report authored by the Northwest Energy Efficiency Alliance, a group made up of many fossil fuel utilities including PSE itself. The Final IRP also does not account for how green hydrogen and RNG will be transported and stored, likely raising costs as well.

Hydrogen may not be as emissions-saving or as safe for consumers as PSE assumes. Hydrogen molecules are very small and almost 6 times more potent than carbon, so there is a larger potential for leakage, and fugitive emissions from hydrogen would potentially cancel out any emissions savings. The production of green hydrogen also needs further analysis, for example to determine whether water is available; or whether energy is needed for desalination. PSE mentioned in its Final IRP presentation that if hydrogen credits were not available as predicted, they would remove it as a resource and purchase more CCA allowances; thus, deeming this strategy useless as an emissions reducing measure. Finally, there are safety issues associated with transporting hydrogen: hydrogen is extremely flammable, and it embrittles steel, which makes pipe fractures and leaks more likely.

The Final Electric Progress Report's reliance on alternative fuels is risky for customers.

PSE's Final Electric Progress Report depends on building a new “peaker” gas plant, which they represent as “emission neutral” hydrogen or biodiesel – but in actuality they plan to employ a natural gas to hydrogen blend at 30% hydrogen in 2030 and increase to a 100% blend by 2045. There is no guarantee

that hydrogen will be commercially available in the amount, cost, or timeline that PSE predicts it will, and relying on fossil gas will not be CETA compliant.

Since 2017, we have provided feedback to PSE on the hazards of investing in new gas plants – including their long life-span (30+ years) which, as PSE's gas customer base decreases, can lead to stranded assets and skyrocketing costs for customers.

PSE uses biased assumptions when analyzing fossil gas costs and electrification costs, skewing the results of its preferred portfolio to rely on gas instead of an electrification scenario.

The Final Gas IRP finds electrification not to be a cost-effective way to comply with CCA. However, PSE's electrification scenario includes the costs associated with expanding the electric system's capacity in its portfolio cost analysis but does *not* include these costs within its cost analysis for gas. By choosing to use the SENDOUT model, PSE excludes costs for distribution systems for gas, putting electrification at an unfair cost disadvantage. If fossil gas distribution had been considered in the cost-benefit analysis, likely an electrification scenario would be the least-cost option. Washington's moderate climate should allow for electrification to be cost-effective, as long as the costs to the utility are not the only consideration. IRA funding for electrification would also make electrification significantly more affordable, but the IRA has not been applied to electric resources in the Final Gas IRP.

Further, whereas the Final Gas IRP assumes a zero-customer growth sensitivity for its preferred gas portfolio, it does not include the same zero-customer growth sensitivity for its electrification scenario. This has the effect of inflating the cost of an electrification scenario when compared to gas.

III. Conclusion

PSE's Final Gas IRP preferred portfolio fails to provide safe, equitable, and cost-effective service to meet customers' needs. Its faulty assumptions place a gas scenario at a cost advantage, but this scenario comes with real hazards: customers left on the gas system will face rising gas costs; PSE won't meet the decarbonization, equity, and air pollution requirements of CCA; and relying on alternative fuels such as RNG and hydrogen will only prolong the gas system and come with their own risks. For these reasons, we recommend the UTC not acknowledge Puget Sound Energy's 2023 Gas IRP.

Thank you for the opportunity to provide comments.

Sincerely,



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