May 8, 2023

Commissioner David Danner, Chair
Commissioner Ann Rendahl
Commissioner Milt Doumit
Washington Utilities and Transportation Commission
P.O. Box 47250
Olympia, WA 98504-7250

RE: Puget Sound Energy Final 2023 Gas Utility Integrated Resource Plan (UTC Docket UG-220242)

To the Commissioners:

I am writing to address Puget Sound Energy's (PSE) 2023 Gas Utility Integrated Resource Plan, which was recently submitted to the Washington Utilities and Transportation Commission for review and approval. As you are aware, the Intergovernmental Panel on Climate Change has warned us that methane levels in the atmosphere are now 262% higher than they were in preindustrial times, playing a role in worrisome fires, floods, disappearing islands, and accelerating extinction of plants and animals. As Washington's largest gas company and the single largest source of methane emissions in the state, PSE's plan to reduce its emissions by less than 15% by 2050 is both inadequate and risky.

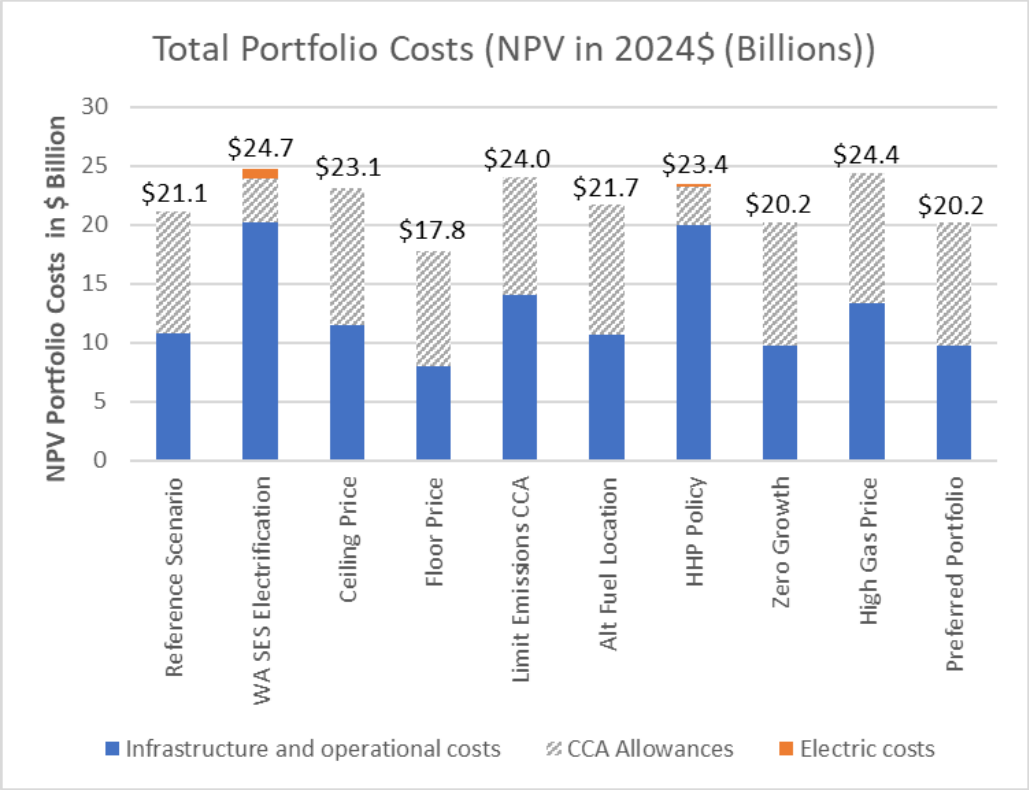
The Washington Clean Energy Coalition (WCEC), comprised of environmental and civic groups that have been involved in PSE's IRP planning process for many years, opposes PSE's 2023 Gas IRP. We request that the Commission reject PSE's plan for the following reasons:

1. PSE's Preferred Portfolio does not fulfill the "lowest reasonable cost" and conservation requirements of WAC 480-90-238.
2. PSE subverts the intent of the Washington Climate Commitment Act by purchasing increasing quantities of carbon allowances to emit 133 million metric tons of carbon equivalent gases. The cost of these allowances, exceeding $10 billion, would be passed on to ratepayers.
3. Approximately a quarter of PSE's anticipated emissions reduction would be achieved by mixing Green Hydrogen into natural gas deliveries. This plan is risky in terms of cost, efficiency, and availability of large quantities of hydrogen.
4. PSE dismissed alternatives that would provide better value to ratepayers, the environment, and future generations.

IRP Figure 2.9 shows the Net Present Value cost for each of the sensitivity scenarios that PSE studied, excluding costs and revenues associated with carbon allowances. WCEC disagrees with PSE's decision to exclude carbon allowance costs because it misrepresents the true costs to ratepayers and the environment. It also makes some portfolios look less expensive than they actually are. For example, properly accounting for carbon allowances would more than double the cost of PSE's Preferred Portfolio while other scenarios are less affected.

To better reflect these facts, WCEC created an alternative chart using data from an Excel spreadsheet that PSE submitted to the Commission on March 31, 2023 (UG-220242-App_F_Gas IRP Results.xlsx) and IRP Table 6.7. Our chart includes all portfolio costs, including net costs for carbon allowances (shown in

gray) and additional electric grid costs for the Electrification and Hybrid Heat Pump scenarios (shown in orange).



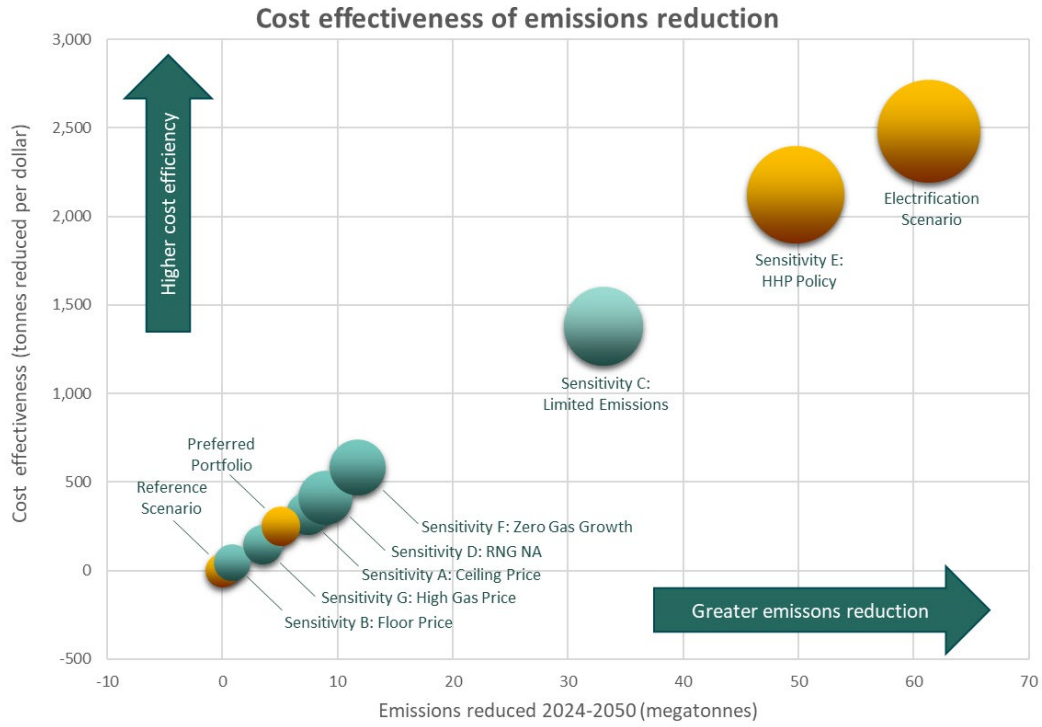
When all costs are included, the cost difference between the Preferred Portfolio and the Electrification Scenario is reduced from over 35% in PSE's figure to about 22% in ours. However, PSE overstates the infrastructure and emissions costs of the Electrification Scenario by assuming that gas peaker plants would be needed to serve peak demand. A recent study by the Brattle Group[1] shows that Virtual Power Plants (VPPs) can provide resource adequacy for 40% to 60% of the net cost of a gas plant. That impressive cost advantage will continue to improve throughout the planning period. Although PSE largely ignores the potential of VPPs in its Electric Progress Report, we believe this technology will offer enormous advantages for resource adequacy, reliability, cost, and emissions during the next quarter century.

In our chart, the Preferred Portfolio remains the "second lowest cost" of the possible options. However, the Washington Administrative Code requires PSE to choose the solution with the *lowest reasonable cost*, not simply the cheapest option. To determine how effectively each dollar is being spent, we must consider what benefits each portfolio delivers compared to its cost. WCEC has evaluated three additional metrics for each portfolio: 1) Emissions reduction, 2) Price stability, and 3) Legacy for future generations.

In the following chart, each portfolio is represented by a bubble. The horizontal position of the bubble is determined by total emissions reduction compared to the Reference Scenario. The vertical position

[1] https://www.brattle.com/real-reliability/

indicates how many metric tons (tonnes) of emissions are avoided per dollar spent. The size of the bubble is proportional to expected emissions reduction in 2050 compared to 2024.[2]



WCEC offers these observations of the scenarios highlighted in orange.

- The **Electrification Scenario** achieves the greatest reduction of total emissions and the largest decline of emissions in 2050. This scenario is the most cost-effective solution for reducing greenhouse gas emissions at the pace necessary to meet the state's greenhouse gas limits. It is a good investment of ratepayer funds, offering significant benefits for a relatively small cost increase (especially because PSE has undervalued the potential of VPPs, Distributed Energy Resources, and Time-Varying Rates to reduce cost and emissions of peak electric demand).

- Sensitivity E, the **Hybrid Heat Pump Policy**, achieves significant emissions reduction at a relatively small incremental cost over the Reference Scenario (also likely to be overstated).

- PSE's **Preferred Portfolio** achieves only minor emissions reduction and defers needed progress until after 2050. Although it looks like a cheap plan, the actual cost of the Preferred Portfolio depends heavily on the price of natural gas during the next quarter century. For example, **Sensitivity G: High Gas Price** has almost the same total cost as the Electrification Scenario.

[2] *Methodology: Total emissions for each scenario were calculated by summing columns C-AC from the "Summary of Emissions" page of the spreadsheet. Total gas system cost for each scenario was calculated as the Net Present Value of each scenario using a Discount Rate of 6.8% on page "Total System Average Cost" (see cell D32 for example). Costs for the Reference Scenario, Electrification Scenario, and HHP Policy were taken from IRP Table 6.7, which accounts for additional electric system costs. Cost effectiveness was calculated by dividing total emissions by total cost, including net carbon allowance costs and electric grid investments. Emissions reduction in 2050 was calculated by subtracting column AC from column C.*

However, the Electrification Scenario and the Hybrid Heat Pump Policy would be less exposed to the price of gas and customer costs would be more stable.

The chart shows that PSE's Preferred Portfolio is a "status quo" solution that does very little to reduce emissions during the next quarter century. Instead of investing ratepayer funds to clean up our energy grid, it spends billions of dollars on carbon allowances to continue emissions year after year at nearly the same level as today. The Preferred Portfolio postpones any real progress until after 2050, laying the costs and burdens of reducing emissions on the shoulders of our children and grandchildren.

The Preferred Portfolio exposes customers to price fluctuations for natural gas. During the past few years, the price of gas has swung from under $2/MMBtu to over $9. The volatility of gas prices creates hardship for residential and business customers whose budgets are adversely impacted by unexpected increases in the cost of energy.

The Preferred Portfolio compounds price risks by relying on Green Hydrogen to meet emissions targets. There are only small amounts of hydrogen available today, and it is expensive. Will there be sufficient supply at reasonable prices for PSE to achieve its goals in a cost-effective manner? If the largest energy utility in Washington is competing for a limited hydrogen supply, other industries may be prevented from achieving their own clean energy goals.

Hydrogen is not an efficient solution to heat our homes and businesses. Using renewable electricity to create, compress, transport, and burn hydrogen to produce heat is nearly six times less efficient than using that electricity to run a modern heat pump. In the foreseeable future, PSE cannot increase the proportion of hydrogen mixed with natural gas beyond 20% due to safety and pipeline corrosion concerns. At that mixing level, hydrogen delivers a total emissions reduction of only 7%. Hydrogen mixing appears to be impractical for both near-term and long-term planning.

Recommendations

In 1997, WUTC approved a merger of Puget Sound Power and Light with Washington Energy Company, creating a unified utility that promised lower electric rates. Today, PSE strives to preserve both its electric and gas businesses. However, PSE's preferred course of action is not favorable for ratepayers or the environment. The Commission must require PSE to combine its gas and electric planning process to achieve cleaner energy, reasonable cost, and system reliability while respecting stakeholder input and promoting social equity. Instead of prioritizing solutions that benefit its shareholders and business plan, PSE should first address these more important metrics. After a reasonable plan is finalized, then PSE, the Commission, and stakeholders can determine fair rates of return and rewards for achieving targets. To protect ratepayers from bias that emerges when a profit-driven corporation seeks to maximize financial returns, we ask the Commission to engage an independent analyst to validate IRP assumptions and modeling. The analyst must not be subject to PSE's oversight or editorial control while reviewing the IRP.

In summary, the Washington Clean Energy Coalition urges the Commission to **reject this IRP** and work towards a **comprehensive planning process** that prioritizes holistic solutions to our climate crisis, social equity, and stakeholder input. This is a better way for PSE and its customers to achieve an equitable and sustainable future.

Don Marsh, Washington Clean Energy Coalition