

December 21, 2023

***Filed via Web Portal***

Kathy Hunter  
Acting Executive Director and Secretary  
Washington Utilities and Transportation Commission  
621 Woodland Square Loop SE  
Lacey, WA 98503

**Re: Decarbonization Study Compliance Filing  
Dockets UE-220066, UG-220067 and UG-210918 (Consolidated)**

Dear Executive Director Hunter:

Puget Sound Energy (“PSE”) hereby submits this compliance filing to the Washington Utilities and Transportation Commission (“Commission”) pursuant to paragraph 65 of the Commission’s Order Nos. 24/10 and paragraphs 65 and 66 of the Settlement Stipulation and Agreement on Revenue Requirement and All Other Issues Except Tacoma LNG and PSE’s Green Direct Program (the “Revenue Requirement Settlement”).<sup>1</sup> Pursuant to the Revenue Requirement Settlement, this filing represents PSE’s updated Decarbonization Study, which PSE is submitting with no designations of confidentiality.

Enclosed for filing are the following files:

- Attachment A contains PSE’s Decarbonization Study;
- Attachment B contains the Cadmus Group’s final report, supporting materials related to heat pump performance trends and equipment costs, and review of the impacts of the Inflation Reduction Act;
- Attachment C contains the Energy + Environmental Economics’ literature review;

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<sup>1</sup> See Order Nos. 24/10, “Final Order Rejecting Tariff Sheets; Approving Settlements, with Conditions; Authorizing and Requiring Compliance Filing,” issued in consolidated Dockets UE-220066, UG-220067, and UG-210918 on December 22, 2022.

- Attachment D contains the Energy + Environmental Economics' analysis of the impacts of heating decarbonization pathways on regional infrastructure;
- Attachment E contains the gas portfolio output summary for each of the four scenarios<sup>2</sup> modeled in the Decarbonization Study;
- Attachment F contains the outputs for gas system results showing the cost for each of the four scenarios modeled in the Decarbonization Study, as well as the constrained areas analysis;
- Attachment G contains the electric portfolio output summary for emissions and cost for each of the four scenarios modeled in the Decarbonization Study;
- Attachment H contains the electric system outputs for each of the four scenarios modeled in the Decarbonization Study; and
- Attachment I- P contain the financial outputs detailing bill and rate impacts for customers for each of the four scenarios modeled in the Decarbonization Study as well as the different rate schedules.

## **I. Background**

On January 31, 2022, PSE filed its general rate case, which included PSE's first proposed multiyear rate plan under RCW 80.28.425. On December 22, 2022, the Commission approved and adopted three partial multiparty settlements, including the Revenue Requirement Settlement, subject to limited conditions that together resolved all the issues in this consolidated proceeding. As relevant here, the Revenue Requirement Settlement required PSE to prepare an "updated decarbonization study" and provide that study "within 12 months of the Commission's final order in this case."<sup>3</sup>

As set forth in paragraph 66 of the Revenue Requirement Settlement, the Decarbonization Study must build off of prior decarbonization analysis prepared for PSE<sup>4</sup> and include the following elements:

- A more up-to-date electrification scenario that takes into account recent performance trends of Cold Climate Heat Pumps.

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<sup>2</sup> For additional information about each scenario, please see Attachment A at 14.

<sup>3</sup> Revenue Requirement Settlement ¶ 66.

<sup>4</sup> *Id.* ("PSE's updated decarbonization study will build off the gas decarbonization study prepared for PSE by E3").

- An accounting of both near-term (3-5 years) and long-term costs and benefits of electrification, including carbon reductions and avoided gas system infrastructure costs due to fewer new customer connections.
- A segmentation of new and existing customers to separately evaluate the costs and benefits of electrifying new and existing customers and a scenario whereby PSE seeks to electrify all new customers and projected corresponding carbon emission reductions.
- A review of the time to build out and the cost of incremental electric system costs based on recent cost trends in power and capacity, as well as sensitivity analysis around electric system assumptions to understand how these assumptions impact the viability of high electrification scenarios.
- Updated unit costs, including the incentives provided by the Inflation Reduction Act.
- Study the impacts and benefits of electric heat pump technologies on PSE's gas constrained delivery systems.
- Collaborate with adjacent consumer-owned utility electric service providers to conduct coordinated electric delivery system and gas delivery system studies or pilots.
- Evaluate how to use the biennial conservation planning process to advance least-cost decarbonization strategies in PSE's gas utility service area, including by promoting fuel switching to electric utility service.
- Include regional forecasted load and market price sensitivities that reflect regional electrification.
- An evaluation of the impact of electrification with and without hybrid heat pumps on gas and electric rates, to provide an update to the existing analysis in the E3 study referenced above.
- The results of the study will be incorporated into PSE's 2025 Natural Gas Integrated Resource Plan and a compliance filing in this docket by January 2025.

The Decarbonization Study must also evaluate measures and scenarios to compare costs to ratepayers and the greenhouse gas emissions associated with actions, including installing all electric vs. dual fuel systems for new customers and existing gas customers, distributed energy resources, and decarbonized fuels.<sup>5</sup> The Decarbonization Study must

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<sup>5</sup> *Id.*

also include an evaluation of the impacts of all electric heat pumps, hybrid systems, and reducing and decarbonizing gas throughput.<sup>6</sup>

## **II. Decarbonization Study Engagement Process**

Throughout 2023, PSE coordinated a series of meetings with parties to the Revenue Requirement Settlement to discuss the Decarbonization Study and the requirements elements. These meetings and discussions, listed below, were conducted in parallel with additional meetings with the settling parties regarding implementation of the Revenue Requirement Settlement's other Stipulation O provisions, including the Targeted Electrification Pilot and Targeted Electrification Strategy. The Decarbonization Study track of meetings included the following:

- On January 20, 2023, PSE organized an initial meeting with the parties to the Revenue Requirement Settlement to discuss the settlement's decarbonization commitments, including the schedule and scope of the Decarbonization Study.
- On June 29, 2023, following meetings with the settling parties to discuss the Targeted Electrification Pilot, PSE organized a meeting to discuss the Decarbonization Study's methodology, preliminary results and data regarding heat pump operating parameters, electric and gas load shapes, and estimated Inflation Reduction Act demand impacts.
- On August 10, 2023, and August 24, 2023, PSE facilitated meetings with the settling parties and PSE's Decarbonization Study consultants, Cadmus and E3, where final results pertaining to key inputs were reviewed and presented.
- On September 28, 2023, PSE coordinated a meeting with the settling parties to present PSE's draft Decarbonization Study model outputs, including draft electric and gas utility costs, electric and gas portfolio outputs, and other results.
- On November 28, 2023, PSE held a meeting with the settling parties to present draft financial results of the Decarbonization Study.
- On December 8, 2023, PSE organized a final meeting with the settling parties to present the final results of the Decarbonization Study.

## **III. Conclusion**

The Decarbonization Study complies with all applicable provisions of the Revenue Requirement Settlement. As set forth in greater detail in Attachment A, the Decarbonization Study includes four electrification scenarios to enable the comparison of costs to customers and emissions reductions potential over the near and long terms. The

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<sup>6</sup> *Id.*

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Decarbonization Study also details how PSE has satisfied each required criteria set forth in the Revenue Requirement Settlement.<sup>7</sup>

Consistent with the terms of the Revenue Requirement Settlement, PSE will incorporate the results of the Decarbonization Study into its 2025 Natural Gas Integrated Resource Plan (IRP) and use the information—as well as information from PSE’s ongoing Targeted Electrification Pilot—to develop a Targeted Electrification Strategy, which will be included in the Company’s next Natural Gas IRP or Progress Report.<sup>8</sup> A full Decarbonization Study report will be filed in January of 2025 with the Target Electrification Strategy.

If you have any questions about the information contained in this filing, please contact Jennifer Coulson, Manager, Resource Planning and Analysis, at [Jennifer.Coulson@pse.com](mailto:Jennifer.Coulson@pse.com) or 253-234-6554. If you have any other questions, please contact me.

Sincerely,

*/s/ Wendy Gerlitz*

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Service List

Attachments:  
Attachments A-P (zip)  
Certificate of Service

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<sup>7</sup> See Attachment A at 18-19.

<sup>8</sup> Revenue Requirement Settlement ¶ 68.