



Puget Sound Energy
 P.O. Box 97034
 Bellevue, WA 98009-9734
pse.com

January 17, 2023

By Web Portal

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

Received
 Records Management
 01/17/23 12:48
 State Of WASH.
 UTIL. AND TRANSP.
 COMMISSION

**Re: Comments of Puget Sound Energy Relating to Decarbonization Pathways,
 Docket U-210553**

Dear Ms. Maxwell:

Puget Sound Energy (“PSE”) respectfully submits these comments in response to the Washington Utilities and Transportation Commission’s (“Commission”) Notice of Opportunity to Comment, issued in the above-captioned docket on December 14, 2022 (“Notice”). The Notice solicits comments from interested persons on various assumptions, actions, and pathways relevant to the Commission’s ongoing examination of “feasible and practical pathways for investor-owned electric and natural gas utilities to contribute their share to greenhouse gas emissions reductions as described in RCW 70A.45.020.”¹ PSE appreciates the opportunity to provide these comments.

General Comments

PSE is Washington’s largest investor-owned utility, serving approximately 1.2 million electric customers and 860 thousand natural gas customers. Our 3,100 employees live and work in the communities we serve and we share our customers’ concern for the environment, balanced with their expectations for uncompromised reliability, affordability, and safety.

By 2045, we aspire to be a “Beyond Net Zero” Carbon energy company: we aim to reduce our carbon footprint to zero, and then go “beyond” by helping to achieve emissions reductions in other sectors, such as transportation. Our aspirational pathways to Beyond Net Zero include reducing emissions from electric supply to net zero by 2030, reaching net zero carbon emissions for natural gas sales by 2045, and partnering with

¹ See Senate Bill 5092, Section 143(4).

customers and industry to identify programs and products that cost-effectively reduce carbon across our region and State.²

In the Notice, the Commission first identifies two high-level assumptions identified by Sustainability Solutions Group (“SSG”)—the Commission’s consultant—deemed “necessary for decarbonization.” SSG assumes that (1) energy efficiency and (2) low and zero carbon energy sources will be critical to reaching the State’s climate goals. PSE agrees with these assumptions. For decades, PSE has pursued all available conservation that is cost-effective, reliable, and feasible. PSE is also committed to meeting the current and future clean energy needs of our customers by delivering on the objectives of Washington’s Clean Energy Transformation Act (“CETA”) and setting the ambitious aspirational Beyond Net Zero goals described above.

The Notice then describes a set of “common actions” that will be included in the decarbonization pathways developed for this examination. These actions include: retrofitting buildings; improving the efficiency of industrial facilities; reducing trips in personal cars in Washington’s cities while increasing trips taken by public transit, cycling, and walking; focusing on higher-density development; and, setting higher standards for energy efficiency in new buildings.

Again, PSE largely agrees that these high-level actions will be critical to achieving economy-wide decarbonization goals. However, these categories of actions are very broad, and to date, limited data has been made available to the Commission’s Decarbonization Advisory Group (“DAG”) members or other interested persons about *how* these actions are being incorporated in the study. Cross-sector decarbonization is a complex topic wrought with technological uncertainty, regulatory and statutory complexity, regional energy market dynamics, and nascent equity and affordability considerations that we are collectively just beginning to understand and address. As noted by DAG members and interested persons at workshops on January 4th and 5th, it is the data behind these actions and assumptions that is critical to understand in the pursuit of the most efficient and effective decarbonization pathways. PSE looks forward to further discussion and transparent investigation of these topics with SSG to fully understand precisely how these actions are being analyzed.

The Notice then briefly alludes to two pathways for decarbonization that SSG has identified: electrification and alternative fuels. The Notice states these pathways differ in terms of how much of the demand for energy is met by electricity compared with alternative fuels like green hydrogen or renewable natural gas. The Notice then describes potential decarbonization “actions” for each pathway.

It is this area of the current study—the pathways—that concerns PSE the most. Since August 2021, PSE has advocated for the study to be conducted transparently, with

² For a comprehensive discussion of PSE’s actions, plus support needed, please refer to PSE’s Beyond Net Zero Carbon report, available at: www.pse.com/TOGETHER.

data and supporting materials available to all.³ Such an approach would have enabled interested persons to plan proactively for workshops and actively participate with specific data and informed analysis. To date, however, SSG has not provided the data necessary to support its assumptions or scenarios, and has instead relied on only conclusory presentations provided in real time during virtual workshops. This Notice is the first comment opportunity on key study elements.⁴

PSE notes that a newly-identified “hybrid” pathway, which is not referenced in the Notice, has recently been proposed. Based on recent materials, PSE understands this hybrid scenario to incorporate elements of both the electrification and alternative fuels pathways. At a high level, PSE supports the inclusion of this hybrid, or integrated scenario. Multiple other studies have shown that carbon emissions associated with natural gas end use can be reduced faster, at a lower cost, through an integrated approach that combines targeted electrification and leveraging the existing pipeline delivery system.⁵ Nonetheless, the study approach to this pathway suffers from the same lack of transparency and data as the other pathways.

Responses to Notice Questions

1. Electrification Pathways:

a. Are there any electrification actions not listed that should be considered?

At this time, PSE has no specific electrification actions to recommend in addition the actions already provided. Rather, PSE is concerned by the apparent lack of common understanding of the underlying assumptions associated with the existing list of actions.

³ See “Comments of Puget Sound Energy on the Commission’s Examination of Energy Decarbonization Pathways and Impacts,” Docket U-210553 (filed Aug. 13, 2021) (“PSE also emphasizes the need for the Commission to provide clear agendas, workplans, and timelines. This examination will likely involve numerous complex concepts of law, policy, planning, and operations, significant amounts of data, and implicate the nuanced interrelationship between electricity markets and natural gas systems. All of these factors will also need to be examined through nascent equity analysis frameworks. The Commission should therefore strive to establish clear processes and timelines—and pace consideration of study topics accordingly—to ensure that all participants understand the full context and timing of the issues being discussed.”).

⁴ During workshops, SSG has often noted that it is open to answering questions or providing information in response to informal requests. In PSE’s case, however, emails with inquiries and questions have not been addressed.

⁵ See generally ICF, 2021, “Net-Zero Emissions Opportunities for Gas Utilities,” available at: <https://www.aga.org/wp-content/uploads/2022/02/aga-net-zero-emissions-opportunities-for-gas-utilities.pdf>.

b. Are there any concerns with the electrification actions listed above?

The proposed electrification pathway would add large new electric loads, particularly on cold winter days when demand peaks. Air-source heat pumps are efficient on an annual basis, but heat pump efficiencies drop as the outdoor temperature falls. This drop in efficiency can lead to large impacts on peak demands. Presentation materials provided by SSG acknowledge that it is critical to incorporate potential extreme winter peak demands and examine the impact of the electrification actions on the transmission and distribution systems. However, it is not clear how these impacts on peak demand are being incorporated into the study. It is critical for interested persons to understand these impacts, as the study will theoretically be used to evaluate potential future policies.

The magnitude of new peak electric demands depends largely on what type of heat pump is installed. Traditional heat pumps require large amounts of electric resistance backup heat and have large peak impacts. Cold-climate heat pumps reduce, but do not eliminate peak impacts. They also come at a cost-premium. No data has been presented to date regarding how these costs are being incorporated into the study. Nor has there been any discussion of the assumptions around how costs and technologies might change over time, or what the cost impacts will be on electricity and natural gas customers.

PSE is eager to examine the data behind SSG's assumptions about how peak demand will be met under all pathways, but especially under the electrification scenario, which currently assumes that almost all residential and commercial space and water heating will be electrified by 2040, in addition to almost all commercial and marine transportation and 55 percent of yet-to-be-identified industrial processes. Additional questions, such as at what cost, are also of paramount importance under this pathway. Yet costs have not yet been discussed at all. PSE looks forward to discussing how the various pathways, including the electrification pathway, will impact commercial and residential customers in the State.

2. Alternative Fuels Pathways:

a. Are there any alternative fuels actions not listed that should be considered?

As noted above, PSE has no additional actions to recommend at this time. Rather, PSE is concerned by the apparent lack of common understanding of the underlying assumptions associated with the proposed actions.

b. Are there any concerns with the alternative fuels actions listed above?

Among other things, PSE finds it surprising to assume that 100 percent of existing buildings will convert to "natural gas air source" heat pumps for residential space heating by 2040 under this pathway. This technology is not being considered on a wide scale, and this pathway appears to be based on a highly unlikely future, which raises questions about its usefulness and the underlying basis for these assumptions. In PSE's experience

with technology assessments and decarbonization studies, a more plausible future for an “alternative fuels scenario” would be to assume some degree of electrification of space and water heating, but also allow for the possibility of natural gas furnaces being retained by customers and used during specific situations, such as peak winter hours or cold weather. Such an “integrated” scenario would likely be far more relevant than the proposed alternative fuels pathway, which is unlikely to materialize.

3. Equity Considerations:

- a. How do you think the actions described above could affect you and others in your community?**
- b. How should equity be considered with these pathways?**

It is not clear how equity considerations are being incorporated into the study. To date, there have been no materials provided pertaining to cost. Cost is certainly not the only factor relevant to the analysis of equity, but it is a major one. SSG’s “Engagement Plan,” published in June of 2022, states that “[e]quity will be at the heart of the engagement process and the development of decarbonization pathways.” To this end, the Engagement Plan stated there would be an “Equity Focus Group” meeting in September 2022 to “gather representatives of communities who are not heard from as often and who are affected by potential equity impacts of decarbonization and gather feedback to validate the approach for evaluating equity impacts.” To PSE’s knowledge, this meeting has not occurred and has not yet been scheduled.

PSE agrees with some of the equity dynamics that have been raised in public and advisory group meetings, including energy burden, risk, and jobs. But it is ultimately not clear how these considerations will be incorporated, what data will be used, and where this analysis of equity dynamics fits within the broader scope of the pathways examination. Given the importance of this topic, PSE hopes that there will be ample opportunity during the remaining portion of the engagement period to discuss these and other topics regarding equity in all aspects of the energy system, including benefits, burdens, costs, and participation.

* * * *

PSE is committed to ensuring that all customers and communities have access to and benefit from the transition to a clean energy future. Protecting the most vulnerable customers and communities while decarbonizing will necessitate healthy and complementary electric and natural gas energy systems, as well as other technologies that may not yet be commercially feasible or available, to maintain both affordability, safety, and reliability during any transition.

PSE appreciates the opportunity to provide comments and looks forward to additional discussion during the engagement period. Please contact Brett Rendina at

Page 6 of 6

January 17, 2023

Washington Utilities and Transportation Commission

(360) 294-9558 for additional information about these comments. If you have any other questions, please contact me at (425) 456-2142.

Sincerely,

/s/ Jon Piliaris

Jon Piliaris
Director, Regulatory Affairs
Puget Sound Energy
PO Box 97034, BEL10W
Bellevue, WA 98009-9734
(425) 456-2142
Jon.Piliaris@pse.com

cc: Lisa Gafken, Public Counsel
Sheree Strom Carson, Perkins Coie