2025 CLIMATE ACTION UPDATE

JULY 2025

PugetEnergy

PSE PUGET SOUND ENERGY

CONTENTS

EXECUTIVE SUMMARY

Puget Sound Energy, Inc. ("PSE") is Washington State's largest and oldest electric and natural gas utility and provider of critical infrastructure, serving approximately 1.7 million customers in ten counties over 6,000 square miles. PSE is aware of the widespread impacts of climate change and has a vested interest in reducing our impact and ensuring our infrastructure is resilient.

We were an early adopter of cleaner, renewable energy initiatives, from establishing one of the largest energy efficiency programs in the nation to building our first wind facility, Hopkins Ridge in 2005. We have made steady gains toward increasing our capacity for clean energy generation[1] and experienced how practical realities—including evolving public policy, laws and regulations, unprecedented weather and climate events, technology development pace, equipment supply chains and customer demand and preferences—directly impact our progress.

In 2021, we provided a summary of our strategies to reduce emissions from PSE's operations, electric supply, gas supply and beyond in our white paper, ***Beyond Net Zero Carbon by 2045***,[2] and much has changed since then. Perhaps most significantly, since the publication of the 2021 white paper, Washington State has continued implementation of the Clean Energy Transformation Act ("CETA"), while also passing and implementing the Climate Commitment Act ("CCA"), the Clean Fuel Standard ("CFS") and Large Combination Utilities Decarbonization Act ("UDA"). These laws set ambitious and important requirements for climate action:

- The **Clean Energy Transformation Act** requires electric utilities serving Washing State customers to: (1) eliminate coal-fired generation by 2025; (2) be greenhouse gas neutral by 2030 and (3) generate 100% of their power from renewable or zero-carbon resources by 2045.[3]
- The **Climate Commitment Act** is a market-based program intended to reduce carbon emissions by requiring covered entities, including electric and gas utilities, to purchase allowances to cover their greenhouse gas emissions with an annual, steadily declining cap on available allowances aimed at achieving a 95% reduction in emissions below 1990 levels collectively among all covered entities.[4]
- **Washington's Clean Fuel Standard** is a market-based law requiring fuel suppliers to gradually reduce the carbon intensity of transportation fuels, and while it does not directly affect PSE, it provides an incentive for faster development of alternative lower carbon fuels that may be utilized by PSE, such as renewable natural gas and hydrogen.

1 Clean energy generation includes renewable resources and non-emitting electric generation as defined under the Clean Energy Transformation Act regulations at WAC 19.405.

2 PSE, *Beyond Net Zero Carbon by 2045* (January 2021), available at https://www.pse.com/-/media/PDFs/Press-release/7535_Pathway_to_Beyond_Net_Zero_Report.pdf?modified=20210319175313. Other utilities at the time also had similar climate goals. See, e.g., PG&E, *PG&E Climate Strategy Report* (June 2022), available at https://www.pge.com/content/dam/pge/docs/about/pge-systems/PGE-Climate-Strategy-Report.pdf (last accessed Feb. 12, 2025).

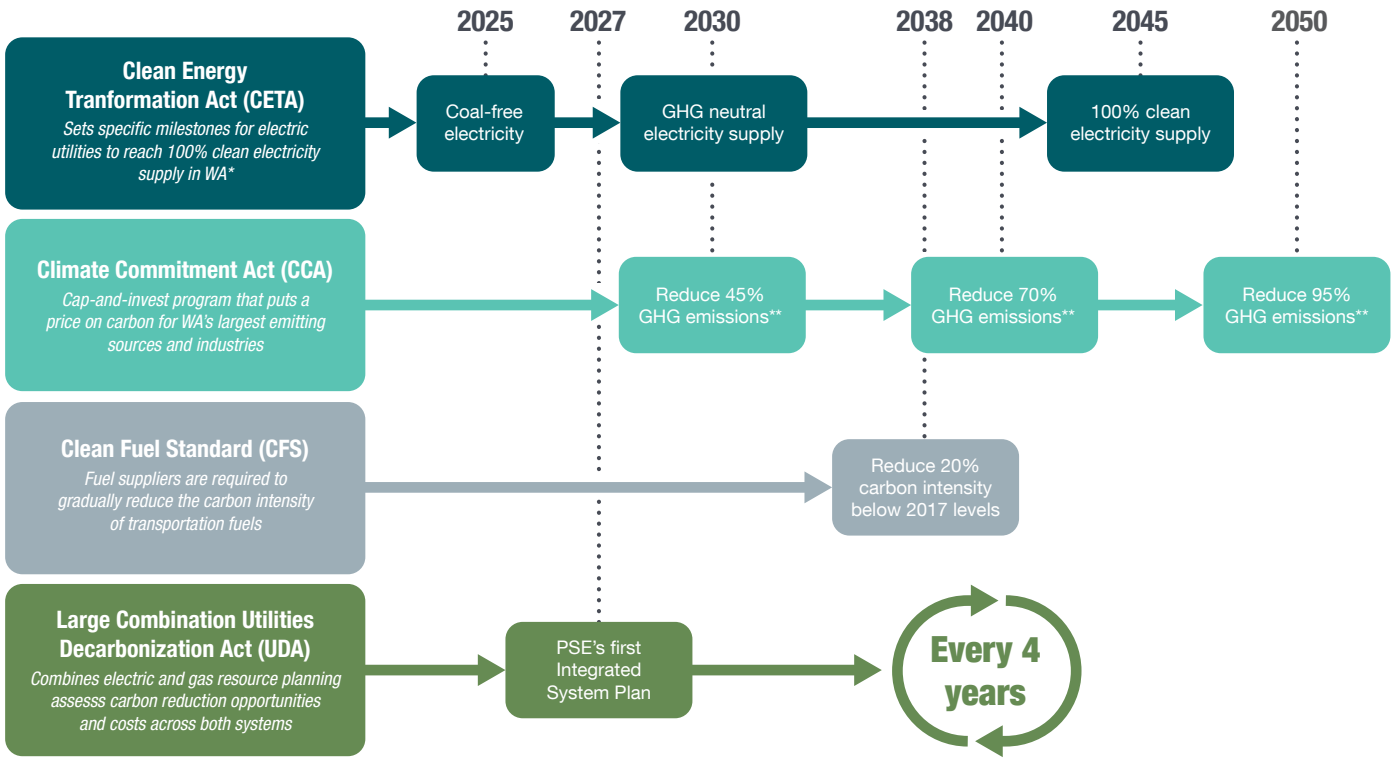
3 Washington Utilities and Transportation Commission, *Clean Energy Transformation Act*, available at https://www.utc.wa.gov/regulated-industries/utilities/energy/conservation-and-renewable-energy-overview/clean-energy-transformation-act (last accessed Feb. 8, 2025).

4 Washington Department of Ecology, *Washington's Cap-and-Invest Program*, available at https://ecology.wa.gov/air-climate/climate-commitment-act/cap-and-invest (last accessed Feb. 8, 2025).

- The **Large Combination Utilities Decarbonization Act** requires PSE to thoughtfully plan for the potential range of our electric and natural gas customer choices (e.g., home electrification, electric vehicle purchase) consistent with Washington's aggressive climate goals by merging electric and gas resource planning into one integrated process—an Integrated System Plan—that evaluates the feasibility and cost of carbon reductions across both energy systems. Rulemaking is ongoing which will provide more direction for implementation.

These comprehensive climate laws, particularly CETA and the CCA, provide a framework for PSE's business planning and emissions reduction goals. This 2025 Climate Action Update shares the meaningful progress we've made since 2021, discusses the challenges and lessons learned along the way and offers an updated pathway for our continuing climate action efforts as we work to contribute to Washington's emission reduction goals through 2045 and beyond. Our strategy is informed by our experiences over time, but 2045 is still two decades away. As we continue on this journey, we remain mindful of shifting external market and policy factors outside of our direct control and expect that the path to decarbonization and our interim milestones will continue to evolve.

SIGNIFICANT WASHINGTON STATE CLIMATE LAWS DRIVING THE CLEAN ENERGY TRANSITION



*Retail sales
**Below 1990 levels

CLIMATE ACTION PROGRESS

Since 2021, PSE has made notable strides towards long-term decarbonization.[5] Following the climate action pathways identified in our 2021 white paper considered along with lessons learned since that time, we have put our current decarbonization efforts into three categories: (1) electric supply; (2) gas supply and (3) climate action beyond direct energy supply (i.e., other climate actions, including efforts to decarbonize our operations and transportation electrification).

In our pursuit of decarbonization since 2021, we have sought and acquired new resources, undertaken studies, piloted new technologies and programs, advocated for and achieved siting reform and supported and implemented carbon pricing and other state emissions reduction policies. This important progress was made in the context of meaningful changes to laws and regulations that we must follow, our obligations to meet our customers' energy demands and the need to respond quickly and effectively to rapidly changing operational demands and situational conditions associated with extraordinary wildfire activity and the increasing frequency, duration and intensity of climate-related events, including storms, flooding and drought.

ELECTRIC SUPPLY EFFORTS AND ACHIEVEMENTS

Over the past five years, we have been working to reduce emissions from generation of our retail electric supply, consistent with CETA and the CCA, including:

- **Driving development of more renewable and non-emitting generation, distributed generation and demand side resources**: We issued nine requests for proposals ("RFPs") and evaluated responses for the following categories: all-source, targeted distributed energy resources ("DER"), energy efficiency, Lower Snake River wind expansion, distributed solar and storage, non-wires alternatives and capacity and firm energy. This includes seven RFPs seeking CETA-eligible resources and additional resources to address seasonal peak loads.
- **Increasing our renewable energy capacity**: Since CETA was enacted in 2019, PSE has signed 31 contracts for a total of 3,880 MW of CETA-compliant nameplate generating capacity. Since early 2021, this includes 700 MW of solar and wind nameplate generating capacity acquired through PSE-owned assets and power purchase agreements ("PPAs").[6] An additional 248 MW of PSE-owned wind capacity is anticipated to begin operation this summer, and PSE will begin construction of a 142 MW solar facility in late 2025[7] with expected commercial operation in late 2026. An additional 455 MW in signed PPAs will come online between 2025 and 2028.[8] Additionally, a recently signed 20-year PPA provides PSE with 25% of the output from two Columbia River dams beginning in 2031.[9]

5 Decarbonization is a non-linear process dependent on cleaner resource availability (including snowpack) and customer energy demand (including demand from colder weather); because of these variances, year-to-year comparisons are not expected to indicate a consistent absolute reduction.

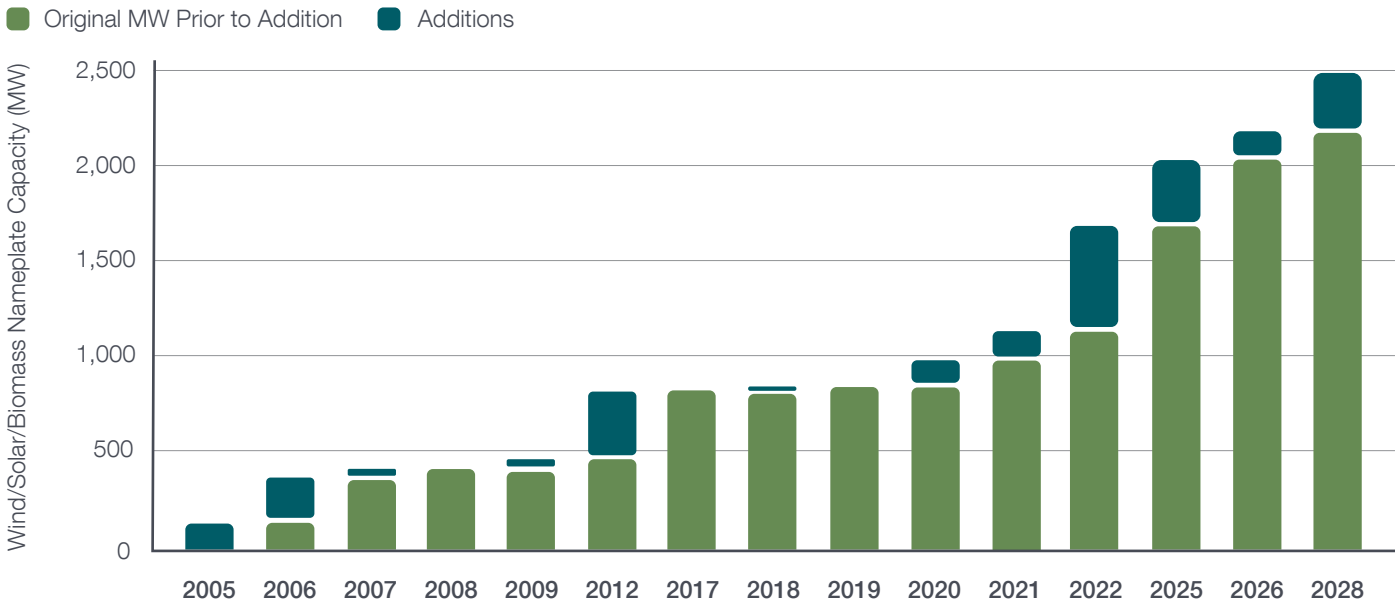
6 Golden Hills Wind (200 MW), Clearwater Wind (350 MW) and Lund Hill Solar (150 MW) were added in 2022.

7 Beaver Creek Wind Facility (248 MW) and Appaloosa Solar Project (142 MW).

8 Vantage Wind Energy Center (90 MW) in 2025, Brookfield Renewable (50 MW) in 2026 and Haymaker Wind Farm Farm (315 MW) in 2028.

9 PSE, *Chelan PUD and Puget Sound Energy Announce Long-Term Clean Energy Contract* (Feb. 7, 2023), available at https://www.pse.com/en/press-release/details/Chelan-PUD-and-Puget-Sound-Energy-Announce-Long-Term-Clean-Energy-Contract (last accessed May 5, 2025).

PSE'S WIND, SOLAR AND BIOMASS PORTFOLIO: DEVELOPMENT PROGRESS UP TO 2028[10]



- **Planning for coal generation divestment and bridging our dispatchable capacity gap with lower-emitting combined cycle natural gas**: We finalized our plan to divest a total of 1,057 MW of coal generation capacity from our portfolio by Jan. 1, 2026, marking our compliance with the first significant CETA milestone. Removal of coal generation from our portfolio results in a substantial loss of dispatchable capacity which is critical to maintaining system reliability when intermittent sources such as wind and solar are not available. To address the temporary shortfall,[11] PSE has secured a PPA for lower-emitting combined cycle natural gas generation as a bridge. While still an emitting resource, the U.S. Energy Information Administration estimates that the replacement of coal with natural gas generation results in approximately a 50% reduction in carbon emissions per MWh generated.[12]
- **Sustainable Financing**: In 2023 and 2024, PSE issued a total of $800 million in green bonds under our Sustainable Financing Framework which supported the development of projects that reduce carbon emissions, including our Baker Dam re-grouting project (which increases cleaner energy output) and the funding of PPAs for CETA-compliant energy resources. These investments are expected to result in avoided emissions of over 1.2 million metric tons of equivalent carbon dioxide ("CO_2e") per year.[13]

10 Portfolio includes owned and long-term firm contract.

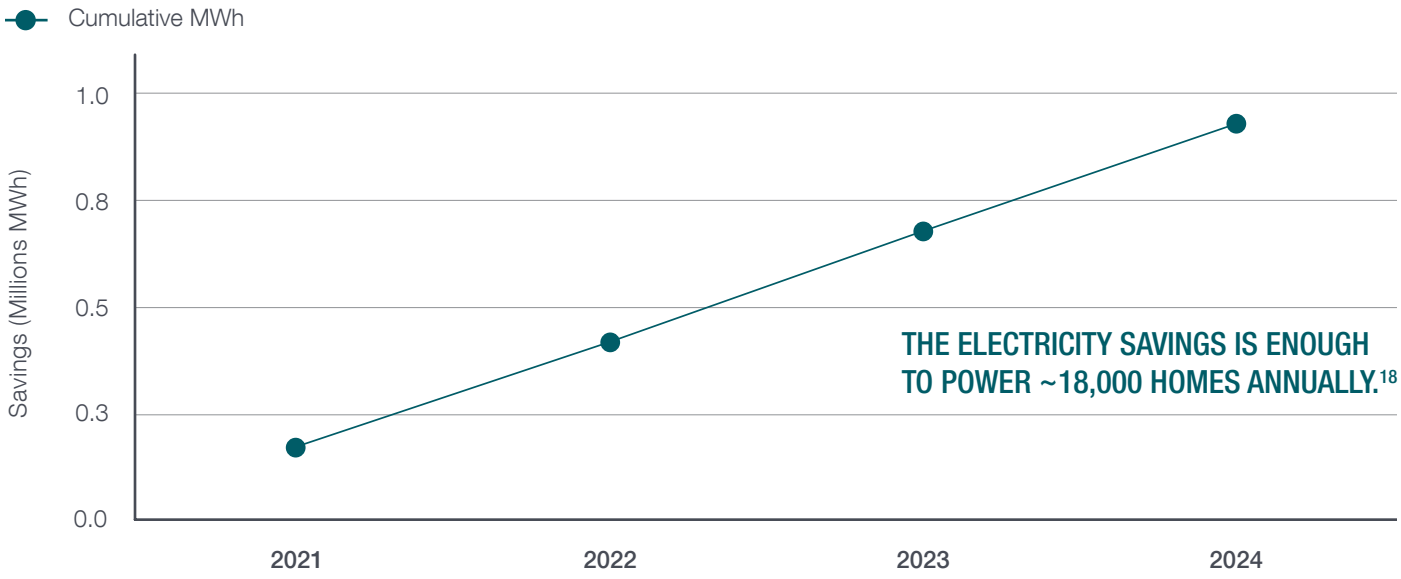
11 Commercial non-emitting dispatchable capacity is not yet available in the Pacific Northwest (except for the Columbia Generating Station nuclear facility which has been fully subscribed since operations began in 1984).

12 See U.S. Energy Information Administration, *Electric power sector CO_2 emissions drop as generation mix shifts from coal to natural gas* (June 9, 2021), available at https://www.eia.gov/todayinenergy/detail.php?id=48296 (last accessed on April 12, 2025). Note that this estimate only assesses direct emissions from the energy generation facility.

13 Avoided emissions were calculated assuming the electricity would need to be replaced with "unspecified" market purchases using Equation 4 at WAC 173-444-040(4). See PSE, *Puget Sound Energy 2023 Green Bond Allocation Report* (May 2024), available at https://www.pse.com/-/media/PDFs/Sustainability/Puget-Sound-Energy-2023-Green-Bond-Allocation-Report.pdf?rev=aa82eed72cd0419b94260da73fe19e1f&modified=20240513230518&hash=E46AEE6B2DE74EEA17E0CD918EC71002 (last accessed April 12, 2025).

- **Aggressively pursuing and advocating for transmission solutions**: PSE signed a nonbinding memorandum of agreement with Grid United to own 750 MW, the largest share of any participating utilities, of the proposed North Plains Connector, a 420-mile, 3,000 MW high-voltage direct-current ("HVDC") transmission line.[14] Once completed, the project will establish the first transmission link among the Midcontinent Independent System Operator, the Western Electricity Coordinating Council and the Southwest Power Pool, providing additional geographic diversity, flexibility and resource sharing that will allow for better integration of renewable energy sources across multiple western states.[15] PSE has also begun transmission planning studies necessary for a future Cross-Cascades transmission line to support the use of more renewable development east of the Cascade Mountains.
- **Investing in SMR**: PSE invested $10 million in Energy Northwest's "next generation nuclear" feasibility analysis for a small modular reactor ("SMR") to be located at the Hanford Nuclear Site where Energy Northwest currently operates the Columbia Generating Station, Washington State's only commercial nuclear energy facility. We continue to actively monitor other SMR and fusion technologies.[16]
- **Implementing energy efficiency**: Since 2021, energy efficiency investments have saved an estimated 930,000 MWh through comprehensive programs including lighting upgrades, building weatherization and insulation programs, HVAC upgrades and business energy management services.[17]

ACCUMULATED ELECTRICITY SAVINGS SINCE 2021



14 PSE, *Puget Sound Energy signs on to largest share of North Plains Connector transmission project* (Dec. 9, 2024), available at https://www.pse.com/en/press-release/details/Puget-Sound-Energy-signs-on-to-largest-share-of-North-Plains-Connector-transmission-project (last accessed April 12, 2025).

15 The North Plains Connector is just beginning the permitting phase and initiating regulatory filings. For more information, see https://northplainsconnector.com/ (last accessed April 12, 2025).

16 Energy Northwest, *Next-generation nuclear feasibility gets a $10M boost with PSE investment* (Jan. 10, 2024), available at https://www.energy-northwest.com/whoweare/news-and-info/Pages/Energy-Northwest%E2%80%99s-next-generation-new-nuclear-feasibility-gets-a-$10M-boost-with-Puget-Sound-Energy-investment--.aspx (last accessed May 5, 2025).

17 Based on estimated savings between 2021 and 2024. See PSE's *Annual Energy Efficiency Conservation Accomplishments* reports, available at https://www.pse.com/en/pages/rates/electric-tariffs-and-rules#sort=%40documentdate%20descending&f:ScheduleType=[Conservation]&f:DocumentType=[C.%20Historical%20Plans%20and%20Reports] for 2021–2023 values and PSE's *2024 Annual Report of Energy Efficiency Conservation Accomplishments* (April 2, 2025), available at https://apiproxy.utc.wa.gov/cases/GetDocument?docID=43&year=2023&docketNumber=230892 for 2024 values (last accessed April 12, 2025).

18 The average number of homes powered is calculated by dividing the annual electricity savings for 2021–2023 by Washington State's average annual residential electricity consumption from the U.S. Energy Information Administration for years 2021–2023.

- **Demand response efforts**: We implemented demand response programs and piloted new time-of-use rates.[19] On Feb. 12, 2025, during a Northwest cold spell, demand response set a PSE record of over 80 MW peak load reduction through demand response. Additionally, our Flex EV program contributed to load shed results through managed EV charging, marking a milestone in our company's history.

- **Microgrid development**: In 2023, PSE installed a community microgrid on Samish Island. The microgrid consists of a 50-kW/332-kWh battery and an 8-kW ground-mount solar photovoltaic ("PV") array in a residential neighborhood with a high occurrence of customer-owned rooftop solar. Over the next ten years, we'll test the system's ability to form a microgrid and provide back-up power during an outage. The results from the testing of this project will inform future battery and microgrid projects that support system reliability and renewable DER integration.

- **Launching our Virtual Power Plant ("VPP")**: PSE's VPP is a virtual platform that allows sites with up to 5 MW of capacity to be integrated into and dispatched to PSE's distribution system in a coordinated manner. In January 2025, a new milestone was reached when the Samish Island microgrid was connected directly to the VPP. The VPP also enables the scaling of distributed battery deployments to function as system and local peak assets; we hope to have 33 MW of directly connected batteries controlled by the VPP by the end of 2027.

- **Collaborating on enhanced geothermal development**: We partnered with Pacific Northwest National Labs on a U.S. Department of Energy ("DOE") grant application to investigate how enhanced geothermal energy within our region can be developed. If awarded, the outcome of this effort will be a greater understanding of the economic and operational characteristics of enhanced geothermal energy, and how this energy source enables the adoption and integration of other renewable resources. These learnings would support future portfolio modeling that includes geothermal resources and evaluations for resource acquisition.

- **Conducting alternative fuel for power generation pilot studies**: We conducted tests using readily available renewable diesel ("R99"[20]) at PSE's Crystal Mountain Generator and Frederickson Generation Station. Results indicate a reduction in nitrogen oxide ("NO_X") emissions during R99 combustion compared to ultra-low sulfur diesel combustion, which the facilities currently use. Since the sulfur content of R99 is less than that of ultra-low sulfur diesel fuel, R99 also has decreased sulfur dioxide ("SO_2") emissions. We also evaluated a pilot hydrogen project at PSE's Fredrickson Generation Station. Additionally, we joined a commercial team for a hydrogen-fueled combustion turbine proposed as part of the larger Pacific Northwest Hydrogen Hub ("PNWH2").[21]

- **Supporting carbon capture and sequestration ("CCS")**: PSE has explored partnerships and examined feasibility of CCS at our Goldendale combined cycle combustion turbine ("CCCT") facility and evaluated carbon capture potential within the context of CETA requirements.

- **Supporting policy reform**: We supported the enactment and ongoing implementation of new climate policies, including an integrated gas and electric system planning bill, and an assortment of significant new siting and permitting reform bills to support the development of new renewable and non-emitting electric generation and transmission.

19 PSE, *Business Demand Response*, available at https://www.pse.com/en/business-incentives/energy-management-programs/business-demand-response; PSE, *Time-of-Use (TOU) pilot program*, available at https://www.pse.com/en/account-and-billing/time-of-use (last accessed April 12, 2025).

20 R99 is a blend of 99% renewable diesel and 1% petroleum diesel, so it is not currently CETA compliant. R99 could nevertheless help meet our 2030 electric supply goal because new non-emitting dispatchable generation is not yet available at commercial scale and so cannot be used to meet 2030 targets.

21 See Pacific Northwest Hydrogen Association, https://www.pnwh2.com (last accessed Feb. 8, 2025).

GAS SUPPLY EFFORTS AND ACHIEVEMENTS

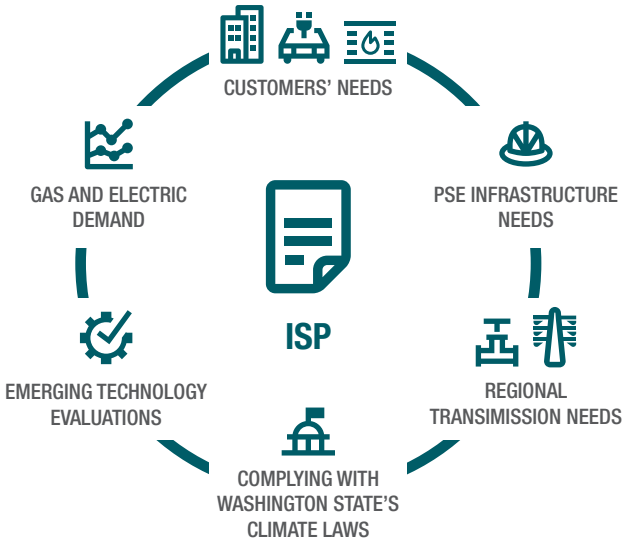
While PSE's recent resource planning analysis continues to show that direct use of natural gas for heating remains critical to meeting our customers' overall energy needs,[22] we have been working to reduce emissions associated with our natural gas sales.

- **Evaluating targeted electrification**: In conjunction with our 2022 rate case settlement, we developed a Targeted Electrification Pilot program.[23] We also implemented additional targeted electrification efforts using funding associated with the CCA to support low-income customers. Our objectives included evaluation of costs and benefits of targeted electrification for customers who are low-income or reside in areas where the gas delivery system is demand constrained. We used this information to update our Decarbonization Study and prepare a Targeted Electrification Strategy along with input from various interested parties.[24]

- **Collaborating on hydrogen**: We were selected, as a major industry partner, to be part of the PNWH2 Hub, which is eligible to receive up to $1 billion in grant funding from the U.S. DOE Hydrogen Hub program. Participation in the Hub will help the green hydrogen industry grow and scale in Washington, creating future supplies of CETA-compliant green electrolytic hydrogen for potential use by PSE.

  Furthermore, PSE collaborated on two hydrogen blending pilots to evaluate blending of hydrogen with natural gas in existing natural gas infrastructure.[25] PSE is also working with Modern Hydrogen to promote distributed methane pyrolysis technology, a groundbreaking technology that can remove carbon and produce hydrogen from natural gas at the point of use for commercial and industrial customers.[26] We continue to track other emerging hydrogen technologies.

- **Integrating electric and natural gas planning**: In line with our obligation under the Large Combination Utilities Decarbonization Act, which was enacted in 2024 we will integrate electric and gas resource planning. PSE completed the initial integration step with the submission of its first Integrated System Plan ("ISP") Work Plan[27] to combine electric and natural gas planning into one comprehensive process, which was approved by the Washington Utilities and Transportation Commission ("WUTC") in July 2024. The ISP will streamline the planning process and provide more transparency for customers on greenhouse gas emissions reduction potential and associated costs.



22 Specifically, supplying natural gas for customer heating remains essential to PSE meeting our system's peak energy demand on the regions' coldest days because our current electrical supply alone cannot meet this demand. In addition, the direct use of natural gas for peak heating is also more efficient (lower GHG emitting) than using natural gas to generate electricity for use in home heating.

23 PSE, *Puget Sound Energy Launches Targeted Electrification Pilot in Its Service Territory* (Sept. 7, 2023), available at https://www.pse.com/en/press-release/details/Puget-Sound-Energy-Launches-Targeted-Electrification-Pilot-in-Its-Service-Area (last accessed April 12, 2025).

24 See PSE, "2023 Decarbonization and Electrification Study (2022 General Rate Case Settlement Stipulation O)", available at https://www.cleanenergyplan.pse.com/library (last accessed April 21, 2025).

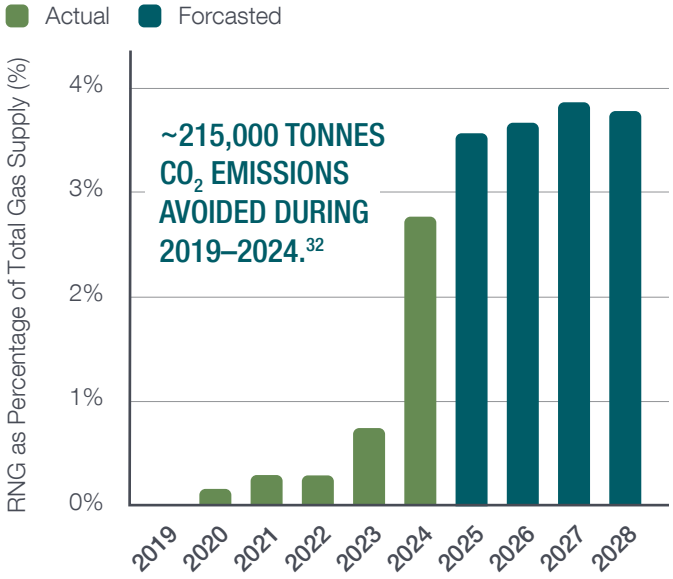
25 PSE, *Hydrogen pilots*, available at https://www.pse.com/en/pages/Lower-Carbon-Fuels/Hydrogen-pilots (last accessed April 12, 2025).

26 PSE, *Puget Sound Energy and Modern Hydrogen forge decarbonization path with innovative hydrogen technology* (Jan. 29, 2025), available at https://www.pse.com/en/press-release/details/PSE-and-Modern-Hydrogen-forge-decarbonization-path-with-hydrogen-technology (last accessed April 12, 2025).

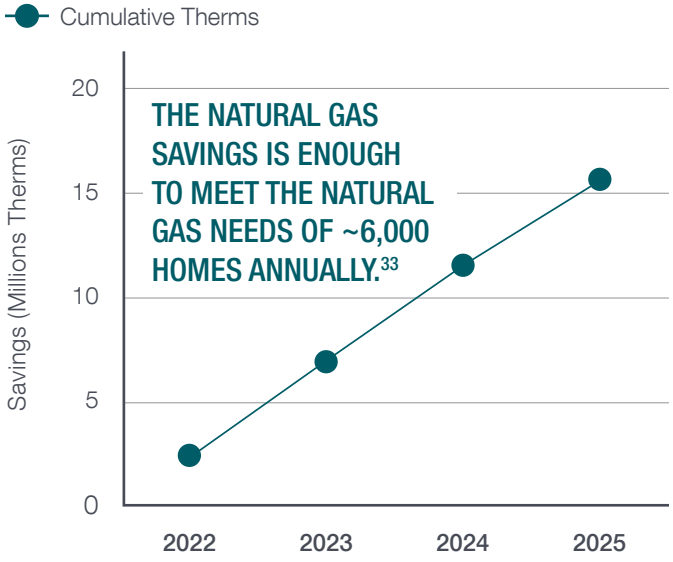
27 PSE, *Planning Transition Work Plan*, "2027 Integrated System Plan", available at https://www.cleanenergyplan.pse.com/library (last accessed April 12, 2025).

- **Renewable natural gas ("RNG")**:[28] We continued additions to our RNG portfolio by securing the full output of the Roosevelt Landfill in Klickitat County in late 2023 (tripling our previous supply from Klickitat), and we entered new agreements for purchasing RNG from a number of landfills, wastewater treatment plants, and food processing projects, both as environmental attribute purchases ("RTCs") and bundled physical gas. These new additions will allow us to provide physical RNG or RNG RTCs for 3–4% of the gas delivered to all customers, as well as the continuation of our Carbon Balance program for customers who voluntarily sign up for PSE to purchase verified carbon offsets from local forestry projects on behalf of program participants.[29]
- **Energy efficiency**: Since 2021, energy efficiency investments have saved over 15 million therms of natural gas.[30]
- **Supporting policy reform**: We supported the enactment and ongoing implementation of a new climate policies, including an integrated gas and electric system planning bill (i.e., HB 1589), and pursuit of funding for additional targeted electrification and further alternative fuel (hydrogen) pilots.

RNG AS PERCENTAGE OF TOTAL GAS SUPPLY: ACTUAL AND FORECAST[31]



ACCUMULATED NATURAL GAS SAVINGS SINCE 2021



28 According to the U.S. Environmental Protection Agency ("EPA"), RNG "is a term used to describe biogas that has been upgraded for use in place of fossil natural gas. The biogas used to produce RNG comes from a variety of sources, including municipal solid waste landfills and anaerobic digester plants at water resource recovery facilities (wastewater treatment plants), livestock farms, food production facilities and organic waste management operations." EPA, *Renewable Natural Gas*, available at https://www.epa.gov/lmop/renewable-natural-gas (last accessed March 31, 2025).

29 Under PSE's Carbon Balance program, customers voluntarily sign up for PSE to purchase verified carbon offsets from local forestry projects on behalf of program participants.

30 Based on estimated savings between 2021 and 2024. See PSE's *Annual Energy Efficiency Conservation Accomplishments* reports available at https://www.pse.com/en/pages/rates/electric-tariffs-and-rules#sort=%40documentdate%20descending&f:ScheduleType=[Conservation]&f:DocumentType=[C.%20Historical%20Plans%20and%20Reports] for 2021–2023 values and PSE's *2024 Annual Report of Energy Efficiency Conservation Accomplishments* (April 2, 2025), available at https://apiproxy.utc.wa.gov/cases/GetDocument?docID=43&year=2023&docketNumber=230892 for 2024 values (last accessed April 12, 2025).

31 RCW 80.28.385(1) requires that the RNG charges to natural gas customers may not exceed 5% of the amount charged to retail customers for natural gas.

32 The avoided emissions are calculated based on the EPA's CO_2 emission factor for natural gas and the total RNG (both attributes and bundled physical gas).

33 The average number of homes heated is calculated by dividing the annual natural gas savings for 2021–2024 by Washington State's average annual household site natural gas consumption from the U.S. Energy Information Administration for 2020, which is the most recent available.

CLIMATE ACTION BEYOND DIRECT ENERGY SUPPLY

Since 2021, PSE has overhauled our carbon emission accounting disclosures, engaged with the public, regulators and customers on our emission reduction plans and pursued meaningful climate-related actions linked to the transportation sector as well as our operational emission footprint (e.g., methane leaks reduction), including:

- **Expanding carbon accounting and sustainability reporting**: We expanded and updated our reporting under various frameworks to promote more transparent and comprehensive carbon accounting and sustainability disclosures (e.g., Sustainability Accounting Standards Board framework, Global Reporting Initiative framework, Edison Electric Institute template and Sustainable Financing Framework).[34] We also aligned our carbon inventory reporting with the GHG Protocol and updated guidance and conducted third party verification of carbon emission reporting.
- **Supporting community and equity initiatives**: We facilitated a two-year Beyond Net Zero Carbon Advisory Committee with the William D. Ruckleshaus Center at the University of Washington made up of various local stakeholders to provide input and recommendations on our greenhouse gas emissions reduction goals.[35] We also convened an Equity Advisory Group, consistent with CETA, to seek perspectives from and broaden engagement with communities we serve, including representatives from highly impacted communities and vulnerable populations.
- **Supplying LNG to marine vessels**: Use of LNG as a replacement for marine gasoil resulted in the following approximate emission reductions:[36] 28% lower carbon dioxide ("CO_2"), 83% lower NO_X, 79% lower SO_2 and 66% lower particulates. This is equivalent to an approximate average annual reduction of 53,300 metric tons (t) CO_2, 2,800 t NO_X, 4 t SO_2 and 24 t particulates over the two-year period from 2023–2024.
- **Investing in customer transportation electrification programs**: PSE expanded its Up & Go Electric Program in 2023 with an added focus on expanding EV charging for multi-family housing.[37] Additionally, PSE's Fleet Program assists businesses, transit authorities, government agencies, community-based service providers and other commercial organizations in electrifying their vehicle fleets. Future program offerings include residential rebates and more public charging solutions planned to launch later in 2025.

34 See PSE, *Corporate Sustainability*, available at https://www.pse.com/en/about-us/Sustainability (last accessed April 12, 2025).

35 William D. Ruckelshaus Center, *Final Summary: Beyond Net Zero Advisory Committee* (December 2023), available at https://wpcdn.web.wsu.edu/wp-wsucahnrs/uploads/sites/2180/2024/01/PSE-BNZ-A.C.-2022-2023-Report.pdf (last accessed May 5, 2025).

36 See, Puget Sound Clean Air Agency, *Proposed Tacoma Liquefied Natural Gas Project–Final Environmental Impact Statement* (March 29, 2019), available at https://pscleanair.gov/DocumentCenter/View/3616/Tacoma-LNG-FSEIS-032919?bidId (last accessed April 12, 2025).

37 See PSE, *Transportation Electrification*, available at https://www.pse.com/en/pages/electric-cars/transportation-electrification (last accessed April 12, 2025).

- **Forest offsets**: PSE developed and maintained forest offsets from our management of forestry projects at our former White River hydropower facility and our current Baker hydropower facility.[38] PSE purchases additional forest offsets for our customers participating in our Carbon Balance program.[39]
- **Managing sulfur hexafluoride ("SF_6")**: We are updating our SF_6 tracking system to promote early detection and repair of equipment leaks and have deployed infrared camera technology to identify specific leak locations in the field.
- **Methane leaks**: In 2023, we eliminated our backlog of all known non-hazardous leaks[40] on our natural gas distribution system.[41] All leaks are now addressed as they are identified (i.e., "find and fix" approach) specifically to reduce greenhouse gas emissions. We have also adopted targeted operating procedures to minimize releases associated with third-party excavation damage and implemented more sensitive leak detection equipment to find and repair leaks more quickly.
- **Wildfire mitigation**: In the last few years, climate-related catastrophic wildfires have emerged as a significant public health and safety concern for much of the Western United States. They have also recently become a top business risk consideration for many utilities, including PSE. In 2022, PSE established a Wildfire Mitigation and Response Program by taking a comprehensive approach to addressing the evolving risk of wildfires caused by utility operations to help keep customers and communities safe. We prepare and implement annual Wildfire Mitigation Plans that include greatly increased situational awareness, collaboration and training with emergency response providers, real-time evaluation of high-risk areas, grid hardening and operational procedures to reduce risk of wildfire caused by utility equipment.[42]

38 See American Carbon Registry, *Puget Sound Energy Baker-White River Forest Carbon Project*, available at https://acr2.apx.com/mymodule/reg/prjView.asp?id1=539 (last accessed April 9, 2025).

39 PSE, *Carbon Balance: Easily reduce greenhouse gas emissions*, available at https://www.pse.com/en/green-options/Renewable-Energy-Programs/carbon-balance-for-home (last accessed April 12, 2025).

40 "Grade C" leaks that do not pose a current safety risk to persons or property—federal law requires only monitoring of Grade C leaks.

41 See the most current version of PSE's Sustainability Report available at Corporate Sustainability, https://www.pse.com/en/about-us/Sustainability (last accessed April 12, 2025).

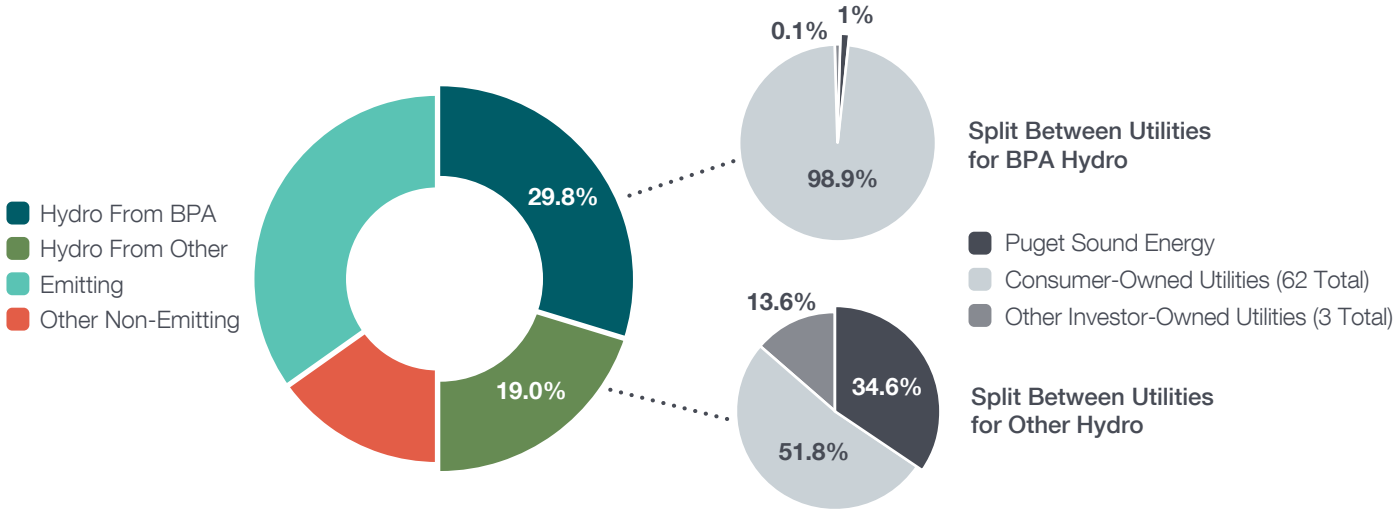
42 PSE, *Wildfire Program: Wildfire Mitigation and Response*, available at https://www.pse.com/en/pages/Wildfire-preparedness/wildfire-programhttps://www.pse.com/en/pages/Wildfire-preparedness/wildfire-program (last accessed April 16, 2025).

CHALLENGES AND LESSONS LEARNED

Many of the challenges faced in our transformation to cleaner energy resources are physical system constraints related to the history of the Pacific Northwest energy development and infrastructure buildout.

- **History of the Pacific Northwest grid**: The geographic distribution of generation and transmission assets developed through reliance on once-plentiful hydroelectric generation backed up with fossil fuel energy generation and complementary natural gas distribution for use in direct heat during times of peak demand in higher population centers. As such, PSE's electricity and natural gas systems were designed to function as an integrated energy delivery system. However, the electric system of today, including both power generation and power delivery components (i.e., transmission and distribution), is not sized to meet the current and anticipated space and water heating and process needs of our residential and industrial gas customers. Given the long-lead times to expand the capacity of the entire electric system beyond what is required to decarbonize existing electric energy supply, the gas system will need to be part of the overall energy solution in our region for some time to come.
- **Allocation of hydroelectric resources amongst utilities**: While the Pacific Northwest is a leader in U.S. renewable electricity generation, PSE's challenges include limited access to the federal hydropower system that serves Washington public utilities districts, municipal utilities and electric cooperative (consumer-owned) utilities directly. As a result, PSE came to own much of the region's dispatchable fossil fuel generation that meets more than half our customers' electricity needs and serves a significant role in balancing generation with demand in our Northwest regional grid. Consequently, PSE has the largest hill to climb (relative to other Washington utilities) in terms of replacing reliance on low cost and highly dispatchable fossil fuel electric generation with non-emitting resources.

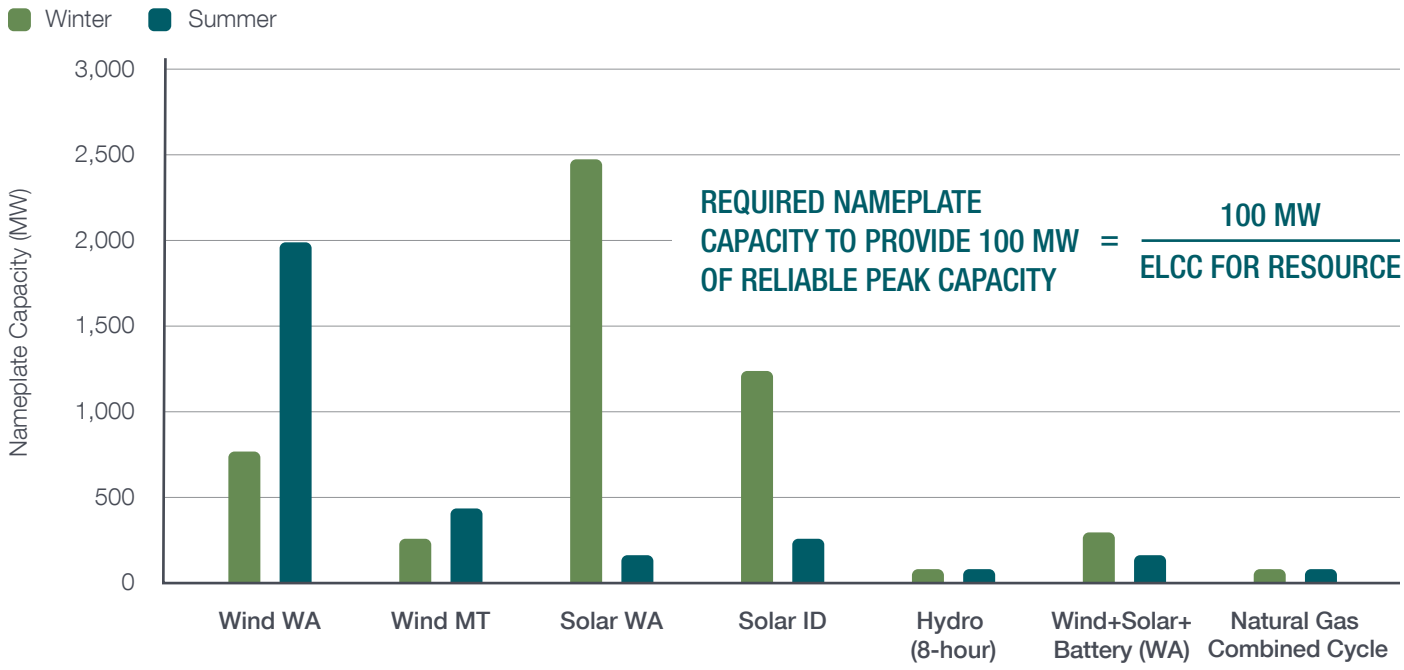
GENERATION SOURCES SERVING 2023 WASHINGTON STATE LOAD[43]



43 See Washington State Department of Commerce, Washington Electric Utility 2023 Fuel Mix Disclosure Report (Feb. 3, 2025), available at https://deptofcommerce.app.box.com/file/1833951047013 (last accessed April 14, 2025).

- **Ongoing need for reliable, affordable energy**: We are mandated to provide reliable, safe energy services to our customers at a reasonable cost.[44] Natural gas generation remains an available, efficient, reliable and necessary means of producing primary and backup electricity, especially during times of constrained hydropower (i.e., below normal snowpack) and solar availability, extreme weather events and operational constraints such as maintaining instream flows to support aquatic life. Because it is both dispatchable and is connected to existing transmission infrastructure, natural gas generation allows us to maintain grid stability and meet peak demand when hydropower is limited, the wind doesn't blow and/or the sun doesn't shine. Natural gas resources typically have a high Effective Load Carrying Capability ("ELCC"), meaning we can count on nearly their full capacity during peak demand periods, unlike variable renewables that have lower ELCC values.[45] Understanding of the reliability contribution of variable renewables is critical when evaluating overall resource adequacy to meet peak demands. In the absence of significant technological advancement in clean or non-emitting dispatchable generation technologies, additional gas generation capacity (MW) will be needed as renewables are added to balance the grid and meet peak demands. However, we expect renewables to reduce the volume of fossil gas burned overall (MWh) because the fossil resources are expected to operate far less frequently.

NAMEPLATE CAPACITY REQUIRED TO PROVIDE 100 MW OF RELIABLE PEAK CAPACITY[46]



44 See Washington Utilities and Transportation Commission, *About the Commission*, available at https://www.utc.wa.gov/about-us/about-commission (last accessed July 7, 2025) and WAC 480-100 (Washington State's electric utility regulations) available at https://app.leg.wa.gov/wac/default.aspx?cite=480-100 (last accessed July 7, 2025).

45 Effective load carrying capability is a measure that helps determine how much a power resource can be counted on to reliably meet electricity demand during peak periods. See Energy+Environmental Economics, *Capacity and Reliability Planning in the Era of Decarbonization* (August 2020), available at https://www.ethree.com/wp-content/uploads/2020/08/E3-Practical-Application-of-ELCC.pdf (last accessed July 9, 2025).

46 The effective load carrying capability factors used are obtained from PSE's 2023 Electric Progress Report's Appendix I's AURORA LTCE Inputs workbook, available at https://www.pse.com/-/media/PDFs/IRP/2023/electric/appendix/App_I_Input_AURORA-LTCE-Inputs.xlsx?rev=781d6fb0bce945f187797094ad221bc4&modified=20230331161455&hash=866349460F271F6540AA8ADC39A31464 (last accessed July 7, 2025).

COMPARISON OF NEEDED ASPECTS SORTED BY POWER GENERATION SOURCE[47]

Source	Dispatchable	Fuel Storage Reliability	Carbon Emission-Free Power Generation	Weather-Independent Generation
Coal	YES	YES	NO	YES
Natural Gas	YES	YES	NO	YES
Wind and Solar	NO	NO	YES	NO
Hydro[48]	PARTIAL	PARTIAL	YES	NO
Geothermal[49]	YES	YES	YES	YES
Nuclear[50]	YES	YES	YES	YES

- **PSE's integrated energy system is still reliant on natural gas distribution to meet winter peak demand:** When natural gas for heating became widely available in our region in the 1960s, it was considered a low cost and cleaner alternative to electricity and thus became a fundamental building block of our region's energy infrastructure. For example, in January 2024, our region experienced two severe weather events: first, a powerful bomb cyclone (Jan. 8–10, 2024 that brought Seattle's first blizzard warning in over 11 years, followed by an arctic air mass during Martin Luther King weekend (Jan. 14–18, 2024) that broke numerous temperature records in the Northwest.[51] During these extreme weather events, our natural gas distribution system was absolutely crucial in meeting heating demand across our service territory, particularly as power prices were spiking. Additionally, until electricity used to heat homes and businesses is generated by non-emitting resources, it is far more efficient[52] and results in lower carbon emissions to use natural gas at the point of application (i.e., at the residence or commercial building).

Notwithstanding the Climate Action Progress detailed above, the past several years have also brought unexpected and, to a certain extent, unprecedented global, national and regional shifts and uncertainties affecting the energy industry. PSE is working to navigate these shifts and uncertainties, which impact progress towards carbon reduction goals. These developments provide important context for setting, and working towards achieving, our aspirational milestones.

- **New geographically diverse resources on an existing grid**: As described above, the Pacific Northwest grid was designed for efficient consistent, one-way flow of electricity from generation to end user. The addition of variable and intermittent wind and solar generation and distributed energy resources (e.g., rooftop solar, batteries) not located near existing infrastructure (or near the customer base[53]) requires new transmission capacity and may require complex orchestration of resources to deliver that energy.[54] In addition, key technologies that facilitate 2045 CETA compliance renewables integration—including long duration storage and/or new dispatchable non-emitting resources—are not yet commercially available at scale.

47 "Yes" to all characteristics listed above indicate that the resource can be an ideal resource to provide reliable, non-emitting electricity generation.

48 Hydro power receives partial ratings due to dependence on operating constraints, water availability, reservoir capacity constraints and seasonal precipitation patterns.

49 Enhanced geothermal systems are not currently commercially available.

50 Small modular reactors and other advanced nuclear technologies are not currently commercially available.

51 National Centers for Environmental Information, *Monthly National Climate Report for January 2024* (February 2024), available at https://www.ncei.noaa.gov/access/monitoring/monthly-report/national/202401 (last accessed May 6, 2025).

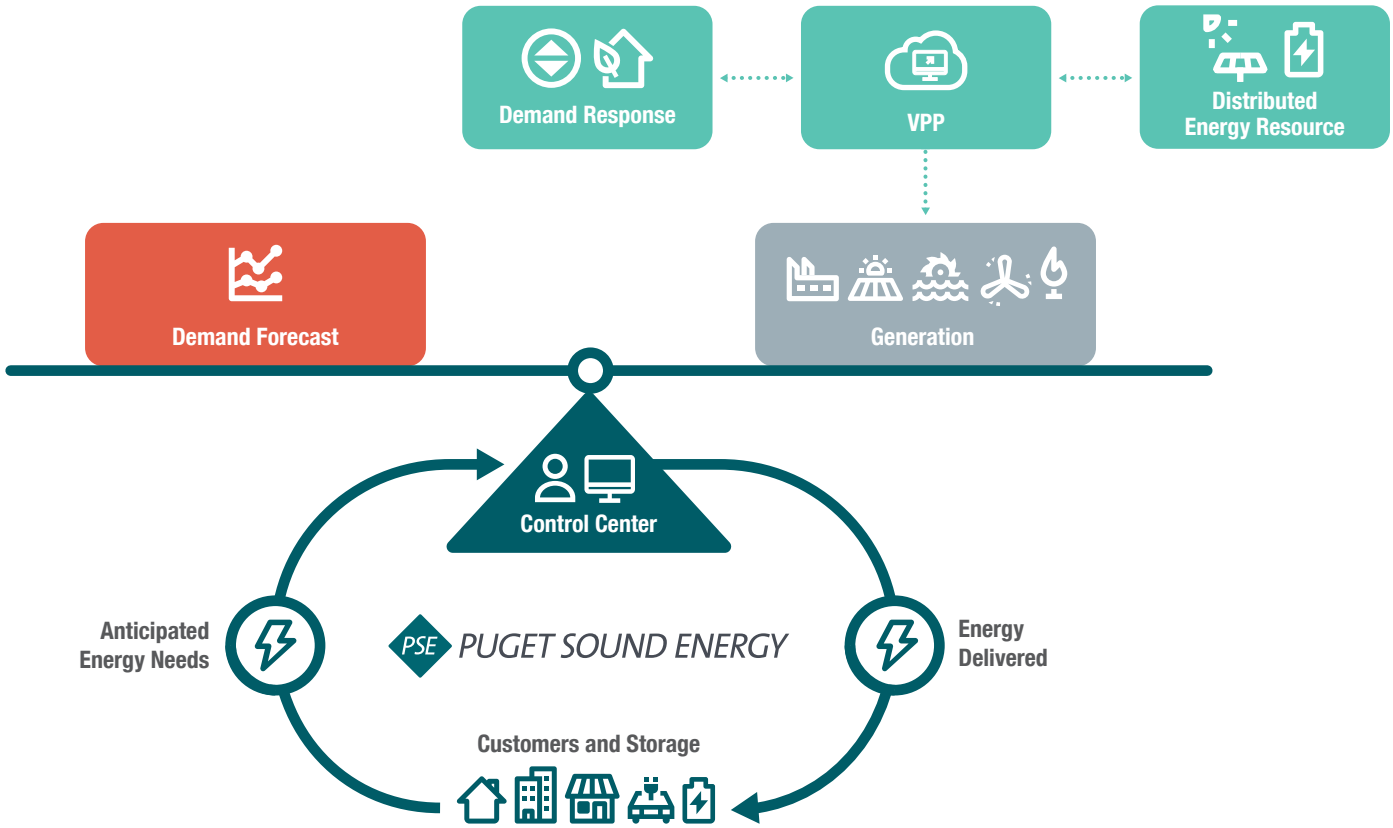
52 Reduced efficiency results from 1) energy losses during conversion of chemical energy in natural gas to electricity and 2) from line losses during the transmission and distribution of that electricity.

53 For example, new renewable resources are largely located east of the Cascade Mountains while PSE's customer base is concentrated in the Puget Sound region.

54 T&D World, *The 3000-GW Waiting List for a Modern Grid* (March 27, 2025), available at https://www.tdworld.com/distributed-energy-resources/article/55266040/the-3000-gw-waiting-list-for-a-modern-grid (last accessed April 16, 2025).

- **Interconnection queue backlog**: Bonneville Power Administration ("BPA"), which operates 75% of the Pacific Northwest transmission capacity, maintains an interconnection queue that, as of June 2024, has 376 active projects.[55] This has resulted in a backlog leading to significant delays in much needed generation interconnection and transmission upgrade projects. Recent federal government staffing reductions, which have resulted in hundreds of employees leaving BPA, will likely exacerbate these backlog issues.[56]

GRID ORCHESTRATION: THE MODERN BALANCING ACT



55 Concentric Energy Advisors, *Clogged Interconnection Queues are Hindering Renewables Development, but Reforms are Underway* (Oct. 3, 2024), available at https://ceadvisors.com/clogged-interconnection-queues-are-hindering-renewables-development-but-reforms-are-underway (last accessed April 16, 2025).

56 Oregon Public Broadcasting, *Former leaders of Bonneville Power say federal staffing cuts threaten stability and safety of NW power grid* (Feb. 19, 2025), available at https://www.opb.org/article/2025/02/19/former-leaders-of-bonneville-power-say-federal-staffing-cuts-threaten-stability-and-safety-of-nw-power-grid/ (last accessed April 16, 2025).

- **Constraints on regional renewable and non-emitting energy project development**: Due to a number of factors including permitting challenges, financial market uncertainties and supply chain disruptions (e.g., labor, materials, transportation and manufacturing capacity) and transmission interconnect constraints, new shovel-ready renewable energy projects are not being developed at the pace necessary to fully meet the ambitions of PSE's Clean Energy Implementation Plan. Available information indicates that these factors will not be fully resolved in the near term, and the potential exponential increase in demand is hindering transmission planning efforts.[57]

- **Pace of technological advances for non-emitting new resource development**: We are encouraged by the multitude of non-emitting generation technologies currently under development; but, as demonstrated by the responses to our recent RFPs, measurable progress to reach non-emitting commercial generation and storage at a utility scale is taking longer than what may have been anticipated in the setting of state goals. Non-emitting dispatchable resources, such as long-duration storage systems (e.g., batteries, hydrogen storage, pumped storage, etc.) and SMR, are critical for balancing intermittent renewable resources but still nascent. With the exception of battery energy storage systems ("BESS"),[58] long-duration storage technologies and economies are still developing, and significantly more non-emitting generation is needed to balance renewable generation resources. To this end, we have invested in an SMR project and are exploring electric generation potential from geothermal, fusion and more. Utility-scale commercial operation of these non-emitting firm technologies is, however, a long way off.[59] In the meantime, PSE is working to replace our existing coal generation with lower emitting natural gas generation and—where possible—renewables coupled with energy storage to provide replacement baseload (firm) resources; however, at this time integrating new renewables at scale will require the addition of new gas generation capacity to ensure reliability.

- **Limited alternatives to replace natural gas distribution**: Decarbonization of the natural gas distribution system (i.e., direct use of natural gas for heating) requires electrification and/or replacement of natural gas with carbon neutral alternative fuel. Electrification relies on a customer opting in (e.g., including replacing their appliances and often upgrading their home electrical panel), which makes it difficult for a utility to control or predict. Moreover, although targeted electrification plays an important role and can be cost-effective, it is exceedingly cost-prohibitive to replace the entire existing gas system with electrification. Lower carbon or carbon neutral alternatives to natural gas include hydrogen and RNG. Hydrogen is not yet available in sufficient quantity for distribution, even though studies have shown it can be blended up to 10 to 25 percent. We have more than doubled our RNG procurement;[60] however, we are still constrained by the 5% Washington State statutory cap.[61] Despite estimates of vast forest residue and RNG potential in Washington and the CFS program, we have not seen much in terms of large-scale biofuel development to date in Washington State.

57 Concentric Energy Advisors, *Clogged Interconnection Queues are Hindering Renewables Development, but Reforms are Underway* (Oct. 3, 2024), available at https://ceadvisors.com/clogged-interconnection-queues-are-hindering-renewables-development-but-reforms-are-underway/ (last accessed April 16, 2025).

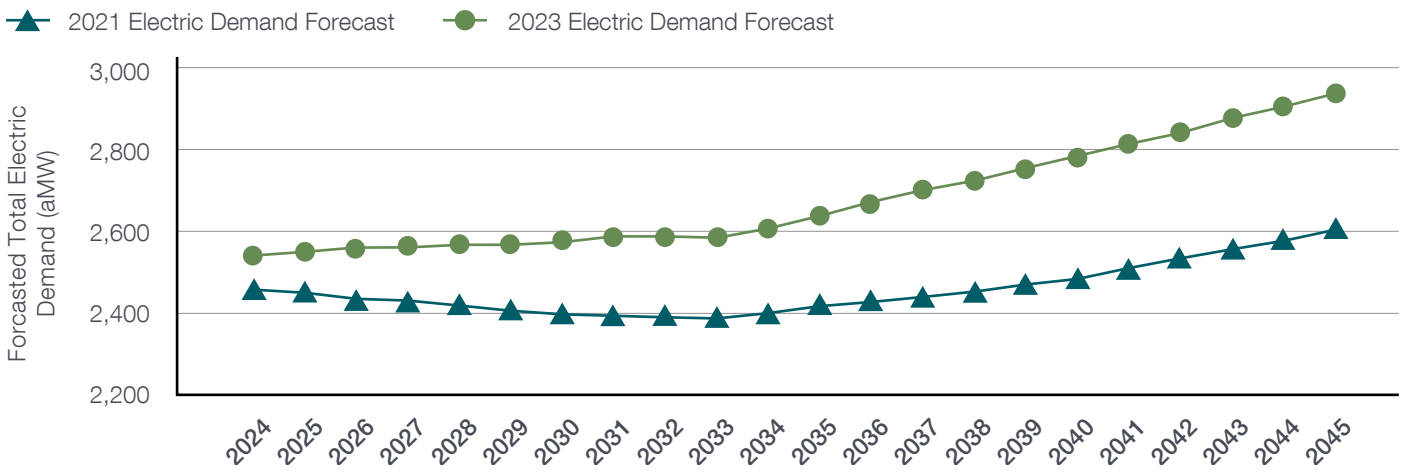
58 BESS refers to commercially available 4-hour battery systems; medium and long-duration batteries are still considered emerging technologies.

59 Baseload means the ability to run constantly and efficiently to meet the bulk of average power demand. See U.S. Energy Information Administration for additional details, https://www.eia.gov/tools/glossary/index.php?id=Base%20load# (last visited April 11, 2025).

60 RNG procurement includes both attributes and bundled physical gas.

61 RCW 80.28.385(1) requires that the RNG charges to natural gas customers may not exceed 5% of the amount charged to retail customers for natural gas.

ELECTRIC DEMAND FORECASTS[62]



- **Greater than expected load forecast increases**: The 2023 Biennial Update to PSE's Clean Energy Implementation Plan ("CEIP") load forecast is significantly higher than what was forecasted in our 2021 CEIP (this trend has been evident in each new forecast since CETA passage). Federal and state EV incentives and tax breaks for the construction of data centers has increased energy demand. As artificial intelligence accelerates, data centers and their associated energy consumption effects are likely to expand as well. The shift towards electrification of transportation, new buildings and other electric uses (e.g., increased industrial demand) is likewise expected to increase the demand for cleaner electricity generation sources.

- **Tightening electricity markets**: At the same time loads are increasing, power markets which were once long (surplus) in the Pacific Northwest and could be relied upon to meet peak demands are tightening significantly. This will be exacerbated by the cessation of coal electricity generation to serve Washington State at the end of 2025. As a result, PSE is moving toward reducing reliance on short term market purchases for grid reliability. Meeting future loads will require an "all of the above" approach to resource acquisition, likely including significant amounts of utility-scale energy storage and new natural gas peaking plants that can transition to renewable fuels in the future, when such fuels become available.

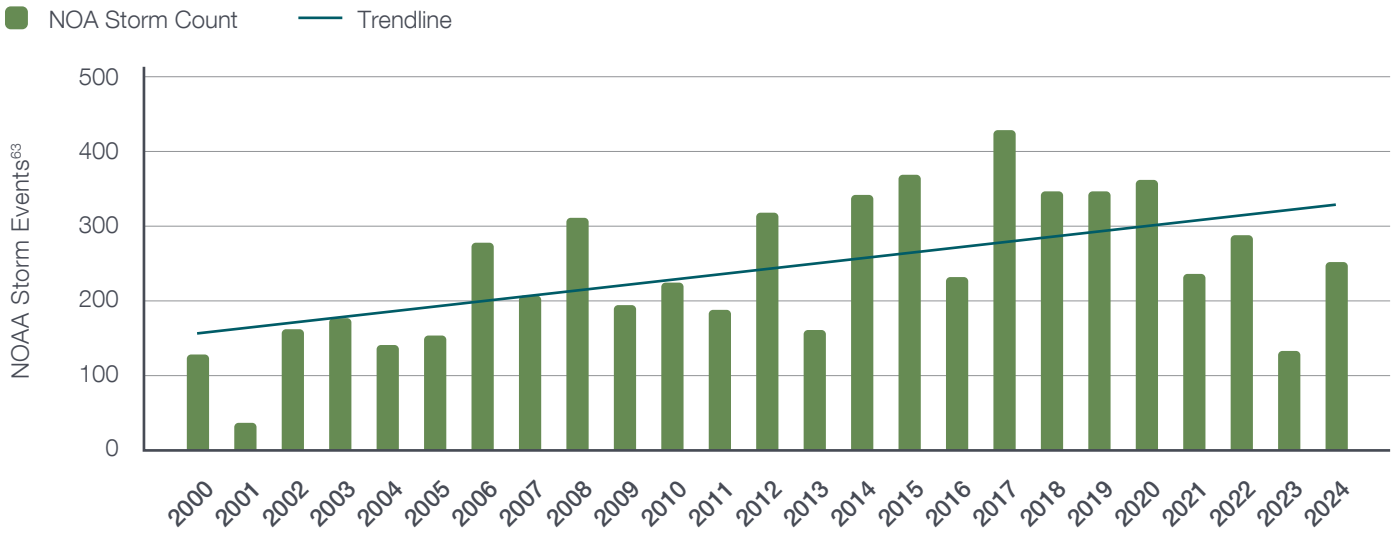
- **Costs associated with extreme weather events**: We have seen longer, more frequent, and increasingly extreme weather events that increase and prolong peak demand (summer cooling and winter heating). Because energy use impacts from extreme weather are not localized (i.e., they occur over large parts of the state if not region), when regional demand is at its maximum due to weather, we must make market purchases at the same time that other energy users are going out to the market for energy which translates into extremely high prices. For example, over Martin Luther King weekend in 2024, prices spiked to over $1,000 per MWh.[63] Another example is the bomb cyclone event that hit our service territory in November 2024, when hurricane-force winds hit the Cascade Foothills area and PSE incurred over $57 million in damage repair costs.[64] These events are near-impossible to predict and impact not only customer costs but also adversely impact our company finances (as we are required to absorb portions of increased energy cost increases), increase our investment risk, further exacerbate our capacity constraints and may also limit the availability of affordable capital for our cleaner energy investments.

62 The electric demand forecast includes Demand Side Resources ("DSR").

63 Wholesale electricity prices in the Northwest hit $1,075/MWh on Jan. 16, 2024 at Mid-C, a new 12-month high and the highest price in the country during the month. See U.S. Energy Information Administration, *Regional Wholesale Markets: January 2024* (March 26, 2024), available at https://www.eia.gov/electricity/monthly/update/archive/march2024/wholesale-markets.php (last accessed April 16, 2025).

64 See Puget Sound Energy's *2024 Qualifying Events Report for Nov. 19, 2024* event that was submitted to the WUTC on Feb. 14, 2025, available at https://apiproxy.utc.wa.gov/cases/GetDocument?docID=452&year=2004&docketNumber=040641 (last accessed April 12, 2025).

U.S. NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) NATIONAL CENTERS FOR ENVIRONMENTAL INFORMATION (NCEI) STORM EVENTS IN WASHINGTON[65]



- **Long-term weather trend impacts on hydroelectric generation**: Warming trends have led to less snowpack, which limits available hydropower, and also to longer duration extreme weather events which increase energy demand.[66] This trend affects not only our need for more dispatchable generation, as discussed above, but also increases reliance on demand response technologies and microgrid deployment, which require complex grid orchestration.
- **Wildfires**: Wildfire risk can significantly impact utility financing and the development of new or upgraded transmission assets that are necessary to connect new cleaner and non-emitting energy resources often located in the drier, easter part of the region. Such risk also direct impacts on a utility's overall creditworthiness, which, in turn, impairs our ability to finance all cleaner energy transition projects. Additionally, wildfires affect the reliability and functionality of existing transmission and generation resources and necessitate more investments in grid hardening and weather monitoring. This factor is further complicated in the Pacific Northwest where high fire risk areas straddle the boundaries between the most dense population centers and the highest capacity renewable resources (current and future).
- **Cost concerns**: PSE must continue to provide energy service at just and reasonable rates, as determined by the WUTC.[67] Cost pressures are a significant concern for PSE and our customers. While PSE plans to propose projects that will improve economic stability and business risks by reducing greenhouse gas emissions in Washington, PSE and our regulator, must balance the increasing system investment needs, including considering trade-offs between those investments needed to reduce emissions, and ensuring manageable costs and value to our customers.[68]

65 The NOAA storm event database is located here (https://www.ncdc.noaa.gov/stormevents/), and the storm event types used in this graph are heavy rain, heavy snow, high wind, ice storm, storm surge/tide, strong wind, thunderstorm wind, winter storm, winter weather for Washington State.

66 See NW Energy Coalition, *Extreme weather events strengthen the case for customer-side resources, particularly managing load* (Oct. 20, 2023), available at https://nwenergy.org/featured/extreme-weather-events-strengthen-the-case-for-customer-side-resources-particularly-managing-load/ (last accessed July 7, 2025); U.S. EPA, *Climate Change Indicators: Snowpack*, available at https://www.epa.gov/climate-indicators/climate-change-indicators-snowpack (last accessed July 7, 2025) and Pacific Northwest National Laboratory, *Hydropower Generation Projected to Rise, but Climate Change Brings Uncertain Future* (Aug. 21, 2024), available at https://www.pnnl.gov/news-media/hydropower-generation-projected-rise-climate-change-brings-uncertain-future (last accessed July 7, 2025).

67 See RCW 80.28.010.

68 Additionally, PSE's historic lack of access to low-cost federal hydropower has always imposed cost pressure on PSE to keep in line with Washington State consumer-owned utilities, but now that pressure is greatly intensified considering the lack of access also means our CETA investment needs far eclipse every other utility in the state. This affordability concern has increased exponentially as consumers have seen big increases in housing and food prices the last few years.

- **Financing challenges**: PSE faces uncertain and delayed cost recovery before the WUTC for its efforts to comply with Washington's climate goals. Regulatory approval uncertainty around recovery of our CCA compliance costs, as well as unanticipated regulatory interpretations of clean energy laws, increase investment risk and can impact PSE's financial outlook and ability to maintain credit metrics and third party credit ratings that affect borrowing costs and customer rates.

- **State climate law implementation**: While PSE has moved aggressively to meet CETA targets, our interim targets are proving elusive—largely due to greater than originally forecast load growth and longer than anticipated project development timelines for siting, permitting, materials sourcing and construction–and there is still uncertainty on how to balance cost to customers. Similarly, CCA's implementation has been more challenging than expected, including a slower than expected path to link with other cap and trade markets, and insufficient runway to support technology development that could bring cost relief to customers.

- **State citizen initiative uncertainty**: Washington voters recently passed a citizen's initiative to repeal parts of the Large Combination Utilities Decarbonization Act. Additionally, Initiative 2066 blocked state and local governments from restricting natural gas service in homes and buildings and reinstates natural gas conservation measures. While a court recently ruled that Initiative 2066 is invalid, that ruling is expected to be appealed, so uncertainty continues going forward.

- **Changing federal administrative priorities**: Although there are state mandates to deliver clean energy, the current federal administration has not expressed support for renewable energy—especially wind energy—as evidenced by recent executive orders and memorandums, while also declaring a policy of favoring coal and other fossil fuel expansion, issuing departmental orders opposing net-zero carbon and climate policies and, lastly, directing legal challenges to state climate and environmental justice laws.[69] The administration has also attempted to pause funding disbursements under the Inflation Reduction Act and the Infrastructure Investment and Jobs Act and with the recent passing of the 2025 reconciliation bill which significantly reduces access to renewable energy tax credits.[70] Federal opposition to renewable energy and greenhouse gas emission reduction goals will pose additional barriers for entities attempting to reduce emissions.[71] The drastic reduction in the federal agency workforce will also likely have an impact regarding the speed at which new emissions-reducing and transmission projects can be implemented.[72]

69 See, e.g., Exec. Order No. 14154 90 CFR 8353 (Jan. 29, 2025), available at https://www.federalregister.gov/documents/2025/01/29/2025-01956/unleashing-american-energy; *Temporary Withdrawal of All Areas on the Outer Continental Shelf From Offshore Wind Leasing and Review of the Federal Government's Leasing and Permitting Practices for Wind Projects*, 90 FR 8363 (Jan. 29, 2025), available at https://www.federalregister.gov/documents/2025/01/29/2025-01966/temporary-withdrawal-of-all-areas-on-the-outer-continental-shelf-from-offshore-wind-leasing-and; U.S. Department of Energy, *Secretary Wright Acts to "Unleash Golden Era of American Energy Dominance"* (Feb. 5, 2025), available at https://www.energy.gov/articles/secretary-wright-acts-unleash-golden-era-american-energy-dominance (last accessed April 12, 2025).

70 See Exec. Order No. 14154 90 CFR 8357 (Jan. 29, 2025), available at https://www.federalregister.gov/documents/2025/01/29/2025-01956/unleashing-american-energy.

71 The New York Times, *Why Trump's Clean Energy Rollbacks Could Derail a Factory Boom* (Feb. 20, 2025), available at https://www.nytimes.com/2025/02/20/business/economy/clean-energy-manufacturing-trump.html (last accessed April 12, 2025).

72 Oregon Business, *Workforce Losses at BPA Will have Grave Impacts on PNW Power Grid, Says Former Administrators* (March 5, 2025), available at https://oregonbusiness.com/loss-of-14-bpa-workforce-will-have-grave-impacts-on-pnw-power-grid-say-former-administrators/ (last accessed July 7, 2025).

THE ROAD AHEAD: CETA COMPLIANCE AND CCA CARBON PRICING

CETA compliance requirements and the CCA's allowance reductions are ambitious, and while we celebrate PSE's achievements, we acknowledge the uncertainties that continue to challenge and reshape our efforts. Pursuing a comprehensive transformation of our energy system is a complicated, iterative and nonlinear process, requiring alignment and collective forward progress on the infrastructure, technology, customer demand and regulatory systems required for large-scale change. As we have seen over the past several years, many of those much-needed precursors to change have not yet arrived or are not moving as quickly as anticipated, while Washington's energy demand projections are exceeding forecasts and have never been higher. To further these important business imperatives, companies, policymakers and the WUTC must continue to collaborate on efforts to further reduce greenhouse gas emissions while maintaining access to reliable energy services for Washington residents and businesses at a reasonable cost.

This moment of significant change is an opportune time to revisit PSE's climate action goals. We believe much can be done in the coming years and will continue to press for meaningful climate action. With that in mind, in addition to our CETA and CCA compliance requirements, we remain committed to preparing our business approaches for the future and so have set the following company-wide goals.

Electric supply: As required by CETA, PSE aims to have a carbon-neutral (80% carbon-free) electric supply by 2030 and a 100% carbon-free electric supply by 2045, as required by CETA.

To advance these goals, we conduct a mandated planning process that includes a ten-year Clean Energy Action Plan with specific decade-long actions we will take to comply with state law and a four-year CEIP that is a nearer-term roadmap of specific planned new resource investments. Future CEIPs will be consolidated as part of the integrated system plan beginning in 2027. Our most recent update is the 2023 Biennial CEIP Update (Biennial Update).[73]

PSE's commitments include new investments in renewable or non-emitting generation, energy efficiency, demand response programs and distributed energy resources (e.g., rooftop solar). For example, an additional 248 MW of PSE-owned wind capacity will come online in late 2025 and 142 MW of solar facility construction will begin in 2025,[74] with expected commercial operation in late 2026. An additional 455 MW in signed PPAs will come online between 2025 and 2028.[75] We also aim to have 33 MW of directly connected batteries controlled by the VPP by the end of 2027.

73 See PSE *Library*, available at https://www.cleanenergyplan.pse.com/library (last accessed April 16, 2025).

74 Beaver Creek Wind Facility (248 MW) and Appaloosa Solar Project (142 MW).

75 Vantage Wind Energy Center (90 MW) in 2025, Brookfield Renewable (50 MW) in 2026 and Haymaker Wind Farm Farm (315 MW) in 2028.

Achieving these goals requires collective action: acquisition of capital and financing to fund the development, WUTC regulatory approval that facilitates carbon reduction, implementation of emissions-reducing infrastructure projects and fast action to permit development of new technology and infrastructure. We also cannot lose sight of our obligation to reliably serve our customers' current energy needs, even as we work to develop alternative electric generation resources and pursue long-term, non-emitting baseload energy resources.

While we are committed to meeting CETA clean energy targets, our recent Biennial Update demonstrates our need for flexibility to adapt to changing circumstances. For example, we had to request a reduction of our interim target for carbon-free electric supply in 2025 that the company was required to propose under CETA due to the following factors:[76]

- PSE's retail electric demand continued to grow at a pace such that retail electric sales over the four-year CETA compliance period (2022–2025) are significantly higher than forecasted retail electric sales over the same four-year compliance period used in the 2021 CEIP.
- Clean energy generation has been lower than forecasted, in large part due to lower-than-normal hydro conditions in 2023 and 2024.
- New acquisitions have been constrained by timelines for new long-term cleaner energy resources, which have extended beyond 2025 due to supply chain, siting, permitting and transmission challenges.

Gas supply: In line with CCA objectives, PSE aspires to reach net-zero gas customer end use carbon emissions by 2045, balanced with our customers' preferences and our legal duty to serve them, as demonstrated by the passing of Initiative 2066.[77] The following interim acts and steps could contribute towards this goal:

- Incentives for the development of alternative fuel technology and reduced use of natural gas, as set forth in the CCA, the UDA and the CFS. For example, the CCA has a direct impact on the price of gas with the potential to drive decarbonization by influencing customer choices or making alternative fuels more attractive.[78] The CCA provides a limited amount of no-cost allowances to PSE to reduce the near-term compliance costs for customers, prioritizing low-income customers.[79] PSE uses consigned allowance revenue for a combination of low-income customer assistance, bill credits to all eligible customers and projects that help customers transition to electric infrastructure, reducing future emissions, where appropriate and requested by the customer. Like the CCA, the CFS is a market mechanism—if available credits for alternative fuels increase from their now-modest levels, they may spur development of lower cost/more plentiful alternative lower carbon fuels.
- Continued decreases in gas demand since 2021, due in large part to heat pump installation (driven by air conditioning demand)[80] and continued customer energy efficiency measures. These trends may continue in the years to come, and new technologies could further impact demand for natural gas.

The realities of the past several years, detailed in the Challenges and Lessons Learned section, have shown that our earlier, aspirational goal of reducing gas customer end use carbon emissions by 30% will likely not be achievable by 2030. Furthermore, other external factors, including the consequences of Initiative 2066—which led to the WUTC denying accelerated depreciation for gas assets in our last rate case that would have addressed the risk of stranded assets—posed unanticipated barriers to PSE's electrification and hydrogen generation pilot test proposals, and emphasized Washingtonians' right to choose gas services.

76 WUTC, *PSE Filing Docket UE–210795* (2024), available at https://www.utc.wa.gov/casedocket/2021/210795/docsets (last accessed April 16, 2025).

77 Although the future of Initiative 2066 remains uncertain, the passage of Initiative 2066 highlights a preference among our customers for natural gas.

78 Currently, carbon allowance prices are not high enough to drive customer decision making or make alternative lower carbon fuels more attractive, but the potential exists, as available allowances decrease in future years.

79 The WUTC has jurisdiction over how much of the remaining consigned allowance revenue we refund to customers on a non-volumetric basis, as well as how much we use for specified decarbonization activities.

80 Our region historically has not had much air conditioning load, but with increasing temperatures and prolonged heat events we are seeing some customers add air conditioning to their homes and businesses and/or convert to heat pumps to get 2-in-1 benefit of heating plus air conditioning.

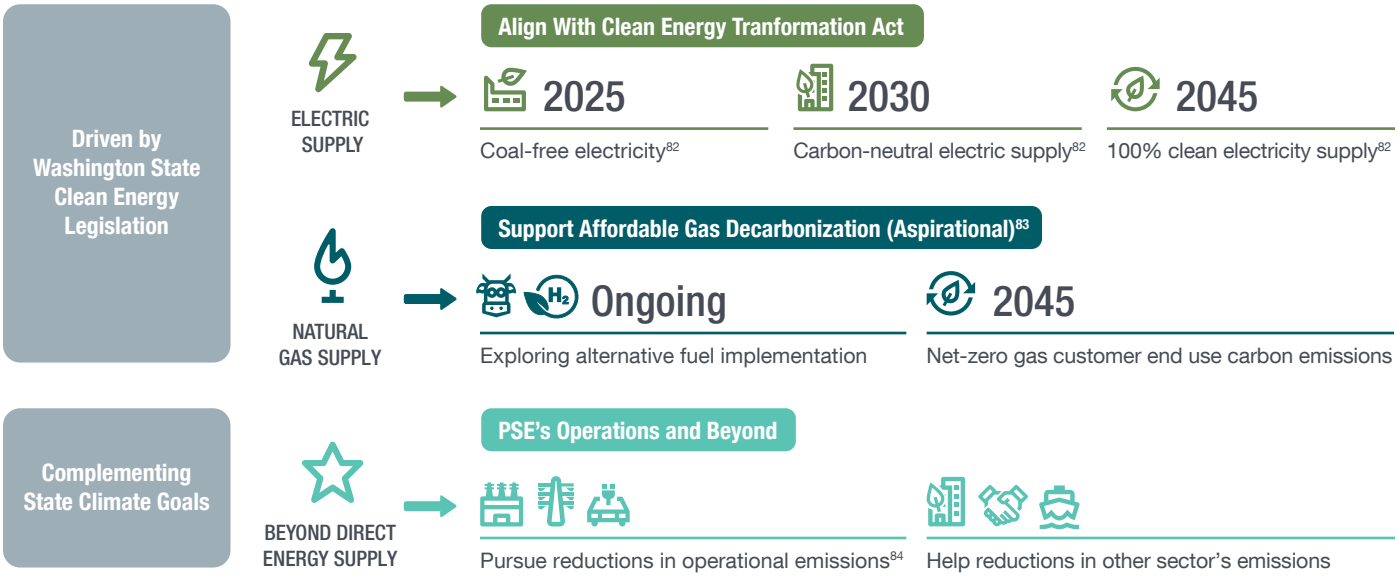
We believe this goal could be achievable by 2045, in alignment with the CCA, assuming a strong pace for the development of alternative fuel technology, including hydrogen and RNG, the WUTC's approval for accelerated gas system depreciation and/or other regulatory approaches that balance rate recovery for emissions-reducing investment with energy affordability. Customer demand for natural gas and the extent to which natural gas continues remains necessary as a reliable source of energy will also impact the achievability of this goal.

Beyond direct energy supply: Although the overall impact is small in comparison with emissions associated with our electric and natural gas supply, PSE continues to pursue reductions in its own operational emissions, including from methane leaks, our vehicle fleet, energy used in our facilities, and SF_6. The majority of PSE's operations-related emissions are associated with line losses during transmission and distribution of electricity. As emissions associated with generation decrease, the emissions associated with line losses will decrease proportionally.

Overall, our goal is to reduce these operational emissions and support reductions in other sectors by continuing the work we began in 2021, but the precise timing for reaching net zero operational emissions will depend on various external factors.[81] Beyond our walls and in the near term, we will continue to broadly support the expansion of electric vehicles and sell LNG for marine fueling, which replaces higher-emitting marine oil.

As with our other goals, market, regulatory, and political realities will impact how PSE is able to reduce its operational emissions and emissions in other sectors. PSE remains committed to sharing the lessons it has learned in implementing Washington's climate laws and working with policymakers, regulators and the communities we serve to drive emissions reductions while maintaining reliable energy services that our customers depend on.

PSE'S CLEAN ENERGY STRATEGY



81 Such factors include regulatory approval for PSE fleet electrification as well as commercially available substitutes for SF_6 and alternatives such as carbon offsets for methane leaks or alternative, non-emitting gaseous fuel replacement.

82 PSE is committed to stop serving coal-generated electricity to our Washington customers by the end of 2025, have a net zero carbon emissions electric supply for our Washington customers by 2030 and have a 100% non-emitting electric supply by 2045, consistent with Washington State's CETA.

83 The CCA creates market incentives for natural gas decarbonization through carbon pricing. PSE aspires to net-zero gas customer emissions by 2045, subject to customer preferences, regulatory requirements, commercial availability of alternative technologies and cost-effectiveness.

84 PSE's operational emissions include methane leaks, our vehicle fleet, energy used by our facilities and SF_6, among other operational activities.

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