

# Resilience, Innovation, and Growth

Leading PSE Through Industry Transformation

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# From starting point to today: career journey

PSE



Student government, team sports

Engineering Officer: 5 years active duty, 3 years reserve, 50+ construction projects through Iraq and Hawaii

Business development for LNG and bulk industrial gases

COO, Seattle City Light: leadership roles in generation and T&D

SVP, Energy Operations, PSE: Responsible for gas and electric operations, engineering and planning, generation, wildfire mitigation and response

# About PSE

- ◆ Washington state's **oldest and largest utility**
- ◆ Regulated investor-owned utility serving **1.26M electric customers and 883K gas customers** in 10 counties located primarily in Western Washington<sup>1</sup>
- ◆ **Undergoing a historic transformation** as we strive to meet some of the most ambitious clean energy laws in the nation



**7.89 GW**

Generating capacity  
(owned &  
contracted)<sup>1</sup>

**27,000**

Miles of electric  
transmission and  
distribution lines<sup>2</sup>

**27,000**

Miles of natural  
gas transmission,  
distribution, and  
service pipelines<sup>3</sup>

**3,400**

Full-time equivalent  
employees<sup>1</sup>

<sup>1</sup> Puget Annual Report on Form 10-K filed for 2025

<sup>2</sup> PSE's GIS data

<sup>3</sup> Pipeline mileage figures are based on PHMSA 2025 annual reporting

# Top Priorities for Energy Operations



Safety/Employee Experience - Create a culture where safety is paramount and employees feel valued, engaged, and empowered to perform their best work.



Wildfire Preparedness - Implement comprehensive wildfire risk mitigation strategy (situational awareness, grid hardening, operational procedures/emergency response, communication and outreach).



Emergency Preparedness - Build and maintain comprehensive emergency response capabilities to quickly restore critical energy services during natural disasters, cyber incidents, and other major disruptions.



**Resiliency - Strengthen infrastructure and operational systems to withstand and rapidly recover from extreme weather events, aging equipment failures, and evolving threats.**



Customer Service - Deliver exceptional customer experiences through reliable service, transparent communication, and responsive support across all touchpoints while maintaining affordable rates and meeting diverse customer needs and expectations.



**Strategic Foundation - Anticipate and accommodate evolving customer loads and expectations while meeting state law.**

# We have a comprehensive strategy in place to strengthen the electric system and improve reliability



## Maintaining and upgrading our electric infrastructure

- Asset replacement programs:
- Underground cable replacement
  - Pole inspection and remediation
  - Aging conductor replacement
  - Substation equipment replacement

Major projects for system reliability



## Vegetation management and grid hardening to prevent outages

- Cycle tree trimming
- Grid hardening
- Overhead to underground conversions
  - Covered conductor or “tree wire” installation



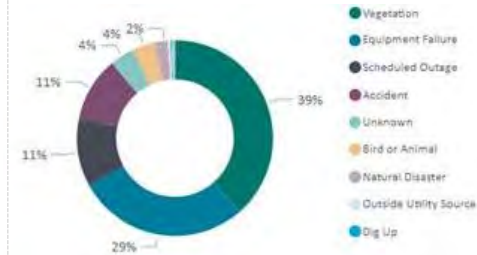
## Automation and new technology to reduce the duration of outages

Automation to reduce outage impacts

- SCADA
- Distribution automation
- ADMS

New technology pilots for improved situational awareness

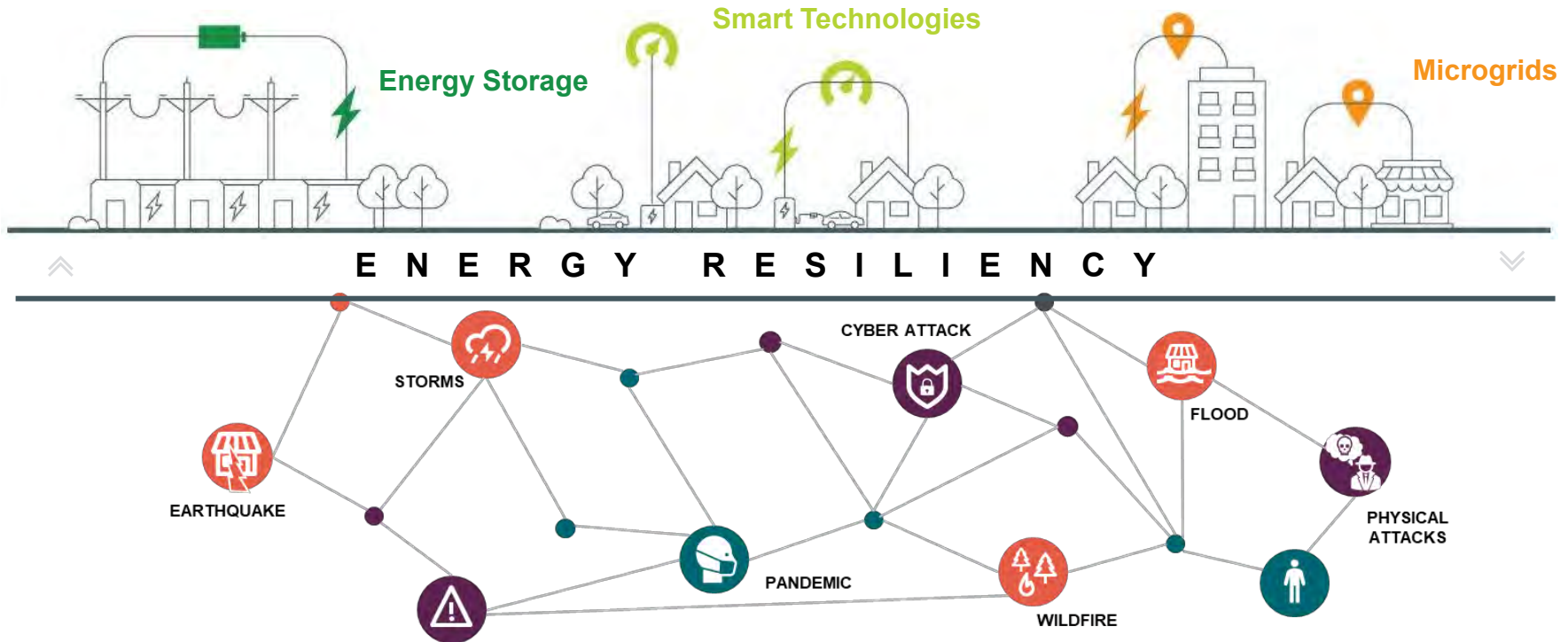
- Gridscope
- Fault circuit indicators



## Metrics and analysis

- Annual reliability reporting to UTC
- Service quality indices
- Root cause analysis of major outage events

# True resiliency requires us to think differently



# Washington has enacted some of the most ambitious climate policies in the country

PSE

## Clean Energy Transformation Act (SB 5116)

Passed in 2019 and commits WA state to a carbon-neutral electric supply by 2030 and 100% clean electricity by 2045

## Clean Buildings Act (HB 1257)

Passed in 2019 and adopts a new energy performance standard for existing commercial buildings over 50,000 sq. ft.

## Climate Commitment Act (SB 5126 – “Cap and Invest”)

Passed in 2021 and establishes a program aimed at capping and reducing GHGs from the largest emitting sources and industries, to work towards the state's greenhouse gas limits set in state law

## Clean Fuel Standard (HB 1091)

Passed in 2021 to curb pollution from the transportation sector, which accounts for almost 45% of state GHG emissions

## Decarbonization bill (HB 1589)

Passed in 2024, it streamlines planning processes, supporting the future energy choices of our customers in alignment with the state's clean energy goals



 2025

### Coal-free electricity

PSE has eliminated coal-fired resources from our allocation of electricity to Washington retail electric customers at the end of 2025, **750 MW total capacity removed**



2030

### Carbon-neutral electric supply

PSE is committed to achieving a **net zero carbon emissions** electric supply for our customers by 2030, consistent with Washington State's CETA



2045

### 100% clean electricity supply

PSE is committed to achieving a **100% non-emitting electric supply** by 2045, consistent with Washington State's CETA

# The region is at risk of power supply shortfalls—this could lead to rolling blackouts during extreme conditions

**The Greater Northwest faces a supply shortfall in 2026 which grows to 8,700 MW by 2030**



- + Load growth and retirements mean the region faces a power supply shortfall in 2026
  - + The region currently relies on 2,500 MW of imports to maintain reliability
- + Nearly 9,000 MW of new ‘effective capacity’ is needed by 2030
- + Projects currently in active development account for only 3,000 MW of new ‘effective capacity’
  - + 850 MW are coal-to-gas conversions
  - + 260 MW from hydro upgrades

## Greater Northwest

Total Resource Need and Effective Capacity Contribution from Resources In Development (MW)

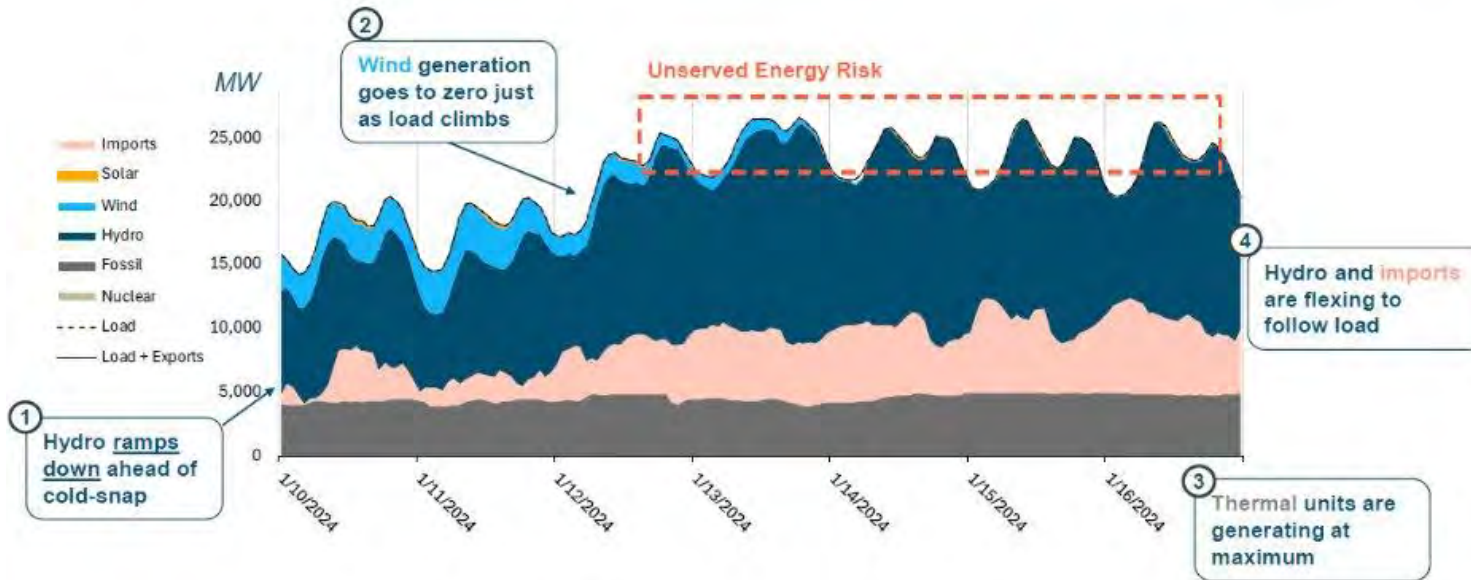
System Needs (MW)	2025	2026	2027	2028	2029	2030
Total Resource Need*	49,245	50,737	52,499	54,184	55,879	57,195
Existing Portfolio w/ Retirements	46,716	45,666	45,395	45,388	45,098	44,757
Firm Imports	3,750	3,750	3,750	3,750	3,750	3,750
<b>Reliability Position Surplus (+) / Shortfall (-)</b>	<b>+1,221</b>	<b>-1,321</b>	<b>-3,354</b>	<b>-5,046</b>	<b>-7,031</b>	<b>-8,689</b>
ELCC from "In-Development"*** Firm Resources	-	296	407	580	770	1,114
ELCC from "In-Development" Wind, Solar and Battery projects	-	645	1,015	1,316	1,508	1,934

\* Total Resource Need includes peak load + planning reserve margin as well as obligation to serve the Columbia River Treaty Regime

\*\* In-development resources are WECC ADS 2034 facilities with confirmed project location, project name, and can be verified online

# January 2024 was a wake-up call

## Regional comparison: The Northwest's most recent near reliability event was the multi-day January 2024 cold snap

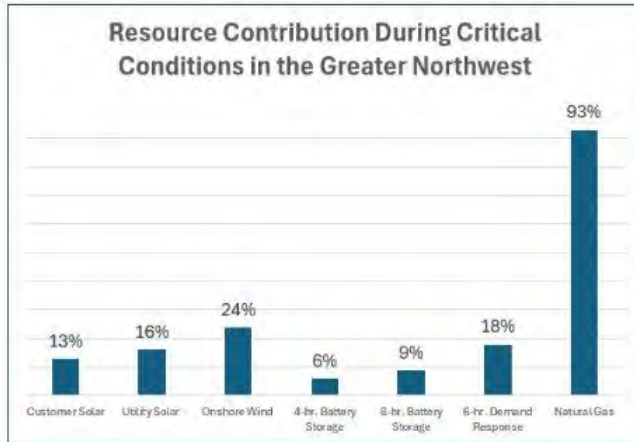


Source: "Resource Adequacy and the Energy Transition in the Pacific Northwest: Phase 1 Results" Energy + Environmental Economics, Sep 2025. Chart data from EIA, BPA

# Different energy resources play different roles. Not all resources are created equal

## Different energy resources play different roles: ‘effective capacity’ versus ‘nameplate capacity’

Marginal ELCC (%)



- + Resources that are commercially available today include wind, solar, short-duration battery storage, demand response, and natural gas
- + In evaluating resource adequacy, we look at the ability of resources to produce energy during critical conditions
- + Wind and solar provide valuable clean energy, but cannot always produce energy when needed most
- + Many innovative “clean firm” technologies are in development, but none is ready for large-scale deployment in the near term



# PSE is making progress towards WA state clean energy goals

- Since 2019, we've procured more than **6,000 MW** of **renewable energy resources**.
  - **2,000+ MW** are new resources (wind, solar, storage) being built to serve the region
- We're **rapidly expanding renewable energy resources**, from large-scale generation projects to energy produced locally, in our neighborhoods and communities.
- Achieving these goals requires balance: keeping our **electric and gas system strong and dependable**, **investing in cleaner energy resources**, and doing so **responsibly and thoughtfully**.

# We can see the emergence of six primary drivers shaping our near and long-term position



## Demand Surge

Demand growth is drastically influencing utility capital plans



## Customer Renaissance

Growing interest in VPPs, DERs, and demand-side resources



## Generation Buildout

Industry pursuing an "all of the above" approach to serve growing demand



## Affordability Pressure

Rising costs pressured rates while federal government moves to cut assistance



## Policy Uncertainty

New Administration complicates utility planning with policy/tariff uncertainty



## Resiliency Threats

Resiliency threats from increased climate events and cyber attacks



# We need to expand and modernize the electric grid to support the transition to clean energy

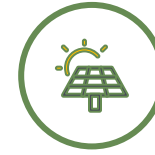
- The vast majority of **renewable energy resources** in the state are located **east of the Cascade mountains**.
- To bring this energy to PSE's service area, we need to **expand and modernize** the existing **transmission and distribution infrastructure**.
- We **continually invest in our system** to maintain customer and public safety, meet customer growth and service needs, and modernize and automate the grid.



# Energy Orchestration is the path forward



**Customer-Forward Experiences**



**Grid Resilience**



**Grid Flexibility**



**Economic Uplift**



**Affordability & Value**

# Questions

