



2027 INTEGRATED SYSTEM PLAN

WORK PLAN

1. Introduction

Puget Sound Energy (PSE) is filing a work plan for the 2027 Integrated System Plan (ISP) in Washington Utilities and Transportation Commission (Commission) [Docket U-240841](#) in compliance with WAC 480-96-080 (4)(c). This work plan and Appendix A: Public Participation Plan should be considered together for compliance purposes, as described in Appendix B: Compliance Requirements. Consistent with WAC 480-96-080 (4)(c)(vi), both plans may be updated if significant changes are required.

ISPs provide a 20-plus year view of PSE's energy resource needs, which are developed through a planning process that evaluates a range of potential future outcomes. The analysis considers policies, costs, economic conditions, and physical energy systems, and informs resource procurement and system decarbonization.

1.1. Filing date

PSE plans to file its 2027 Integrated System Plan (ISP) on or before April 1, 2027.

1.2. Website

PSE posts materials, public participation opportunities, and other information on our clean energy planning website at cleanenergyplan.pse.com.

2. Equity considerations

PSE has adopted the definition of energy equity proposed by the University of Michigan, School for Environment and Sustainability's Energy Equity Project.¹ PSE has adopted this definition of energy equity because it builds upon the four core tenets or dimensions of justice as delineated in the Commission order in Docket UG-210755² — recognition, procedural, distributional, and restorative justice. In adopting this approach, PSE has engaged with our advisory groups on numerous occasions to better understand and embed equity considerations, to the degree possible, into our planning processes including the modeling and analysis described below. Please see the [October 28, 2025 Resource Planning Advisory Group meeting](#) for a discussion on PSE's consideration of equity in the 2027 ISP.

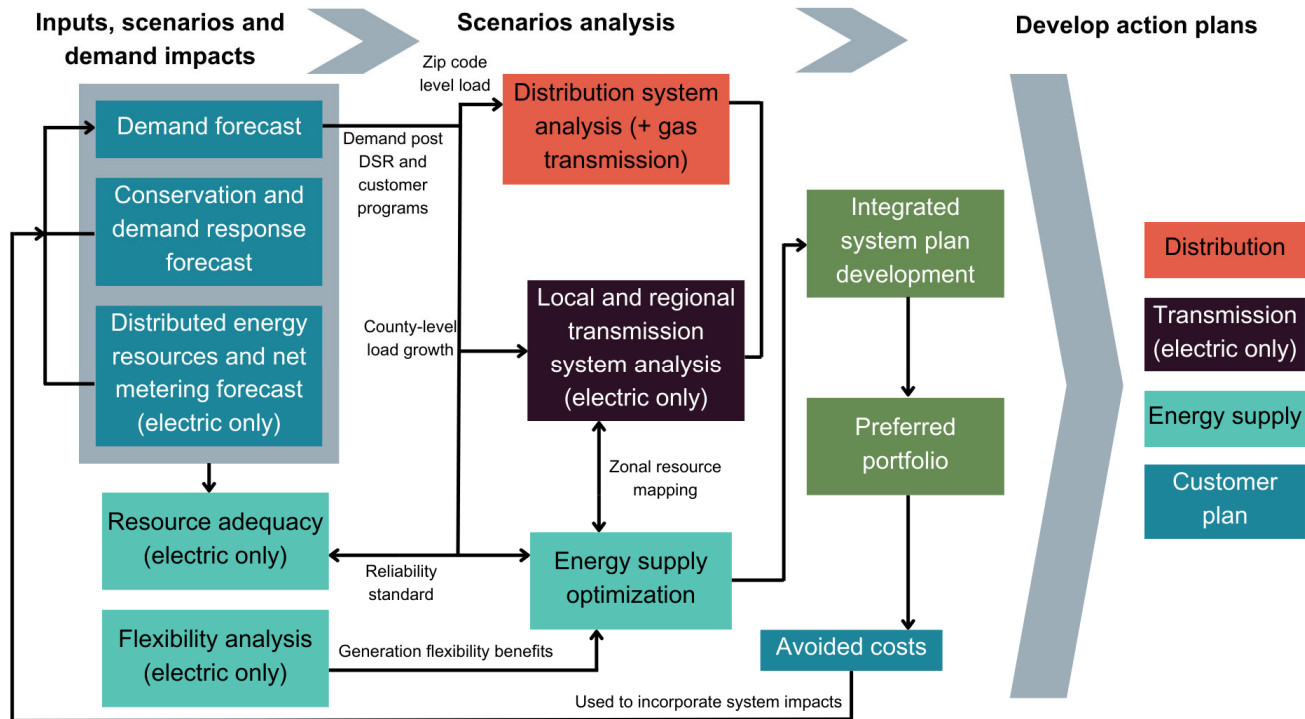
¹ University of Michigan School for Environment and Sustainability, Energy Equity Project Framework Report, v1.0 (2022), available at https://seas.umich.edu/sites/all/files/2022_EEP_Report.pdf.

² [Docket UG-210755, Washington Utilities and Transportation Commission](#)

3. Methods for assessing potential resources

The following outlines PSE's iterative process for developing the 2027 ISP. Given the nature of this process, which began long before rulemaking was complete, and PSE's commitment to continuous improvement, this process is subject to change throughout development.

Figure 1. Integrated System Plan development process



3.1. Inputs, scenarios, and demand impacts

The following outlines PSE's approach to assessing future demand.

3.1.1. Demand forecast

The demand forecasts PSE developed for the 2027 ISP calculate the amount of electricity and gas required to meet customers' needs over the more than 20-year study period. These forecasts focus on two dimensions of demand: energy demand and peak demand. Climate change already affects how our customers use energy, and we expect that impact will increase. We expect summer and winter average and peak temperatures to get warmer. The energy and peak demand forecasts now incorporate climate change temperature effects. We also incorporated climate change in the resource adequacy (RA) analysis, the stochastic scenarios, and the conservation potential assessment (CPA). Including climate change in energy planning is crucial since it affects our customers' needs and behaviors.

Please see the [July 29, 2025](#) Resource Planning Advisory Group (RPAG) meeting for a discussion on PSE's latest approach to forecasting demand in the 2027 ISP.

3.1.2. Conservation and demand response forecast

The Washington Large Utility Decarbonization Act (Act) changes how conservation targets are set in the ISP. Under Washington’s Energy Independence Act, conservation targets are set through an Integrated Resource Planning (IRP) effort, which chooses an amount of conservation and supply-side resources that can be obtained at the lowest reasonable cost. Additionally, under the ISP, the utility must plan to achieve conservation equal to 2% of annual load, or a lower target if the Commission finds 2% “is neither commercially nor technically feasible.”³ The rules promulgated in September 2025 further define commercially feasible as obtainable at a “reasonable cost.”⁴ Similarly, the utility must plan to achieve load flexibility and demand response equal to 10% of winter and summer peak load, unless the Commission finds that target to not be commercially or technically feasible⁵.

Per the Act, PSE will be conducting a third-party Conservation and Demand Response Potential Assessment to determine the amount of conservation and load flexibility that is to be technically feasible. PSE will then analyze the amount of electric conservation and demand response that is commercially feasible.

3.1.3. DER and net metering forecast (electric only)

In the ISP, PSE will disaggregate Distributed Energy Resources (DER) and Net Energy Metering (NEM) as unique inputs in the final AURORA optimization. Currently modeled DERs are:

- Solar Net Energy Metering
- DER customer-sited programs
 - Solar DER programs (modeled as solar program capacity in addition to NEM)
 - Battery DER programs
- DER PSE-owned projects
 - DER PSE-owned solar projects
 - DER PSE-owned battery projects
- DER Vehicle to Grid Use Case

For NEM, PSE contracted Cadmus Group (Cadmus) to develop forecasts for PSE’s reference portfolio and associated scenarios and sensitivities.

Since the 2023 PSE IRP, Cadmus has used the National Laboratory of the Rockies (previously National Renewable Energy Laboratory’s (NREL)) Distributed Generation Market Demand (dGen) model to simulate solar system adoption in PSE’s service territory. The model uses a combination of solar cost inputs and assumptions about market uptake at different costs to simulate market adoption through 2050. As with previous studies, Cadmus Group (Cadmus) will update cost and other market

³ RCW 80.86.020 (4)(e)

⁴ WAC 480-96-030 (4)

⁵ RCW 80.86.020 (f)(g)

inputs such as the rate of inflation, system financing metrics, and historical adoption for the 2027 ISP analysis.

PSE analyzes non-net metered solar systems and battery storage systems as part of a separate analysis workstream. As part of this separate analysis, PSE also uses dGen to estimate adoption and impacts. In addition to simulating market adoption, Cadmus will estimate the technically feasible rooftop energy resources in PSE's service territory based on account and solar system adoption data from PSE.

PSE expects to model PSE-owned DER solar and battery projects leveraging historical pricing from previous Distributed Solar and Storage (DSS) Request for Proposals (RFPs) and the National Renewable Energy Laboratory's Annual Technology Baseline associated resource cost curves. These PSE-owned DER solar and storage resources are further broken out into high, medium, and low-price bands in the AURORA optimization with MW potential for each price band. The inclusion of the price bands in the 2027 ISP allows PSE to more accurately forecast cost effective capacity while responding to changing economics and market conditions compared to previous IRPs.

Lastly, PSE will be modeling vehicle to grid (V2G) in the ISP using infrastructure and market availability data provided by Guidehouse. PSE also includes observed values from our current Up & Go Electric and Transportation Electrification Plan programs for key modeling assumptions including program costs, resource energy and peak capacity, and event reliability rate. The core modeling included in the 2027 ISP for the Vehicle to Grid will be conducted internally by PSE staff leveraging the assumptions provided by Guidehouse. This analysis will be in addition to the existing Electric Vehicle Demand Response programs developed for PSE by Cadmus, which focus on time of use charging rather than V2G specifically.

3.1.4. Resource adequacy (electric only)

Reliably meeting our customers' needs is the cornerstone of PSE's energy supply portfolio. For electric resource planning, the physical electricity needs of our customers are simplified and expressed as three resource needs: peak hour capacity need, energy need, and renewable and non-emitting energy need.

We determine peak hour capacity need with a resource adequacy analysis that evaluates existing PSE resources compared to the projected peak need over the planning horizon. The capacity deficit is the amount of effective capacity needed to maintain the resource adequacy target — the need after applying different resources' effective load carrying capability (ELCC). This resource adequacy analysis is conducted by Energy and Environmental Economics (E3).

Please see the [May 15, 2025](#) and [Sept. 30, 2025](#) RPAG meetings for discussions on PSE's current approach to resource adequacy in the 2027 ISP.

3.1.5. Flexibility analysis (electric only)

The flexibility study reflects the financial impacts of the sub-hourly flexibility analysis in portfolio analysis. Different resources have different sub-hourly operational capabilities. Even if the portfolio has adequate flexibility, various resources can impact costs and how the portfolio operates. This study is performed by Energy Strategies.

3.2. Scenario analysis

In the 2027 ISP, PSE will run a scenario analysis on different demand forecasts for both electric and gas. For each scenario, the analysis will identify the lowest-cost mix of demand-side and supply-side resources that will meet the need under the given static assumptions for both gas and electric utilities, along with transmission and distribution upgrades to meet the change in demand. This will help us determine the all-in impacts of changes to electric and gas demands.

3.2.1. Delivery system analysis

PSE will analyze future investments and operating expense levels needed to safely and reliably provide energy through the delivery system using scenario and sensitivity analysis.

The electric delivery system analysis will comprehensively assess the total capital investment requirements needed to reliably serve projected load growth across multiple forecast scenarios. This evaluation will leverage PSE's current planned investments as the foundation, incorporating all identified future projects and their corresponding load-serving capabilities. Through systematic extrapolation of this baseline data, the analysis will generate cost projections by scenarios, extending the planning horizon to provide long-term investment visibility and support strategic decision-making for delivery system development.

For the natural gas system analysis, PSE plans to use deterministic and stochastic techniques to determine the impact on the capital investment portfolio and operating expenses. The analysis uses each scenario's customer electrification rate to leverage known projects and assess the potential to avoid or minimize project investments. Gas system investment impacts will be assessed by category of investment: 1) safety/integrity/maintenance; 2) emergent (emergency or short-term compliance); 3) new construction; or 4) reliability (supply to customers). Each category will be assessed, and the impact calculated using the load and customer changes for each scenario, along with assumptions about pipeline facility retirements. For known projects needed after 2030, each project will be assessed and different alternatives may be selected for the portfolio analysis.

Please see the [Feb. 27, 2025](#) and [June 24, 2025](#) RPAG meetings for discussions on PSE's latest approach to delivery system analysis in the 2027 ISP.

3.2.2. Local and regional transmission system analysis

The 2027 ISP will include consideration of both local and regional transmission system needs to continue to reliably serve PSE customer loads under various load growth scenarios, as well as to deliver the resources needed to meet PSE's clean energy goals.

Local system studies will evaluate variations in load and resource mix to identify transmission system upgrades needed to meet regulatory requirements. Assumptions will be made on where future load growth will materialize and where future resources may be placed on the system based on known load growth areas, local jurisdiction comprehensive plans, and the feasibility of siting resources in different locations on the system.

Regional system planning will evaluate existing regional transmission constraints to access renewable resource zones under consideration in the 2027 ISP, as well as various transmission sensitivities that include combinations of known projects to increase regional transmission capacity. These sensitivities are intended to evaluate the uncertainty of future planned projects and risks related to the lengthy lead times to build new transmission.

Please see the [Feb. 27, 2025](#) RPAG meeting for a discussion on PSE's latest approach to transmission planning in the 2027 ISP.

3.2.3. Energy supply optimization

PSE will analyze potential futures through scenarios and sensitivities that will have different natural gas prices, demand, environmental policies, and supply-side and demand-side resource alternatives.

Scenarios and sensitivities are analyzed using deterministic and stochastic risk analysis. Sensitivities determine how different potential futures and factors affect resource strategies, costs, emissions, and risks.

As discussed in previous sections, PSE contracted with multiple consultants to conduct energy efficiency and demand response potential studies for demand-side resources, a technology assessment for supply-side resources, resource adequacy analysis for peak requirements, and a flexibility analysis to evaluate reserve requirements. These studies will inform resource alternatives and assumptions for the model.

Please see the [June 24, 2025](#) RPAG meeting for a discussion on PSE's latest approach to energy supply planning in the 2027 ISP.

3.3. Integrated system plan development

PSE will develop the ISP by integrating the previously discussed elements using an iterative approach to develop an optimized portfolio and specific actions over the ISP implementation period.

3.3.1. Iterative analysis

The ISP development process incorporates the gas and electric systems, which are considered in conjunction with one another to achieve the ISP objectives. The modeling framework used to develop the ISP and resulting action plans is as follows.

Each scenario's demand forecast impacts due to building electrification will be evaluated. The evaluation of impacts within each study year will be calculated for gas to electric conversions; the output is the impact to PSE's electric and gas demand forecasts. Gas and electric transmission and distribution planning analyses are completed with separate respective engineering models to ensure the proposed plans for each scenario and sensitivity meet PSE system requirements and are safe and reliable. Iteration occurs in a few different areas of the analysis: non-pipeline alternatives, DERs, grid modernization, electric transmission, and gas transmission and distribution.

Electric and gas supply optimization incorporates iterations that were identified previously as well as iterations within the optimization modeling itself. While the gas and electric planning models used throughout the ISP process are distinctly separate, the underlying assumptions and inputs are aligned to ensure a coordinated ISP modeling framework. As we've experienced in prior IRP cycles, it is very common to see the portfolio analysis and results iterate and change once draft results are produced.

PSE plans to leverage the sensitivity analysis as a way to iterate on the supply portfolio results. Leveraging sensitivities establishes clarity regarding which assumptions and/or inputs were altered to create the new portfolio.

3.3.2. Preferred portfolio development

To develop the preferred portfolio, PSE will leverage the public interest criteria⁶, decision framework⁷, and cost test⁸ as outlined in the ISP requirements. PSE intends to engage advisory groups in determining how to account for costs and benefits in the cost test. The decision framework will bring together the components of the cost test to help PSE articulate how the company used the various scenarios and sensitivities to develop a preferred portfolio. PSE plans to bring these various components to the RPAG throughout 2026 and solicit feedback to support the development of the preferred portfolio.

3.3.3. Action plan development

Results of the quantitative analysis — both deterministic and stochastic — are studied to understand the key findings that lead to decisions about the resource plan forecast and the Clean Energy Action Plan (CEAP).

⁶ RCW 80.86.020 (12)

⁷ WAC 480-96-050 (8)

⁸ WAC 480-96-030 (7)

4. ISP content

The ISP will include long-term planning and implementation content as prescribed by WAC 480-96-050 and 480-96-060.

4.1. Long term planning (WAC 480-96-050)

1. Range of forecasts
2. Resource evaluation
3. Economic, health, and environmental burdens and benefits
4. Scenarios and sensitivities
5. Portfolio analysis and preferred portfolio
6. Electrification and transportation plan (optional, not expected to be included in the 2027 ISP)
7. Clean Energy Action Plan (CEAP)
8. Decision framework
9. Information relating to purchases of electricity from qualifying facilities
10. Report of substantives changes
11. Use of recommendations
12. Summary of public comments

4.2. Implementation (480-96-060)

1. Interim targets
2. Specific targets
3. Energy efficiency
4. Demand response
5. Renewable energy
6. Customer benefit data
7. Specific actions
8. Narrative description of specific actions
9. Projected incremental cost
10. Use of recommendations
11. Alternative compliance

5. Meetings, topics and timing

The following sections outline meetings and participation opportunities for PSE's advisory groups and members of the public throughout the duration of 2027 ISP development.

5.1. Resource Planning Advisory Group

PSE expects the Resource Planning Advisory Group (RPAG) to meet regularly through the duration of ISP development. Expected meeting topics, approximate timing, and anticipated engagement levels⁹ are summarized below.

Table 2.1: RPAG meetings estimated timing, and topics

When ¹⁰	Topic(s)	Level of engagement anticipated
September 12, 2024	2027 ISP kick-off	Inform/consult
October 29, 2024	Introduction to scenarios and sensitivities	Consult/involve
December 19, 2024	Scenarios and sensitivities workshop	Collaborate
February 27, 2025	Final ISP planning scenarios, long-haul transmission planning, local electric transmission and delivery system planning	Consult/involve
March 25, 2025	Customer strategy: conservation, demand response, solar and storage	Consult/involve
May 15, 2025	Resource adequacy methodology, electric modeling and assumptions	Consult/involve
June 18, 2025 (info session)	Electric vehicle forecast	Inform/consult
June 24, 2025	Gas modeling and assumptions, gas delivery system, non-pipe alternatives	Consult/involve
July 29, 2025	Demand forecast after conservation	Inform/consult
September 30, 2025	Resource adequacy results and electric modeling assumptions	Inform/consult
October 28, 2025	Equity considerations in ISP planning	Consult/involve
January 2026	Sensitivities overview Informing “maximum customer benefit scenario” definition	Consult/involve
February 2026	Iterative (gas and electric) analysis overview Introduction to cost test framework	Consult/involve
March 2026	Cost test framework continued Defining societal impacts	Consult/involve
May 2026	Preliminary reference case results and implications	Inform/consult
June 2026	Equitable distribution of benefits	Inform/consult
July 2026	Scenario draft demand forecasts (gas/electric) Electrification potential assessment	Inform/consult
August 2026	Scenarios and sensitivities draft results	Consult/involve
September 2026	Developing a preferred portfolio and resource plan:	Inform/consult/involve

⁹ The IAP2 Spectrum of Public Participation is detailed in PSE’s original engagement plan, however it is currently being revised: <https://iap2.org.au/about-us/evolution-of-the-spectrum>. Anticipated engagement levels reflect a likely future spectrum in which “consult” and “involve” are combined, and “inform” underpins all levels.

¹⁰ Meeting dates are determined through polling with RPAG members 1-2 months in advance of each meeting.

When ¹⁰	Topic(s)	Level of engagement anticipated
October 2026	including: - ISP targets and goal setting - Specific actions - Equitable distribution of benefits	
November 2026		
January 2027	Draft ISP preferred portfolio	Inform/consult
March 2027	Final ISP feedback review and next steps	Inform

5.2. Equity Advisory Group

The Equity Advisory Group (EAG) meets approximately nine times per year, excluding April, August, and December. Expected meeting topics and approximate timing are summarized below. This list includes only ISP-related topics, as the EAG discusses other topics outside the ISP scope.

Table 2.2: EAG meetings estimated timing, and topics

When ¹¹	Topic(s)	Level of engagement anticipated
Sept. 17, 2024	2027 ISP kick-off	Inform/consult
Jan. 21, 2025	DER EmPOWERment pilot progress update	Collaborate
June 16, 2025	DER EmPOWERment pilot completion update	Inform/consult
July 21, 2025	Integrated System Plan customer strategy, equity metrics in planning	Consult/involve/collaborate
Oct. 20, 2025	Equity considerations in ISP planning	Consult/involve
Nov. 17, 2025	Customer benefit indicator updates	Consult/involve
March 2026	Cost test framework Defining societal impacts	Consult/involve
June 2026	Preliminary reference case results and implications	Inform/Consult
July 2026	Equitable distribution of benefits	Consult/involve
September 2026	Developing a preferred portfolio and resource plan including: - ISP targets and goal setting - Specific actions - Equitable distribution of benefits	Inform/consult/involve
October 2026		
November 2026		
January 2027	Draft ISP preferred portfolio	Inform/consult
March 2027	Final ISP feedback review and next steps	Inform

¹¹ EAG meeting dates are determine in November/December of each year but are typically on the third Monday of the month.

5.3. Public webinars

PSE hosts public ISP webinars throughout development of the ISP. Expected specific topics and approximate timing are summarized below.

Table 2.3: Public webinars estimated timing and topics

When ¹²	Topic(s)	Level of engagement anticipated
Nov. 19 and Dec. 5, 2024	How does PSE plan for a clean energy future?	Inform/consult
March 17 and 20, 2025	What energy future are we planning for?	Inform/consult
July 17 and 22, 2025	What resources could power the clean energy future?	Inform/consult
November 6, 2025	Customer priorities for a clean energy future	Inform/consult
March 2026	Why you should care about the first integrated system plan	Inform/consult
July 2026	Reference case portfolio results	Inform/consult
October 2026	Developing a preferred portfolio	Consult/involve
January 2027	Draft ISP preferred portfolio	Inform/consult
April 2027	Final ISP question and answer	Inform

5.4. Draft resource plan and public comment period

In late 2026, PSE expects to publish a draft resource plan online with a public comment period. Customers and interested parties will be invited to review and comment on key elements of the draft ISP during this period. Specific dates and details will be published on the clean energy planning website when available.

6. Intervenor modeling licenses

Per WAC 480-96-080 (3) (d) interested parties may request licenses as part of that party's petition to intervene in the ISP. PSE will be developing a process for requesting and providing licenses consistent with ISP rules and will provide specifics on the proposed process when that information is available.

¹² Specific date to be determined approximately one month prior to the meeting.