# Resource Planning Advisory Group Meeting

## 2027 Integrated System Plan

January 27, 2026

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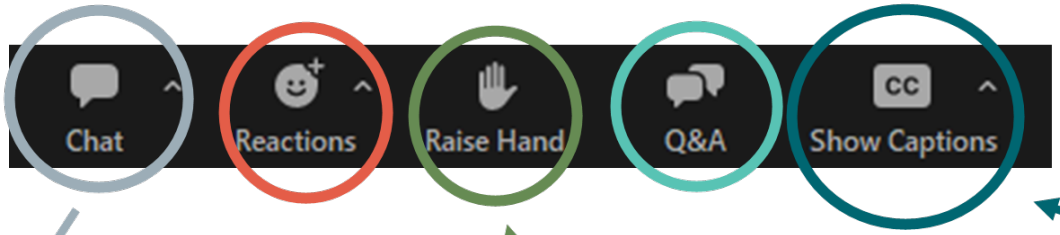
# Welcome to the meeting!

Use the **Reactions** feature to respond to content with emojis

The **Q&A** tool will be turned off during the meeting




RPAG members and PSE staff are welcome to use the **Chat** feature

Use **Raise Hand** feature if you'd like to provide a comment or ask a question

Click **Show Captions** to see real-time closed captioning

# Facilitator requests

- Engage constructively and courteously towards all participants
- Respect the role of the facilitator to guide the group process
- Avoid use of acronyms and explain technical questions
- Use the feedback form or email isp@pse.com for additional input to PSE
- Aim to focus on the webinar topic
- Public comments will occur after PSE's presentations

# Safety moment

- Safety resolutions for the new year!
  - Consistently wear PPE (personal protective equipment) when necessary (safety glasses, ear plugs, sturdy boots for example)
  - Report or immediately fix hazards or unsafe conditions in your home or workplace
  - Always wear a seatbelt; ensure passengers in your vehicle are buckled as well

# Today’s speakers

- Kara Durbin, Director, Clean Energy Strategy, PSE
- Jennifer Coulson, Manager, Operations and Gas Analysis, PSE
- Elizabeth Hossner, Manager, Resource Planning & Analysis, PSE
- Alexandra Karpoff, Senior Energy Resource Planning Acquisition Analyst, PSE
- Brian Tyson, Manager, Clean Energy Planning and Implementation, PSE

# Agenda

| Time | Agenda Item | Presenter / Facilitator |
|---|---|---|
| 1:00 p.m. – 1:05 p.m. | Welcome and introductions | Annie Kilburg Smith, Triangle Associates |
| 1:05 p.m. – 1:15 p.m. | Work plan updates | Kara Durbin, PSE<br>Jennifer Coulson, PSE |
| 1:15 p.m. – 2:25 p.m. | Final scenarios and sensitivity discussion | Jennifer Coulson, PSE<br>Elizabeth Hossner, PSE |
| 2:25 p.m. – 2:35 p.m. | Break | |
| 2:35 p.m. – 3:45 p.m. | “Maximum customer benefit scenario” definition and discussion | Alexandra Karpoff, PSE<br>Brian Tyson, PSE |
| 3:45 p.m. – 4:00 p.m. | Next steps and public comment opportunity | Annie Kilburg Smith, Triangle Associates |
| 4:00 p.m. | Adjourn | All |

# Meeting purpose

- Update members on work plan filing
- Discuss final scenarios for the 2027 ISP and gain RPAG feedback on potential sensitivities
- Provide overview of maximum customer benefit scenario and gain RPAG feedback on PSE's recommended approach

# What we need from you

- Share your questions, reflections, and advice on today’s topics
- Let us know if anything is missing or unclear
- Flag areas where deeper discussion is needed
- Help us identify risks, tensions, or points of misalignment early

# 2027 ISP Work Plan filing

Kara Durbin, PSE

January 27, 2026

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# Work plan highlights

- Required by final ISP rules; builds upon previously submitted engagement plan
- Filed in December for the remainder of the planning period (included in meeting materials for reference)
- Includes:
  - Work plan outlining ISP development process
  - Public participation plan outlining anticipated engagement activities
- May be amended if process changes are substantial (we will notify RPAG members if that occurs)

# Anticipated remaining ISP engagement timeline

**January 27, 2026**
- Sensitivities overview
- Informing "maximum customer benefit scenario" definition

**February 26, 2026**
- Iterative (gas and electric) analysis
- Introduction to cost test framework

**March 26, 2026**
- Cost test framework continued
- Defining societal impacts

**May 2026**
- Reference case portfolio draft results

**June 2026**
- Equitable distribution of benefits

**July 2026**
- Scenario draft demand forecast (gas and electric)
- Electrification potential assessment

**August 2026**
- Scenarios and sensitivities draft results

**September 2026**
- Developing a preferred portfolio and resource plan Part I*

**October 2026**
- Developing a preferred portfolio and resource plan Part II*

**November 2026**
- Developing a preferred portfolio and resource plan Part III*

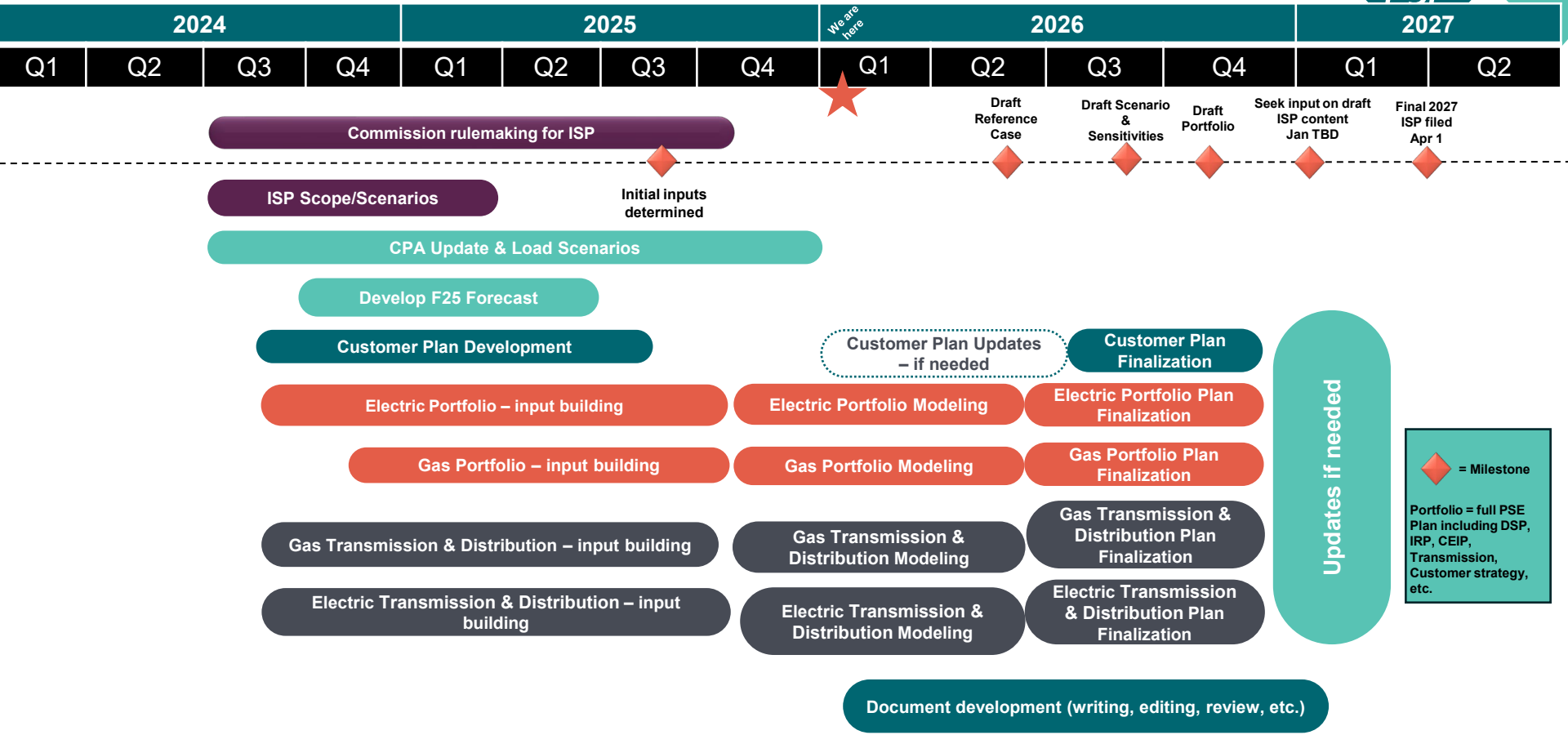
**December 2026**
- Draft ISP Executive Summary with preferred portfolio

**January 2027**
- Draft ISP preferred portfolio Q/A

**March 2027**
- Final ISP feedback review and next steps

**includes ISP targets and goal setting, specific actions, and equitable distribution of benefits*

# Updated 2027 ISP schedule by planning area



# Scenarios and sensitivities

Jennifer Coulson, PSE
Elizabeth Hossner, PSE

January 27, 2026

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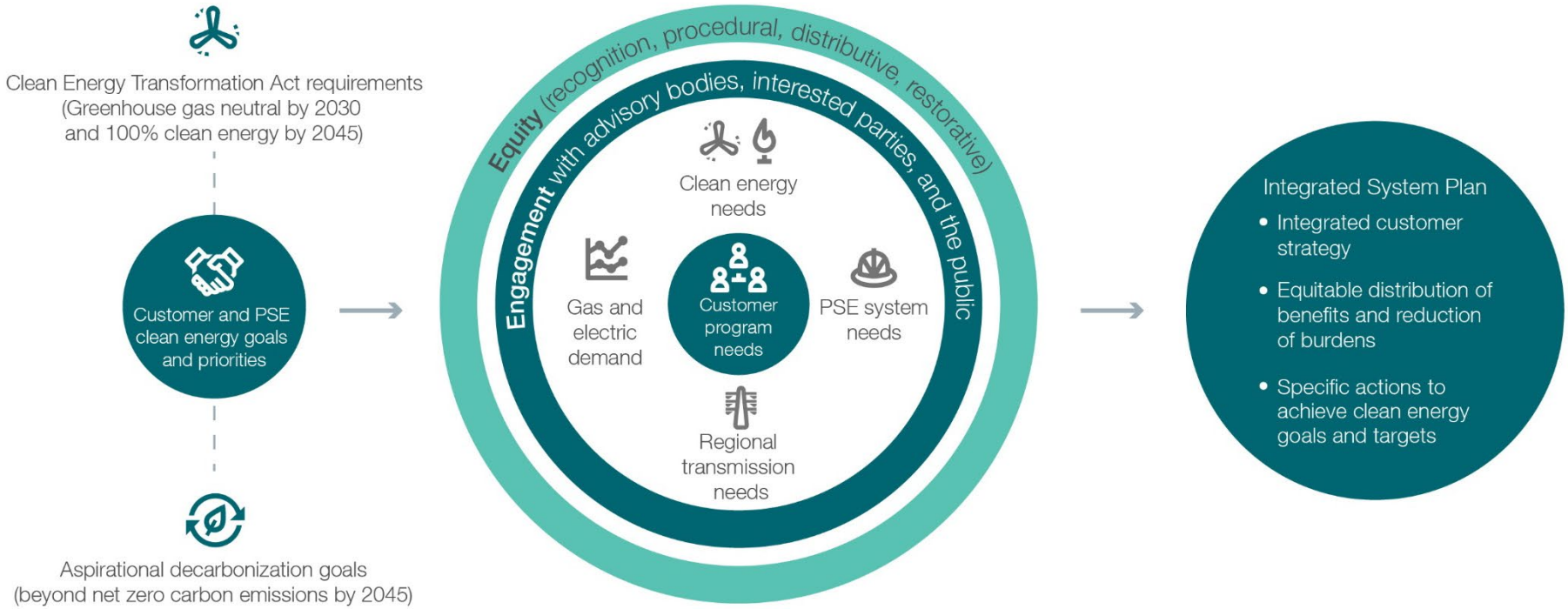
# Objectives

- *Inform* RPAG of final scenarios for the 2027 ISP
- *Consult* RPAG regarding potential sensitivities for the 2027 ISP
- Feedback PSE needs for sensitivities
  - Are we missing anything important/critical?
  - If you had to prioritize this list of sensitivities, what would be your top 3?
- How feedback will be used
  - PSE will consider all feedback and will do our best to model as many sensitivities as the schedule allows

# Developing the 2027 ISP



# Adapting IRP terminology – scenarios and sensitivities

## Scenario

A set of planning assumptions about the future that inform modeling and analysis; scenarios help us understand what future resources may be needed

## Reference scenario

The scenario that most reflects current laws, regulations, and energy use trends that is used as a baseline for comparison

## Sensitivity

A version of the reference scenario where one factor is changed to evaluate the impact of the change on the resulting portfolio

## Portfolio

A set of different resources (customer programs, energy supply, and delivery) identified as a way of reliably meeting customer demands

# Feedback

- Previous ISP scenario and sensitivity discussions:
  - Dec. 19, 2024
  - Feb. 27, 2025
  - June 24, 2025
  - July 29, 2025

- To review all the questions and feedback we received about scenarios and sensitivities please see the 2027 ISP feedback memo.

# Final 2027 ISP scenarios

| Scenarios | Building Electrification | Large Load Requests | Customer Programs | EV Adoption |
|---|---|---|---|---|
| **Reference (HB 1589): Current Trends** | Current building electrification pilots, funding low-income through CCA | Data Centers (+ other new large load requests): based on high probability of interconnection *(lower demand impact)* | **Reference CPA for customer programs:** no gas appliance conservation, building codes restricting gas, 2% conservation & 10% DR or commercially feasible beginning in 2030 (electric only) | Reference |
| **Scenario 1 (Mid): Incentivized electrification** | Starting in 2030, building electrification based on equipment failure and market adoption rate with an incentive | Data Centers (+ other new large load requests): based on high probability of interconnection *(lower demand impact)* | Customer Programs (DR, DER, DSR, etc.) sized to load (adjusted CPA to demand levels) | Reference |
| ★ ***NEW* Scenario 2 (Mid +): Building Electrification Only** | Starting in 2030, electrify buildings at a pace that brings the emissions of both utilities **below** the utility's proportional share of the state GHG emission goals | Data Centers (+ other new large load requests): based on high probability of interconnection *(lower demand impact)* | Customer Programs (DR, DER, DSR, etc.) sized to load (adjusted CPA to demand levels) | Reference |
| **Scenario 3 (High): Enhanced electrification** | Starting in 2030, electrify buildings at a pace that brings the emissions of both utilities **below** the utility's proportional share of the state GHG emission goals. **Constrained by equipment failure** | Data Centers (+ other new large load requests): based on **mid probability** of interconnection *(higher demand impact)* | Customer Programs (DR, DER, DSR, etc.) sized to load (adjusted CPA to demand levels) | High |
| **Scenario 4 (High+): Unconstrained electrification** | Starting in 2030, electrify buildings at a pace that brings the emissions of both utilities **below** the utility's proportional share of the state GHG emission goals. **Unconstrained** | Data Centers (+ other new large load requests): based on **mid probability** of interconnection *(higher demand impact)* | Customer Programs (DR, DER, DSR, etc.) sized to load (adjusted CPA to demand levels) | High |

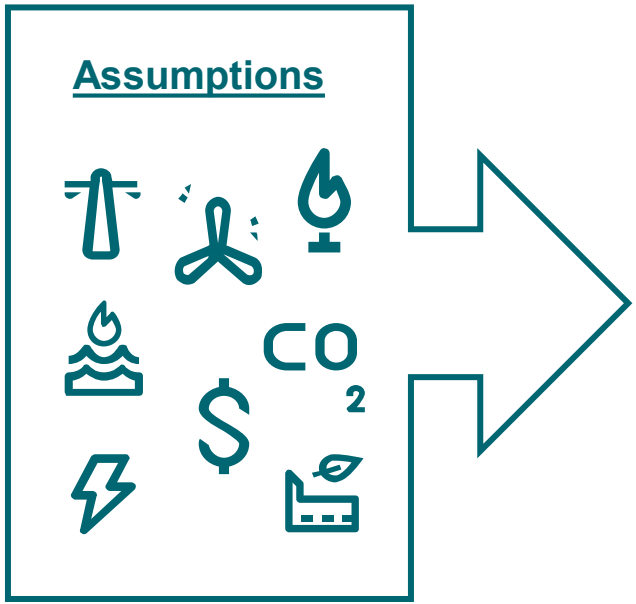


★ *Scenario added based on interested party feedback*

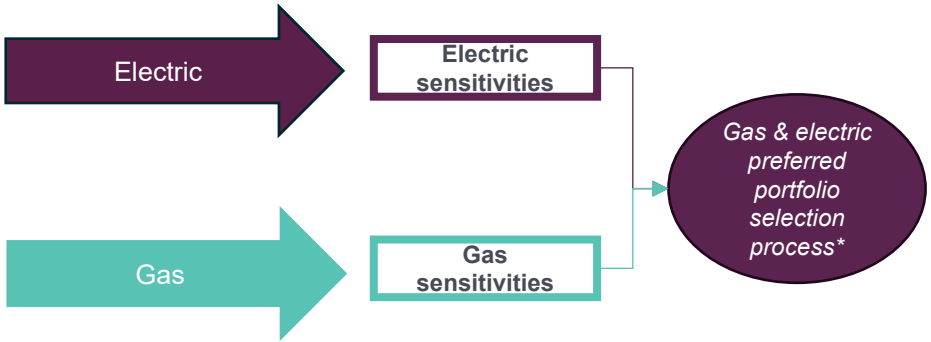
# Sensitivity process overview

1. The **reference portfolio** is the least-cost set of resources to meet the base set of assumptions.

2. **Sensitivity analysis** goes through a process to change one or more of the base assumptions to examine the effect on the portfolio





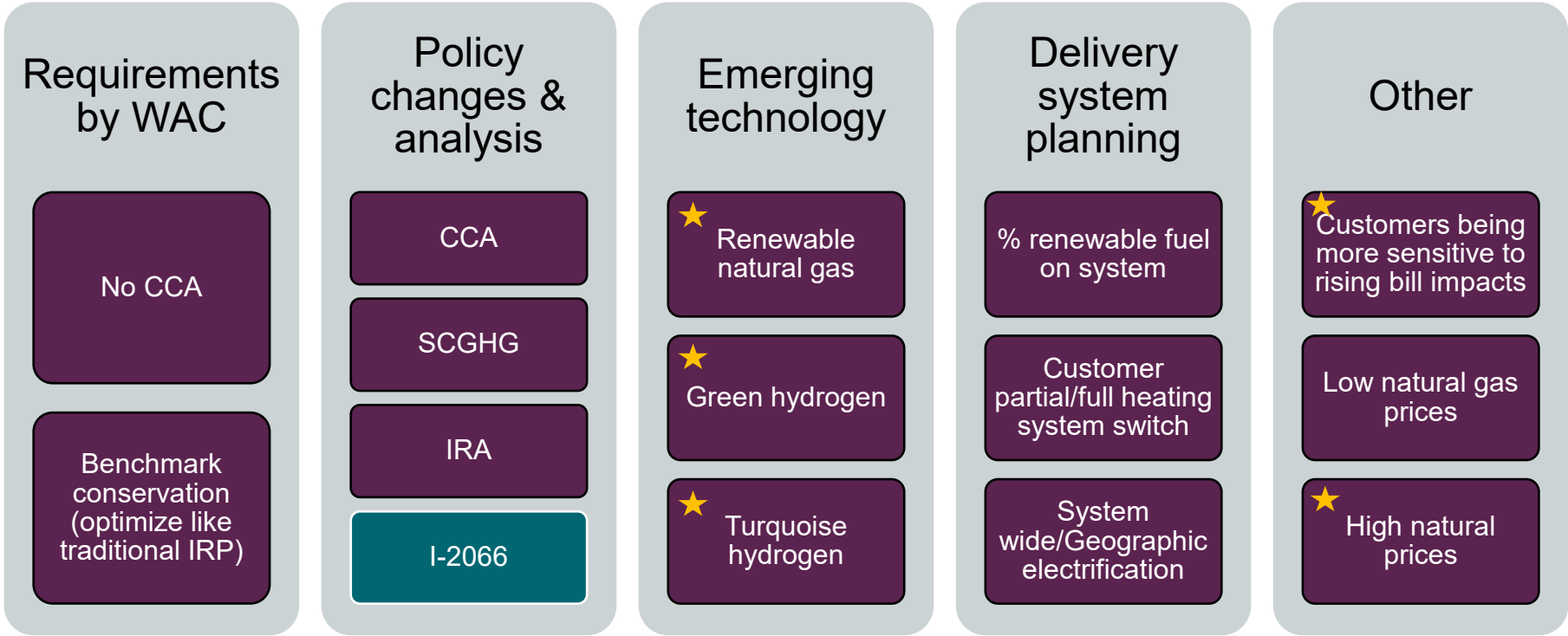



**Note – Sensitivities are one aspect of the portfolio selection process, there are many other components not represented here (i.e., scenarios, decision framework, etc.)*

# Draft 27 ISP sensitivities – gas utility

- When running a sensitivity, we are looking for changes in:
  1. Portfolio costs
  2. Resource: types (supply & system), location, and amount
  3. GHG emissions
- When setting up a sensitivity, we group them into different themes:
  - Requirements by WAC
  - Policy changes & analysis
  - Emerging technology
  - Delivery system planning
  - Other

# Draft 27 ISP sensitivity themes – gas utility



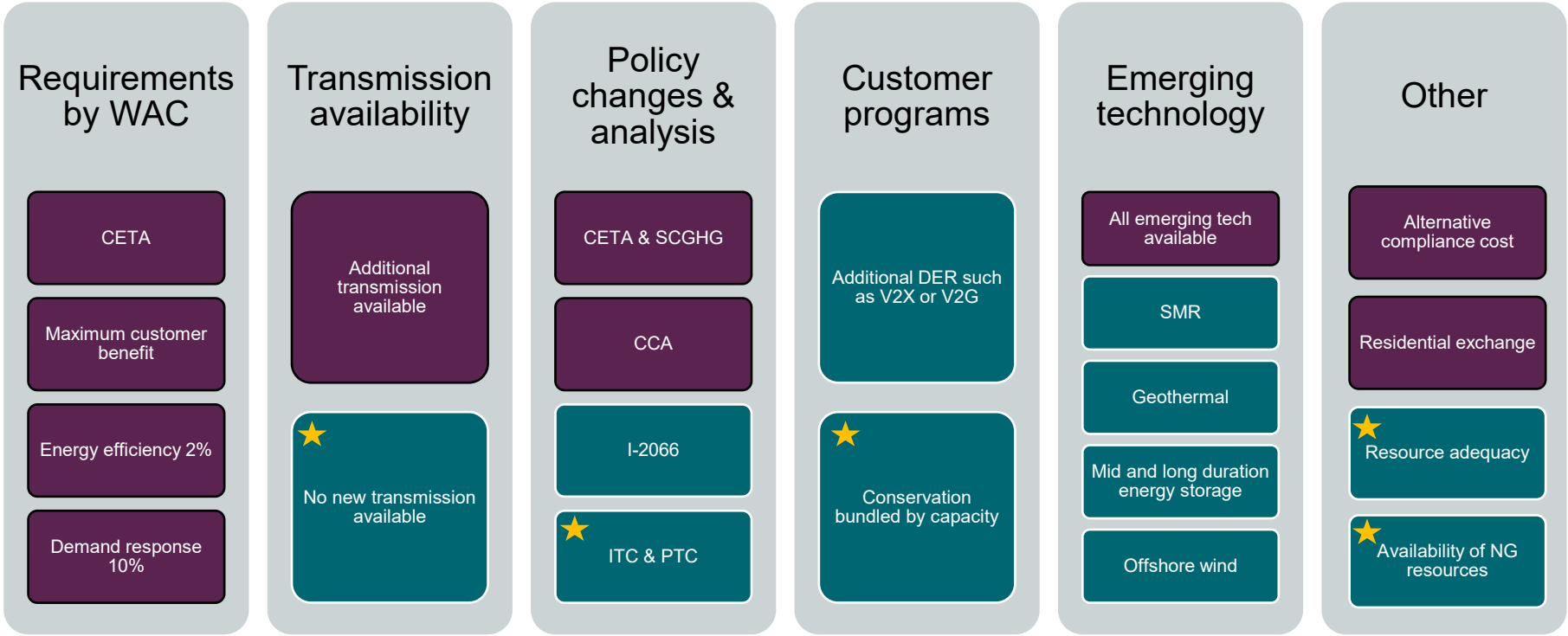
# Feedback discussion

- Are we missing any critical sensitivity themes?
- If you had to prioritize these sensitivities, what are your top 2-3?

# Draft 27 ISP sensitivities – electric utility

- When running a sensitivity, we are looking for changes in:
  1. Portfolio costs
  2. Resource: types (supply and system), location, and amount
  3. GHG emissions
- When setting up a sensitivity, we group them into different themes:
  - Requirements by WAC
  - Transmission availability
  - Policy changes & analysis
  - Customer programs
  - Emerging technology
  - Other

# Draft 27 ISP sensitivity themes – electric utility




★ Based on feedback from interested parties

Optional – not all sensitivities will be analyzed due to time constraints

Sensitivity PSE plans on analyzing

# Feedback discussion

- Are we missing any critical sensitivity themes?
- If you had to prioritize these sensitivities, what are your top 2-3?

# Questions?

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# Break

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# Maximum customer benefit

Alexandra Karpoff, PSE

Brian Tyson, PSE

January 27, 2026

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# Objectives

- Review “maximum customer benefit” regulatory requirements
- Describe context and history
- Present recommended approach
- Feedback PSE needs
  - Feedback on proposed approach
  - Sensitivity prioritization
- How feedback will be used
  - PSE will use feedback to determine the best approach for meeting this regulatory requirement

# Regulatory framework – electric only requirement

The Maximum Customer Benefit sensitivity is set forth in:

**480-96-050 (4)(c):** At least one sensitivity must be a maximum customer benefit scenario. This sensitivity should model the maximum amount of customer benefits described in RCW 19.405.040(8) prior to balancing against other goals.

**RCW 19.405.040(8):** In complying with this section, an electric utility must, consistent with the requirements of RCW 19.280.030 and 19.405.140, ensure that all customers are benefiting from the transition to clean energy: Through the equitable distribution of energy and nonenergy benefits and reduction of burdens to vulnerable populations and highly impacted communities; long-term and short-term public health and environmental benefits and reduction of costs and risks; and energy security and resiliency.

**What should be maximized:**

- Energy and nonenergy benefits
- Reduction of burdens
- Public health
- Environmental benefits
- Reduction of costs and risks
- Energy security and resiliency

# 2021 Integrated Resource Plan

Analyzed multiple sensitivities separately

Lowest cost portfolio

Maximize DERs

100 percent renewable

# How do comparable utilities approach this?

## PacifiCorp
Single sensitivity

- Prioritize distributed generation, demand response, energy efficiency
- Avoid high-voltage transmission upgrades in Yakima and Walla Walla communities

## Avista
Single sensitivity

- Prioritize distributed solar and storage
- Prohibit air emitting resources
- Increase Power Act adder for energy efficiency to 20%
- Assume Named Communities have higher level of roof top solar and electric vehicles compared to other scenarios

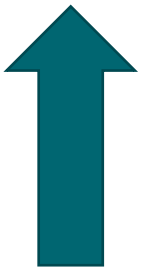


*As proposed in their respective 2025 Integrated Resource Plans*

# Maximum customer benefit limitations

PSE can adjust input assumptions (e.g., force more or prohibit selection of specific resources) but we cannot directly predetermine outcomes (e.g., force the model to maximize a specific benefit)

*Example: Prioritizing distributed resources (e.g., force model to select a certain level of distributed resources)* ***may****:*



- Improve energy and nonenergy benefits
- Have environmental benefits
- Improve energy security and resiliency

- Decrease affordability (increased system-wide bill impacts)

# 27 ISP sensitivities that maximize customer identified priorities*

| | |
|---|---|
| Highly reliable | • All scenarios and sensitivities must meet reliability requirements to be considered a viable portfolio |
| Minimize bill impacts | • No CETA/CCA/SCGHG<br>• Lowest reasonable cost portfolio |
| Reduce environmental impacts | • No new emitting resources |
| Increase customer participation | • High DER<br>• High energy efficiency and demand response |

*Based on qualitative and quantitative feedback from customers

# Proposed approach and feedback discussion

## Approach

Analyze multiple maximum customer benefit sensitivities that maximize different customer benefits:

- Lowest reasonable cost
- High DER, EE, and DR
- No new emitting resources

## Feedback requested

- Does this approach seem reasonable?
- Please identify up to three sensitivity themes that, in your opinion, best maximize customer benefits

# Questions?

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# Next steps

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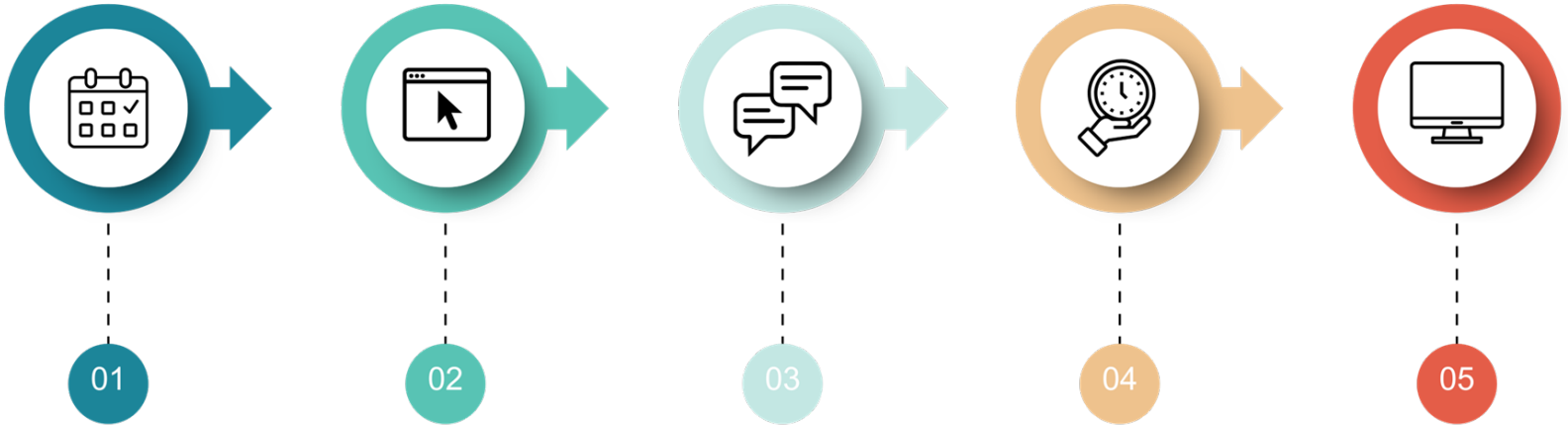
# Feedback process




**One week prior to meeting**

The feedback window for the upcoming meeting opens.

**3-5 business days prior to meeting**

PSE posts the meeting agenda and slide deck on the Clean Energy website.

**Day of meeting**

PSE engages RPAG for feedback and facilitates a public comment opportunity.

**One week post meeting**

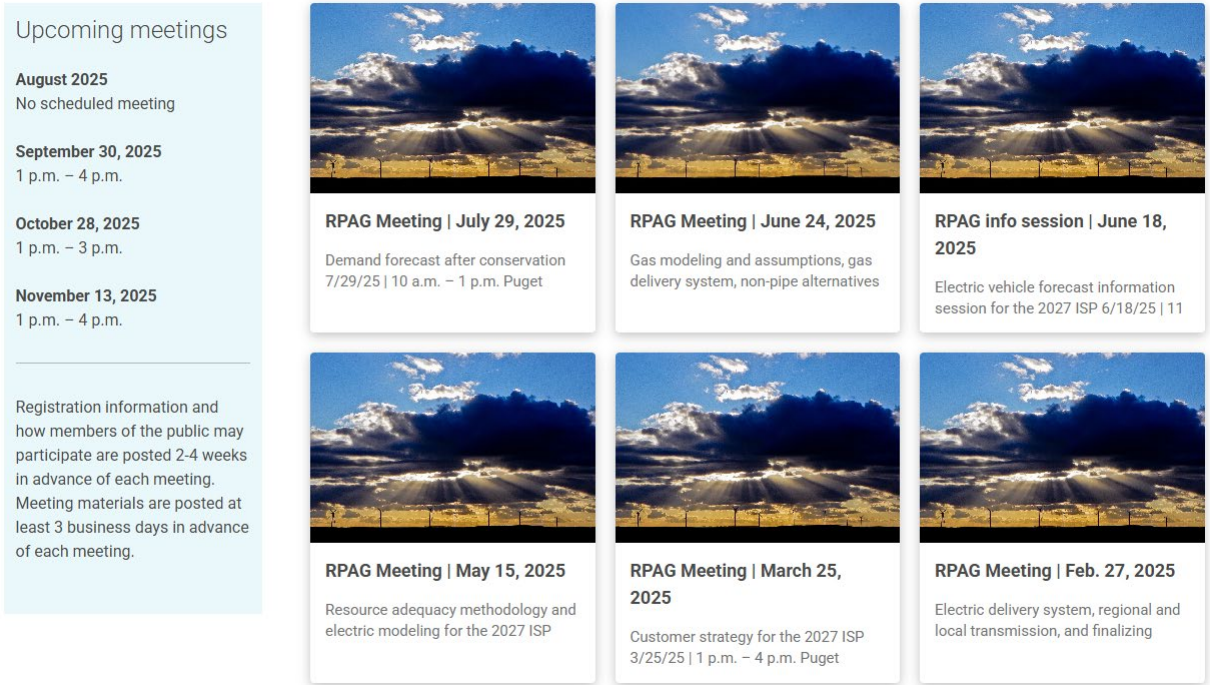
Feedback window for the latest RPAG meeting closes. Feedback received outside this window will go into the subsequent feedback report.

**Four weeks post meeting**

PSE posts the meeting summary and feedback report from the latest RPAG meeting on the Clean Energy website.

# Visit our website

- You can find meeting materials, meeting summaries, feedback reports, and links to meeting recordings on the RPAG portion of our clean energy planning website.



# Upcoming activities

| Date | Activity |
|---|---|
| February 4, 2026 | Feedback form for this meeting closes |
| February 26, 2026 | RPAG meeting |
| March 26, 2026 | RPAG meeting |

# Contact us

- Via email at isp@pse.com
- Via feedback form at: https://www.cleanenergyplan.pse.com/contact
- Leave us a voicemail at 425-818-2051
- Subscribe to our email list
- Visit our website: cleanenergyplan.pse.com

# Public comment opportunity

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# How to participate in public comment opportunity

- Please use the “raise hand” feature if you would like to provide comment
- Each speaker will have up to 3 minutes to give comments
- Comments should relate to today’s meeting topics
- Please keep remarks respectful – no personal attacks
- Comments and questions will be included in the feedback report with PSE’s response
- You are welcome and encouraged to send written feedback and questions to isp@pse.com

# Thank you for joining us!

January 27, 2026

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# Appendix

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# Definitions and acronyms

| Acronym | Definition |
|---|---|
| BPA | Bonneville Power Administration |
| CCA | Climate Commitment Act |
| CETA | Clean Energy Transformation Act |
| CPA | Conservation Potential Assessment |
| DER | Distributed energy resource |
| DR | Demand response |
| DSP | Delivery system planning |
| DSR | Demand-side resource |
| ELCC | Effective load carrying capability |

| Acronym | Definition |
|---|---|
| GHG | Greenhouse gas |
| IRP | Integrated Resource Plan |
| ISP | Integrated System Plan |
| ITC | Investment Tax Credit |
| PTC | Production Tax Credit |
| RA | Resource adequacy |
| RPAG | Resource Planning Advisory Group |
| SCGHG | Social cost of greenhouse gas |
| V2X/V2G | Vehicle to everything/vehicle to grid |

# Discussion – if needed

- How would you build this sensitivity given the constraints described (e.g., what resources would you prioritize or exclude in developing the modeling scenario)?

## Energy storage
- Short duration (Lithium-Ion 4 hour)
- Medium duration (CAES 8-hour) - Emerging
- Long duration (Iron-Air 100-hour) - Emerging

## Wind
- Onshore wind
- Offshore wind - Emerging
- Hybrid and co-located with energy storage and solar

## Solar photovoltaic (PV)
- Utility scale
- Hybrid and co-located with energy storage and wind

## Baseload
- Small Modular Reactor (SMR) – Emerging
- Combined Cycle Combustion Turbine (CCCT)
- Enhanced Geothermal - Emerging

## Peaker
- Natural Gas with oil backup – converts to alternative fuel in 2045
- Hydrogen/NG blend with backup fuel – Emerging
- Renewable Peaker

## Customer programs
- Solar
- Energy storage
- Energy efficiency
- V2G / V2X

## Transmission
- May or may not be limited holistically
- Limit or prioritize geographically (e.g., PacifCorp example)