

Summer public webinar

Integrated System Planning: What we've learned so far

July 27, 2026



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Today's speakers



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Brian Tyson

Manager, Clean Energy Planning and Implementation, PSE

Ray Outlaw

Manager, Clean Energy Strategy Communications, PSE

Hilary Wilkinson

Facilitator, Maul Foster & Alongi

Today's topics

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12:05

What is an integrated system plan?

12:20

How does the modeling process work?

12:40

What have we learned so far?

12:55

Next steps

Today's topics

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5:35

What is an integrated system plan?

5:50

How does the modeling process work?

6:10

What have we learned so far?

6:25

Next steps



What is an Integrated System Plan or ISP?

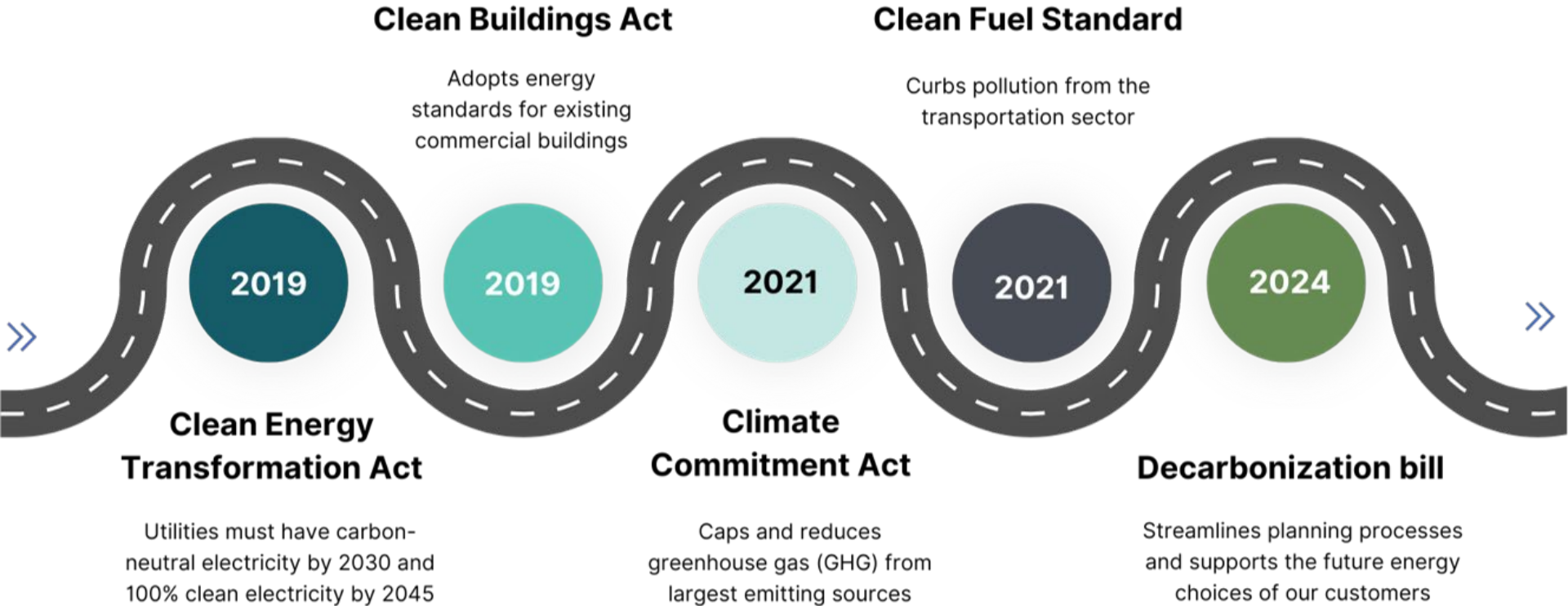
How we plan for reliability, affordability, and clean energy

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

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What is an ISP?

- Outlines 20-year **demand forecast** across a variety of **possible scenarios**
- Evaluates different potential levels of **building electrification**
- Evaluates **current** (e.g., wind, solar, thermal) and **emerging** resources (e.g., advanced geothermal, nuclear)
- Evaluates **cost implications**
- Considers one or more **potential portfolios** (mix of energy sources and infrastructure)
- Assesses **impacts** at the portfolio level
- **Contains specific actions** to ensure equitable distribution of benefits and reduction of burdens
- Sets **clean energy and customer program** targets

Summary, not inclusive of all requirements

Why the integrated system plan matters

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Shapes how PSE plans for reliable, affordable, and cleaner energy



Helps prepare for uncertainty – from weather and technology to regulations and customer needs



Guides investments that affect customers, communities, and future energy choices



Creates opportunities for public input that helps influence the plan before it's finalized



Results in an action plan approved by the Commission

How is the ISP organized?

Short-term actions and targets (1-4 years)

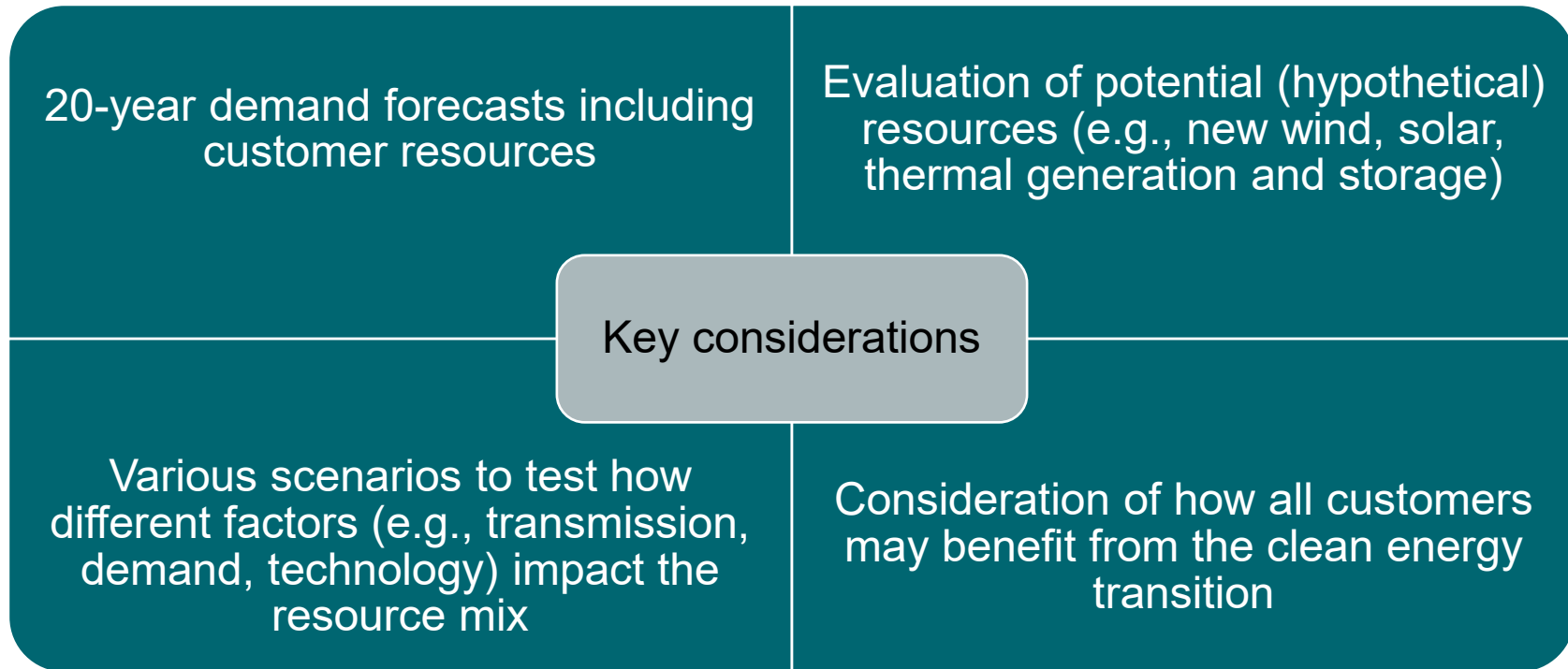
Clean Energy Action Plan (5-10 years)

Preferred portfolio (20 years)

Preferred portfolio

Describes the mix of hypothetical resources that are projected to meet current and future resource needs

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Summary, not inclusive of all requirements

Questions?



How does the modeling process work?

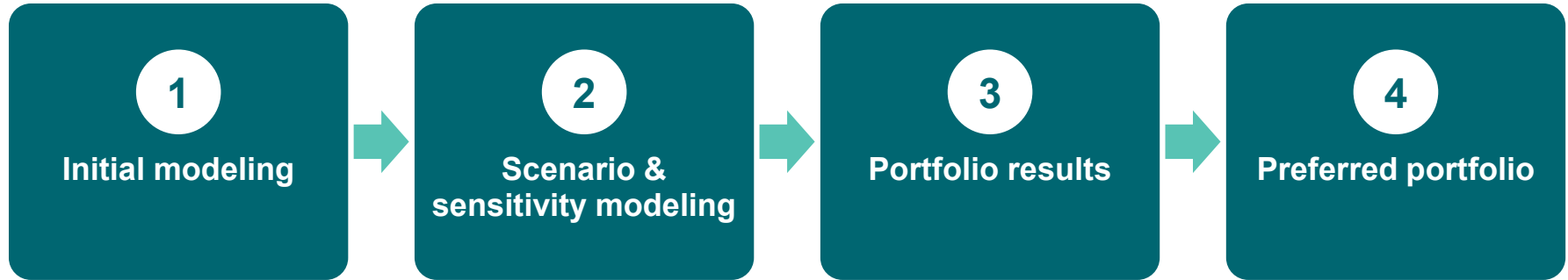
How the analysis works

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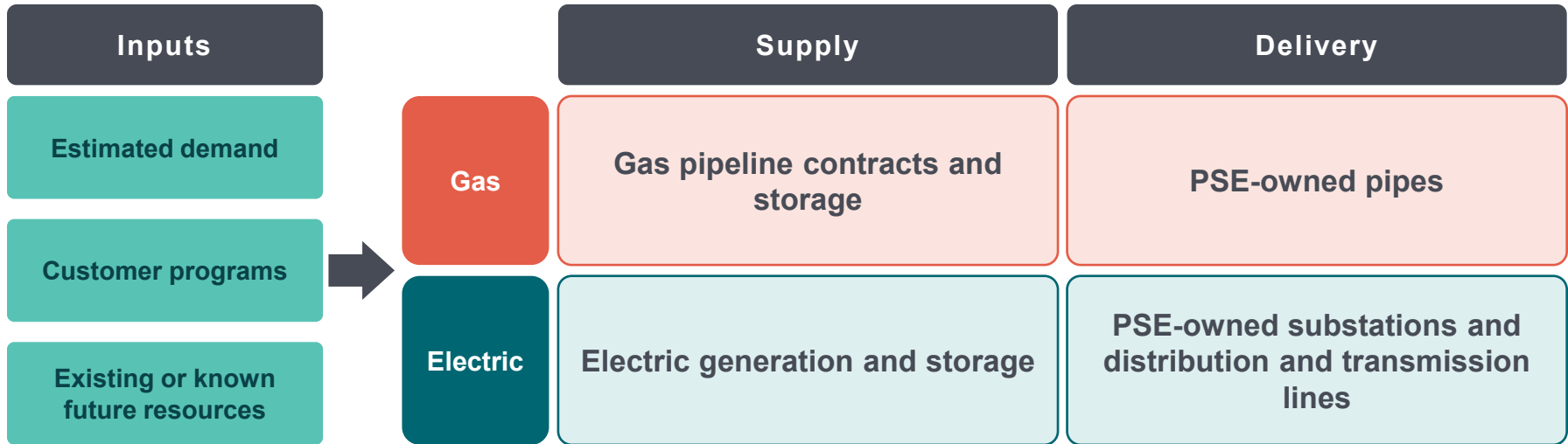
Modeling process overview

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What do we include in the modeling?

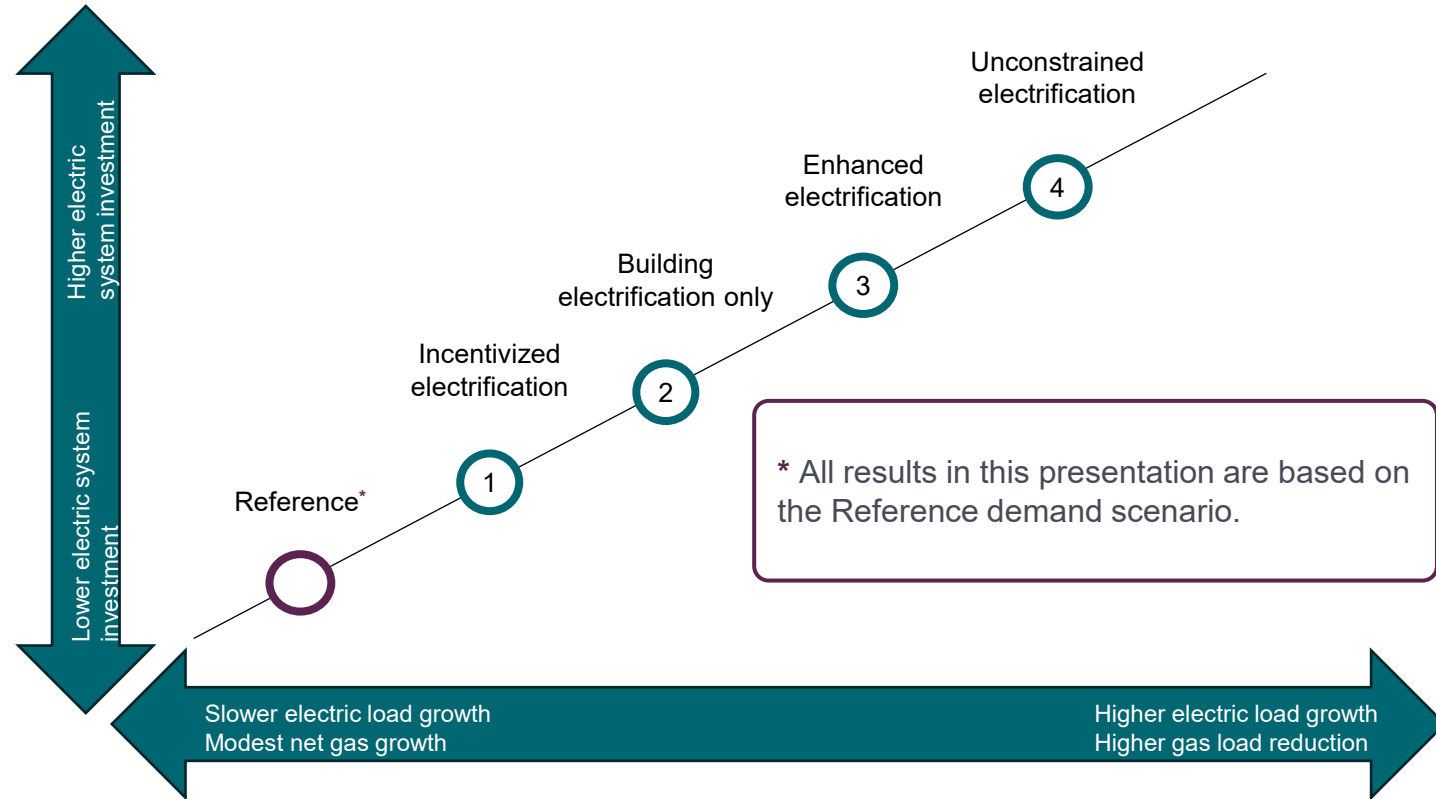
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Summary, not inclusive of all modeling components

Demand starting point

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Existing electric generation resources assumptions

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+2.9 GW

New long-term renewable resources added
since 2019 (e.g., wind, solar)



-1.1 GW

Fossil resources retired (i.e., coal)

Solving for our multiple requirements

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To support a plan that meets our regulatory and operational requirements, the model must “solve” for 3 different concepts



Effective peak capacity

Resources required to ensure reliable operation of the system



Renewable and nonemitting resources

Resources required to meet specific percentages of renewable or non-emitting resources

80%
by 2030–2033

100%
by 2045



Energy demand

Resources required to meet customer demand in every hour

What have we learned so far?

Analysis progress

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What did we learn in the initial modeling exercise?

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Currently available electric resources fall short

The model cannot solve using only currently available resources (thermal, wind, solar, hydroelectric) to meet long-term clean-energy requirements



Batteries alone are unrealistic

Adding batteries at a scale far exceeding what could actually be built (approximately 55,000 MW by 2050) lets the model solve, but requires more than could be built in the planning window



Emerging technologies will be needed

Emerging technologies (advanced geothermal, advanced nuclear, mid- and long-duration storage, renewable peakers, offshore wind) produce a workable starting point (assuming they are available and viable in the future)

What did we learn about our electric peak capacity need?

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Electric demand still peaks in winter, but summer demand is rising



2030

~1,500 MW

Gap to fill to meet peak demand in 2030



2045

~5,126 MW

Gap when only clean or non-emitting energy is allowed beginning in 2045



2050

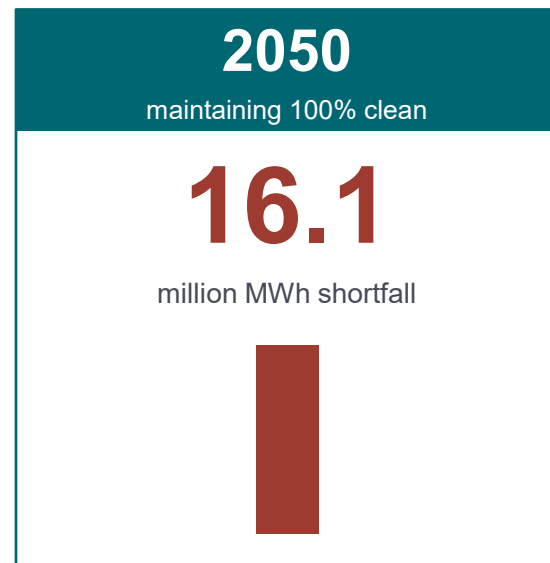
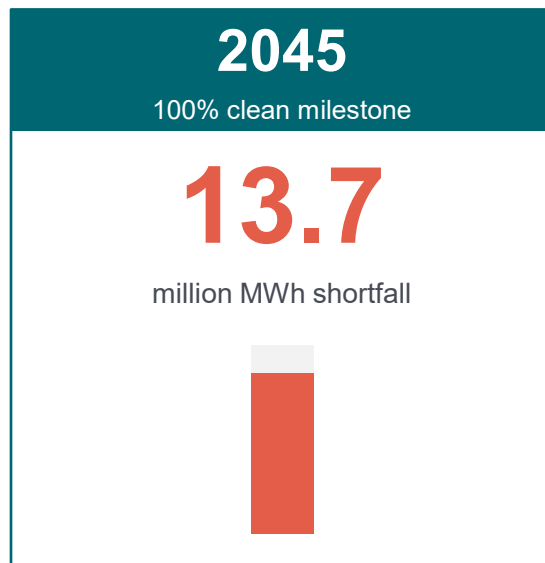
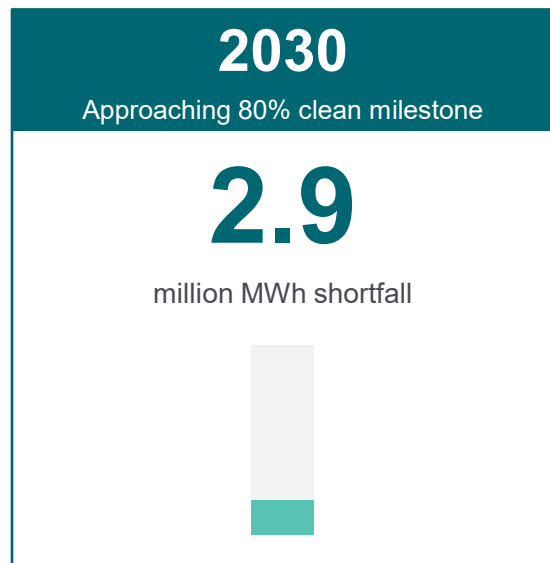
~5,650 MW

Projected gap continues to grow

What did we learn about our clean energy needs?

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The clean energy shortfall widens sharply at each milestone



Other key lessons from the analysis

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Natural gas demand



Demand for heating and cooking declines slowly across the time horizon.

Distribution system



Annual local electric distribution needs are significant to support growing demand.

Transmission



Expansion across the Cascade Mountains is critical to move clean power.

What did we learn from the initial (reference case) analysis?

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Based on the Reference case demand assumptions



Electric system

Needs are significant and growing across the entire system — generation, transmission, and distribution.



Gas system

Needs decline gradually, but over time look much like they do today.



Building electrification

Continues at current levels; further analysis will tell us more.



Analysis Ahead

Much analysis remains across electrification scenarios and a range of sensitivities.

Join us in the fall to see more results

Questions?



Next steps

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Where do we go from here?



1

Next few months

Scenario and sensitivity analysis will add to our understanding

2

Later this year

Development of a preferred portfolio, specific actions, and more...

3

Late fall

Issuance of a draft Executive Summary with preferred portfolio

Public engagement timeline

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Thank you for joining us!

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What happens during the DRAFT ISP review?



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Public invited to review draft document and provide comments on:

Analysis and
results

Compliance
obligations

Goals, targets,
or specific
actions

Other relevant
topics as
identified (see
slides 15-18)

PSE will review and consider all comments in developing the ISP for filing with the UTC; a summary of comments and responses will be included as an appendix to the ISP

What happens during the UTC review process?

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