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# 2021 IRP Webinar #10: Electric IRP

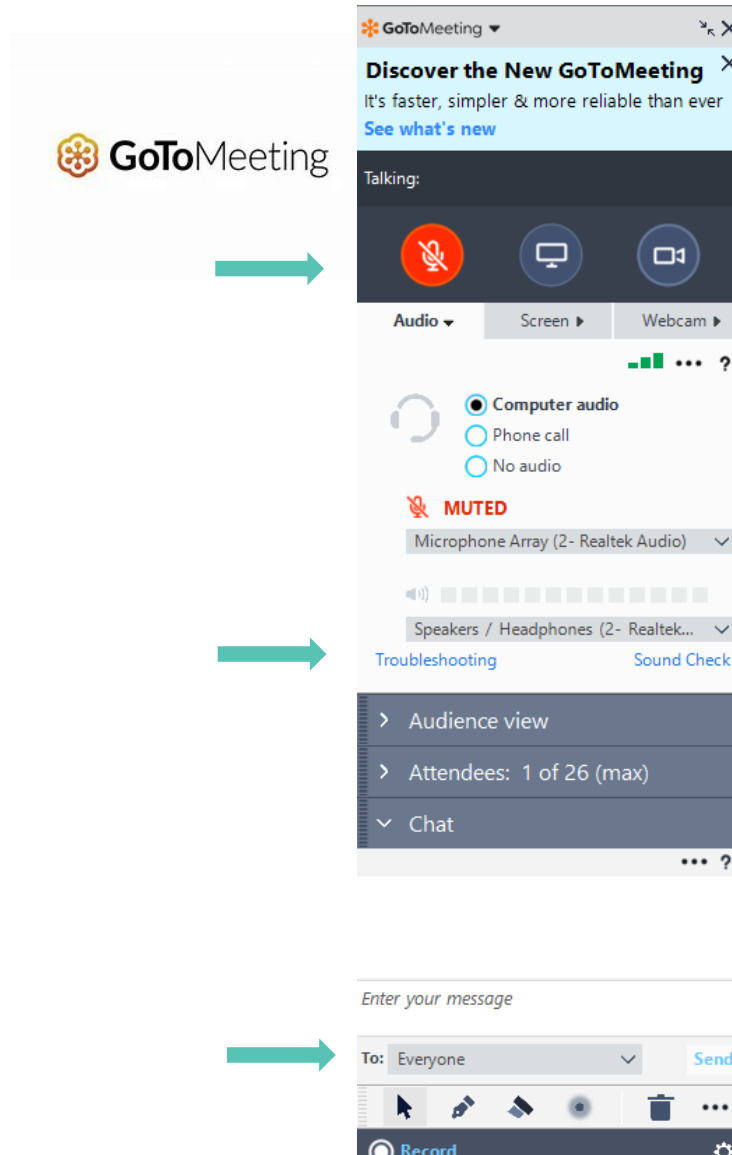
10-year Clean Energy Action Plan  
Electric Portfolio Model

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November 16, 2020



# Welcome to the webinar and thank you for participating!



Virtual webinar link: <https://global.gotomeeting.com/join/413142693>

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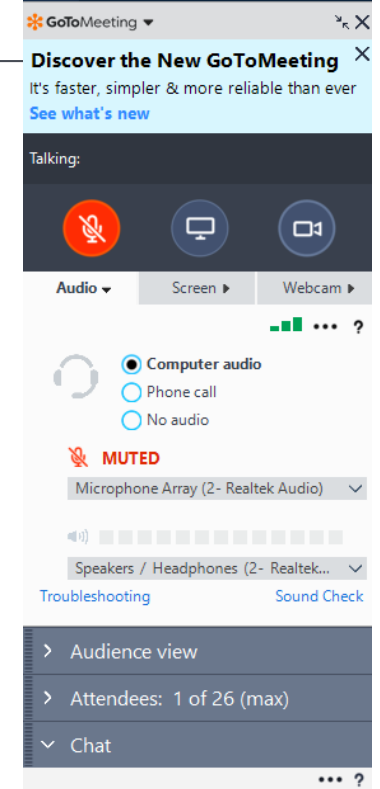
Call-in telephone number: +1 (872) 240-3311

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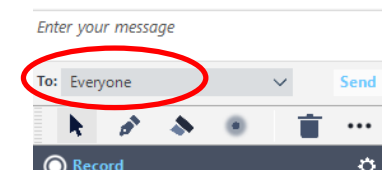
# How to participate using Go2Meeting

## Presentation Do's

- Mute your mic during the presentation
- You can participate in writing or verbally using the chat window
  - **In writing:** your question will be read
  - **Verbally:** type "Raise hand" and slide #, share with "Everyone"; please wait to be called on to ask your question
- Be considerate of others waiting to participate
- We will try to get to all questions



Raise hand, slide 33



# Agenda

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- Safety Moment
- Clean Energy Action Plan and Clean Energy Implementation Plan
- Economic, Health and Environmental Benefits Assessment of Current Conditions
- Delivery System and Grid Modernization Needs

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# Safety Moment: Driving safety

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Across the US, driving fatalities are up in many states despite a smaller number of vehicles on the road. Here are some tips to make sure your next trip is safe:

Inspect your vehicle before leaving on your journey. Check such things as:

- Tire pressure
- Working headlights and signals
- Sufficient levels of gas and windshield washer fluid
- Availability of first aid kits and fire extinguishers

And while driving be sure to:

- Follow posted speed limits
- Wear your seat belt
- Do not use your phone or other mobile device and
- Never drive under the influence of alcohol or drugs



# Today's Speakers

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**Irena Netik**

Director, Resource Planning & Analysis, PSE

**Ben Farrow**

Director, Clean Energy Strategy, PSE

**Tyler Tobin**

Resource Planning Analyst, PSE

**Jens Nedrud**

Manager, System Planning, PSE

**Elaine Markham**

Manager, Grid Modernization Strategy & Enablement, PSE

**Alexandra Streamer & Elise Johnson**

Co-facilitators, EnviroIssues

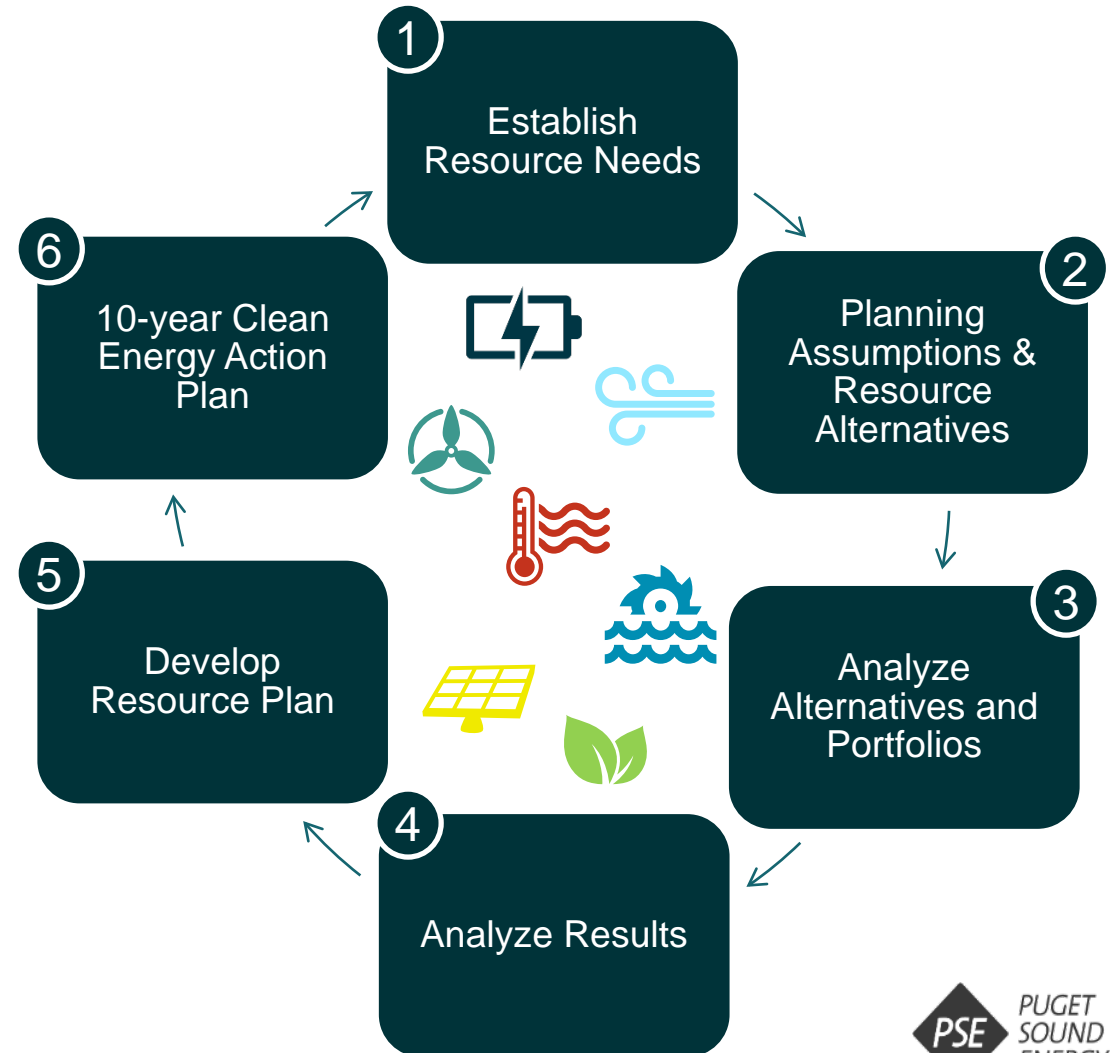
# Electric IRP process overview



# 2021 IRP modeling process

The 2021 IRP will follow a 6-step process for analysis:

1. Analyze and establish resource need
2. Determine planning assumptions and identify resource alternatives
3. Analyze scenarios and sensitivities using deterministic and stochastic risk analysis
4. Analyze results
5. Develop resource plan
6. **10-year Clean Energy Action Plan**





# 2021 IRP process timeline



Meeting dates are available on [pse.com/irp](https://pse.com/irp) and will be updated throughout the process. This is a tentative timeline subject to revision.

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# Clean Energy Action Plan & Clean Energy Implementation Plan

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## Participation Objectives

- ⚡ PSE will review elements of draft CEAP and CEIP rules and next steps with stakeholders

IAP2 level of participation: INFORM & CONSULT

- ⚡ PSE will involve stakeholders in identifying initial metrics used to inform the Economic, Health, and Environmental Benefits Assessment

IAP2 level of participation: INVOLVE

# IRP Stakeholder Feedback Approach

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## November 2020 IRP webinar

- ❖ Obtain input on the initial metrics for Economic, Health and Environmental Benefits Assessment intended to assess:
  - ❖ Current conditions, with an emphasis on ensuring Highly Impacted Communities and Vulnerable Populations benefit and are not burdened by the transition to clean electricity
  - ❖ Public health
  - ❖ Environmental benefits and burdens
  - ❖ Energy security and resiliency

## Future IRP webinar

- ❖ Share outcome of stakeholder feedback on initial assessment results, portfolio results and draft resource plan and the development of proposed Indicators
- ❖ Solicit additional input on proposed Indicators for the 2021 IRP

# CETA rulemaking update

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Washington's Clean Energy Transformation Act (CETA) includes:

- Electricity standards for 2025, 2030 and 2045
- Ensuring all customers benefit from the transition to clean energy

CETA rulemaking continues:

- October 14: Draft rules published on IRP, Clean Energy Action Plan and Clean Energy Implementation Plan
- November 12: Deadline for written comments on draft rules
- December 9: UTC rule adoption hearing



# New CETA Requirement: equitable distribution of energy and non-energy benefits

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## WAC 480-100-610 Clean Energy Transformation Standards (4)

(c) Ensure that all customers are benefiting from the transition to clean energy through:

(i) The equitable distribution of energy and non-energy benefits and reduction of burdens to vulnerable populations and highly impacted communities;

(ii) Long-term and short-term public health and environmental benefits and reduction of costs and risks; and

(iii) Energy security and resiliency.

*Note: underlined terms are defined on next slide*

# Related Definitions from CR 102 UE-190698 and UE-191023 Rules

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Energy Burden: means the share of annual household income used to pay annual home energy bills.

Equitable Distribution: a fair and just, but not necessarily equal, allocation of benefits and burdens from the utility's transition to clean energy. Equitable distribution is based on disparities in current conditions. Current conditions are informed by, among other things, the assessment described in RCW 19.280.030(1)(k) from the most recent integrated resource plan.

Highly impacted community: means a community designated by the department of health based on the cumulative impact analysis required by RCW 19.405.140 or a community located in census tracts that are fully or partially on "Indian country," as defined in 18 U.S.C. Sec. 1151.

- Department of Health's cumulative impact analyses available by the end of 2020

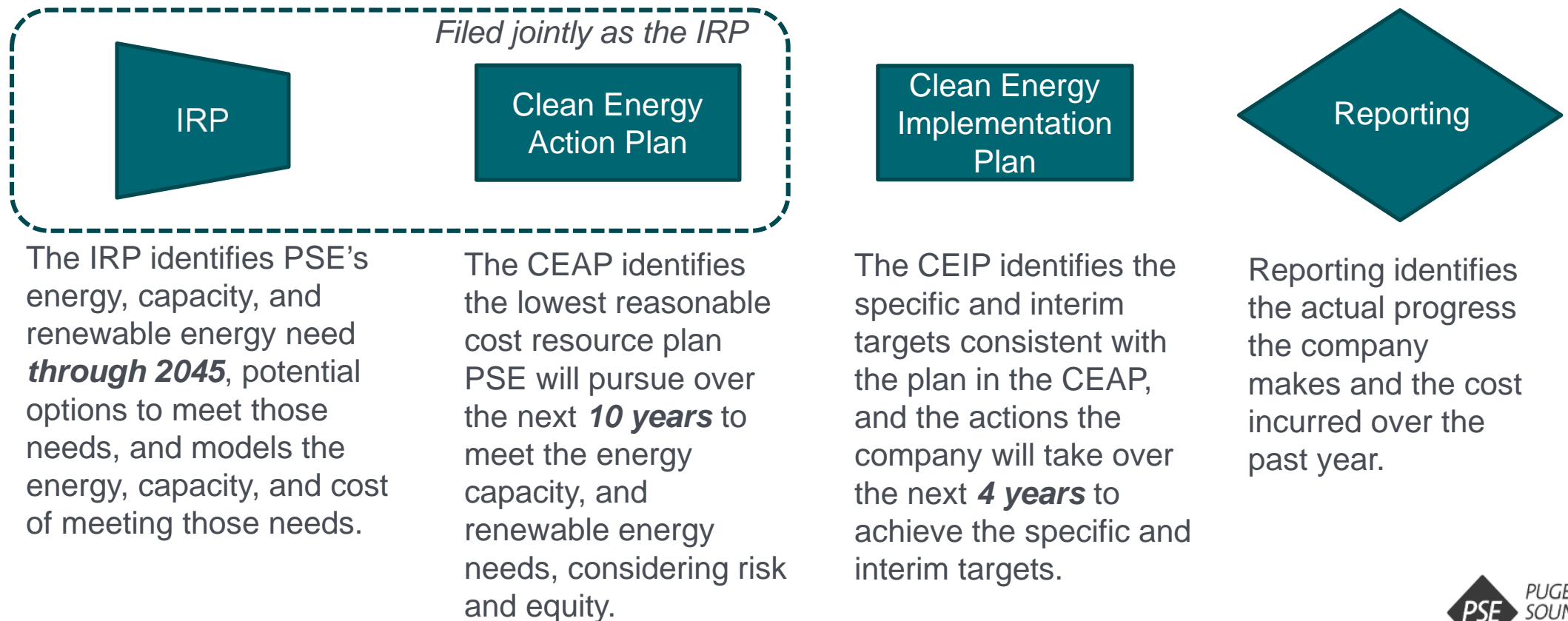
Vulnerable populations: means communities that experience a disproportionate cumulative risk from environmental burdens due to: Adverse socioeconomic factors, including unemployment, high housing and transportation costs relative to income, access to food and health care, and linguistic isolation; and sensitivity factors, such as low birth weight and higher rates of hospitalization.

Indicator: means an attribute, either quantitative or qualitative, of a resource or related distribution investment



# The new planning cycle

*A phased planning process of increasing specificity that incorporates past planning standards and adds new CETA standards: to phase out coal, meet GHG neutral standard by 2030 and clean energy standard by 2045.*





# What is the **Clean Energy Action Plan**?

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- A 10-year plan that
  - Achieves **clean energy transformation standards** at the lowest reasonable cost
  - Ensures that **all customers are benefiting from the transition to clean energy**
- Filed with the WUTC as part of the IRP and acknowledged by the WUTC
- First draft plan is due on January 4, 2021 and final on April 1, 2021
- Specific CEAP elements included in IRP rules:
  - Cost-effective conservation potential assessment
  - Resource adequacy requirement
  - Cost-effective demand response
  - Renewable & non-emitting resources and distributed energy resources
  - Social cost of greenhouse gas emissions as a cost adder
  - Need for expansion of transmission and distribution facilities
  - Estimate of benefit and burden reduction

# What is the **Clean Energy Implementation Plan**?

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- Sets specific targets, interim targets, and specific actions for a 4-year period
- First plan is due October 1, 2021 and covers calendar years 2022-2025
- Clean Energy Implementation Plans establish:
  1. Interim targets for the 4-year period: percentage of retail sales of electricity supplied by non-emitting and renewable resources
  2. Specific targets for the 4-year period:
    - Demand response
    - Energy efficiency
    - Renewable energy
  3. Specific actions for the 4-year period, ***based on the Clean Energy Action Plan*** and interim and specific targets
- Clean Energy Implementation Plans are filed with the UTC, and the UTC will approve, deny, or can modify the plans

# Developing our CEIP: engaging advisory groups and customers

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## Equity Advisory Group – new!

Draft WAC 480-100-655 (1)(b)

“The utility must maintain and regularly engage an external **equity advisory group to advise the utility on equity issues** including, but not limited to, vulnerable population designation, equity indicator development, data support and development, and recommended approaches for the utility's compliance with WAC 480-100-610 (4)(c)(i). The utility must encourage and include the **participation of environmental justice and public health advocates, tribes, and representatives from highly impacted communities and vulnerable populations** in addition to other relevant groups;”

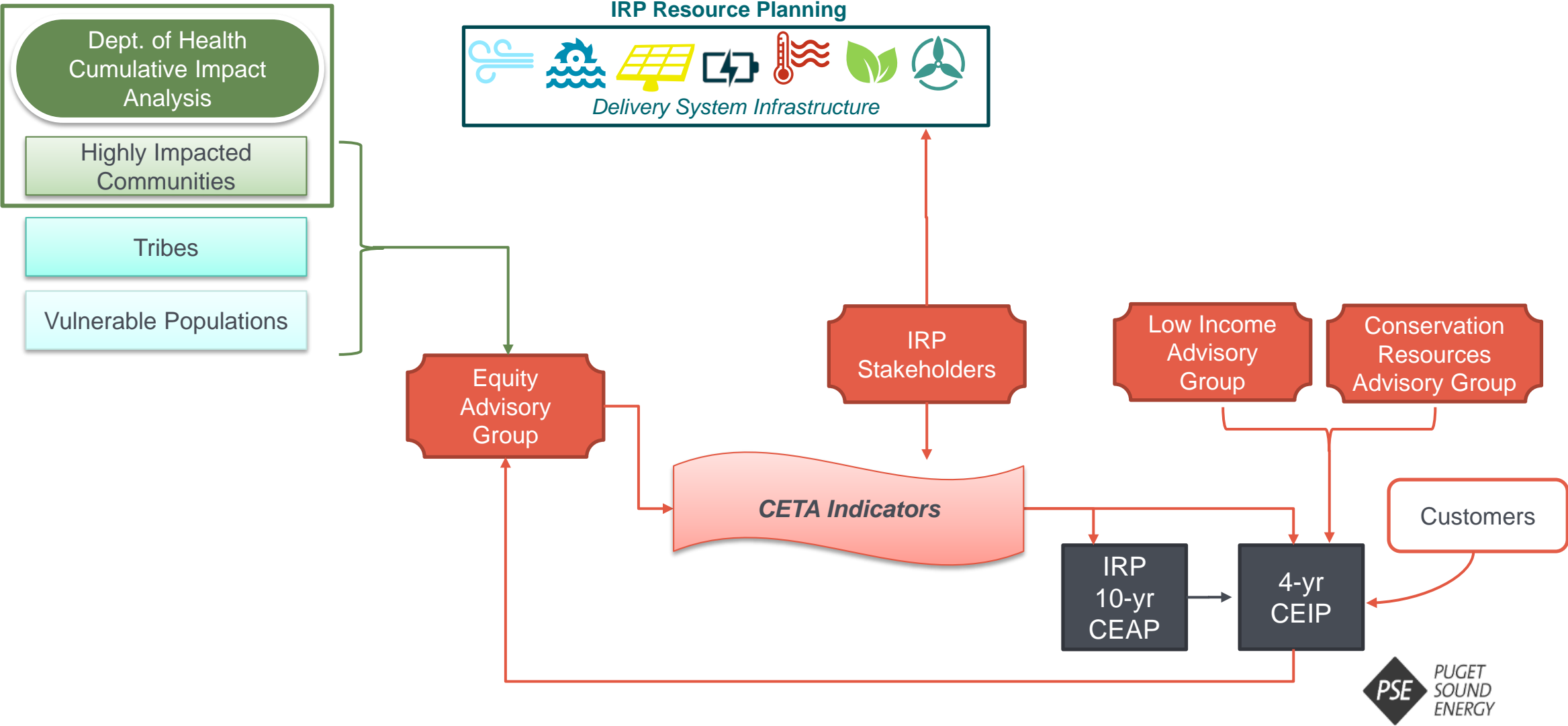
## PSE's existing advisory groups

- Low Income Advisory Group
- Conservation Resources Advisory Group
- IRP Advisory Group

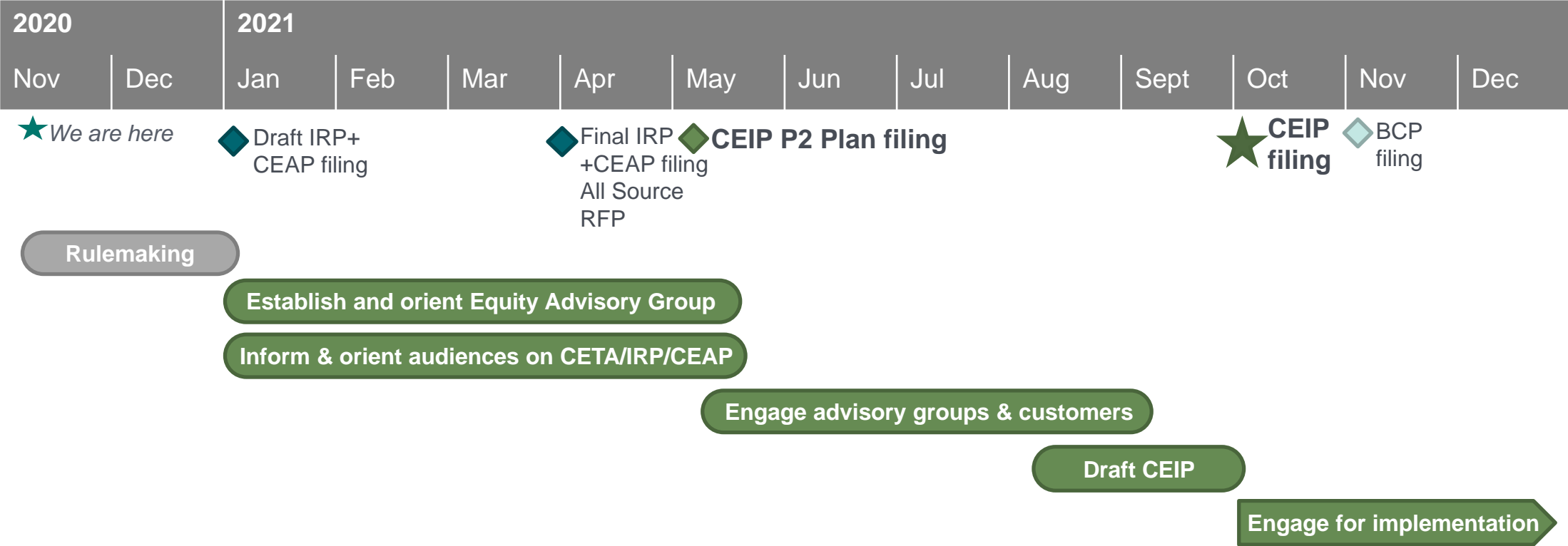
## Customers, including:

- Residential, commercial and industrial
- **Question to stakeholders:** *Are there other customer groups we could engage in the public participation process?*

# Stakeholder groups involved in the CEAP and CEIP

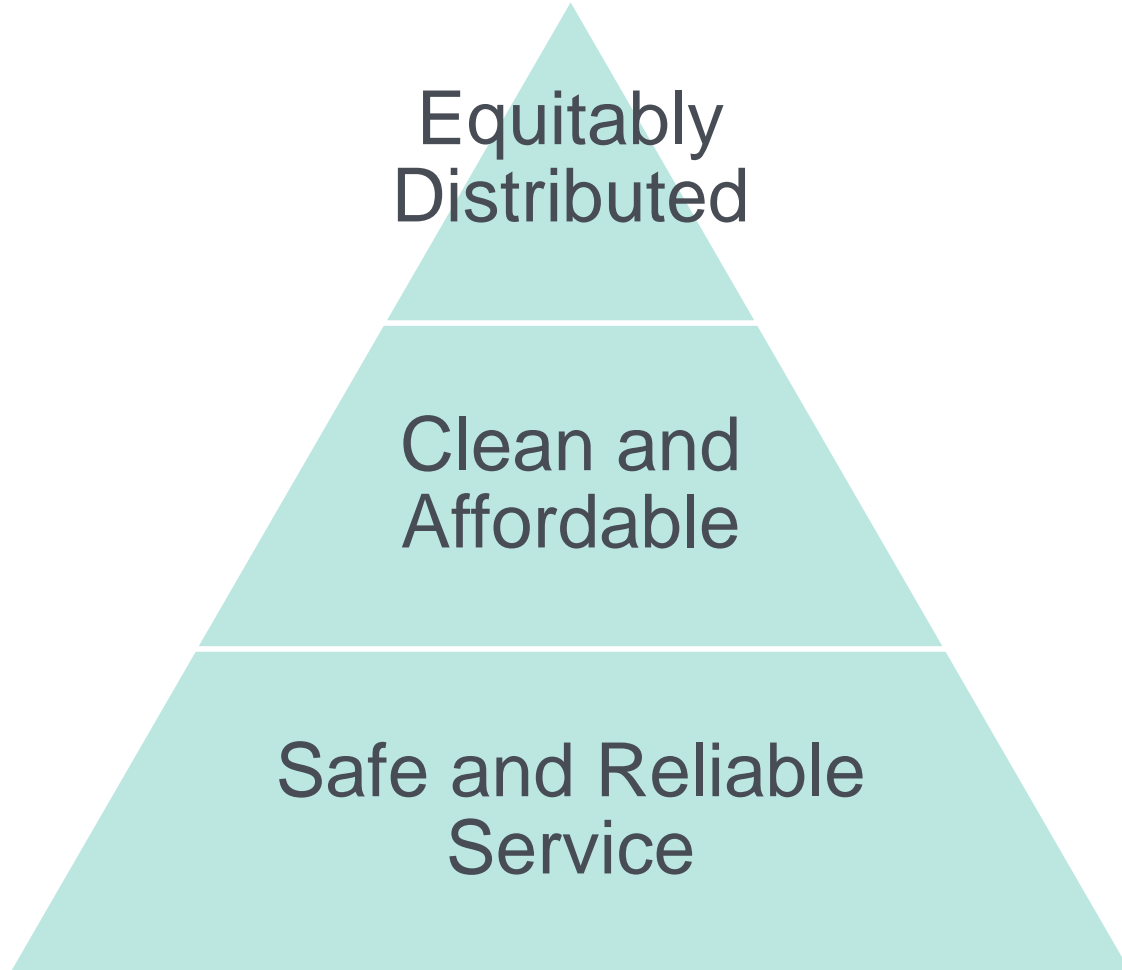


# CEIP: Public Participation (P2) Plan considerations



# Meeting CETA goals

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**Draft WAC 480-100-610 (4) (c) :** “Ensure that all customers are benefitting from the transition to clean energy through:

- (i) The equitable distribution of energy and non-energy benefits and reduction of burdens to vulnerable populations and highly impacted communities;
- (ii) Long-term and short-term public health and environmental benefits and reduction of costs and risks; and
- (iii) Energy security and resiliency.”

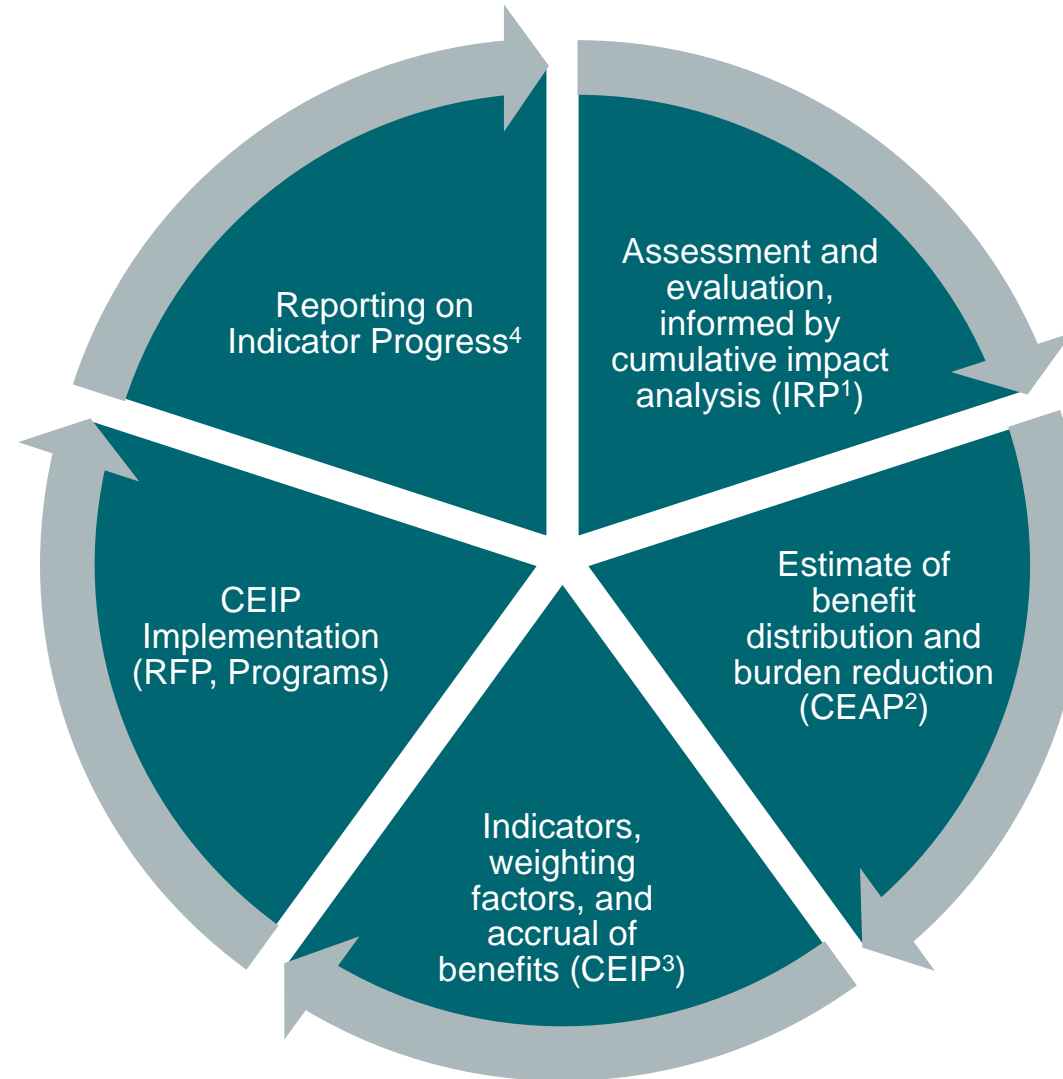
**Draft WAC 480-100-610 (4):** “In making progress toward and meeting subsections (2) and (3) of this section, each utility must:

- (a) Pursue all cost-effective, reliable, and feasible conservation and efficiency resources, and demand response;”

**Draft WAC 480-100-610 (4) (b):** “Maintain and protect the safety, reliable operation, and balancing of the electric system;”

# CETA Equitable Distribution of Benefits Lifecycle

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<sup>1</sup> IRP Assessment and Evaluation: Draft WAC 480-100-620(9) and (11)(g)

<sup>2</sup> CEAP Estimates: Draft WAC 480-100-620(12)(c)(ii)

<sup>3</sup> CEIP Indicators and Weighting Factors: Draft WAC 480-100-640(4) and (5)(a)

<sup>4</sup> Reporting on indicator progress: Draft WAC 480-100-650(1)(d)

# New IRP Requirement: Economic, Health and Environmental Benefits Assessment

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## WAC 480-100-620 Content of an Integrated Resource Plan

### **(9) Economic, health, and environmental burdens and benefits.**

The IRP must include an assessment of

- energy and non-energy benefits and reductions of burdens to vulnerable populations and highly impacted communities;
- long-term and short-term public health and environmental benefits, costs, and risks; and
- energy security risk.

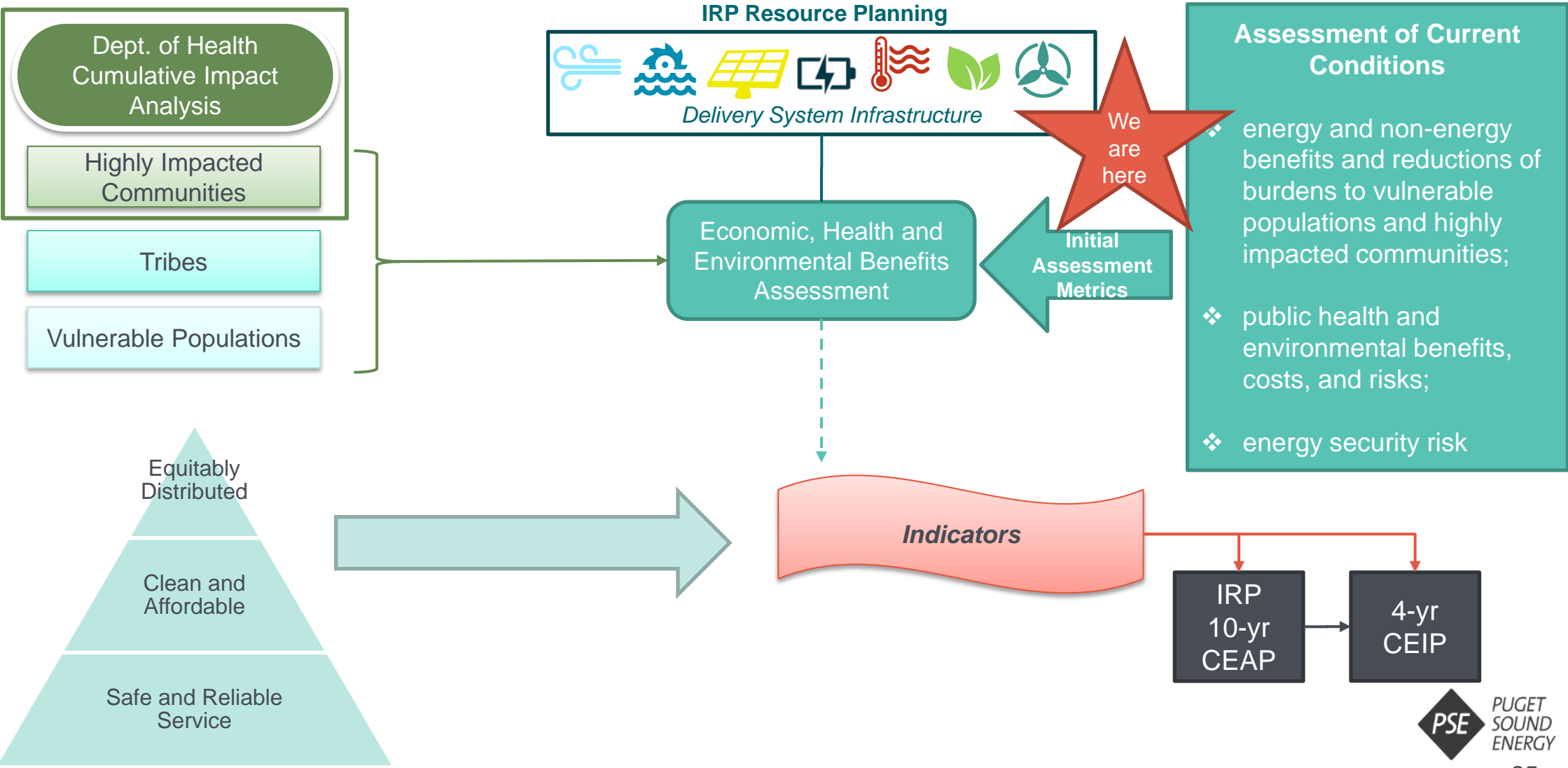
The assessment should be informed by the cumulative impact analysis conducted by the department of health.

### **RCW 19.405.140 (Section 24 of E2SSB 5116, 2019 CETA)**

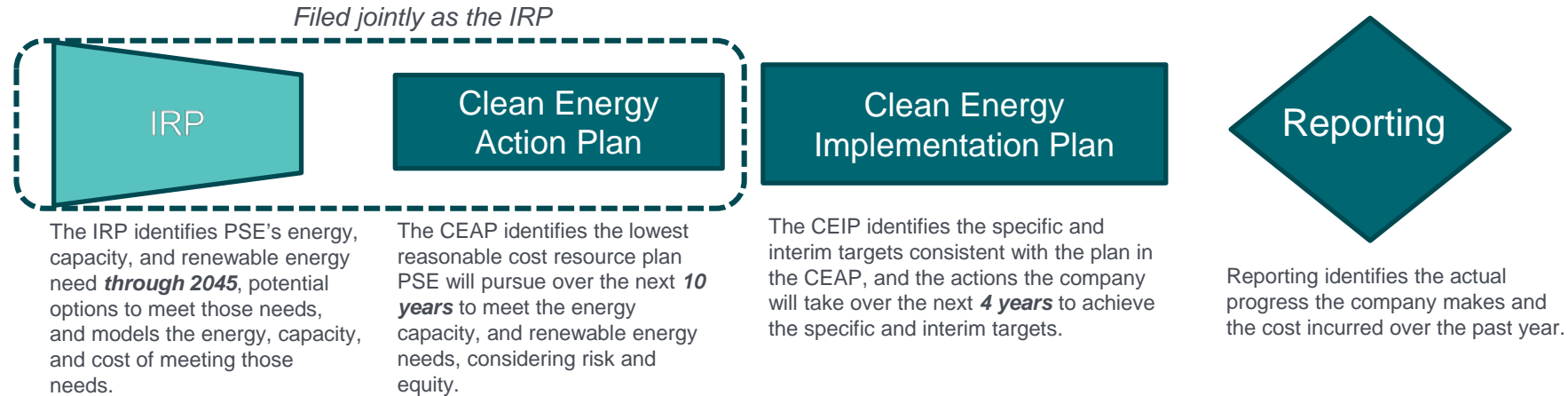
“By December 31, 2020, the department of health must develop a cumulative impact analysis to designate the communities highly impacted by fossil fuel pollution and climate change in Washington. The cumulative impact analysis may integrate with and build upon other concurrent cross-agency efforts in developing a cumulative impact analysis and population tracking resources used by the department of health and analysis performed by the University of Washington department of environmental and occupational health sciences.”



# Incorporating the Assessment into the IRP



# Stakeholders input on initial assessment metrics



## Assessment of Current Conditions

- ❖ energy and non-energy benefits and reductions of burdens to vulnerable populations and highly impacted communities;
- ❖ public health and environmental benefits, costs, and risks;
- ❖ energy security risk

## Questions for Stakeholders

1. How do we measure disparities affecting highly impacted communities and vulnerable populations?
2. Are there quantifiable public health and environmental benefits and reductions of costs and risks?
3. Are there other quantifiable economic or equity measures that should be included?
4. What other metrics should be applied?
5. Are there other quantifiable reliability, energy security and resiliency measures that can be included in the assessment?

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## Economic, Health and Environmental Benefits Assessment

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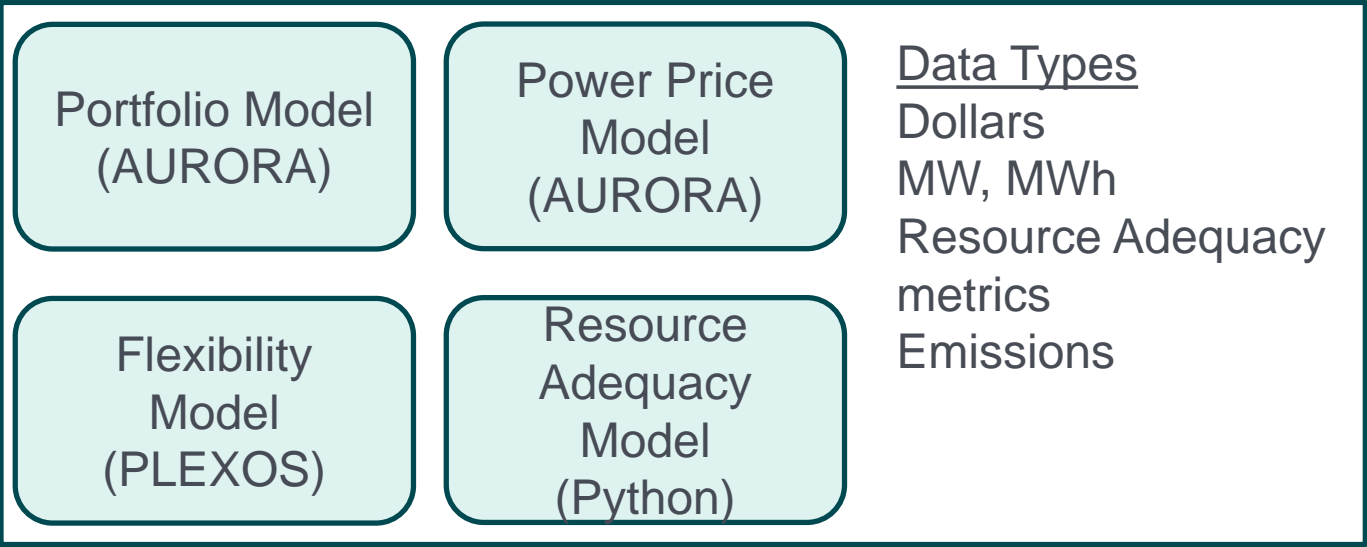
# Assessment Objectives

- WAC 480-100-620 (9) Economic, health, and environmental burdens and benefits.**

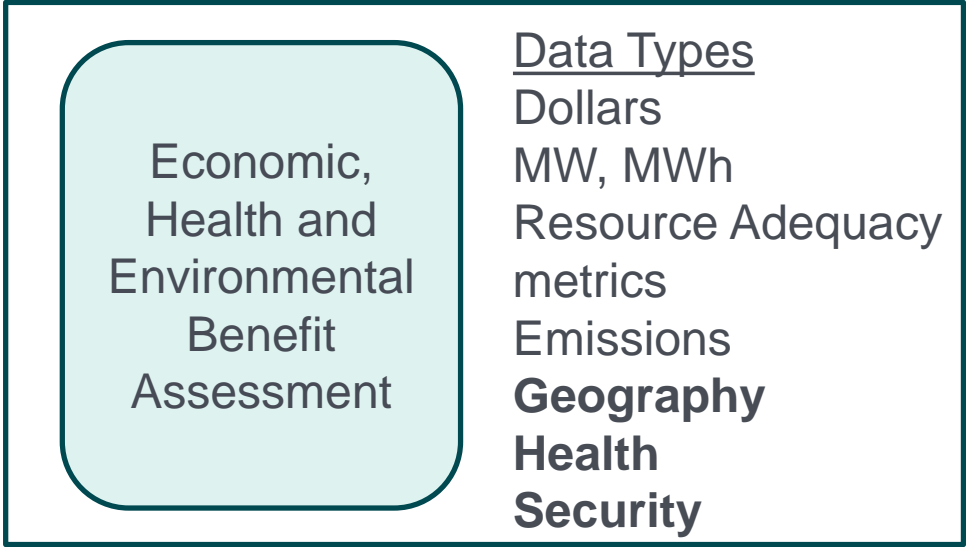
The IRP must include an assessment of energy and non-energy benefits and reductions of burdens to vulnerable populations and highly impacted communities; long-term and short-term public health and environmental benefits, costs, and risks; and energy security risk.

The assessment should be informed by the cumulative impact analysis conducted by the department of health.

## Existing IRP Models



## WAC 480-100-620 (9)



# Proposed Assessment Methodology for Current Conditions

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Identify Highly Impacted Communities and Vulnerable Populations (HIC/VP)



Measure/track initial metrics on economic, health and environmental benefits and burdens



Understand how HIC/VP may be burdened or experience impacts differently

# Identifying populations of interest

## RCW 19.405.140 (Section 24 of E2SSB 5116, 2019 CETA)

“By December 31, 2020, the department of health must develop a cumulative impact analysis to designate the communities highly impacted by fossil fuel pollution and climate change in Washington. **The cumulative impact analysis may integrate with and build upon other concurrent cross-agency efforts in developing a cumulative impact analysis and population tracking resources used by the department of health and analysis performed by the University of Washington department of environmental and occupational health sciences.**”



## Washington Environmental Health Disparities Map



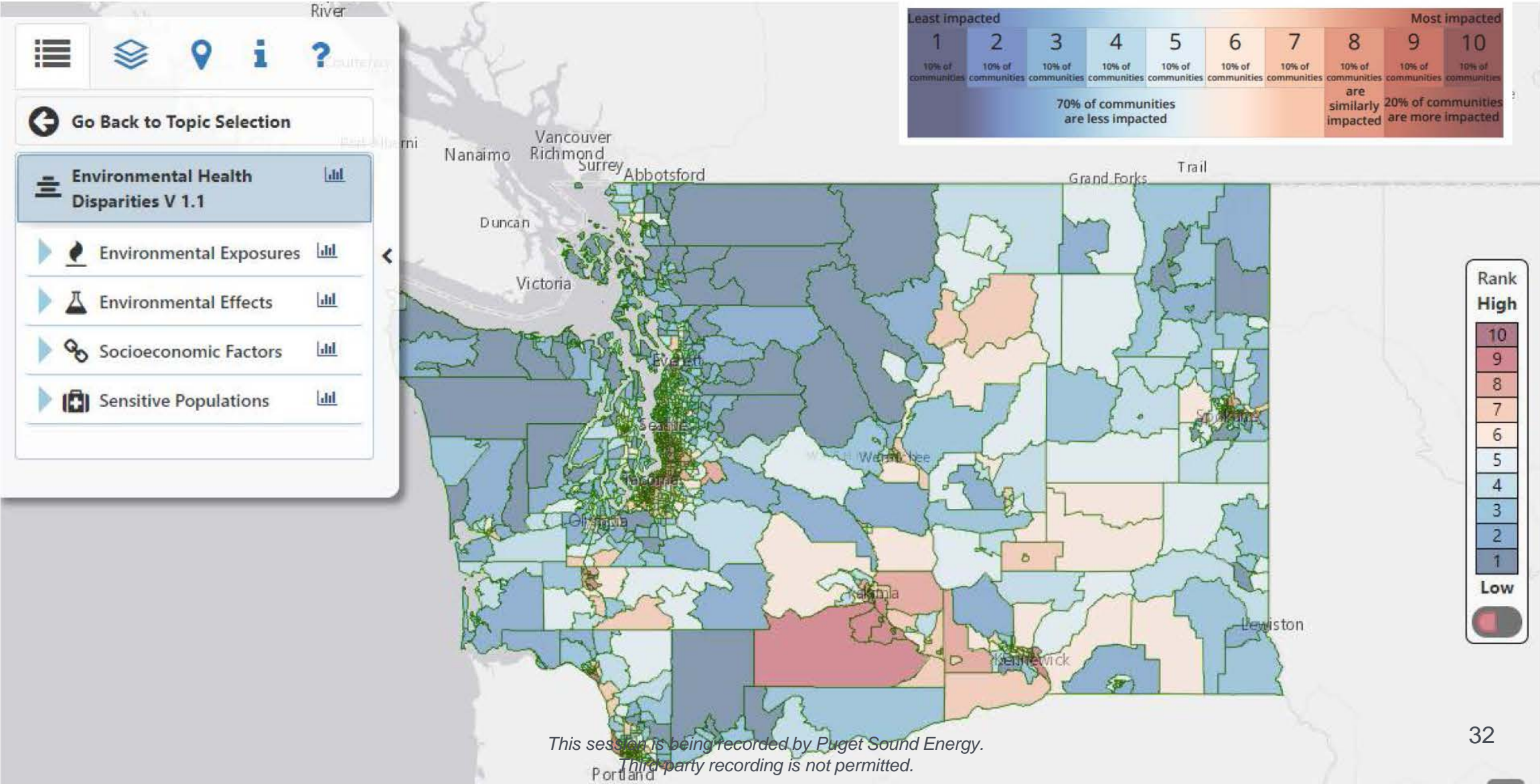
# Washington Environmental Health Disparities Map

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- Interactive tool to map 19 indicators of community health, including traffic density, proximity to hazardous waste facilities, income and race.
- Combines data into a cumulative score reflecting environmental and socioeconomic risk factors
- Results in a statewide view of cumulative risks each neighborhood in WA state face from environmental burdens that contribute to inequitable health outcomes and unequal access to healthy communities
- Report:  
[https://deohs.washington.edu/sites/default/files/images/Washington\\_Environmental\\_Health\\_Disparities\\_Map.pdf](https://deohs.washington.edu/sites/default/files/images/Washington_Environmental_Health_Disparities_Map.pdf)



# Mapping Tool: <https://fortress.wa.gov/doh/wtn/WTNIBL>

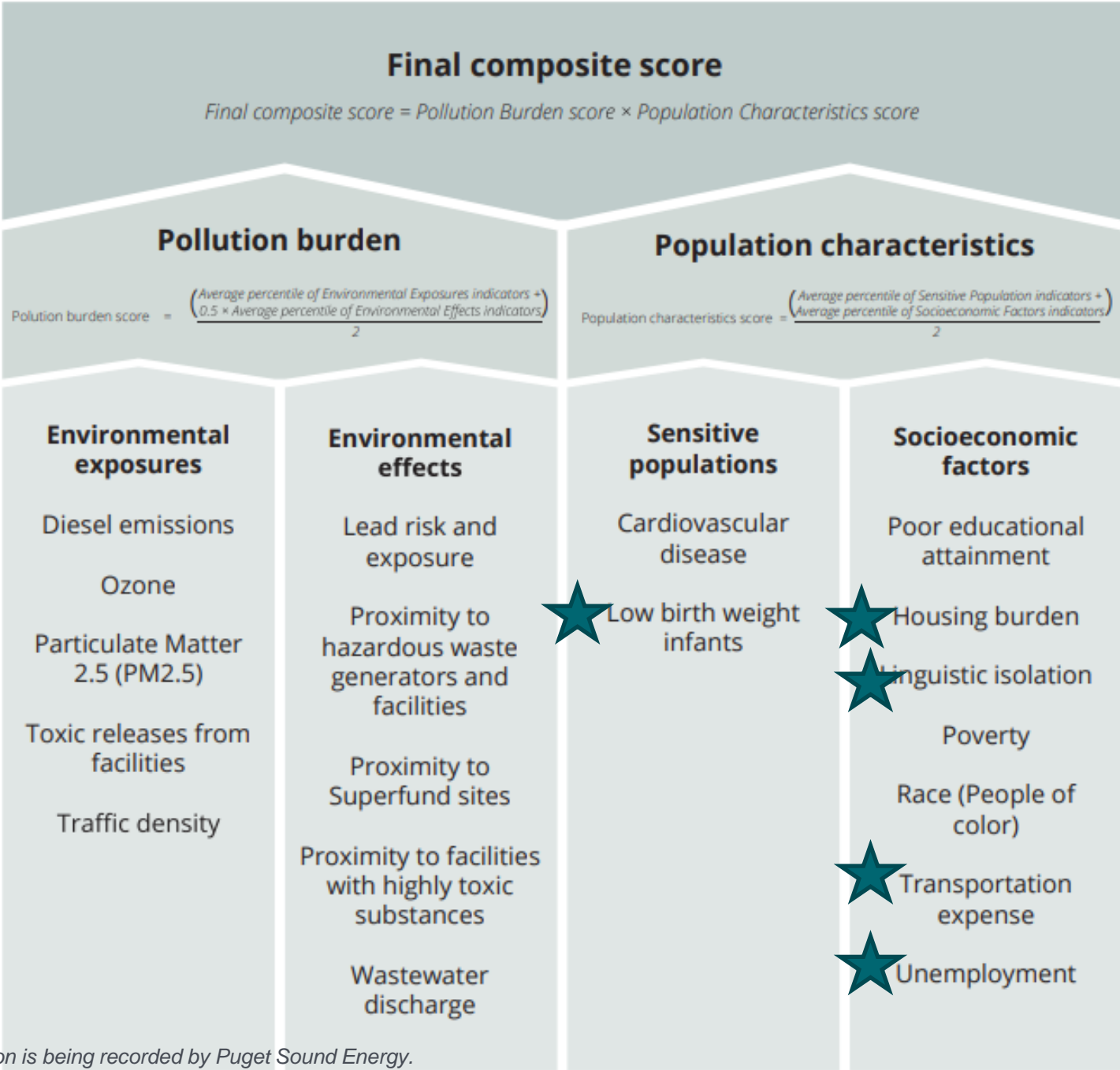




# Characteristics

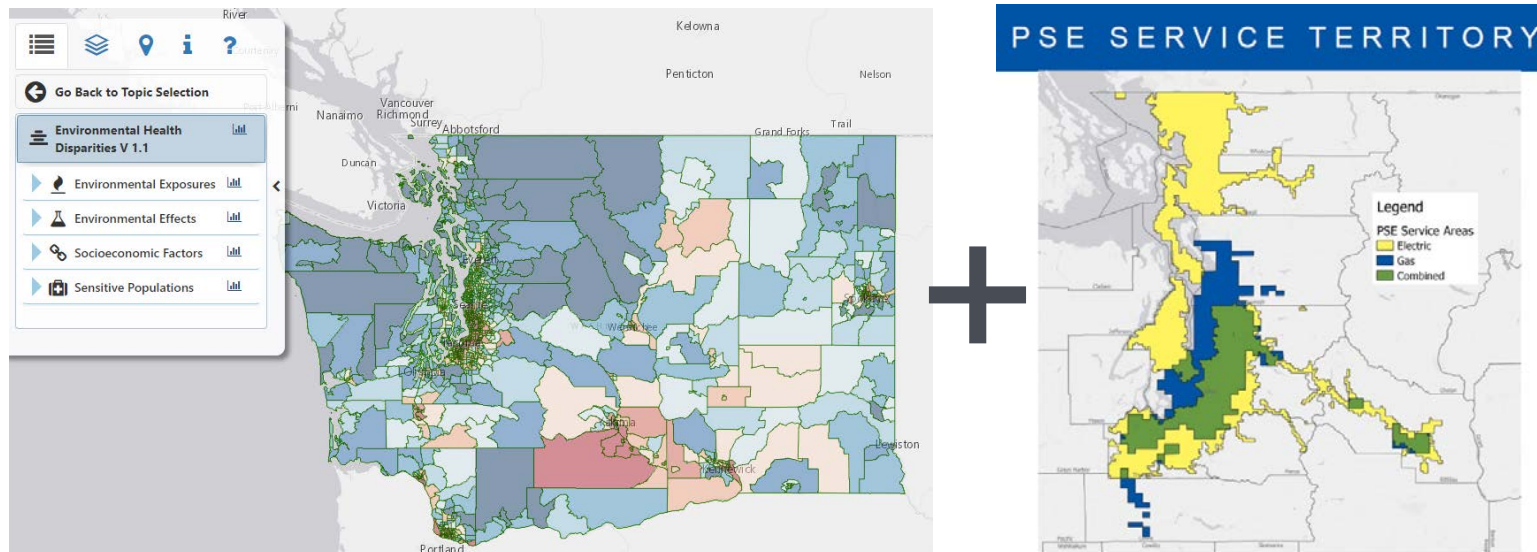
- Source:  
[https://deohs.washington.edu/sites/default/files/images/Washington\\_Environmental\\_Health\\_Disparities\\_Map.pdf](https://deohs.washington.edu/sites/default/files/images/Washington_Environmental_Health_Disparities_Map.pdf)  
page 17

★ *Characteristics identified in CETA*



# Assessment of disparities in current conditions

- The IRP team is gathering data and tools to conduct a **geospatial analysis** on the cost, reliability and environmental statistics as they relate to the HIC/VP on the DOH Environmental Disparities map
- The modeling approach will overlay the PSE service territory on top of the DOH Disparities map to identify two groups – HIC/VP PSE communities and “typical” PSE communities (the control group)

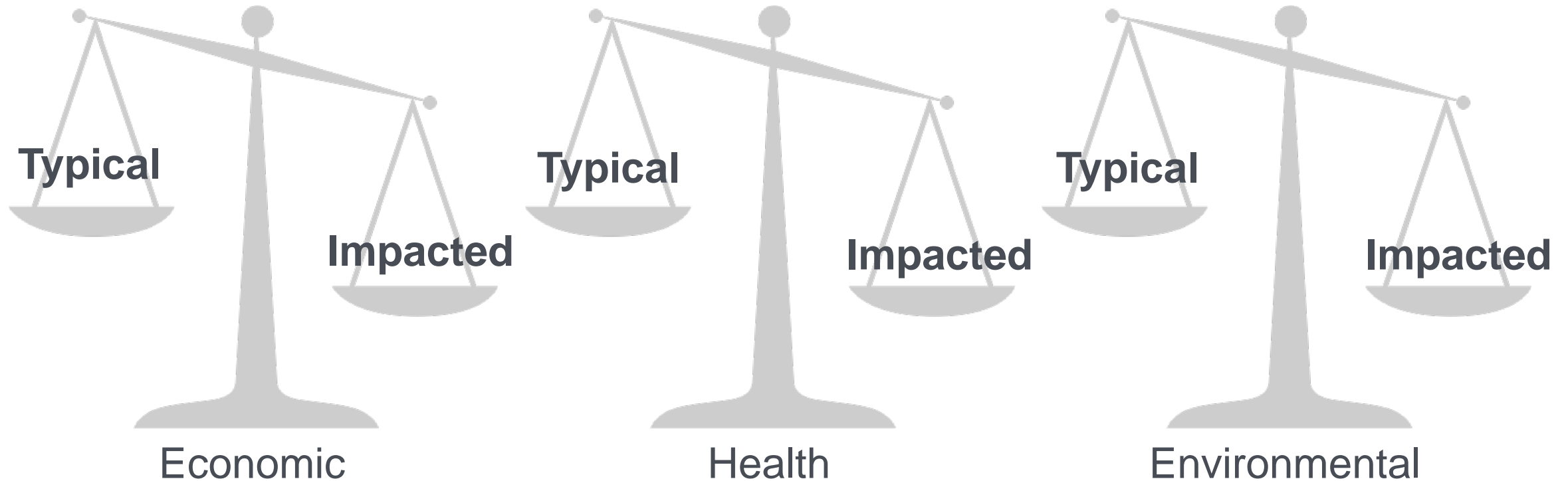


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# How to measure disparities to inform assessment

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- Measure how highly impacted communities compare to a typical PSE community on a number of metrics



# Potential IRP Assessment Metrics for PSE Service Territory

Categories	Initial Assessment Metrics	Questions for Stakeholders
Health	Environmental Health Disparities (aggregate or separate statistics)	<ol style="list-style-type: none"> <li>1. <b>How do we measure disparities affecting highly impacted communities and vulnerable populations?</b></li> <li>2. <b>Are there quantifiable public health and environmental benefits and reductions of costs and risks?</b></li> <li>3. <b>Are there other quantifiable economic or equity measures that should be included?</b></li> <li>4. <b>What other metrics should be applied?</b></li> </ol>
Environmental	Plant specific emissions Societal impacts from emissions (SCGHG emissions)	
Economic (Lowest reasonable cost)	Cost to average customer Energy burden	
Reliability, Energy Security & Resiliency	Resource adequacy metrics Energy use per household size System Average Interruption Frequency Index (SAIFI) System Average Interruption Duration Index (SAIDI) Customer Average Interruption Duration Index (CAIDI)	<ol style="list-style-type: none"> <li>5. <b>Are there other quantifiable energy security and resiliency measures that can be included in the assessment?</b></li> </ol>

*Are these metrics appropriate?*

*How do these metrics impact CETA targets?*





# 5-minute break

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## Delivery System and Grid Modernization Needs

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## Participation Objectives

- ⚡ PSE will inform stakeholders about the delivery system and grid modernization needs for the 10-year transmission and distribution plan

IAP2 level of participation: INFORM

# Overview

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- CETA and DER planning rules
- Delivery System Planning (DSP) process
- Non-wire alternative progress
- Planned project/growth area needs
- DER planning, integration & tool needs
- DSP capability evolution
- Delivery system investment in the IRP



# Delivery system investments are integrated in the IRP draft rules\*

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WAC 480-100-605 Definitions “Lowest reasonable cost” means “.....The analysis of the lowest reasonable cost must describe the utility's combination of planned resources and **related delivery system infrastructure** and show consistency with chapters 19.280, 19.285, and 19.405 RCW.”

WAC 480-100-620 Content of an integrated resource plan. (1) Purpose. Consistent with chapters 80.28, 19.280, and 19.405 RCW, each electric utility has the responsibility to identify and meet its resource needs with the lowest reasonable cost mix of conservation and efficiency, generation, distributed energy resources, and **delivery system investments** to ensure the utility provides energy to its customers that is clean, affordable, **reliable**, and equitably distributed.

WAC 480-100-620 Content of an integrated resource plan. (3) Distributed energy resources.(a) The IRP must include assessments of a variety of distributed energy resources. These assessments must incorporate non-energy costs and benefits not fully valued elsewhere within any integrated resource plan model. Utilities must assess the effect of distributed energy resources on the utility's load and operations under RCW 19.280.030 (1)(h). The commission strongly encourages utilities to **engage in a distributed energy resource planning process as described in RCW 19.280.100**. If the utility elects to use a distributed energy resource planning process, the IRP should include a summary of the results.

WAC 480-100-620 Content of an integrated resource plan. (12) CEAP must ...g) **Identify any need to develop new, or to expand or upgrade existing, bulk transmission and distribution facilities;**  
....c) Include proposed or updated indicators and associated weighting factors related to WAC 480-100-610 (4)(c) including, at a minimum, one or more indicators associated with energy benefits, non-energy benefits, reduction of burdens, public health, environment, reduction in cost, **energy security, and resiliency**.

*\*Excerpts from draft rules in UTC Dockets UE-191023 and UE-190698*

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# DER planning process per RCW 19.280.100

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Provide a 10 year distribution plan that includes:

- Non-wire alternative analysis
- Cost benefit analysis with pessimistic and optimistic scenarios

Identify data gaps and upgrades that impeded a robust planning process

Proposed monitoring, control, and metering upgrades that provide net benefits for customers

Identify potential programs and tariffs to compensate customers for value of their DERs

Perform forecast of DER growth

Include DERs identified in the 10 year distribution plan in the IRP

*“The goal of the plan should be to provide the most affordable investments for all customers and avoid reactive expenditures to accommodate unanticipated growth in distributed energy resources.”*

# PSE is working to incorporate new DSP and IRP process to meet the expectations of the new IRP rules

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- Delivery system investments include tools, monitoring, controls, metering, DERs, and expansions or upgrades to existing bulk transmission and distribution facilities.
- To understand what specific delivery system investments should be included in the IRP, CEAP or CEIP, we need to review the delivery system needs.

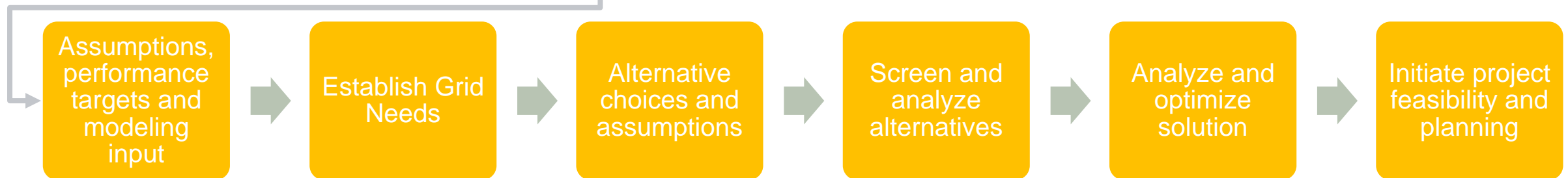
The energy delivery system is the network of wires and pipelines, both distribution and transmission, that deliver power and natural gas from where energy enters PSE's system to a customer meter.

# Delivery System Planning process\*

## Planning Triggers

- Safety
- Customer requests
- Population and load growth
- Grid modernization
- Gas modernization
- Asset health management
- Asset reliability and integrity
- Compliance with regulation
- Resource integration

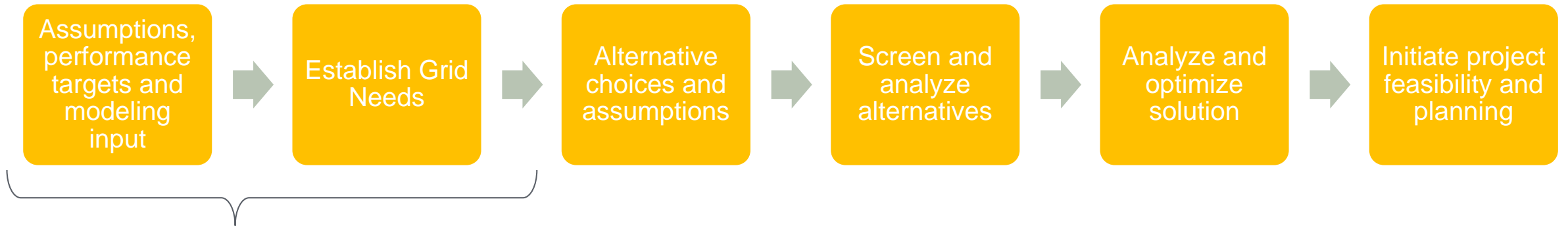
The delivery system planning process requires many robust capabilities across PSE from the beginning of the process such as gathering customer, load, and distributed energy resources information and forecasts to beyond the planning process ending with the testing of results and benefit delivery.



\*<https://pse-irp.participate.online/delivery-system-planning>

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# Delivery System Planning process



## Key Capabilities

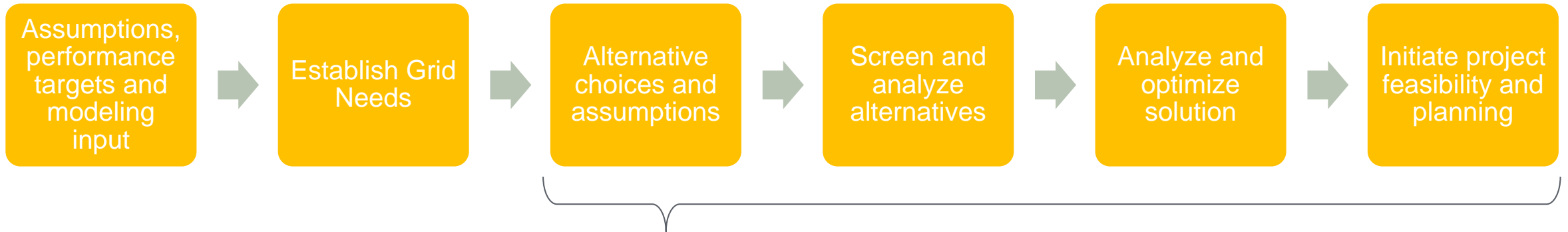
- Granular (feeder-level) load forecasting
- Powerflow evaluation across multiple peak and off-peak time periods (summer, winter, light loading, etc.)

## Key metrics set the stage for these needs:

- Reliability - SAIDI, SAIFI, CEMI
- Equipment Loading
- Transmission Resiliency Index (TRI)
- Substation Resiliency Index (SRI)
- System stability - voltage

# Delivery System Planning process

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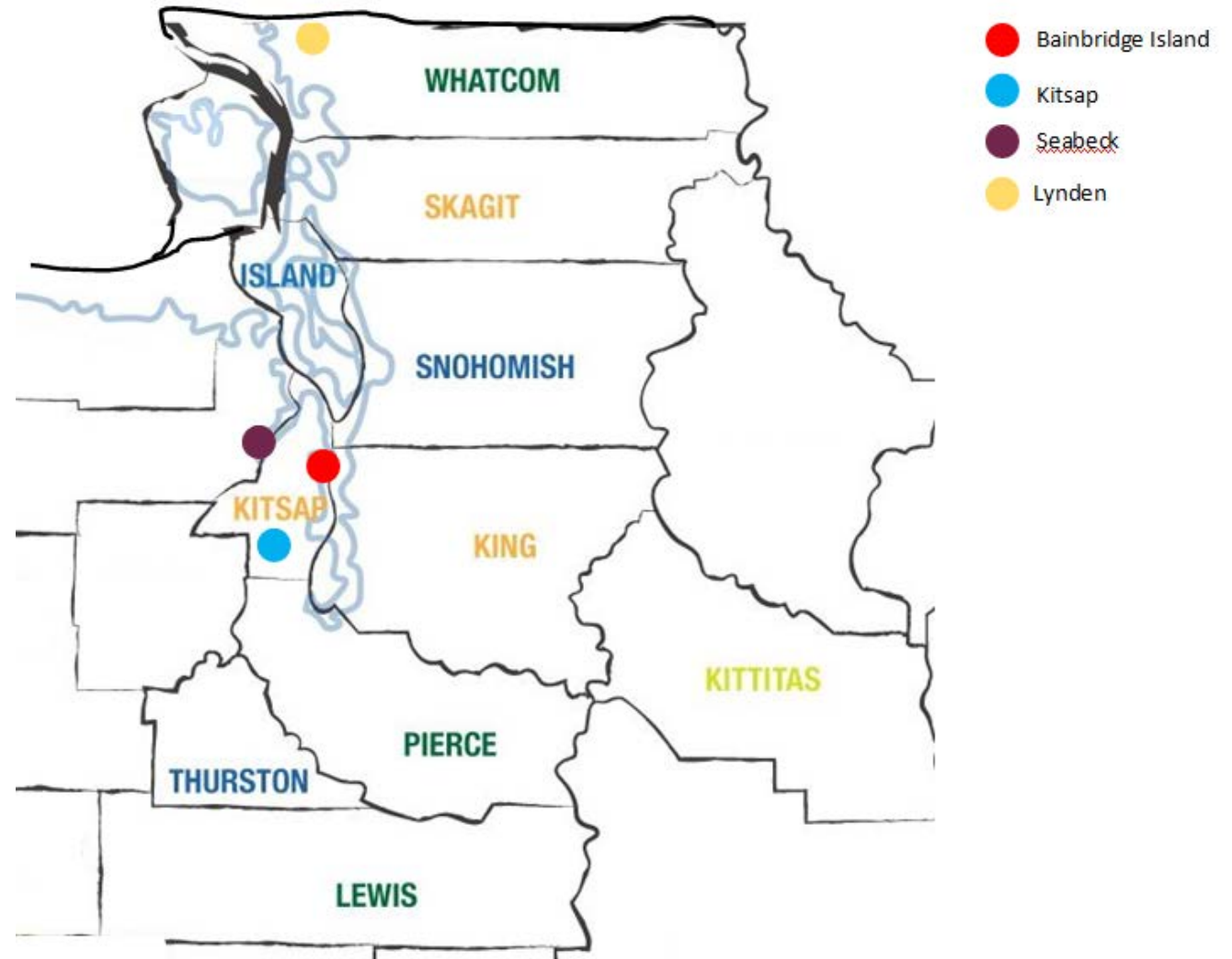


## Key Capabilities

- Evaluation of wired, non-wired and hybrid solutions
- Inclusion of customer partnership opportunities
- Benefit valuation for non-wire alternatives
- Robust project optimization which maximize benefits to cost for investments

# Non-wire alternative progress

- 2018 commitment to completing NWA on four focus areas
  - Chosen for their diverse drivers
- Work completed on 4 projects areas
- Fully included wired, non-wired and hybrid alternatives
- Deep dive on projects at a future IRP meeting





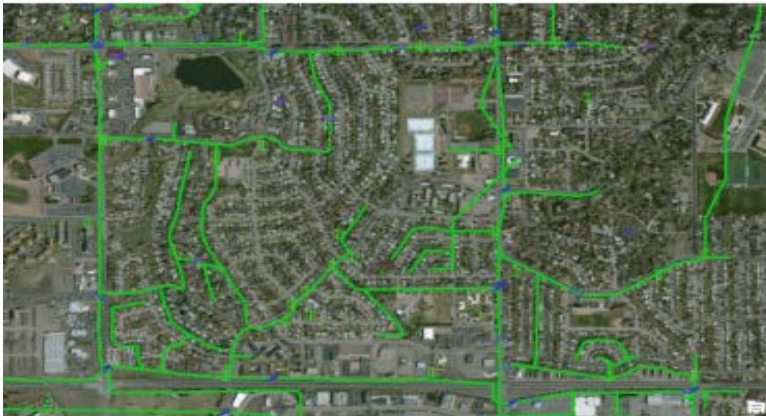
# Delivery System Planning electric needs

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## Distribution Needs - (12.47 & 34.5 kV)

Evaluates the following system deficiencies at a Substation, Feeder or Lateral level:

- Capacity (Equipment loading)
- Voltage
- Reliability
  - SAIDI, SAIFI, CEMI
- Aging Infrastructure
- Operational Concerns



## Transmission Needs - (115 & 230 kV)

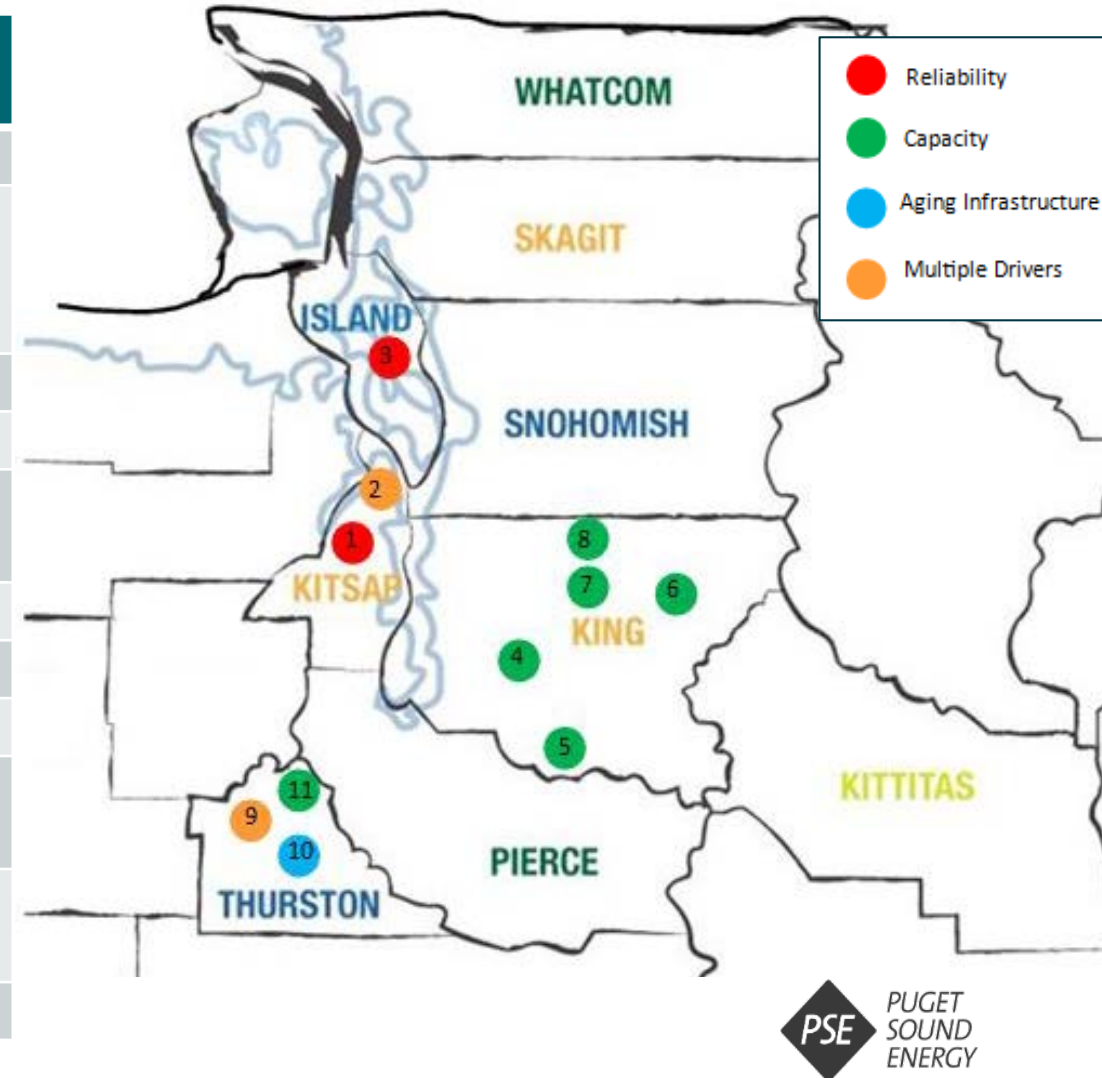
Evaluates the transmission system in accordance with the transmission planning requirements per the NERC standards.

Typical need drivers include:

- Capacity (Equipment Loading)
- Reliability
  - Transmission/Substation Resilience Index
  - CMI
- Aging Infrastructure
- Operational Concerns
- Dynamic Stability – Voltage
- Generation ramp rate

# Electric planned growth/project areas

SUMMARY OF ELECTRIC PLANNED PROJECTS IN PLANNING PHASE	DATE NEEDED	NEED DRIVER
1. Seabeck (NWA Pilot)	Existing	Reliability
2. West Kitsap Transmission Project (NWA Pilot)	Existing	Stability, Transmission Capacity & Aging Infrastructure
3. Whidbey Island Transmission Improvements	Existing	Reliability
4. Kent / Tukwila New Substation	2020	Capacity
5. Black Diamond Area New Substation	2020	Capacity
6. Issaquah Area New Substation	Existing	Capacity
7. Bellevue Area New Substation	2021	Capacity
8. Inglewood – Juanita Capacity Project	2024	Capacity
9. Spurgeon Creek Transmission Substation Development (Phase 2)	Existing	Stability & Capacity
10. Electron Heights - Yelm Transmission Project	2024	Aging Infrastructure
11. Lacey Hawks Prairie	2021	Capacity



# Needs in DER planning, integration, and optimization

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## Data Gaps and Upgrades

- Customer and operational analytics using Advanced Metering Infrastructure (AMI)
- IT Architecture and integration to connect enterprise systems, particularly GIS

## Monitoring, Control, and Metering

- Applications enabled by AMI including the Advanced Distribution Management System (ADMS)
- Volt-Var Optimization; Fault Location, Isolation, Service Restoration (FLISR); Distributed Energy Resource Management System (DERMS)

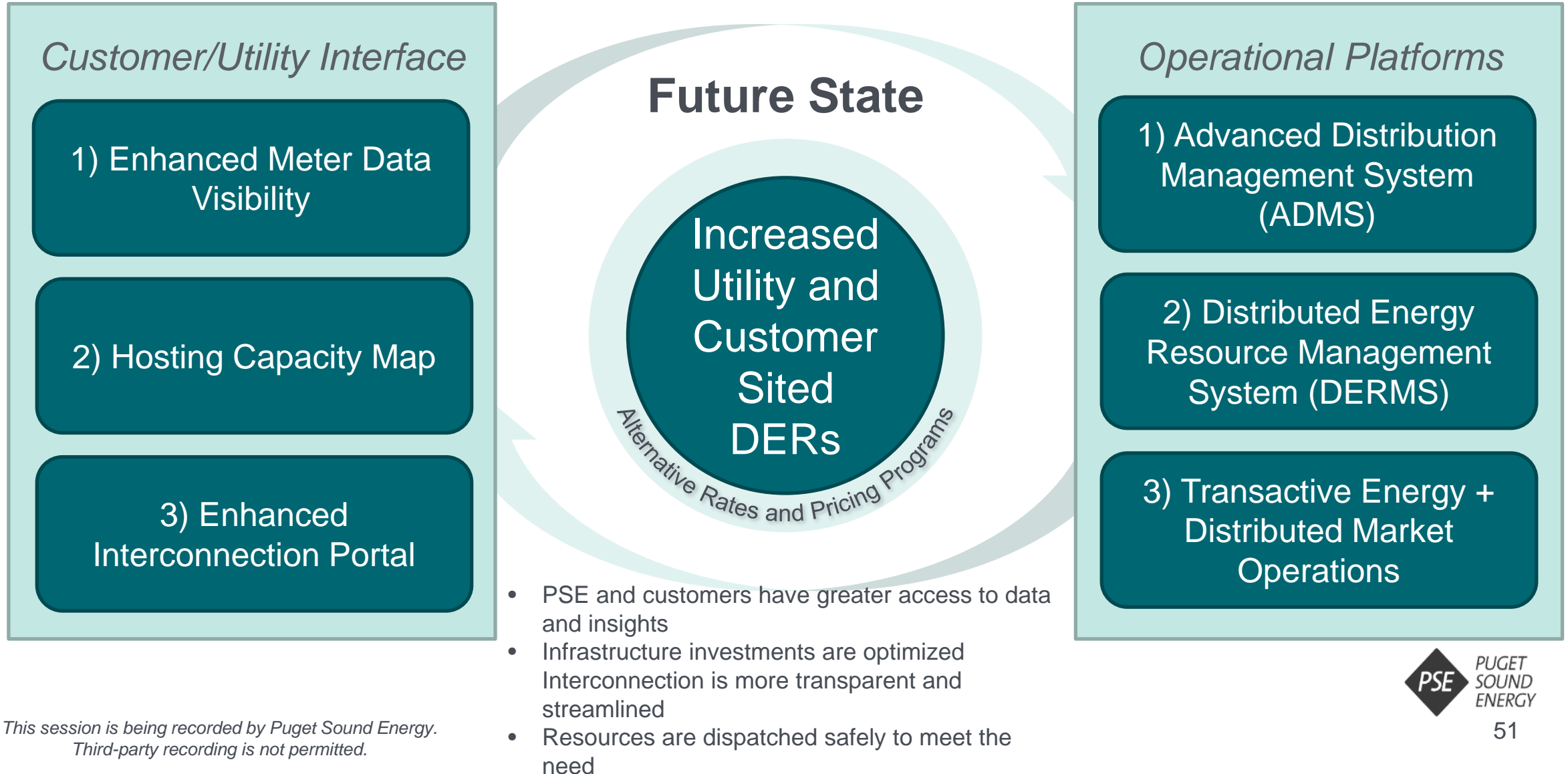
## Customer Programs and Tariffs

- Time of Use (TOU) rates to incent beneficial customer usage patterns
- Alternative pricing structures to enable DER/renewables integration

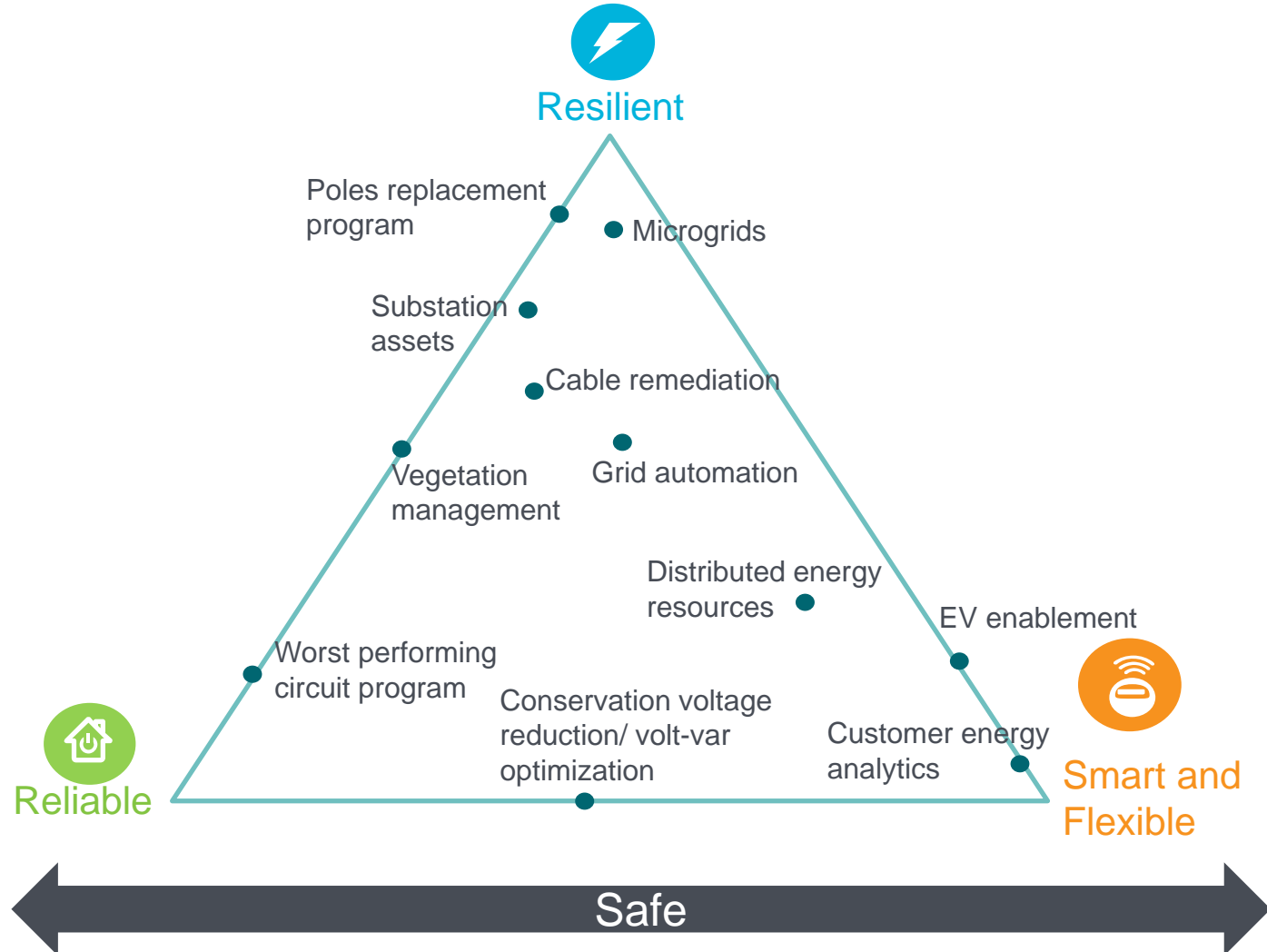
## DER Growth Forecast

- Enabled by Geospatial Load Forecasting Tool
- Key input for locational valuation of DERs

# Need: Enabling tools



# Grid Modernization Key Programs



## Key programs

- Pole replacement program
- Substation assets
- Cable remediation
- Vegetation management
- Electric system upgrade - Worst performing circuits (WPC)
- Grid automation
- Electric vehicle (EV) enablement
- Distributed energy resources (DER)
- Microgrids
- Customer energy analytics
- Conservation voltage reduction/volt-var optimization

# Delivery System Planning capability evolution

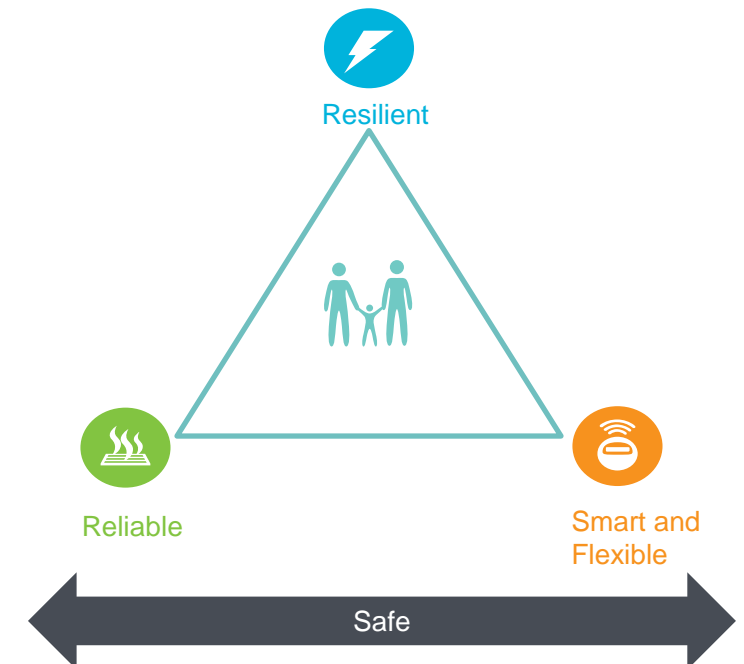
Enhancing our DSP capabilities across people, process, and technology

- Necessary to meet CETA and DER planning requirements
- Necessary to meet customer needs

*The goal of the plan should be to provide the most affordable investments for all customers and avoid reactive expenditures to accommodate unanticipated growth in distributed energy resources.*

Mindful of lessons learned from other utilities case study examples dealing with rapid DER demand:

- DER ramp rate
- DER Saturation
- Interconnection bottleneck



# Delivery System Investment in the IRP

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- Accelerated installation of DER's will likely accelerate our grid modernization investments.
  - Highly dependent on the specific amount, location, type and concentration of the specific DER's

For 2021 IRP:

- Including a range for local DER interconnection costs to account for the grid modernization costs.
  - Part of the existing must-take sensitivity:  
#10 "Distributed" Transmission/build constraints - Tier 2
  - The cost range will consider both a pessimistic and optimistic perspective.



# Questions & Answers

# Feedback Form

- An important way to share your input
- Available on the website 24/7
- Comments, questions and data can be submitted throughout the year, but timely feedback supports the technical process
- Please submit your Feedback Form within a week of the meeting topic

Feedback  
Form

Feedback  
Report

Consultation  
Update

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Third-party recording is not permitted.*

## Share your feedback with PSE

May we post these comments to the IRP webpage?

☐ Yes

☐ No

Please keep my comments anonymous ☐

First Name\*

First Name

Last Name\*

Last Name

Organization

Organization

Email Address\*

Email

Phone Number

Phone

Address

Address

City

City

State

Select a State ▼

Zip Code

Zip Code

Please select the topic you would like to provide feedback on: For general comments, please select "General" from the list.\*

Select a topic ▼

Respondent Comment\*

Attach a file

Choose File No file chosen

Recommendations

Submit

# Feedback Form

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- An important way to share your input
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# Next steps

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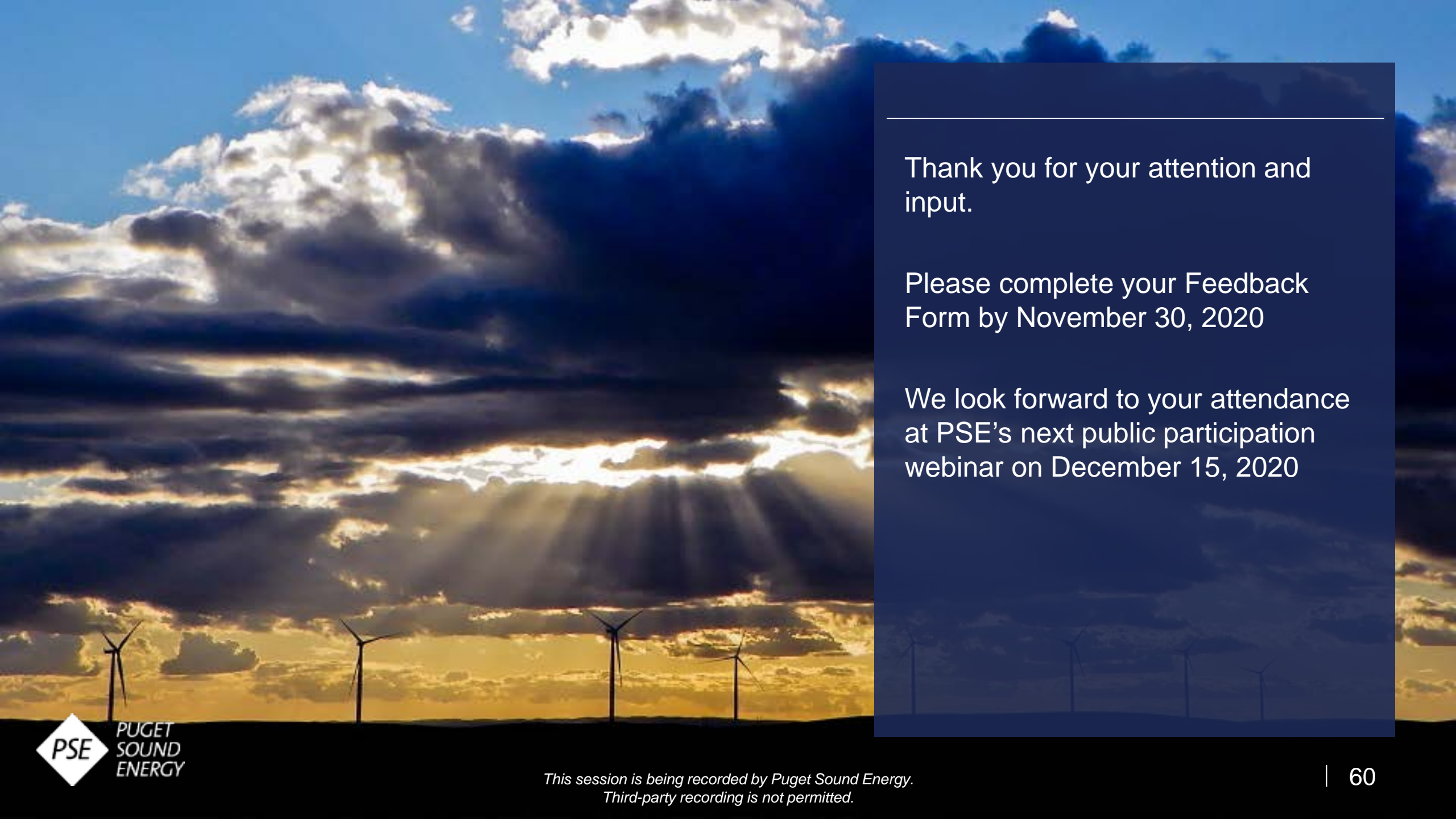
- Submit Feedback Form to PSE by **November 30, 2020**
- A recording and the chat from today's webinar will be posted to the website **tomorrow**
- PSE will compile all the feedback in the Feedback Report and post all the questions by **December 7, 2020**
- The Consultation Update will be shared on **December 14, 2020**



# Upcoming meetings and key dates

Date	Topic
December 15, 1:00 – 5:00 pm	Portfolio draft results Flexibility analysis
<i>Additional 2021 meetings will be scheduled soon.</i>	
January 4, 2021	DRAFT 2021 Electric and Natural Gas IRP published
April 1, 2021	FINAL 2021 Electric and Natural Gas IRP filed with the WUTC

*Details of upcoming meetings can be found at [pse.com/irp](https://pse.com/irp)*



Thank you for your attention and input.

Please complete your Feedback Form by November 30, 2020

We look forward to your attendance at PSE's next public participation webinar on December 15, 2020