

RPAG meeting

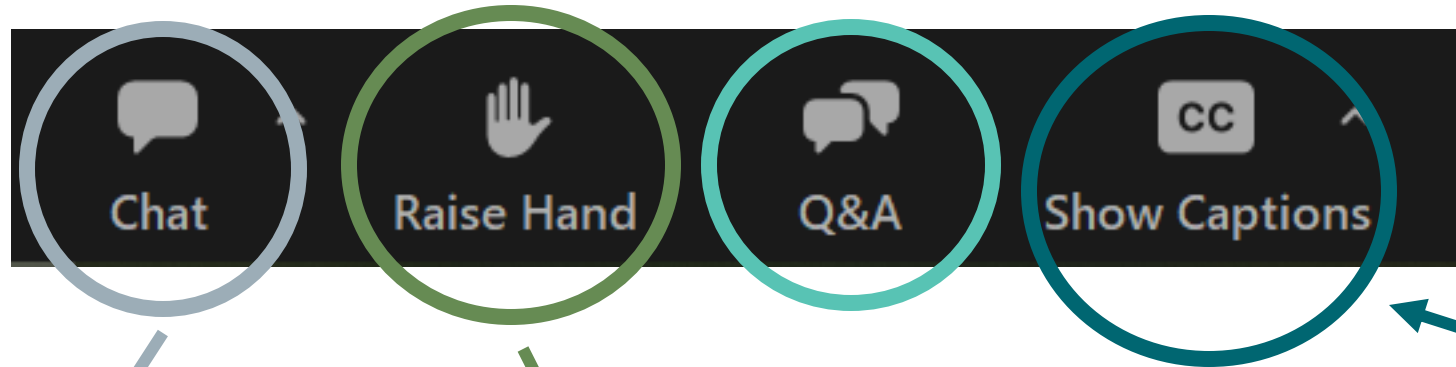
2025 Integrated Resource Plan

February 13, 2024



Welcome to the meeting!

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



RPAG members and PSE staff are welcome to use the chat feature

During the public comment period, raise your hand if you would like to make a verbal comment

Click to see real-time closed captioning

Safety moment

February is heart health month

- Heart healthy steps from the CDC:
 - Manage your risk factors
 - Work with a health care professional
 - Eat healthy
 - Get active
 - Lower stress
 - Quit smoking
- Find out more at hearthealthysteps.org

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 for additional input to PSE
- Aim to focus on the meeting topic
- Public comments will occur after PSE's presentations

Agenda

Time	Agenda Item	Presenter / Facilitator
12:00 p.m. – 12:05 p.m.	Introduction and agenda review	Sophie Glass, Triangle Associates
12:05 p.m. – 12:15 p.m.	Feedback summary	Phillip Popoff, PSE
12:15 p.m. – 1:00 p.m.	Equity in delivery system planning	Corey Corbett, PSE
1:00 p.m. - 1:40 p.m.	Hosting capacity map overview	Ryan Lambert, PSE
1:40 p.m. – 1:50 p.m.	Break	All
1:50 p.m. - 2:50 p.m.	Decarbonization scenarios in the IRP	Jennifer Coulson, PSE Philip Popoff, PSE
2:50 p.m. - 3:00 p.m.	Next steps and public comment opportunity	Sophie Glass, Triangle Associates
3:00 p.m.	Adjourn	All

Today's speakers

Sophie Glass

Facilitator, Triangle Associates

Phillip Popoff

Director, Resource Planning and Analytics, PSE

Corey Corbett

Manager, Rate Plan Performance, PSE

Ryan Lambert

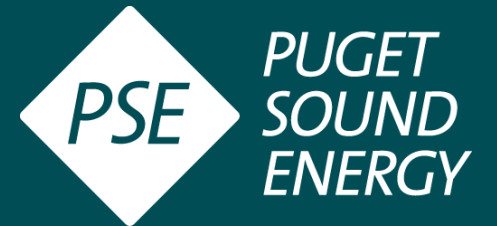
Manager, Electric System Planning, PSE

Jennifer Coulson

Manager, Operations and Gas Analysis, PSE

Feedback summary

Phillip Popoff, PSE



December 12 RPAG meeting feedback

- Public feedback included:
 - Various concerns and interests about the potential uses for hydrogen
 - Additional feedback on scenario and sensitivity themes
 - Interest in decarbonization / electrification and better understanding the potential impacts in terms of generation needs and customer costs
- Detailed written feedback from Sierra Club and Climate Solutions
 - Increase coordination between gas and electric system planning; and IRP and CEIP
 - Feedback on gas and electric scenario themes
 - Prioritize equity in the 2025 IRP

January 12 RPAG meeting feedback

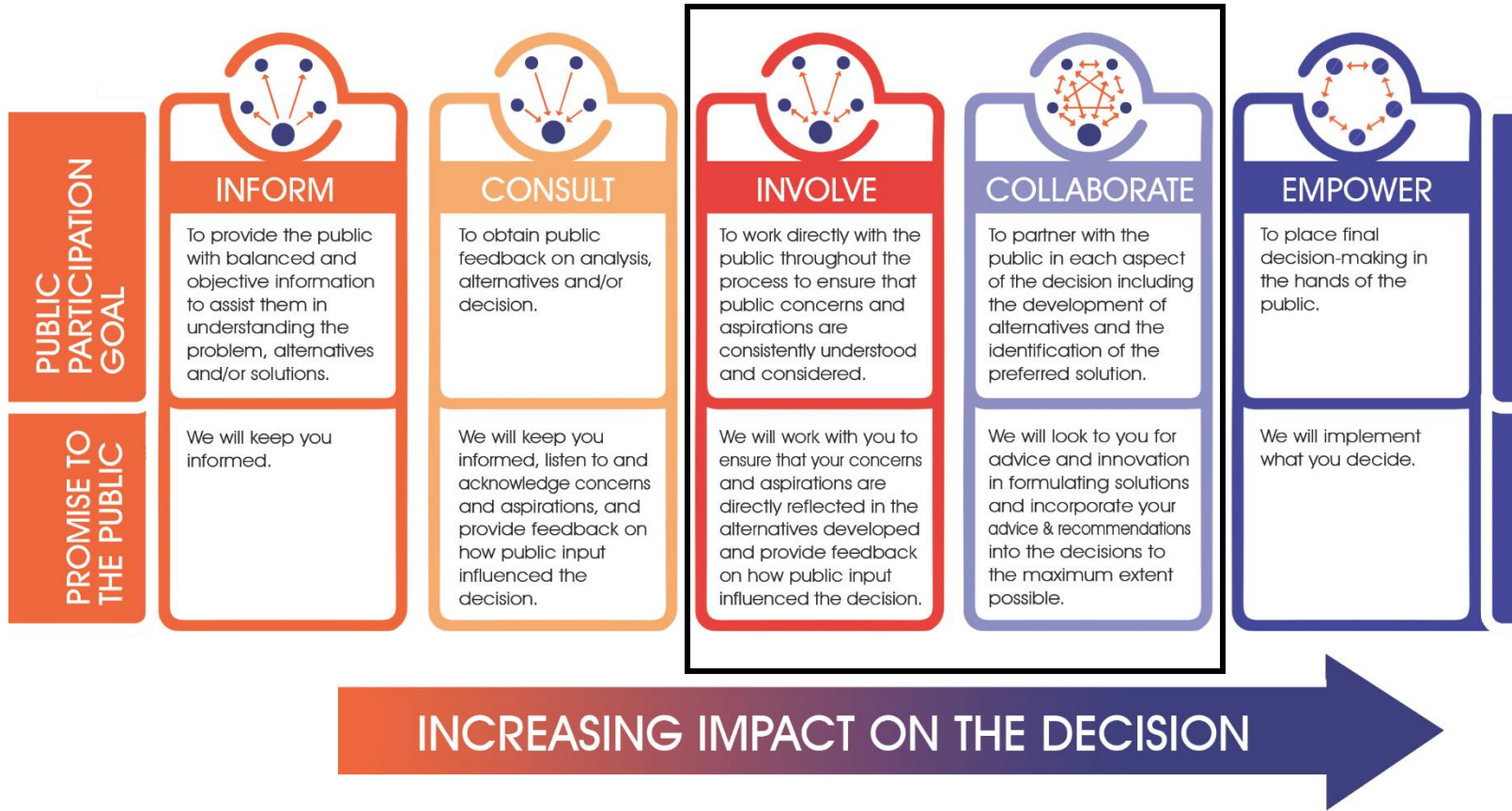
- Public feedback included:
 - Request to model a negative gas customer growth scenario
 - Concerns about the use of hydrogen and its viability as a resource
 - Concerns about nuclear generation
 - Support for modeling lithium-ion over sodium-ion batteries as a generic resource
- Detailed written feedback from Public Counsel, Commission staff, Sierra Club, and Renewable Northwest
 - Electric vehicle forecast
 - Gas load forecast
 - Generic resources and emerging tech assessment

Equity in delivery system planning & investment decision optimization tool

Corey Corbett, PSE



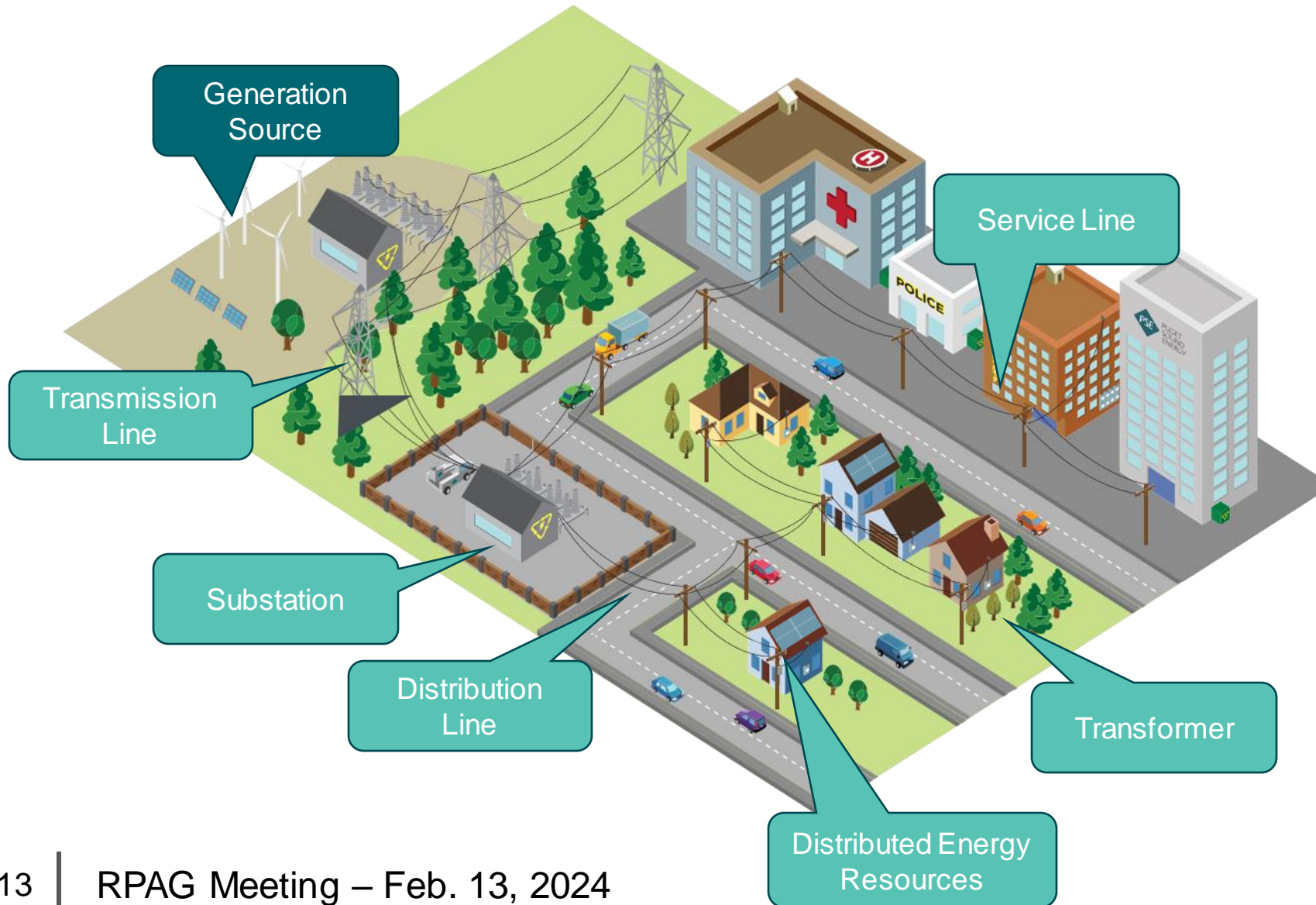
IAP2 Spectrum



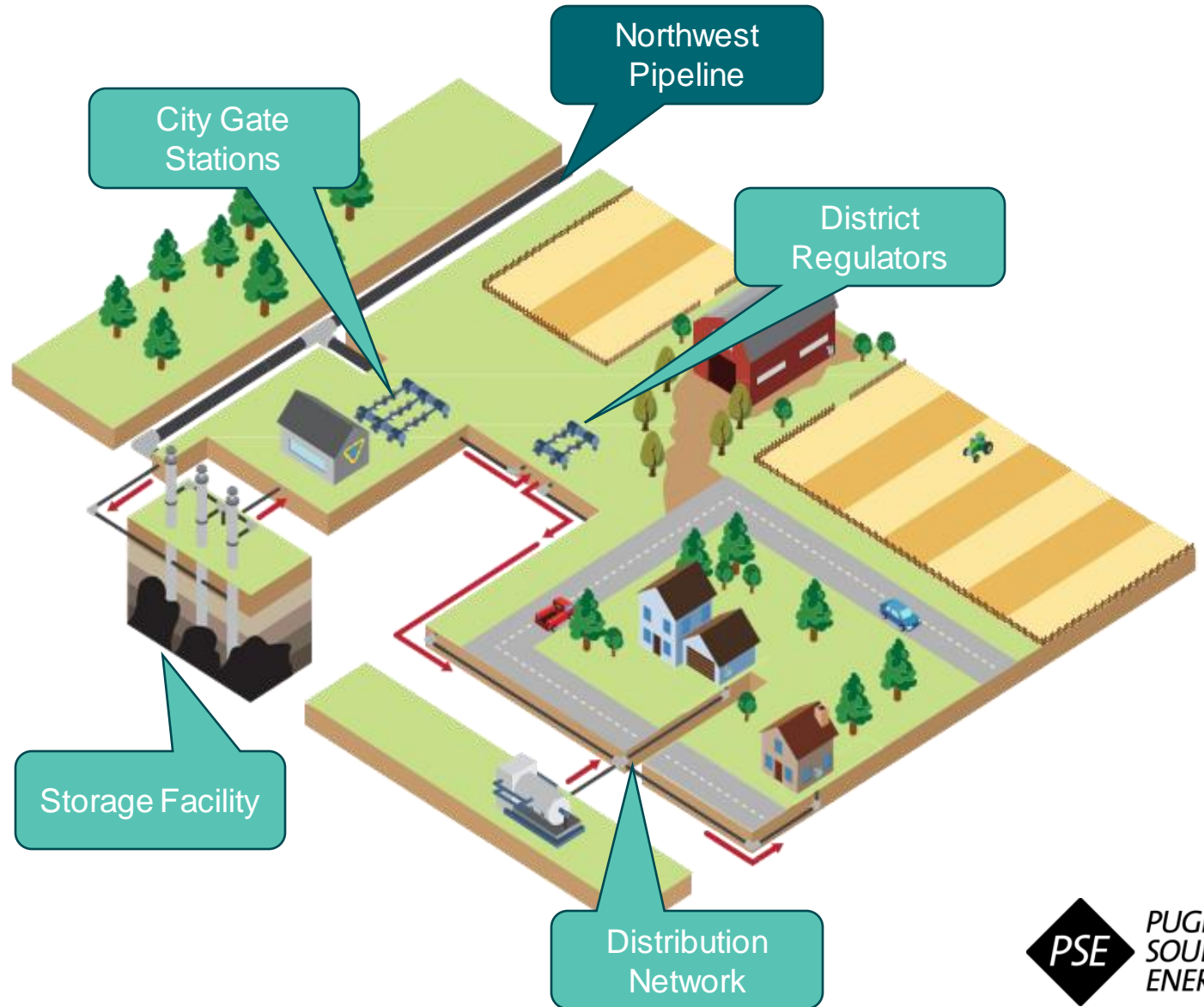
Investment Decision Optimization Tool (iDOT)

- 2022 General Rate Case Condition 26
 - PSE will develop new benefits and costs related to equity for use in iDOT
 - Engage with the Equity Advisory Group (EAG), RPAG, and customers
- Previous engagements:
 - November 14, 2022 (EAG)
 - March 20, 2023 (EAG)
 - November 6, 2023 (IRP public meeting)
 - November 13, 2023 (EAG)

Energy delivery system - electric



Energy delivery system – natural gas



Delivery system planning & infrastructure construction



Project delivery construction lifecycle



Delivery system planning process

Planning triggers

- Safety & health
- Equity advancement
- Customer requests
- 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

- Intake of customer and community input
- Forecasting new customer growth, load changes from climate and electrification
- Monitoring and adaption to new regulations and policy
- System simulation and modeling (normal operation + contingencies)
- Analysis of resource integration
- Benefit and cost analysis
- Project portfolio optimization

System evaluation

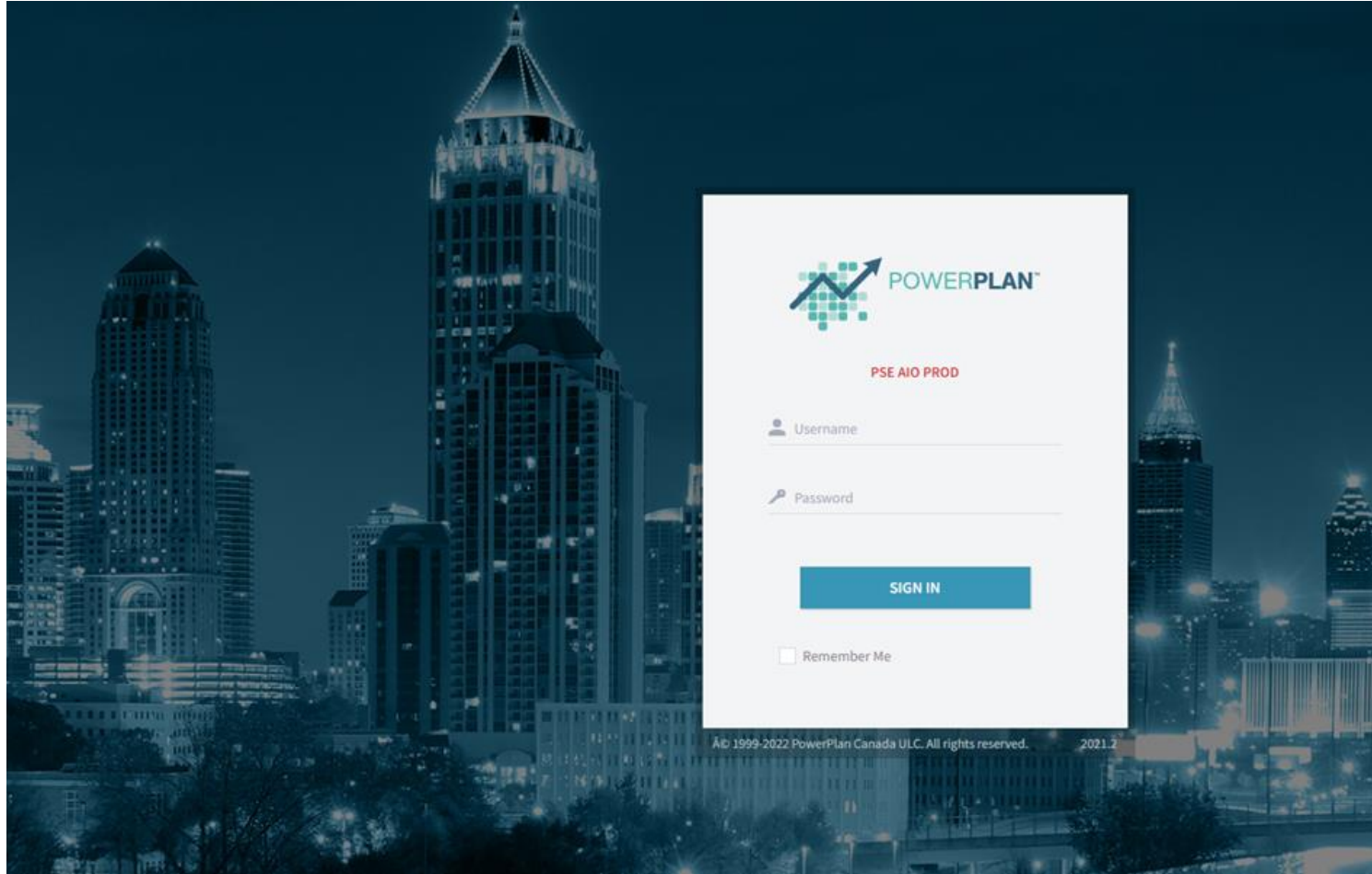
System needs, modeling, & analysis

Alternatives & recommended solution

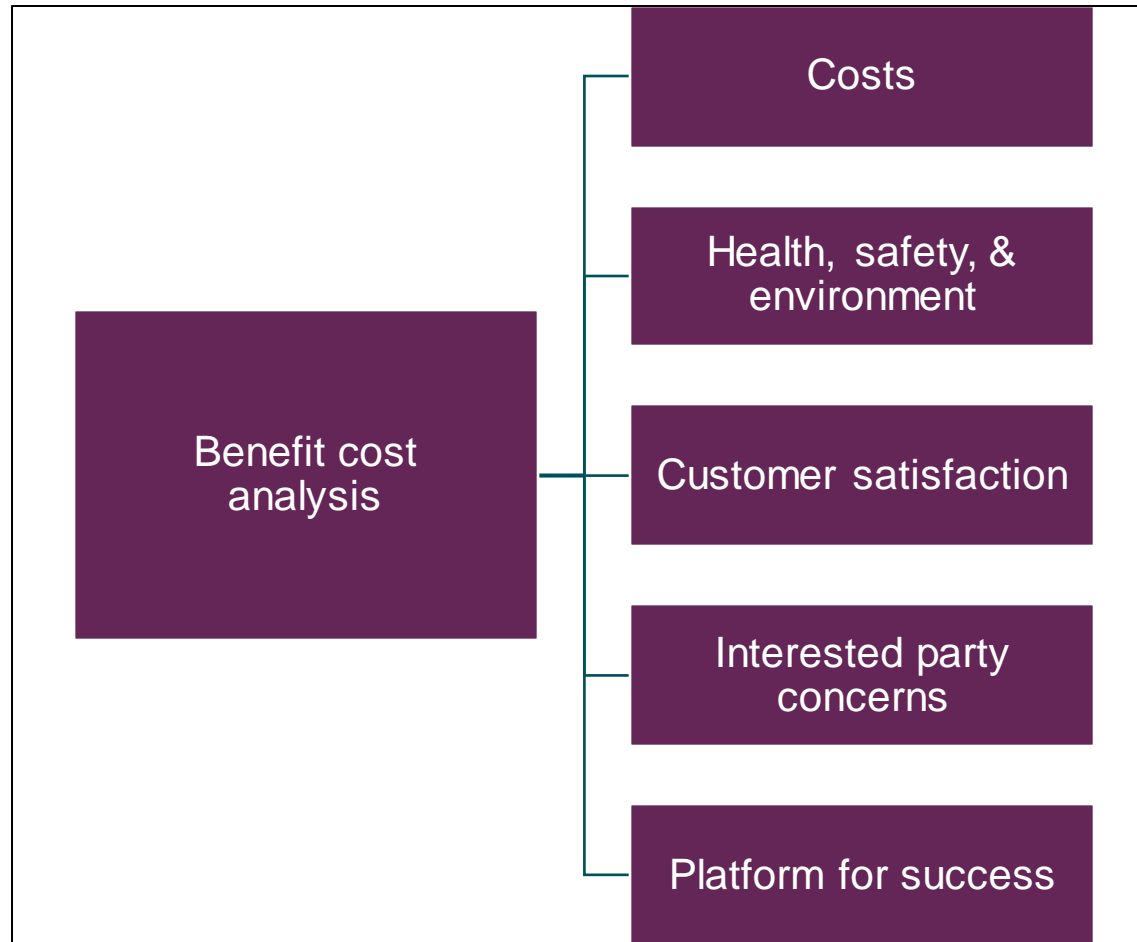
Optimize with other projects

Final plan: portfolio of projects

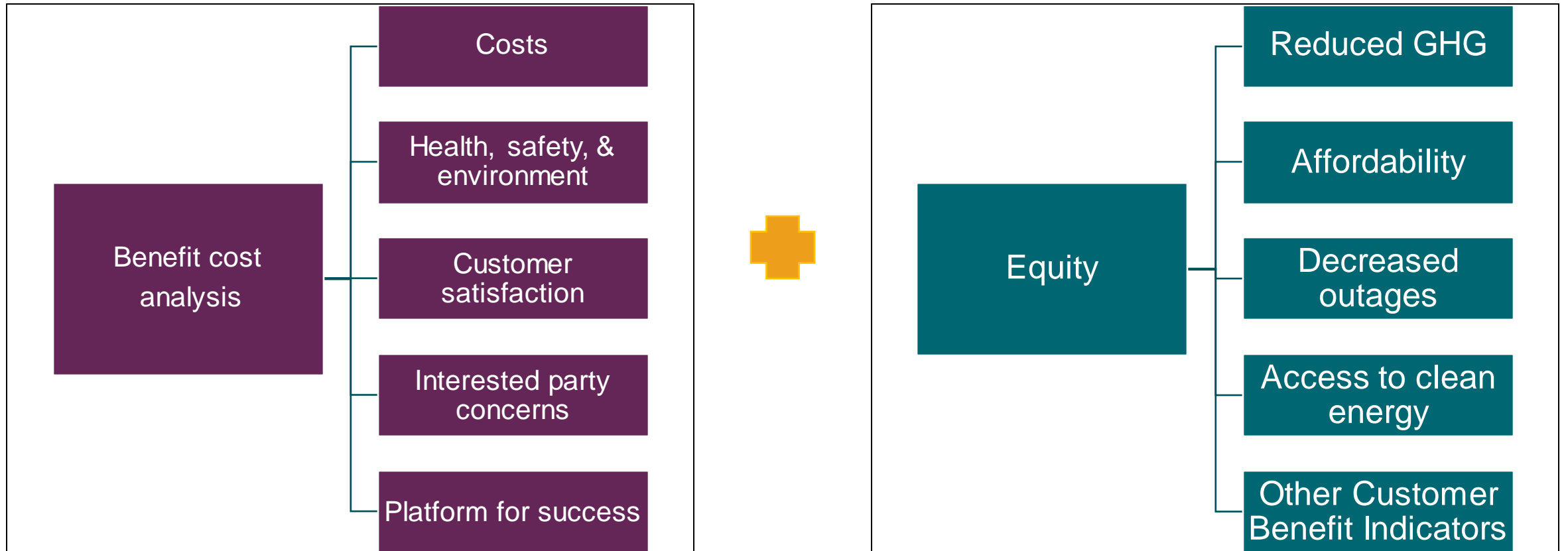
Investment Decision Optimization Tool (iDOT)



How iDOT was structured before 2023 engagement



How iDOT is structured after 2023 engagement



Initial equity-related integration approach

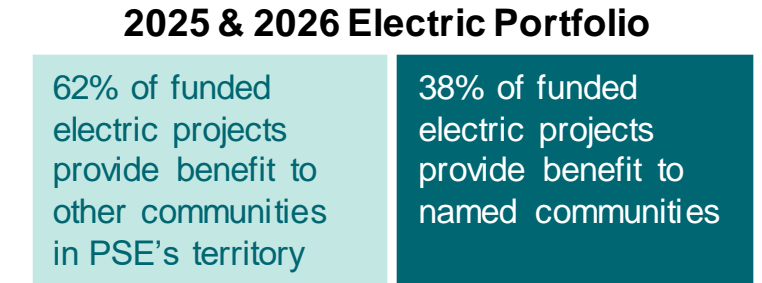
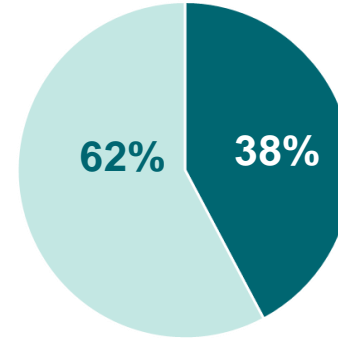
Guiding objectives

- Have something in place in 2023
- Start with something that is straightforward and transparent
- Implement with a continuous improvement mindset

Approach

- Leverage work on Customer Benefit Indicators (CBIs) from Clean Energy Implementation Plan (CEIP)
- Engage externally and solicit feedback
- Iterate as needed

Incorporating equity into delivery system planning



What we learned from engagement:

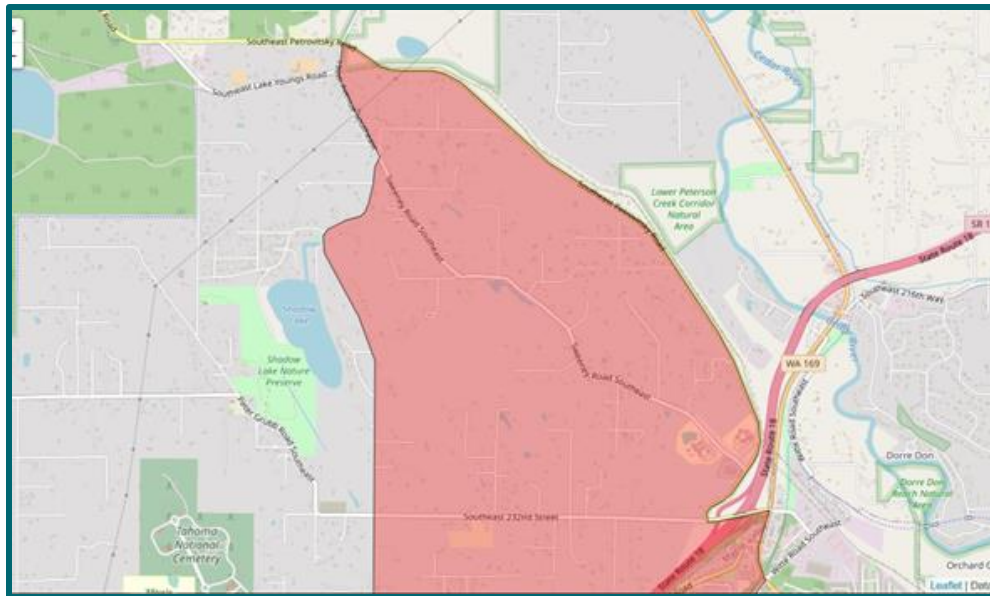
- Clarity on application of benefits for equity advancement
- Projects should directly benefit communities where they are constructed
- Portfolio selection should achieve desired targets for equity advancement

How we applied it:

- Calculated equity benefit only for projects in a program that directly impacted the named community
- Assessed equity separate from benefit cost analysis to ensure achievement of desired targets
- Evaluated the number of benefits for all programs

Community engagement

Piloted customer engagement framework in 2023 to better understand impacts and customer energy burdens in a named community from power outages in the area to inform the needs for a distribution reliability project.



Lake Youngs / Maple Valley

- Start with online survey and postcards
- Engaged in phone conversations & in-person meetings
- Incorporate feedback into project needs

Next steps – delivery system planning

Feedback?

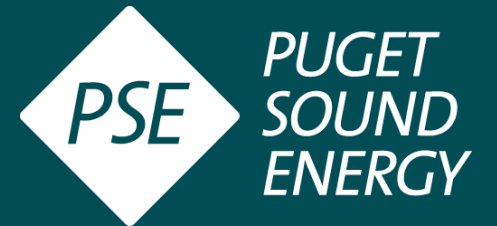
- Do you recommend other considerations as we evolve our delivery system planning?

Advancing Equity in Delivery System Planning

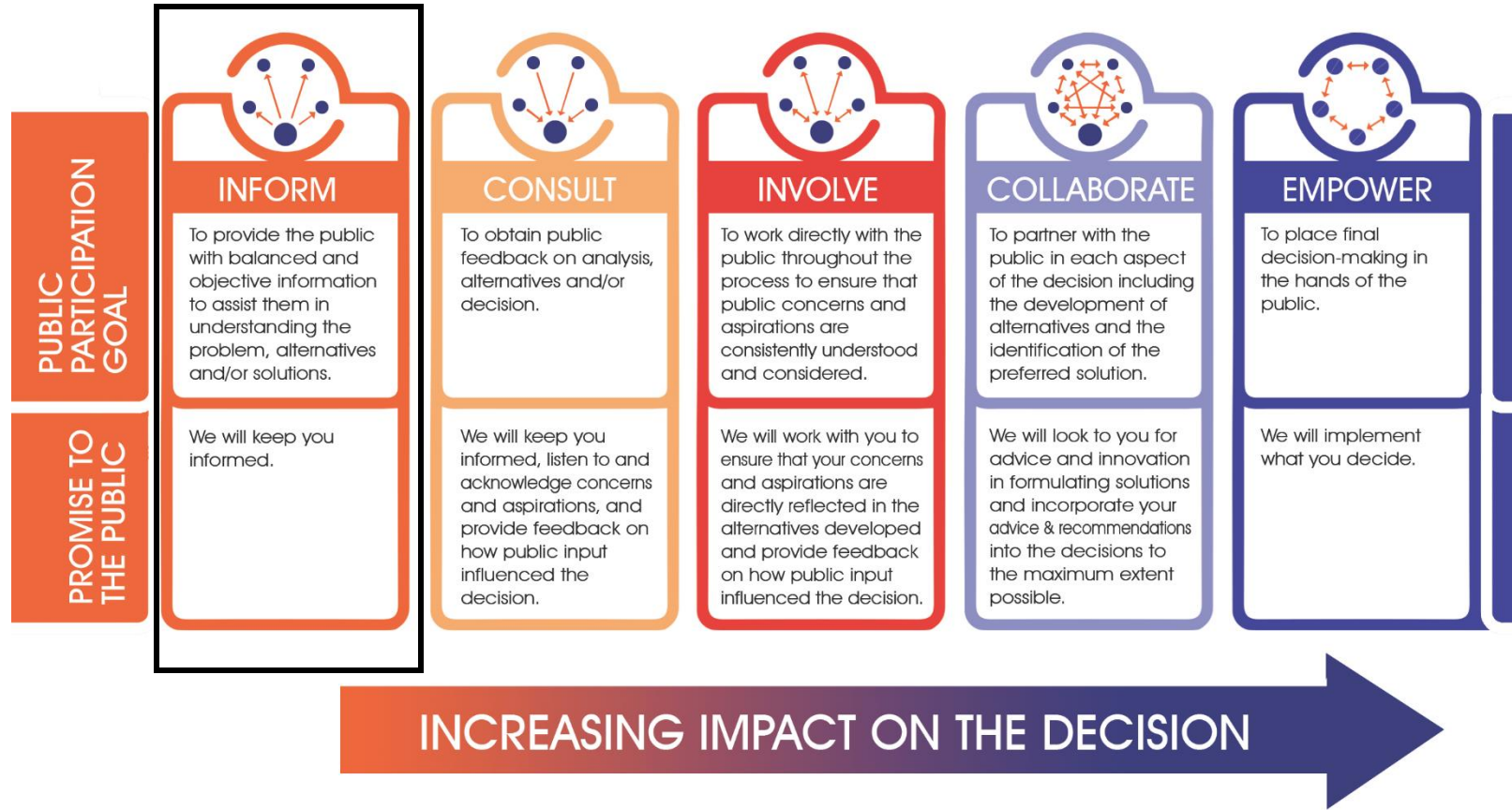
- Leverage improved delivery system planning tools
- Continue to evolve iDOT & incorporate improvements into methodology
- Continue to evolve public and community engagement methodology to support delivery system planning

Hosting capacity map overview

Ryan Lambert, PSE



IAP2 Spectrum



PSE's IRP and delivery system planning are closely linked

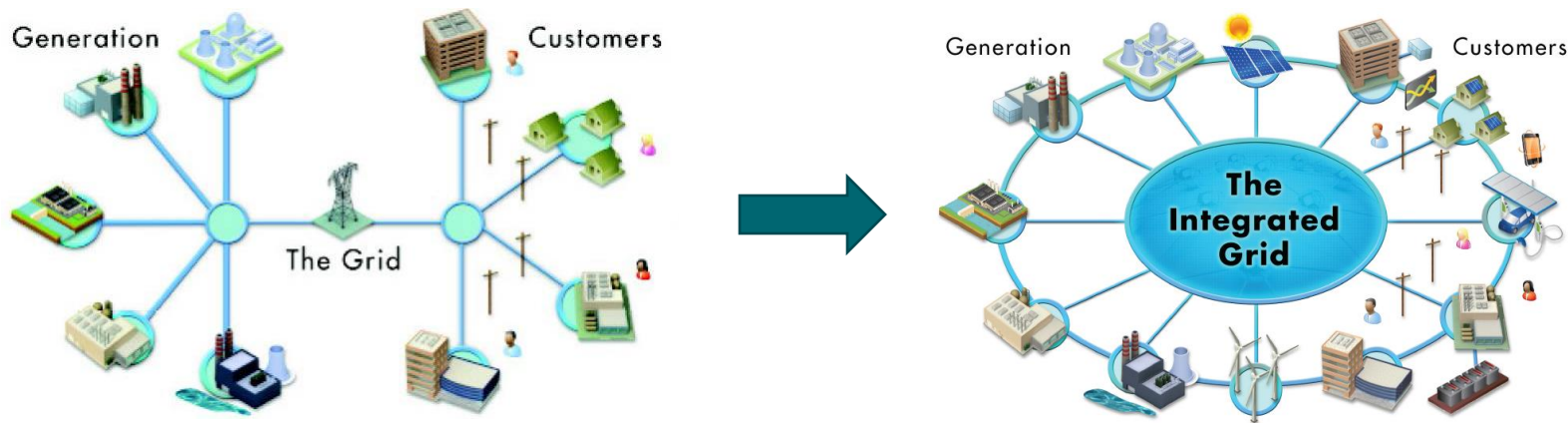
Integrated Resource Planning (IRP)

Optimizes resource selections to satisfy energy needs of customers

Delivery System Planning (DSP)

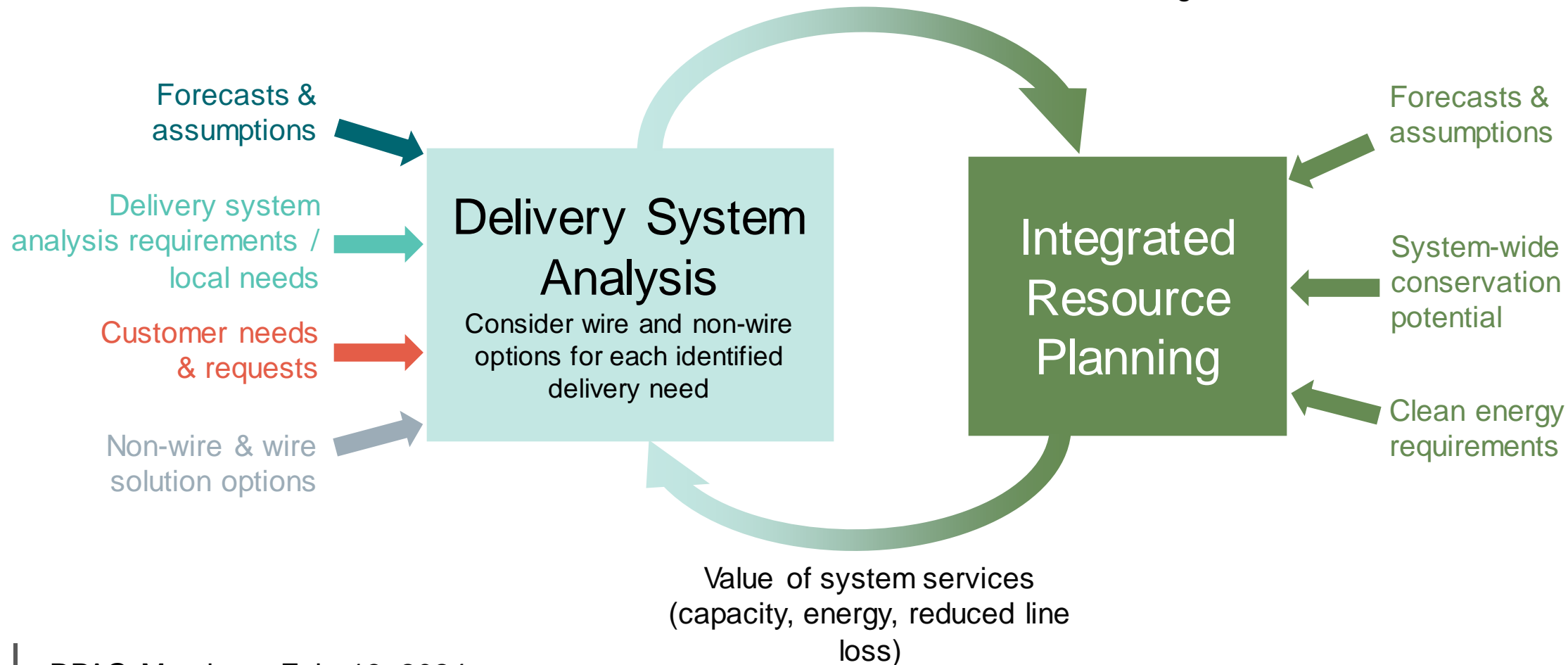
Ensures the energy delivery system reliably receives and delivers energy where needed

The energy delivery system is being transformed from a one-way delivery system to an integrator of large generation and local resources



Delivery system planning and IRP process integration is evolving to support the transformation

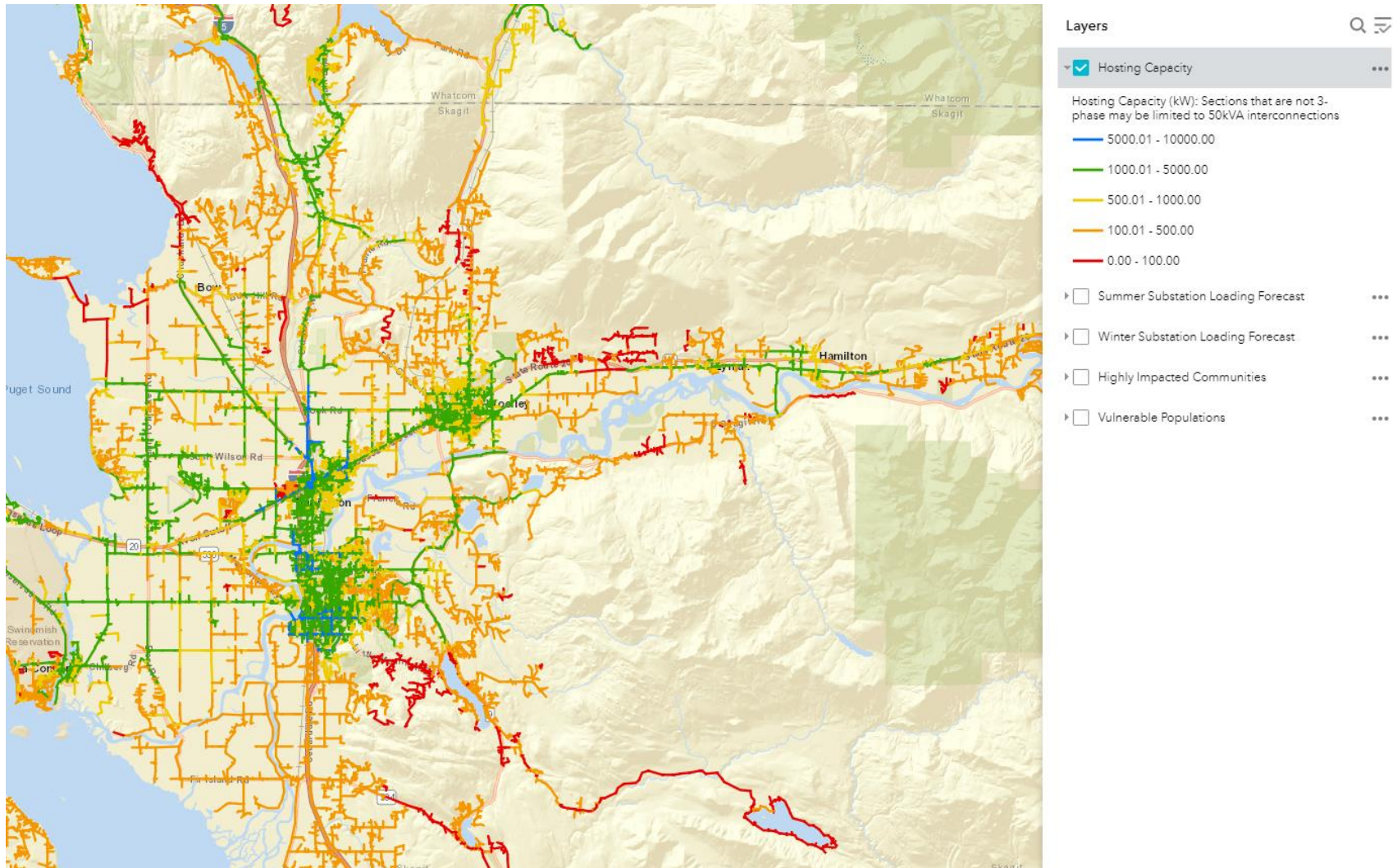
Value of avoided transmission and distribution (incremental and new capacity)
Non-wire alternatives forecast with DERs and storage



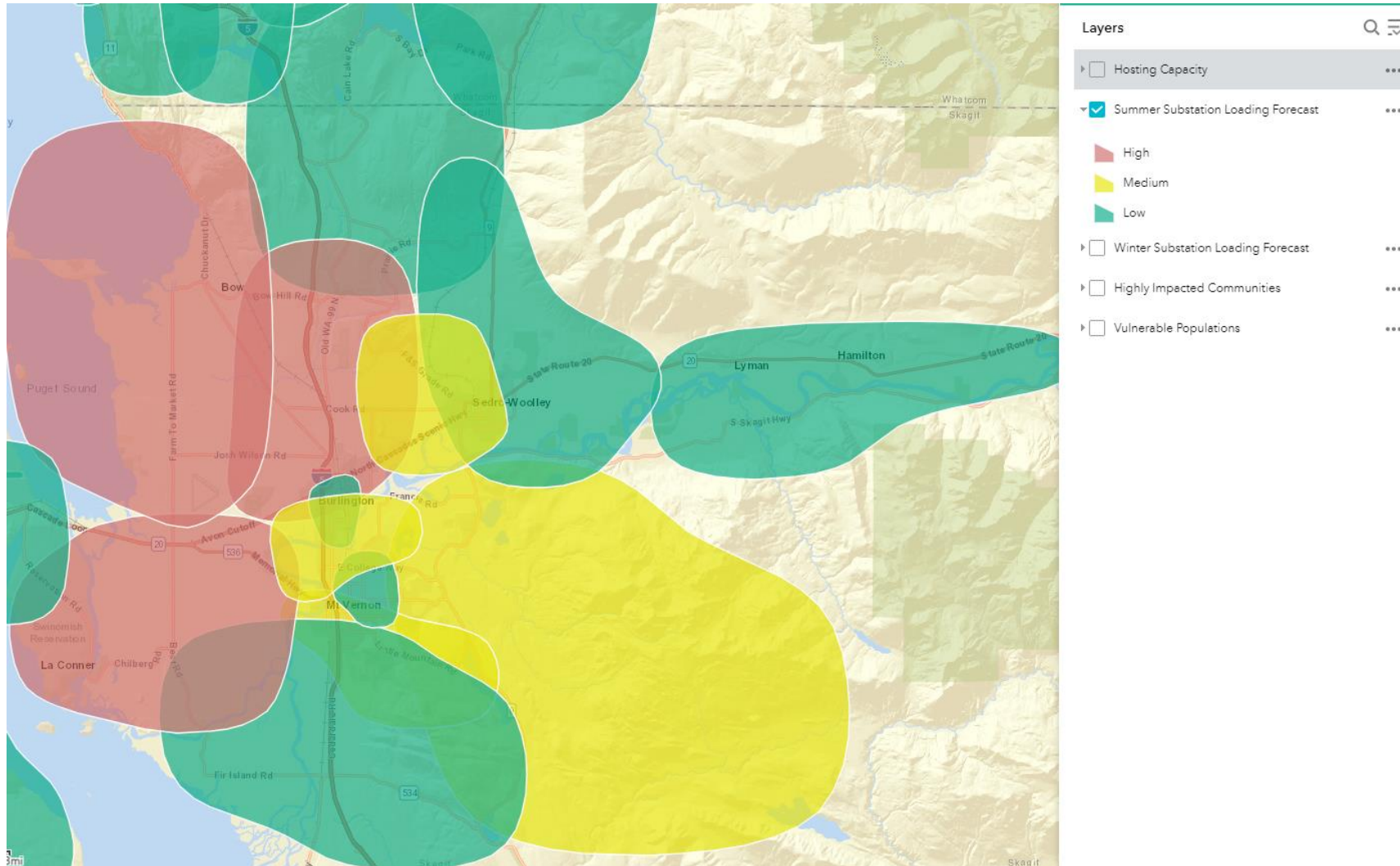
Optimizing DER siting

Consideration	Description
Hosting capacity	How many PVs can the distribution system reliably accommodate without significant grid upgrades?
System capacity needs	Can the DERs offset distribution substation loading the coincident load peak for that area and defer the need for traditional wires solutions?
Named community	Does the DER serve a Named Community that would benefit from having clean energy and increased capacity?

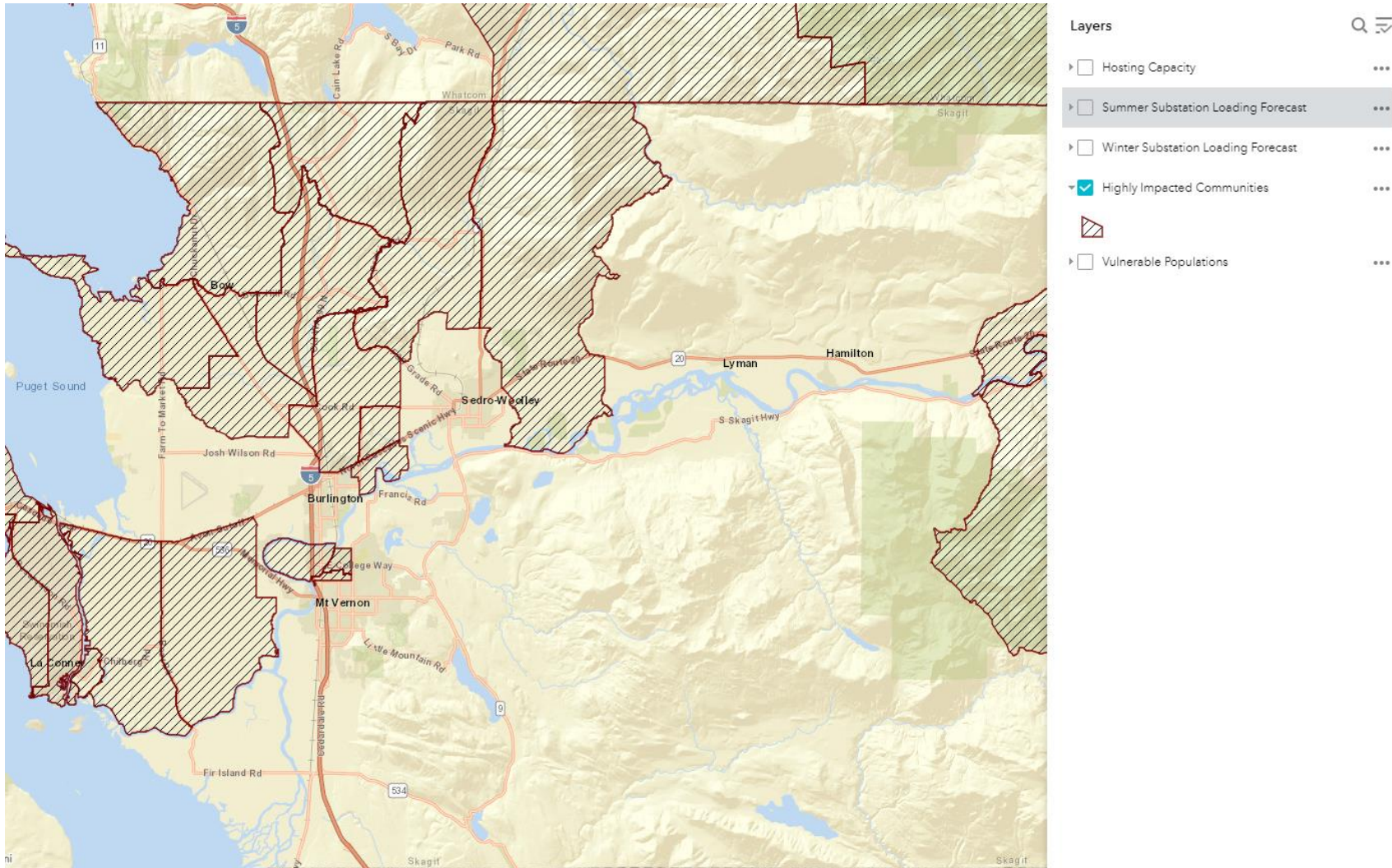
Hosting capacity



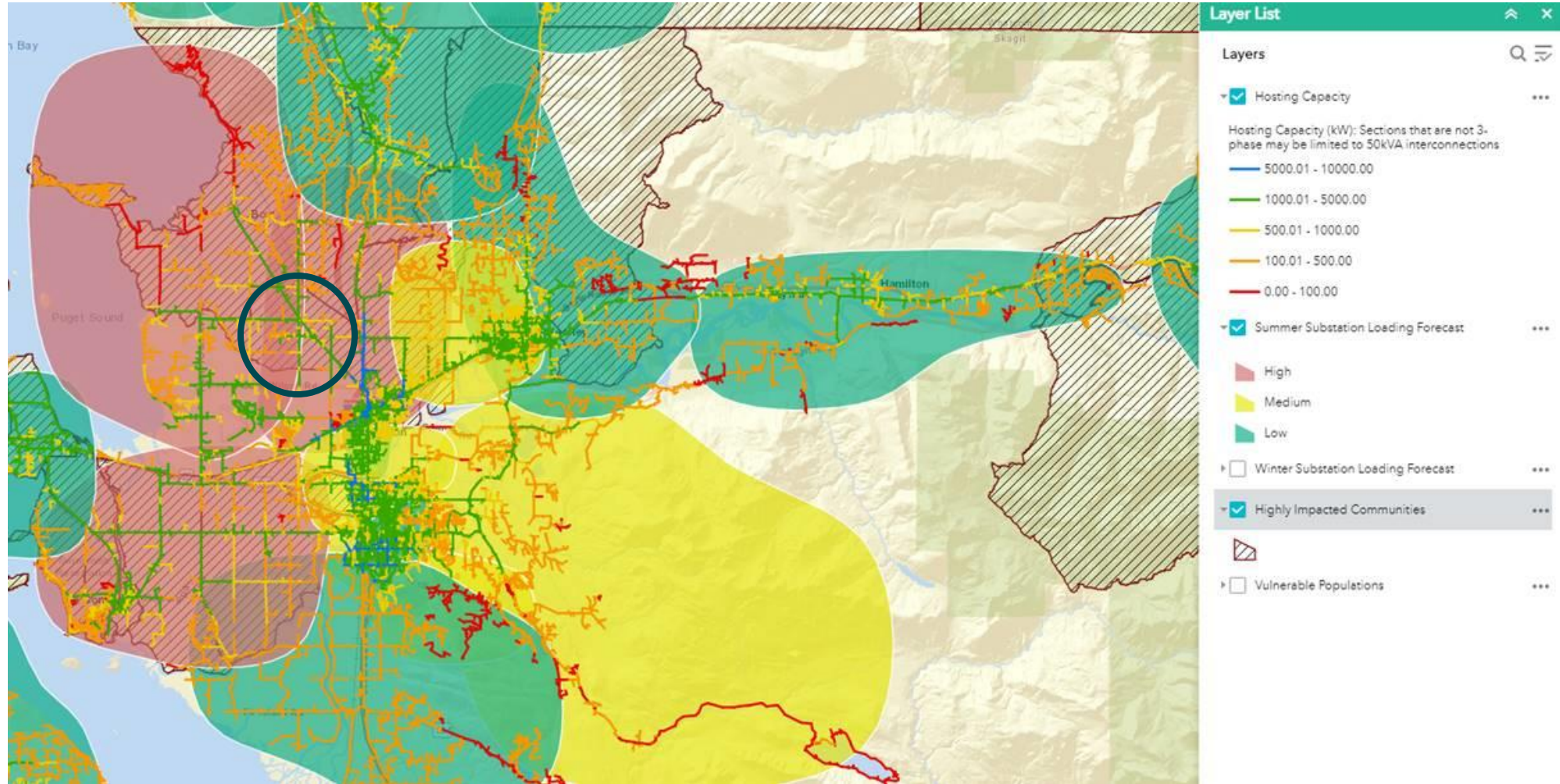
Substation loading forecast



Named Communities, including Highly Impacted Communities



Optimal location for DERs



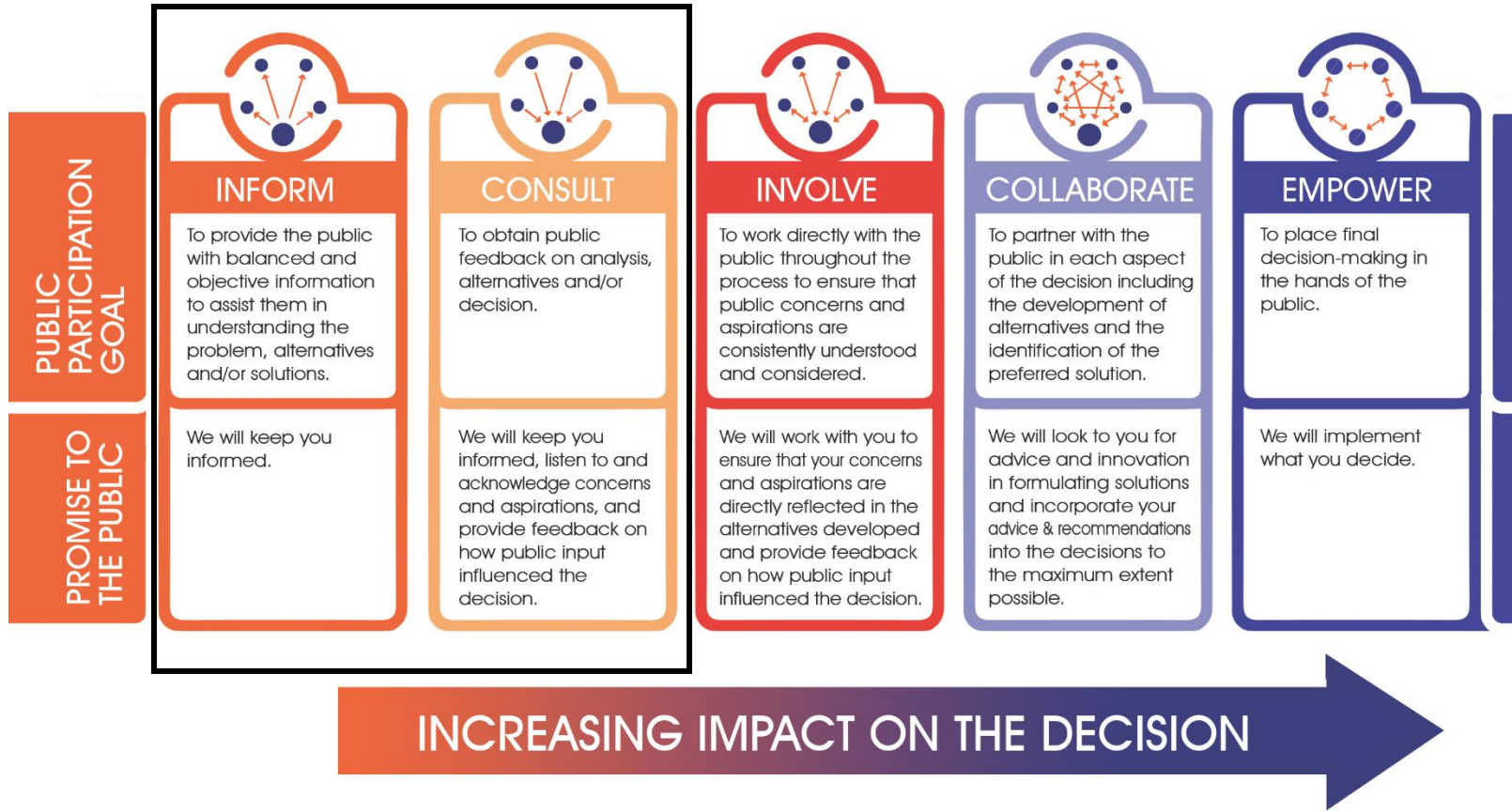
Decarbonization scenarios in the gas and electric IRP

Jennifer Coulson, PSE

Phillip Popoff, PSE



IAP2 Spectrum

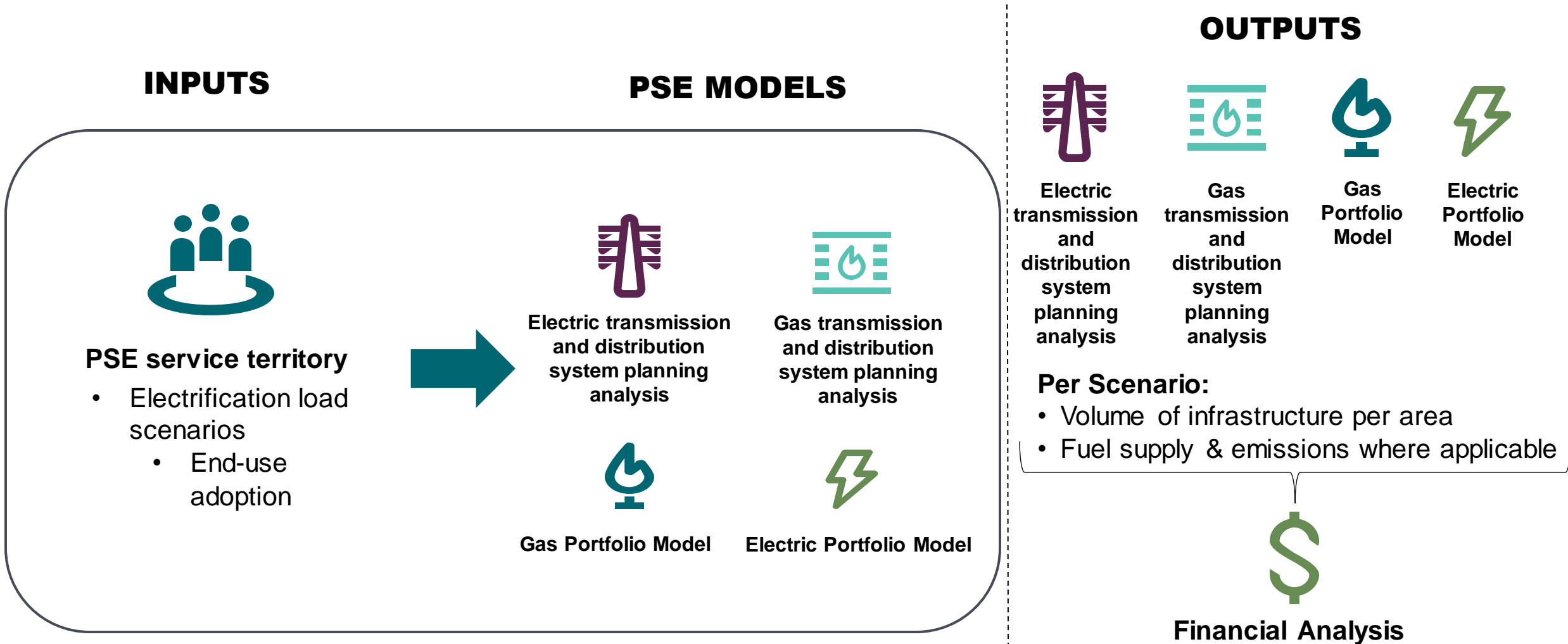


A summary of what we heard

(2023 Gas IRP comments and December 2023 RPAG meeting)

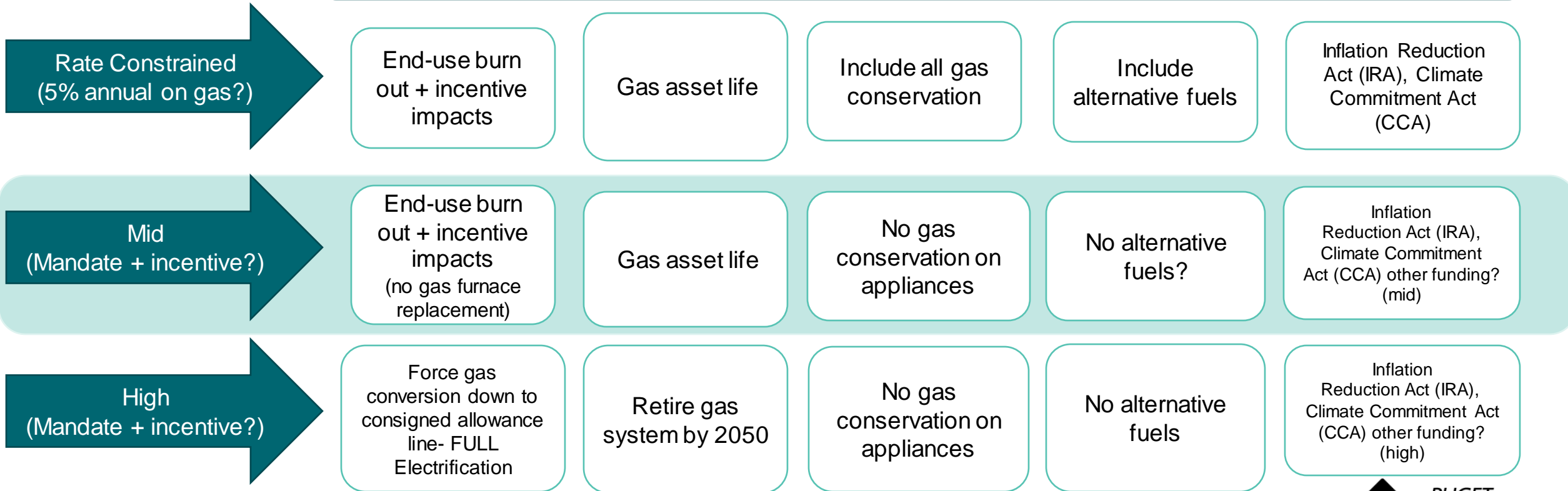
- Evaluate impacts without the use of alternative fuels
- Incorporate the assumption that the gas system will be retired by 2050
- Include both gas and electric portfolio + electric and gas infrastructure impacts
 - Show a connection between gas and electric planning
 - Avoid stranded costs
- Relying on Climate Commitment Act allowances is a risk to PSE and its customers, reduce emissions to the consigned allowance line
- Incorporate natural heat pump adoption into forecast
- No gas conservation on appliances
- Model additional electrification scenarios or sensitivities to reflect the different paces at which electrification can happen

Electrification scenario modeling approach



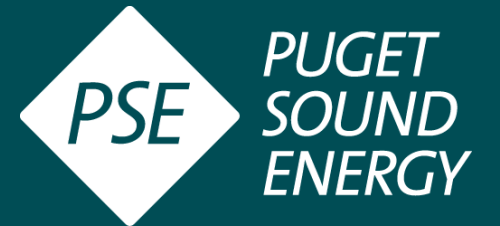
***PSE plans to use this approach for the electrification scenarios**

Confirming 12/12 white board exercise



Next steps

Sophie Glass, Triangle Associates



Upcoming activities

Date	Activity
February 20, 2024	Feedback form for February 13 RPAG meeting closes
February 27, 2024 Register here	Emerging Resource Alternatives: Small Modular Nuclear and Alternative Fuels public webinar



Email us at irp@pse.com



[Register for email updates](#)



Visit our website at pse.com/irp



Leave a voice message at 425-818-2051

Public comment opportunity

Please raise your “hand” if you would like to provide comment.



Thanks for joining us!



Acronyms

Acronym	Meaning
CBI	Customer Benefit Indicator
CCA	Climate Commitment Act
CETA	Clean Energy Transformation Act
CEIP	Clean Energy Implementation Plan
DER	Distributed energy resources
DSP	Delivery system planning
IAP2	International Association of Public Participation
iDOT	Investment decision optimization tool
IRA	Inflation Reduction Act
IRP	Integrated Resource Plan
PV	Photovoltaics (solar panels)
RPAG	Resource Planning Advisory Group
RPS	Renewable portfolio standard
UTC or Commission	Washington Utilities and Transportation Commission