

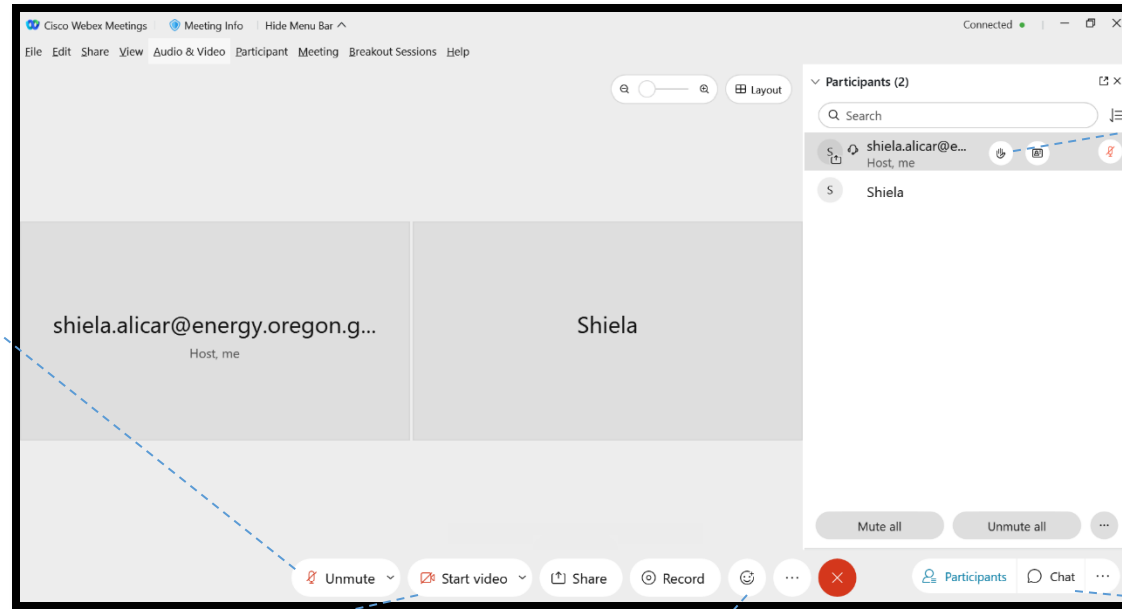
Oregon Department of **ENERGY**

**Oregon Energy Strategy
Advisory Group**
Meeting #5

Edith Bayer
November 20, 2024



USING WEBEX



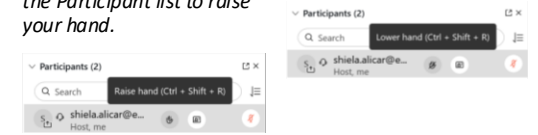
Audio Options



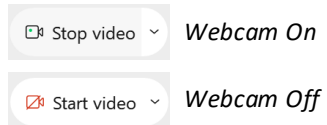
Second Raise Hand Option

You can also click on the hand next to your name in the Participant list to raise your hand.

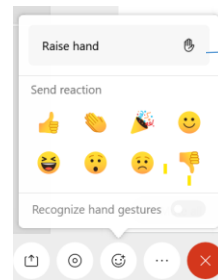
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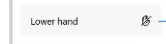
Video Options



Reactions

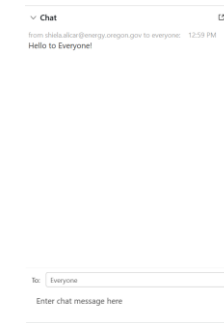


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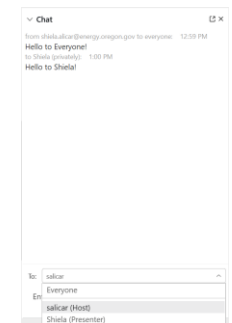
Click on Lower hand when you are done.

Chat



You can chat to Everyone in the meeting.

You can send a private message to the Host or Presenter (or all Panelists when there is a Panel).



MEETING OBJECTIVES

- Present and collect feedback on framing for energy wallet, air quality modeling, and geospatial mapping.
- Provide updated timeline for activities in 2025.
- Consult on framing for Phase 2 engagement, which will focus on policy.

AGENDA

Time	Topic
9:00 - 9:15 am	Welcome, Agenda, Introductions
9:15 – 9:30 am	Approval of summary of last meeting
9:30 – 10:15 am	Present and discuss energy wallet, air quality modeling, and geospatial mapping
10:15 – 10:30 am	Present updated timeline
10:30 – 10:40 am	Break
10:40 – 11:45 am	Consult on framing for phase 2 engagement
11:45 - 12:00 pm	Upcoming Meetings and Next Steps

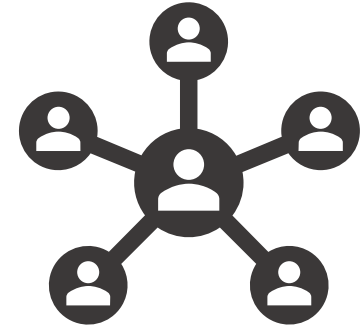
GROUP AGREEMENTS

- Honor the agenda or modify by agreement.
- Listen carefully; seek to learn and understand each other's perspective.
- Encourage respectful, candid, and constructive conversation.
- Keep an open mind.
- Ask questions to clarify and understand why.
- Be open, transparent, inclusive, and accountable.
- Respect differing opinions.
- Seek to resolve differences and find common ground.
- Be conscious of speaking time; step back to allow space for others to contribute.
- Limit chat conversations.



ADVISORY GROUP MEMBER INTRODUCTIONS

 Please introduce yourself
(name, affiliation)



APPROVAL OF LAST MEETING SUMMARY

Tina Kotek, Governor



Oregon



MEETING SUMMARY

550 Capitol St. NE
Salem, OR 97301
Phone: 503-378-4040
Toll Free: 1-800-221-8035
FAX: 503-373-7806
www.oregon.gov/energy

ODOE Oregon Energy Strategy Advisory Group Meeting #4; October 17, 2024

Attendees

Present Advisory Group members: Aaron Orlowski, Andrea Kreiner, Bryan Adams, Charity Fain, Christine Golightly, Cory Scott, Emily Griffith, Erin Childs, Fred Heutte, Ivy Quach, Jeffrey Roy Hammarlund, Jennifer Bies, Jennifer Hill-Hart, Jimmy Lindsay, Joshua Basofin, Juan Barraza, Laura Tabor, Mary Moerlins, Michael Colgrove, Nate Hill, Patrick Ford Mills, Rebecca Smith, Scott R. Simms, Shannon Souza, Timothy L. McMahon, and Tucker Billman

Absent Advisory Group members: Andrew Mulkey, Cathy Ehli, Rakesh Aneja, and Robert Wallace

Oregon Department of Energy staff: Abby Reeser, Alan Zelenka, Edith Bayer, Hugh Arceneaux, Jessica Reichers, Jillian DiMedio, Joni Slinger, Josh Price, Lauren Rosenstein, Mary Kopriva, Michael Freels, and Ruchi Sadhir

Consultant team: Ben Duncan (Kearns & West), Gillian Garber-Yonts (Kearns & West), Maria Verano (Kearns & West), Eileen Quigley (CETI), Ruby Moore-Bloom (CETI)

Number of members of the public in attendance: 1

Welcome and Agenda Review

Ben Duncan, Kearns & West, opened the meeting. Elaine Prause, Energy Trust of Oregon, greeted the group and shared meeting room logistics. Edith Bayer, Oregon Department of Energy (ODOE), welcomed the group, expressed gratitude for the participants' work on the Oregon Energy Strategy, and emphasized statewide nature of the strategy.

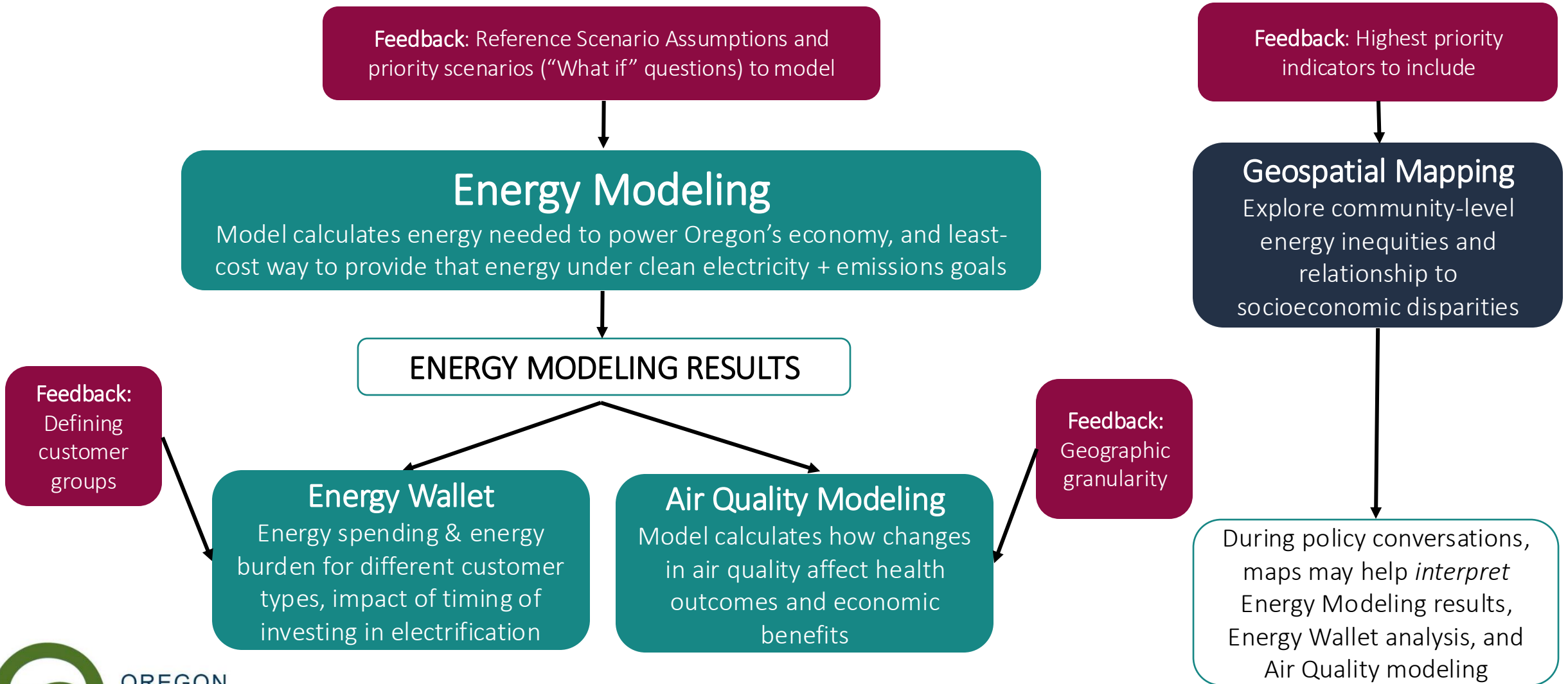
Edith outlined the goals of the meeting:

- Present Alternative Scenarios and answer clarifying questions



COMPLEMENTARY ANALYSES

OVERVIEW OF EJ/EQUITY ANALYSIS



ENERGY WALLET

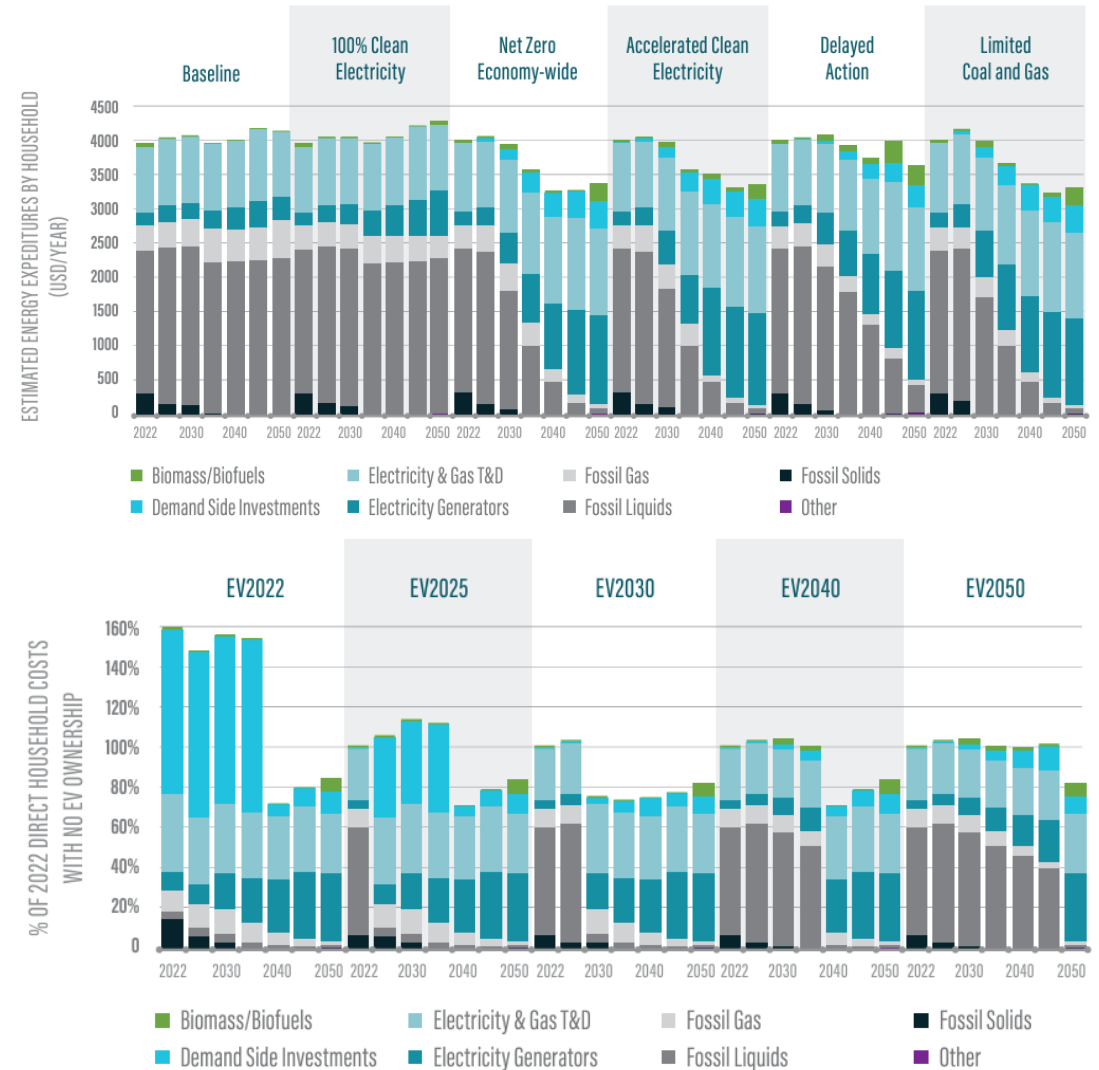
ENERGY WALLET

- Electrification causes electricity bills to increase, but at the same time bills for other fuels (e.g., gasoline at the pump) decrease.
- The Energy Wallet analysis explores questions such as:
 - How is total energy spending for different customer types impacted?
 - What is the impact on customers investing in electrification earlier or later?
 - How is energy burden impacted?



ENERGY WALLET (CONT.)

- Estimate energy expenditures (“energy wallet”) by household between now and 2050 (top right)
- Examine temporal impact of clean energy technology adoption (electric vehicle) on customer costs (bottom right)
- Use gross household income for customer types to determine energy burden and how it changes over time
- Scale for up to five different customer types
 - Definition to be developed with input



Example Energy Wallet from Wisconsin

CUSTOMER GROUPS FOR CONSIDERATION

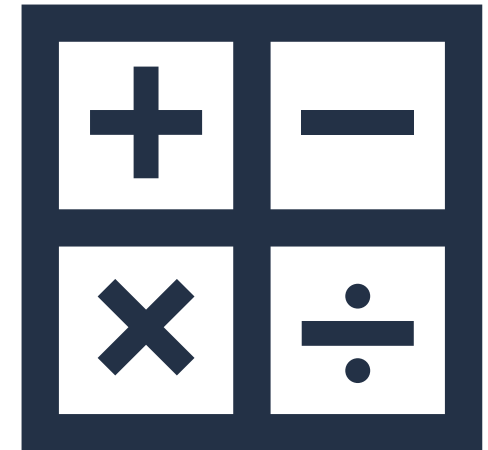


Feedback requested:
Which five of the nine customer groups should be prioritized for the Energy Wallet analysis?

Customer Group	Description	Primary Heating Type	2022 Average Annual Energy Usage for all Fuels (kBtu)	Vehicle Miles Traveled (VMT, annual per household)
Homeowner	A typical owner-occupied single-family detached home in Oregon.	Natural gas	95,990	19,631
Rural Home	A typical single-family detached home located in a rural region in Oregon.	Electric	94,775	21,272
Coastal Home	A typical single-family detached home located in a coastal region.	Electric	73,572	19,952
High Priority Area Homes	A typical single-family detached home located within ODOE's high priority area counties.	Natural gas	95,778	19,096
Extreme Low-Income Single-Family	A typical low-income owner-occupied single-family detached home with an income less than \$15,000 a year.	Natural gas	53,076	19,728
Weatherization	A typical single-family detached home built prior to 1990 (assumed to have poor insulation).	Natural gas	98,047	19,461
Manufactured Homes	A typical manufactured home, assumes cost of energy is 70% higher per square foot than the average cost of energy for a homeowner.	Electric	72,345	21,260
Average Renter	A typical reported renter-occupied single-family detached home.	Electric	76,088	19,516
Low-Income Renter Multifamily	A typical reported low-income renter occupied multifamily home, includes all multifamily building types.	Electric	24,065	14,405

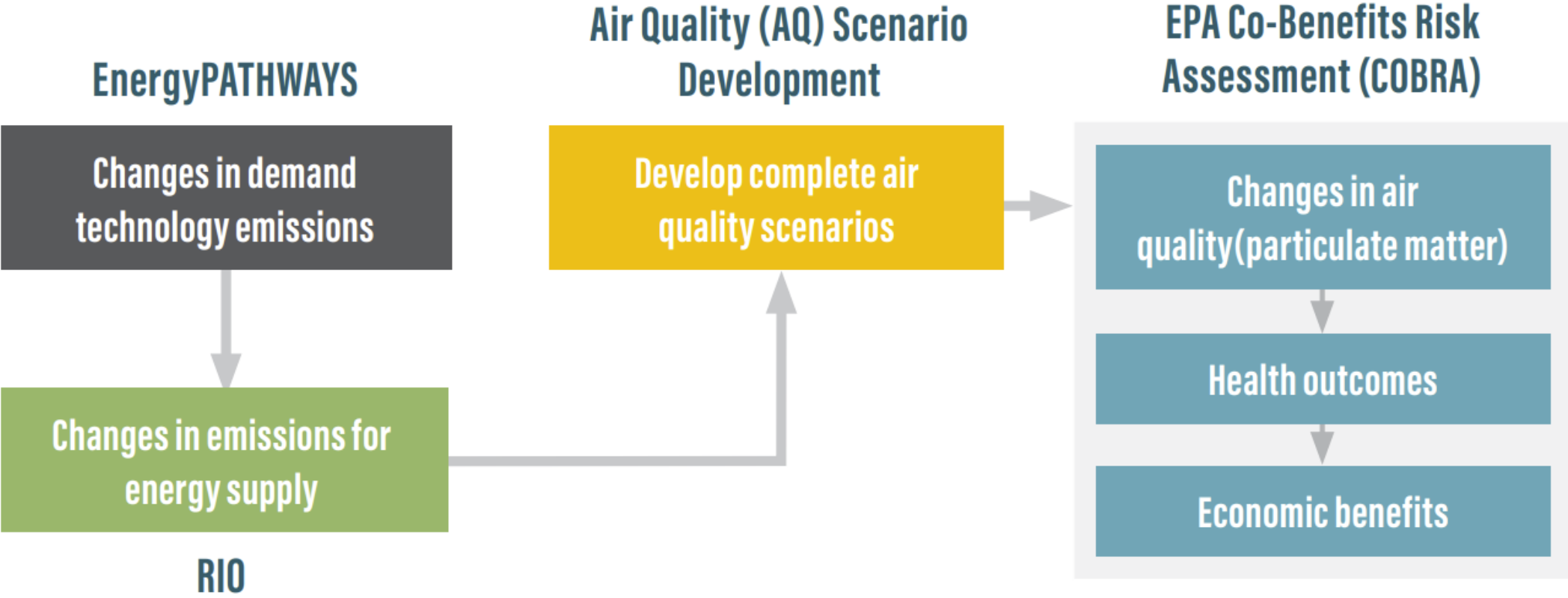
ENERGY WALLET ANALYSIS

- **Annual Energy \$**
 - Annual Energy Costs = 2022 RBSA for average building size x US EIA Energy Cost per SQFT
- **Vehicle Miles Traveled (VMT)**
 - H & T Affordability index, may be updated with DEQ Vehicle Miles Traveled (VMT) per county
- **VMT \$**
 - VMT Costs = VMT x US Bureau of Transportation's per-mile cost
- **Energy Burden**
 - Energy Burden = Percentage of gross income spent on energy



AIR QUALITY MODELING

AIR QUALITY MODELING



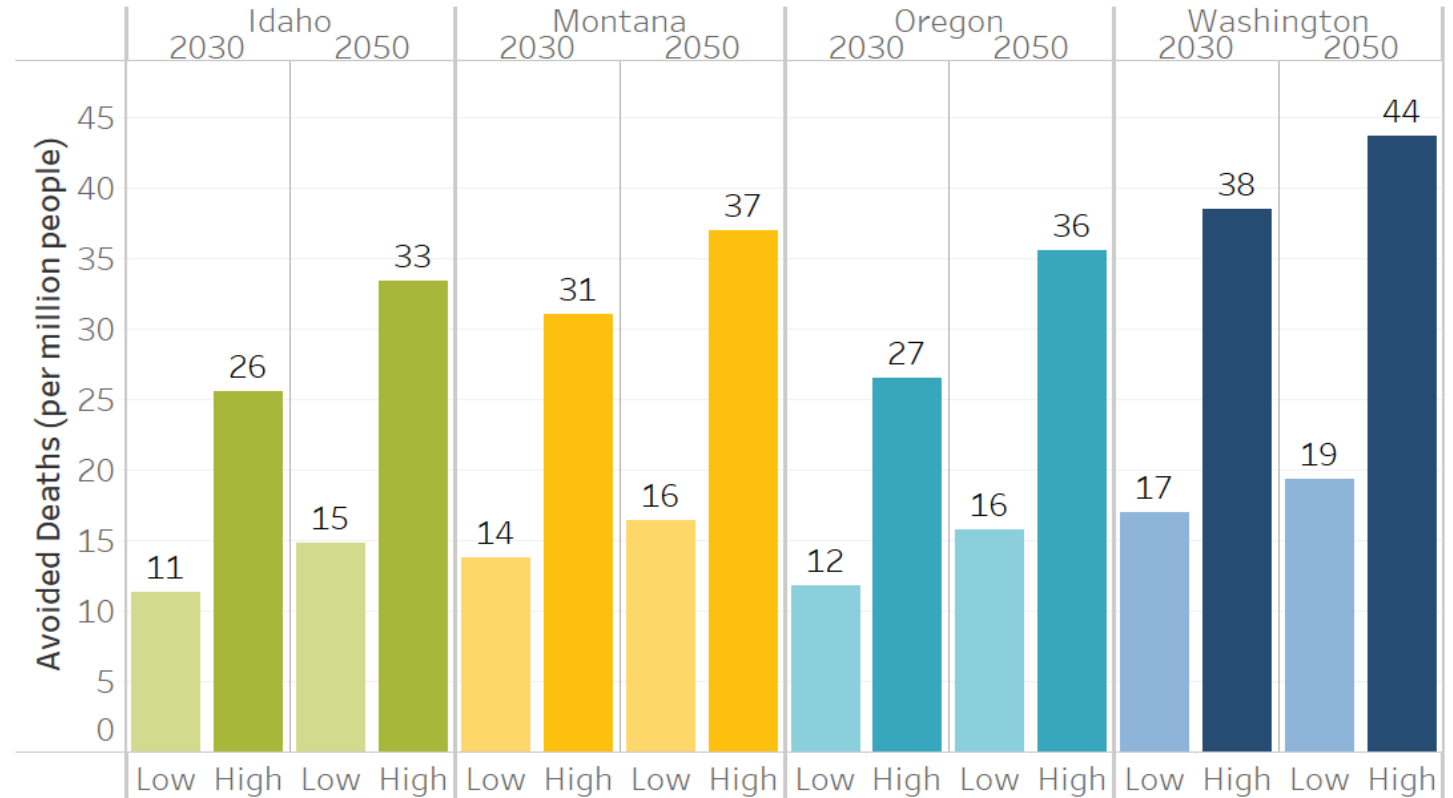
AIR QUALITY MODELING (CONT.)

Results from COBRA modeling include:

- Fewer mortalities (“avoided deaths”)
- Fewer lost workdays
- Fewer hospital admissions
- Economic benefits

*Results broken out by region in Oregon
(Shown on next slide)*

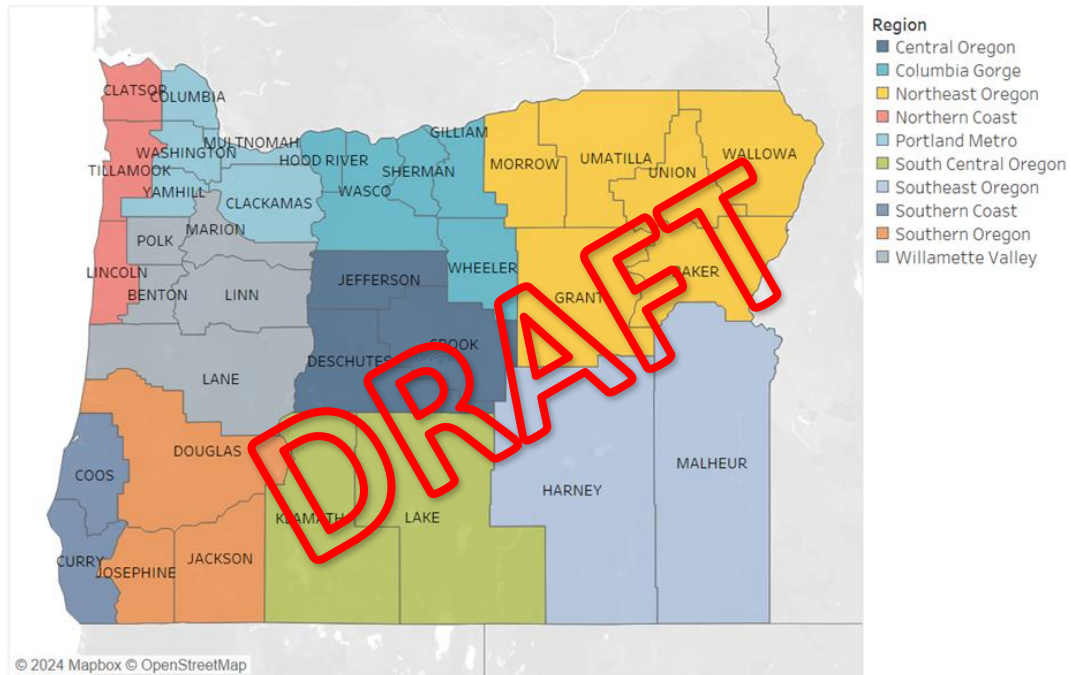
Range of Avoided Deaths Attributed to Annual Pollutant Reductions by State
(per million people)



Source: Evolved Energy Research. *Net-Zero Northwest Energy Pathways Analysis Technical Report*, June 2023, p. 201.
(Note: All labels on the bars are rounded. Low and high estimates reflect the range of findings in the epidemiological studies of health outcomes used in the modeling.)

COUNTY CLUSTERS FOR AIR QUALITY MODELING

Proposed Regions for Air Quality Modeling



- We heard about the importance of understanding more localized air quality impacts than the two zones used for energy modeling
- Developed Oregon county clusters
 - Weighted variables related to air quality
 - Overlaid with other regions in Oregon, including regional employment offices and transportation regions



Feedback requested: Are these regions helpful for interpreting results about health impacts due to changes in air quality? Would you recommend any changes?

GEOSPATIAL MAPPING

GEOSPATIAL MAPPING

Current drafted approach identifies **47** justice-related variables for all **992 Census Tracts** in OR, from **2018 to 2022**.

USEPA, USDOT, US Census Bureau, US DOE, and US CDC

Uses a replicable approach with open-source data, with code that can be posted to GitHub

Can be updated with time using new datasets.

Can develop **OR-specific** indicators at the community-level

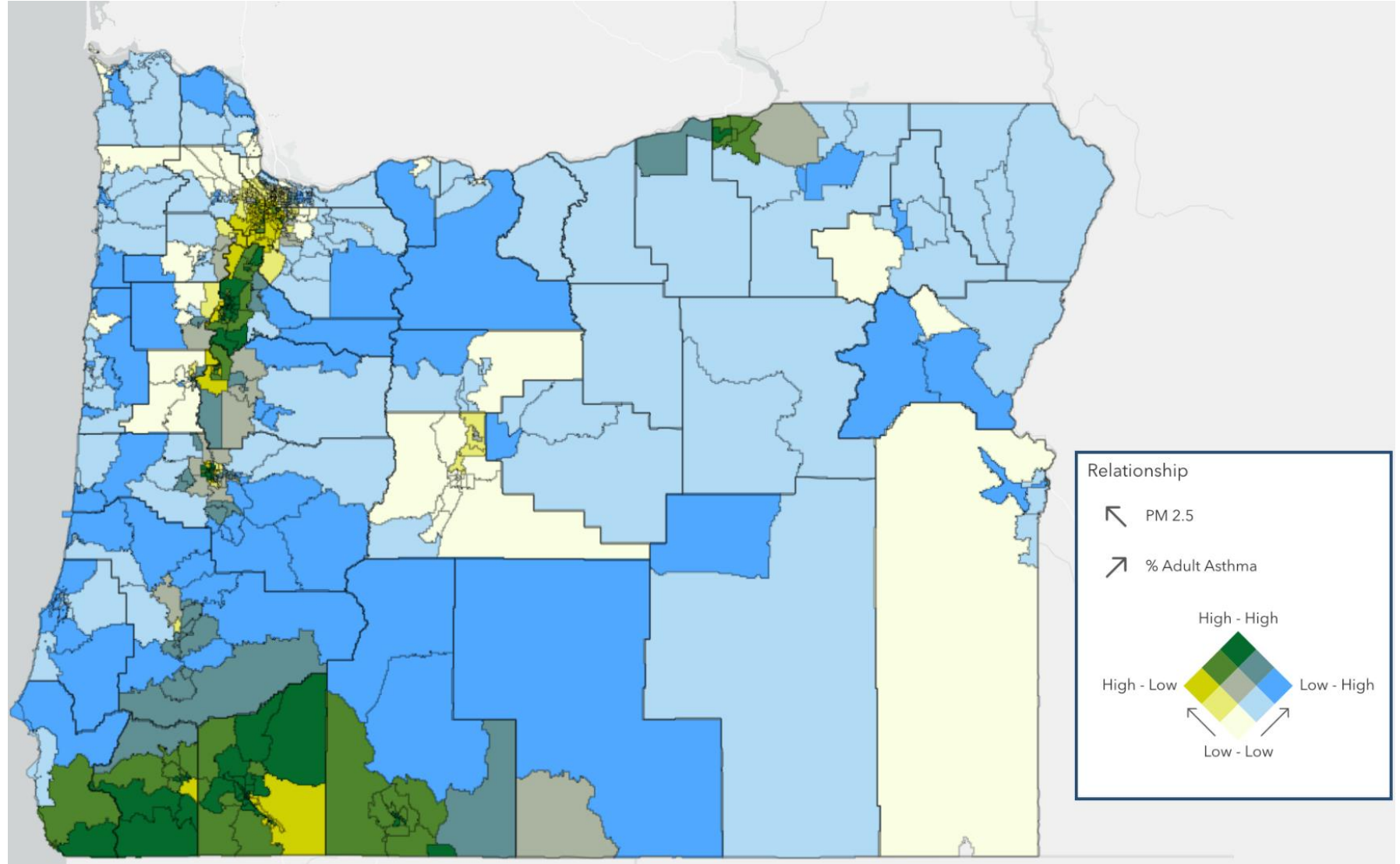
Identify communities with most pressing needs in the state for potential policy implementation.

GEOSPATIAL MAPPING: EXAMPLE MAP

Example Static Map:

Relationship map showing fine particulate matter (PM 2.5) and adult asthma prevalence (%).

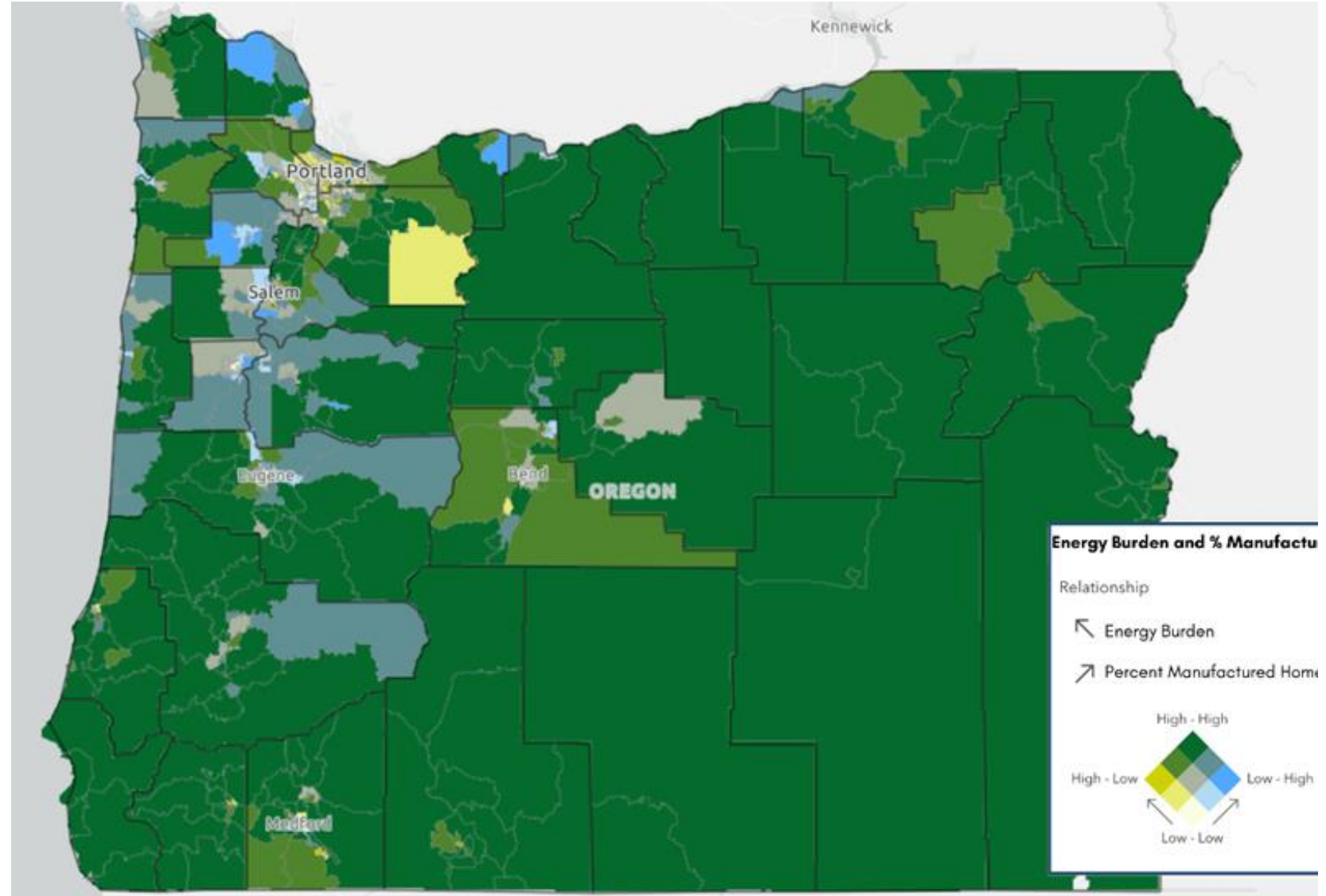
Data Source(s): Climate and Economic Justice Screening Tool (CEJST), Centers for Disease Control (CDC) PLACES Data



GEOSPATIAL MAPPING: EXAMPLE MAP

Example Static Map: *Relationship map showing energy burden and the percent of manufactured homes. In this case, there are 161 census tracts in the 75th percentile for both energy burden (i.e., more than 5% energy burden) and percentage of households living in mobile homes (i.e., greater than 12.7% of families living in mobile homes). These tracts represent communities that could be prioritized for equitable home and energy investments.*

Data Source(s): US DOE LEAD Tool, ACS 5-year estimates, 2018 - 2022



GEOSPATIAL MAPPING INDICATORS

Potential indicators* to be included in geospatial mapping analysis:

Customer and System Resiliency

- % of individuals with a non-institutionalized disability
- % of homes dependent on bottle, tank or propane gas, fuel oil or kerosene, coal or coke, or wood
- % Homes built before 1980

Economic

- % of households at or below 150% of the Federal Poverty Line
- % of individuals without a HS diploma
- % of individuals employed in agriculture, forestry, fishing, hunting, and mining

Environmental

- Tribal, Rural, Remote, and Coastal Communities
- Transportation insecurity
- Projected wildfire risk
- Projected flood risk
- PM 2.5 in the air

Energy Equity

- Average Energy Burden
- Justice40 eligibility (i.e., "DAC" as categorized by CEJST tool)
- % of homes prioritized for IRA incentives (0-80 % AMI)
- Race and Ethnicity
- % of mobile homes

Health and Wellbeing

- % of individuals ages 65+
- % of individuals 17 or younger
- % of individuals without health insurance
- % of individuals with Asthma
- Self-rated Health



Feedback requested: Which indicators (variables) from the are highest priority to map and analyze their relationship? Are there any important variables (with publicly available data sources) that you would add to the list?

DISCUSSION

- Do you have any clarifying questions?
- Is there anything that you think is missing?
- Is there anything that concerns you?
- Is there anything that you particularly like?



PHASE 2 OVERVIEW

TIMELINE FOR WORKING GROUPS

Late January	February	March	Late April
<p>Working Group Policy Plenary (All Working Groups)</p>	<p>HOMework ASSIGNED TO MEETING MEMBERS</p>	<p>HOMework AND FEEDBACK FOR FINAL MEETING</p>	<p>Final Working Group Policy Plenary (All Working Groups)</p>
	<p>EJ and Equity</p>	<p>EJ and Equity</p>	
	<p>Transportation Electrification</p>	<p>Transportation Electrification</p>	
	<p>Low Carbon Fuels</p>	<p>Low Carbon Fuels</p>	
	<p>Developing Clean Electricity Generation and Transmission</p>	<p>Developing Clean Electricity Generation and Transmission</p>	
	<p>Energy Efficiency and DERS</p>	<p>Energy Efficiency and DERS</p>	

Schedule may change due to Legislative calendar

BREAK

CONSULTATIVE STRUCTURES

Tribal Consultation

- Government-to-Government, ensuring Tribal perspectives inform Energy Strategy
- Members of the 9 Federally Recognized Indian Tribes in Oregon
- Ongoing

Advisory Group

- Advise ODOE throughout the process and help inform decisions
- Representatives of diverse perspectives and lived experience across OR
- Meets 1x a month

Working Groups

- Focused on informing policy recommendations
- Subject matter experts able to engage in identification of gaps and needs
- Meet over ~ 3 months in early 2025

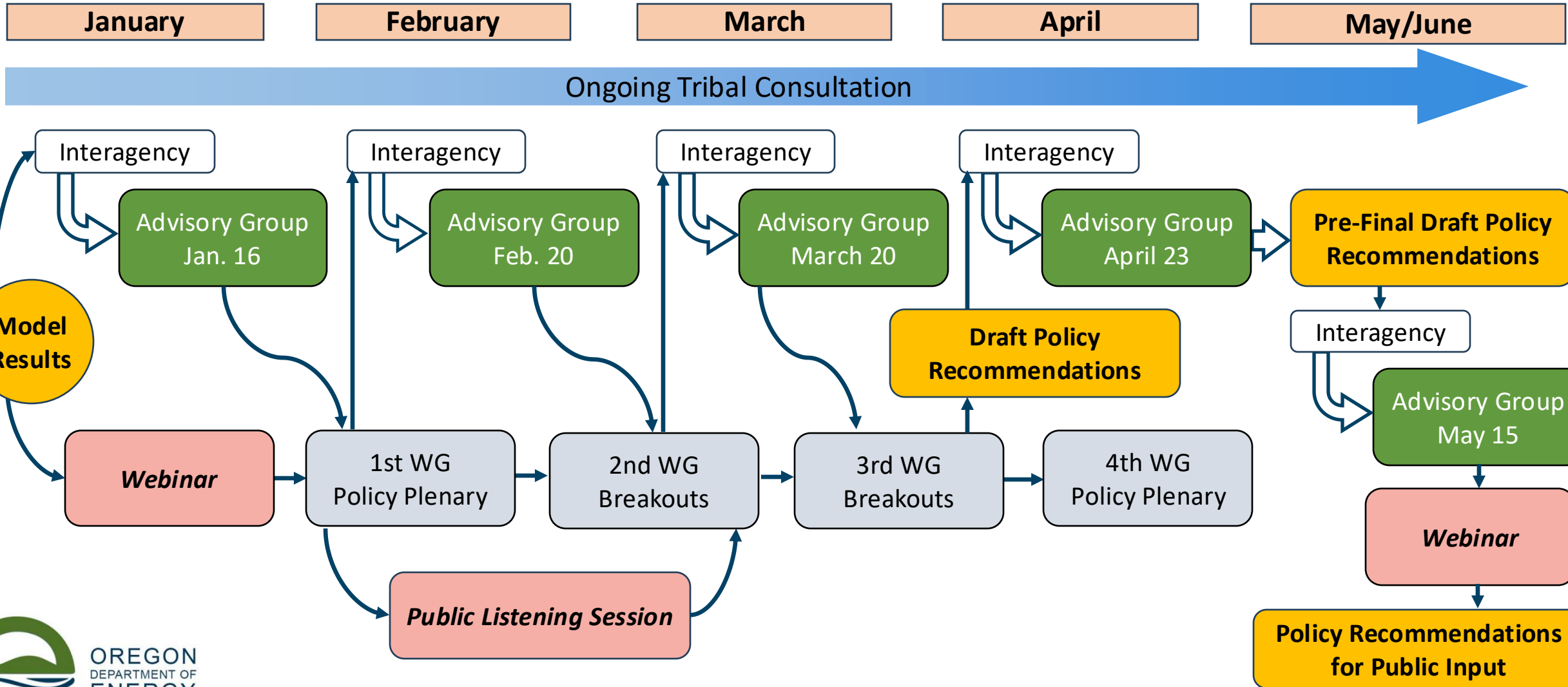
Interagency Steering Group

- State Agency Coordination
- ODOE, DLCD, ODOT, PUC, DEQ, Business OR, Governor's office; other agencies
- Meets 1x a month

Listening Sessions

- Collecting broad views from across the state
- Anyone can and is encouraged to join

TIMELINE FOR WORKING GROUPS



Schedule may change due to Legislative calendar



PHASE 2 WORKING GROUPS

Environmental Justice and
Equity

Energy Efficiency and DERs

Developing Clean Electricity
Generation and Transmission

Low-Carbon Fuel Solutions

Transportation Electrification

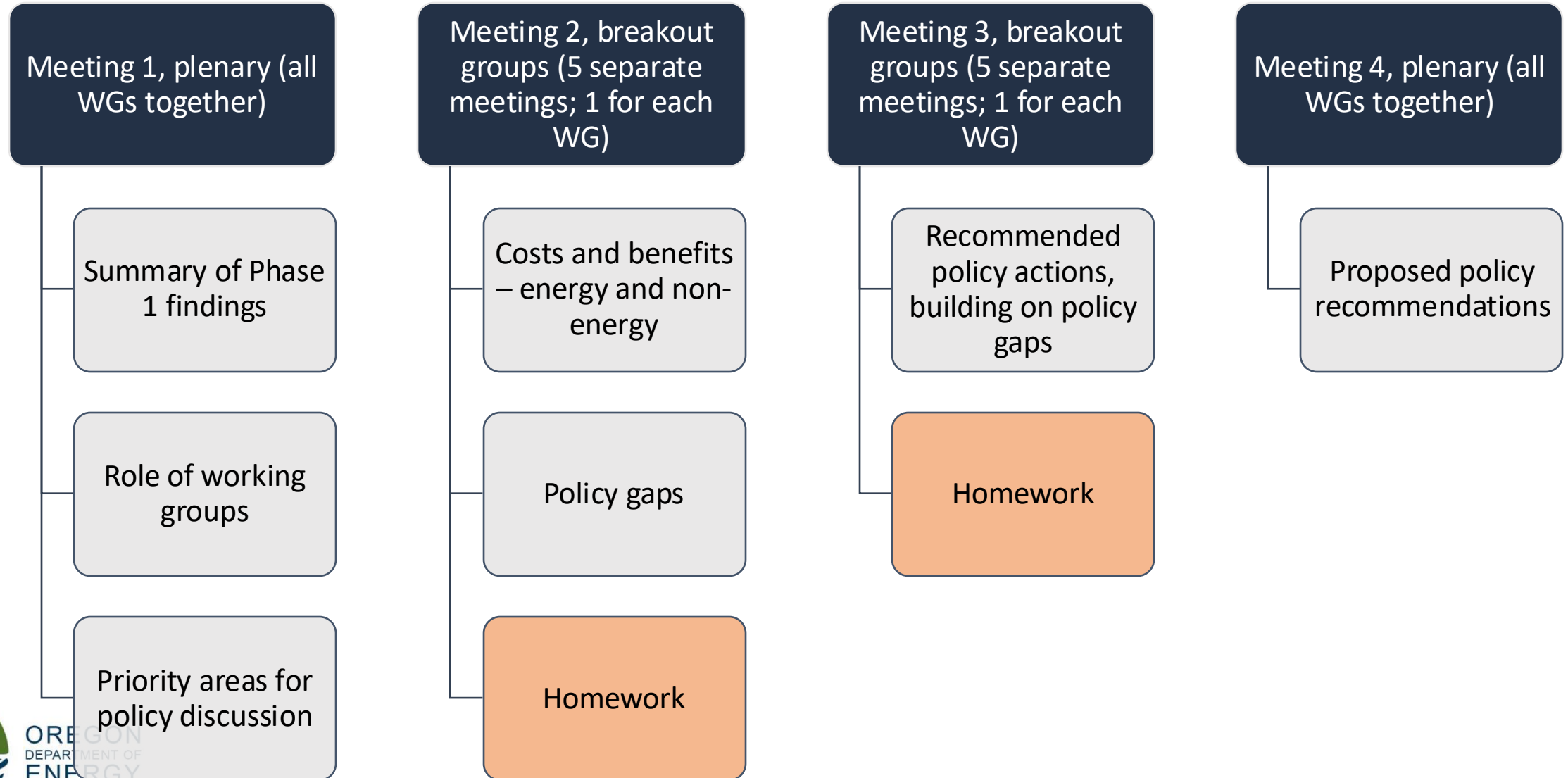
Previous Working Groups:

- Energy Efficiency and Load Flexibility
- Transportation
- Buildings
- Electricity Generation Technologies
- Transmission & Distribution
- Environmental Justice & Equity
- Land Use and natural resources
- Direct Use Fuels & Industry

COVERAGE OF EACH WORKING GROUP

Environmental Justice and Equity	<ul style="list-style-type: none">• Role in providing EJ and equity perspectives in the other working groups• Evaluate analysis and develop recommendations related to EJ and equity
Energy Efficiency and DERs	<ul style="list-style-type: none">• Residential and commercial• Customer-side of the meter
Developing Clean Electricity Generation and Transmission	<ul style="list-style-type: none">• Electricity generation in front of the meter• Transmission• Development needs and barriers/competing priorities
Low-carbon fuels	<ul style="list-style-type: none">• Best application of low carbon fuels used in buildings, industry, and transportation• Identification of barriers and potential solutions to production and distribution of fuels
Transportation electrification	<ul style="list-style-type: none">• Light-, medium- and heavy-duty zero emission vehicles (battery electric and hydrogen fuel cell)• Charging and fueling infrastructure• Vehicle miles traveled reduction

WORKING GROUP THEMES



ROLE OF WORKING GROUPS

What the role is:

- Substantively engage on results of modeling, technical analyses, and potential pathways
- Consider the costs and benefits of different pathways
- Identify barriers and policy gaps
- Surface near-term policy ideas for consideration

What the role is NOT:

- Revisit the modeling inputs or analyses
- Determine a "best" pathway
- Vote on policy recommendations
- Make final decisions about policy recommendations
- Provide only voice informing this discussion

FORMING WORKING GROUPS

- Evaluate participation in the first phase of working groups.
- Identify public partners in the best position to contribute to policy insights within each of the energy topic areas.
- We envision many of the same organizations participating, but people may be different.
- Seek to include a diverse and balanced range of: Interests, perspectives, expertise and education; Socioeconomic backgrounds; Communities; and Geographic areas of this state.
- Ensure coverage of topics across the energy sector through professional and lived experience.
- Review with state agencies.

CHALLENGES

- Overlap with legislative session – schedule and topical overlap
- Time – we need to publish the Energy Strategy by November 1, 2025
- Agency resources – time, money
- Clearly reflecting feedback received – particularly where there are conflicting views
- New federal administration – uncertainty over priorities and policy focus of the federal government

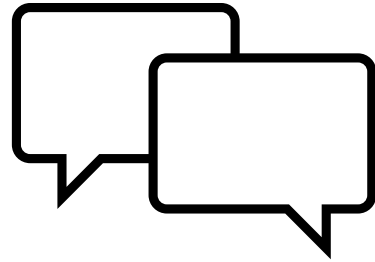
DISCUSSION

- Do you have any clarifying questions?
- Is there anything that you think is missing?
- Is there anything that concerns you?
- Is there anything that you particularly like?

NEXT STEPS

- **November 27:** Written feedback on proposal for energy wallet, geospatial mapping, air quality
- **December:** NO ADVISORY GROUP MEETING
- **January 16:** Next Advisory Group Meeting: update on Phase 2, reflection of Phase 1 comments, update on modeling
- **Early 2025:** Kicking off Phase 2 policy discussions

OPPORTUNITIES FOR PUBLIC COMMENT



Provide written public comment

<https://odoe.powerappsportals.us/en-US/energy-strategy/>



OREGON
DEPARTMENT OF
ENERGY

Thank You!

<https://www.oregon.gov/energy/Data-and-Reports/Pages/Energy-Strategy.aspx>