



# Oregon

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## AGENDA

### Energy Strategy Advisory Group, Meeting #4

October 17, 2024 / 9:00 am – 12:00 pm

In-Person meeting in Portland and Webex link provided

### Objectives

- Present Alternative Scenarios & answer clarifying questions
- Gather feedback on Alternative Scenarios
- Present and collect initial feedback on Energy Wallet, Air Quality modeling, and Geospatial mapping analysis
- Define next steps

Time	Topic
9:00 - 9:30 am	<b>Welcome, Agenda, Introductions</b>
9:30 – 9:45 am	<b>Overview of Alternative Scenarios</b>
9:45 – 10:17 am	<b>Working Session: Discussion of Alternative Scenarios</b>
10:17 -10:27 am	<b>BREAK</b>
10:27 – 11:15 am	<b>Working Session: Discussion of Alternative Scenarios</b>
11:15 - 11:50 am	<b>Energy Wallet, Air Quality Modeling, Geospatial Mapping</b>
11:50 - 12:00 pm	<b>Upcoming Meetings and Next Steps</b>
12:00 pm	<b>Adjourn</b>

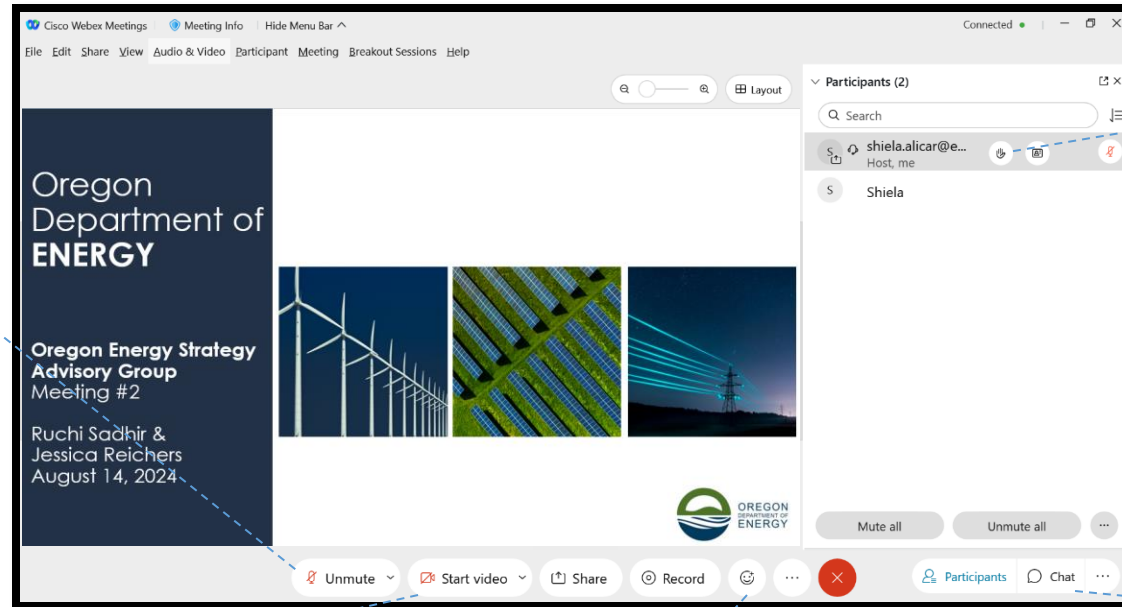
# Oregon Department of **ENERGY**

**Oregon Energy Strategy  
Advisory Group**  
Meeting #4

Edith Bayer  
October 17, 2024



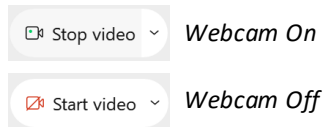
# USING WEBEX



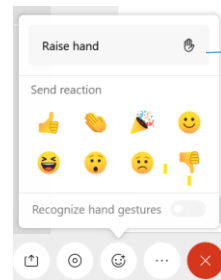
## Audio Options



## Video Options



## Reactions



Click to Raise your hand.

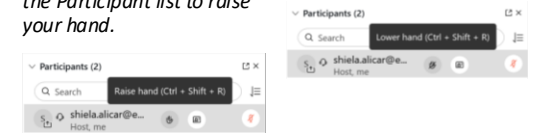


Click on Lower hand when you are done.

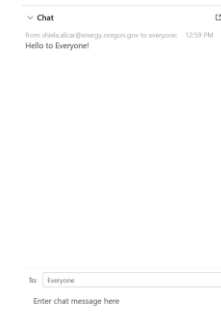
## Second Raise Hand Option

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

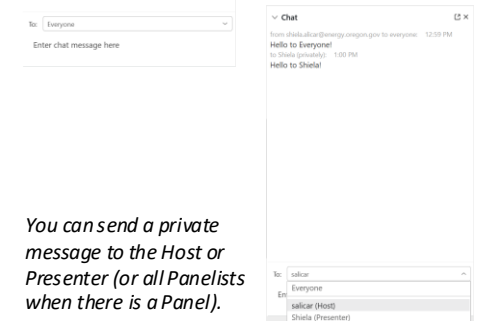
Click on Lower hand when you are done.



## 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

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- Present and collect initial feedback on energy wallet, air quality modeling, and geospatial mapping analysis
- Define next steps

# AGENDA

Time	Topic
9:00 - 9:30 am	Welcome, Agenda, Introductions
9:30 – 9:35 am	Approval of last meeting summary
9:35 – 9:50 am	Overview of Alternative Scenarios
9:50 – 10:17 am	Working Session: Discussion of Alternative Scenarios
10:17 - 10:27 am	BREAK
10:27 – 11:15 am	Working Session: Discussion of Alternative Scenarios
11:15 – 11:50 am	Energy Wallet, Air Quality Modeling, Geospatial Mapping
11:50 - 12:00 pm	Upcoming Meetings and Next Steps
12:00pm	Adjourn



# GROUP AGREEMENTS

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- 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

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Please introduce yourself  
(name, affiliation)



# APPROVAL OF LAST MEETING SUMMARY



Oregon

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## MEETING SUMMARY

**ODOE Oregon Energy Strategy Advisory Group Meeting #3; September 9, 2024**

### Attendees

**Present Advisory Group members:** Aaron Orlowski, Andrea Kreiner, Bryan Adams, Cathy Ehli, Charity Fain, Christine Gollightly, 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, 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, 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), María Verano (Kearns & West), Eileen Quigley (CETI), Ruby Moore-Bloom (CETI)

**Number of members of the public in attendance:** 18

### Welcome and Agenda Review

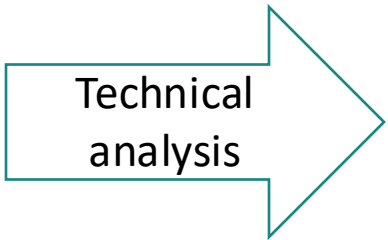
Ben Duncan, Kearns & West, opened the meeting. Edith Bayer, Oregon Department of Energy (ODOE), welcomed the group and noted that the reference scenario comment period has ended, but that the public comment portal is still open for general questions. She shared that an average of five to ten members of the public attended each of the public Working Group meetings and noted that more information on the modeling, the reference scenarios, and the working group invitation list could be found on the project website.



# Overview of Process & Model

# ELEMENTS OF THE OREGON ENERGY STRATEGY

## PHASE



1.

*Technical Analysis:* Summary of the potential pathways to achieve Oregon's policy objectives

2.

*Policy Discussions:* Using the output in phase 1, develop recommendations on policy options

3.

*Report:* Will include recommendations and description of stakeholder engagement and how stakeholder perspectives informed the strategy

# IDENTIFYING PATHWAYS TO ACHIEVE OREGON'S ENERGY POLICY OBJECTIVES

## Must be informed by:

- Stakeholder perspectives
- State laws, policies, targets re: energy and greenhouse gas emissions
- Existing energy and integrated resource plans
- Energy-related studies and data analysis
- State energy policy objectives

## Must engage with state agencies, Tribes, and stakeholders with a diverse range of:

- Interests, perspectives, expertise, education
- Socioeconomic backgrounds
- Communities
- Geographic areas of the state

# ENERGY STRATEGY MUST TAKE INTO ACCOUNT, AT A MINIMUM:

- State Energy demand and trends
- Energy resources and tech choices considering costs, energy efficiency, feasibility & availability
- Existing & potential incentives to support energy efficiency
- Energy generation, transmission, distribution infrastructure
- Emerging tech & investment opportunities
- Environmental justice
- Community benefits
- Land use considerations
- Energy burden & affordability
- Econ and employment impacts
- Energy security and impacts of broader markets
- Energy resilience
- Community Energy resilience

Reflects the best available info, data analyses and time horizons necessary to achieving the state's energy policy objectives

Periodically update the Energy Strategy to reflect current information, data analysis and state energy policy objectives

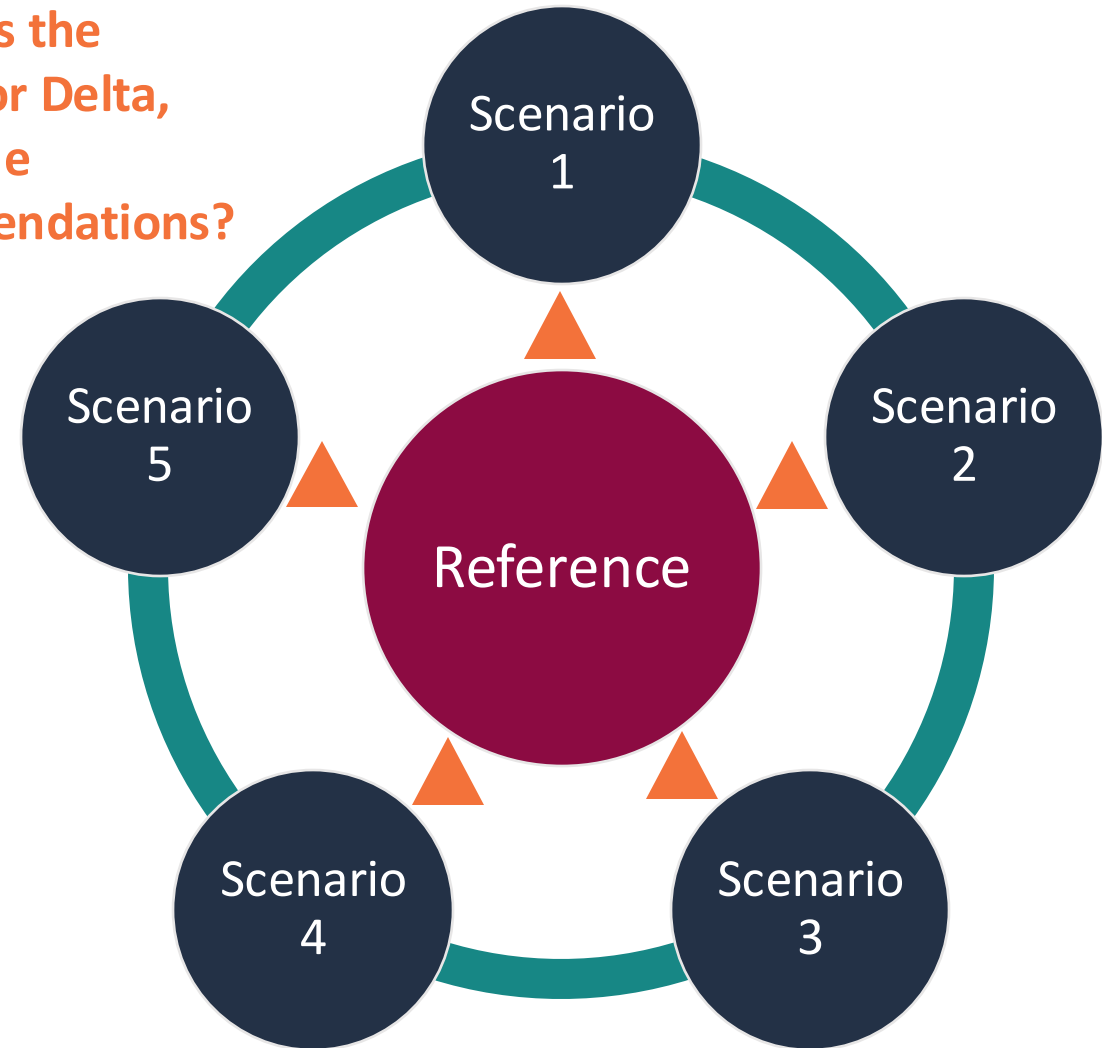
# ALTERNATIVE SCENARIOS

# FRAMING ALTERNATIVE SCENARIOS

## Potential Alternative Scenarios

- Lower energy efficiency and electrification in buildings
- Lower electrification of transportation
- Lower demand response
- Constrained transmission
- Constrained transmission + constrained utility-scale generation
- Higher hydrogen availability
- More ambitious GHG emission reductions

How does the change, or Delta, inform the Recommendations?



# DISCUSSION QUESTIONS

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As we run through the presentation, we'd like you to consider the following questions:

- Are the questions we asked the right questions?
- Are the inputs we showed on the slides acceptable?

# LOWER ENERGY EFFICIENCY AND ELECTRIFICATION IN BUILDINGS

- Delay residential sales shares by 10 years for:
  - Electric and hybrid heat pump space heating
  - Electric and hybrid heat pump water heating
- Delay commercial sales shares by 10 years for:
  - Electric and hybrid heat pump space heating
  - Electric hot water heating
- Reduce level of industrial electrification by half
- Reduce improvement in industrial process efficiency from 1% to 0.5% per year

- What if it takes longer to reach the levels of energy efficiency and building electrification in the Reference Scenario?
- What if current levels of energy efficiency and building electrification are maintained?
- What if process-related energy efficiency in industrial sectors is slower than in the Reference?
- What if we rely more on alternative fuels to meet demand for space and water heating?



# LOWER ELECTRIFICATION OF TRANSPORTATION

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- Advanced Clean Trucks targets are met through 2035
- Delay sales shares for 100% zero emission buses by 14 years, to 2050
- Delay sales shares of 100% ZEV for other Class 2b-8 vehicles by 10 years, to 2050

- What if it takes longer to reach the levels of electrification for medium- and heavy-duty vehicles assumed in the Reference Scenario?
- What if low-carbon fuels play a larger role in decarbonizing medium- and heavy-duty transportation than expected?

# LIMITED DEMAND RESPONSE

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- Residential and commercial participation in firm demand response programs – 5%
- 20% of residential EVs participate in managed charging by 2030
- No medium- or heavy- duty vehicles participate in managed charging
- No vehicle-to-grid

- What if demand response continued at roughly the levels seen today?
- What if we relied primarily on supply-side solutions to integrate variable renewable resources and meet system peaks?
- What if electrification happens, but new electric loads are not managed flexibly?

# CONSTRAINED TRANSMISSION

- Delay greenfield transmission development until 2045 across the West (assume 20 years to build new transmission lines)
- Allow for reconductoring of existing lines
- Additional sensitivities:
  - East/West constraint
  - Lower VMT reductions
    - VMT per capita remains flat to 2050 rather than reaching a 20% reduction
- What if it took longer to construct transmission across the West, including between Oregon and other states?
- What if East-West transmission expansion across the Cascades in Oregon was delayed?
- What if we had to rely only on reconductoring to meet transmission needs?
- What if we relied more on in-state resources?

# CONSTRAINED UTILITY-SCALE RENEWABLES

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- Includes constraints from Constrained Transmission Scenario
- Power of Place West, Level 3 restrictions are applied, affecting siting availability for both transmission and utility-scale generation

- What if, in addition to constrained transmission, utility-scale renewable development was delayed?
- What if more restrictive land use protections were applied?
- What if we had to rely more strongly on distributed resources to meet our energy needs?

# HIGHER HYDROGEN AVAILABILITY

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- Allow hydrogen pipeline build in 2030 (compared to 2035 in Reference Scenario)
- Increase the rate of hydrogen supply chain infrastructure build compared to Reference Scenario

- What if the cost of green hydrogen was lower than expected?
- What if the hydrogen supply chain were built out more quickly?
- What role could hydrogen play to support energy storage and power sector decarbonization if it was more available?

# MORE AGGRESSIVE GHG REDUCTION

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Oregon Climate Action  
Commission recommendation of  
95% greenhouse gas emission  
reductions by 2050\*

- What would it take to achieve more aggressive greenhouse gas emission goals?
- Where would additional greenhouse gas emission reductions need to come from?
- Are there additional investments in existing or new technologies that would be needed, and by when?

**BREAK**

# DISCUSSION QUESTIONS

---

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# ADDITIONAL ANALYSIS

# ENERGY STRATEGY MUST TAKE INTO ACCOUNT, AT A MINIMUM:

- State Energy demand and trends
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# UNDERSTANDING AND BUILDING ON THE ENERGY PATHWAYS MODELING RESULTS

## Energy Modeling Results

Model calculates energy needed to power Oregon's economy, and least-cost way to provide that energy under clean electricity and emissions goals.

### Energy Wallet

Energy spending and energy burden for different customer types, impact of timing of investing in electrification

### Air Quality Modeling

Model calculates how changes in air quality affect health outcomes and economic benefits

### Employment Effects

Evaluation of the effects of the pathways analysis on direct, indirect, and induced energy sector employment

## Geospatial Mapping

Maps explore community-level energy inequities and relationship to socioeconomic disparities – to help interpret energy modeling results, energy wallet analysis, air quality modeling, and employment effects

# DISCUSSION

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As we work to structure the energy wallet, air quality analysis, and geospatial mapping, we are interested in how we can build understanding in areas that are priorities for Oregonians.

1. When we start talking about policies - how do you think these additional analyses will help you in your thinking about policies to recommend? If so, how?
2. Do you think this information will help you address concerns that surface from the results of the comparison between the Reference and Alternative Scenarios? If so, how?
3. Are there specific things related to these additional analyses that you want us to consider when we are doing this analysis?

# NEXT STEPS

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- **October 31:** Proposal for energy wallet, geospatial mapping, air quality posted for written feedback
- **Nov 20:** Advisory Group meeting, focus on preparing for Phase 2: Policy engagement
- **Nov 22:** Written feedback due on proposals for additional analysis
- **Fall 2024:** Modeling taking place; preparing for Phase 2 policy discussions
- **Early 2025:** Sharing out modeling results from Phase 1
- **Early 2025:** Kicking off Phase 2 policy discussions



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# Thank You!

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