

Oregon Department of **ENERGY**

Oregon Energy Strategy Overview and Update

Edith Bayer
June 3, 2024





OREGON DEPARTMENT OF ENERGY

Leading Oregon to a safe, equitable, clean, and sustainable energy future.

Our Mission

The Oregon Department of Energy helps Oregonians make informed decisions and maintain a resilient and affordable energy system. We advance solutions to shape an equitable clean energy transition, protect the environment and public health, and responsibly balance energy needs and impacts for current and future generations.

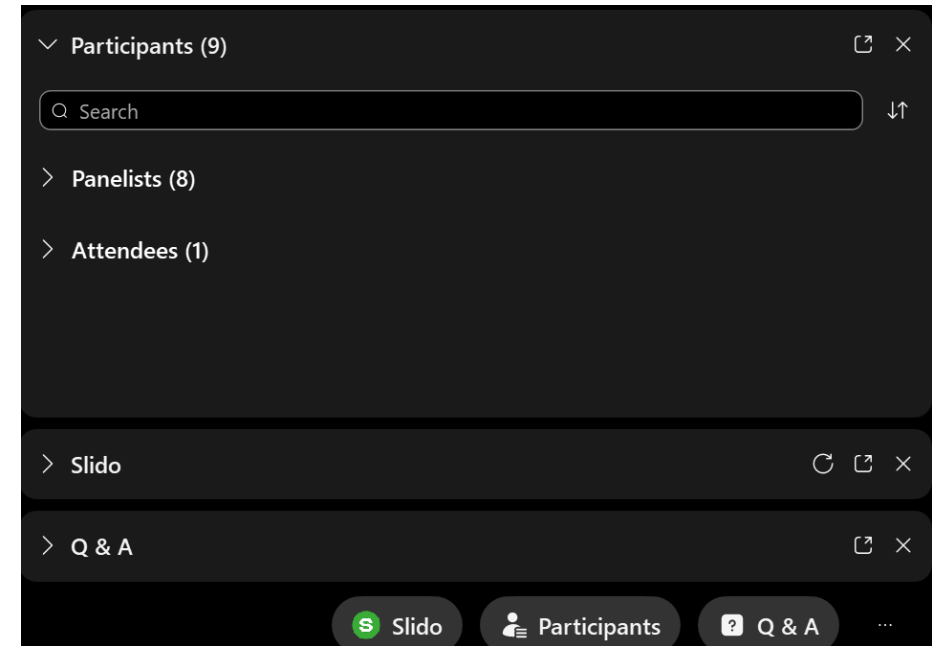
What We Do

On behalf of Oregonians across the state, the Oregon Department of Energy achieves its mission by providing:

- A Central Repository of Energy Data, Information, and Analysis
- A Venue for Problem-Solving Oregon's Energy Challenges
- Energy Education and Technical Assistance
- Regulation and Oversight
- Energy Programs and Activities

SLIDO POLLING

- We will be using Slido to do live polling throughout the webinar.
- Slido questions can be found on the right side of the screen, near the chat feature.
- If the question is not appearing, refresh the Slido app.
- Click "submit" to send your answers. (You may need to scroll down to see the button.)



AGENDA

- Oregon's energy landscape
- What is the Energy Strategy and why do we need it?
- Technical analysis
- Engagement opportunities
- Q&A

POLLING QUESTIONS

Did you attend the Energy Strategy Launch Webinar in November 2023?

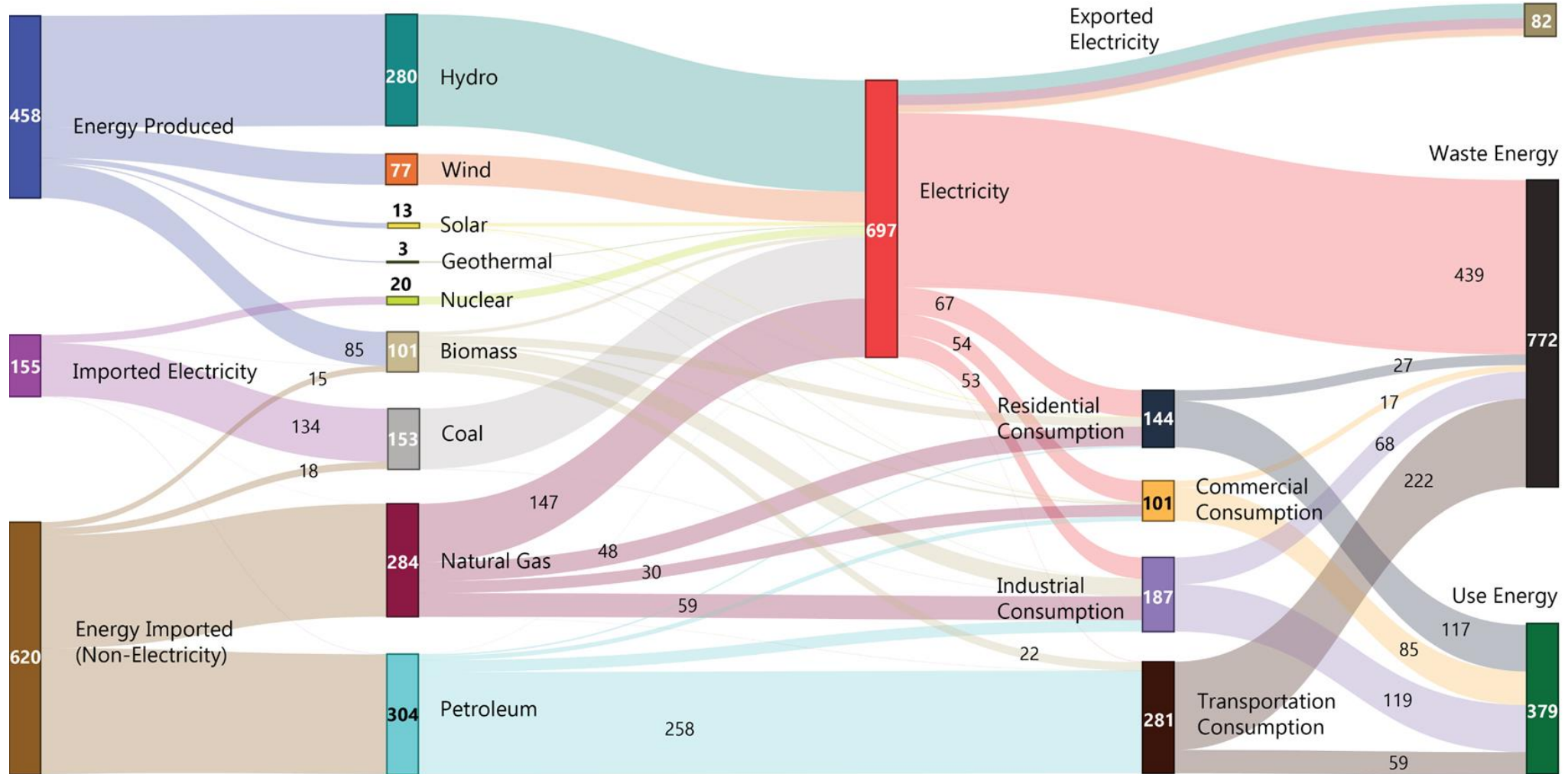
- Yes
- No
- I wasn't aware of a November meeting

What are you most interested in learning today?

- What is the energy strategy?
- How will the energy modeling inform the energy strategy and policy recommendations?
- What are the opportunities to contribute to the development of the energy strategy?



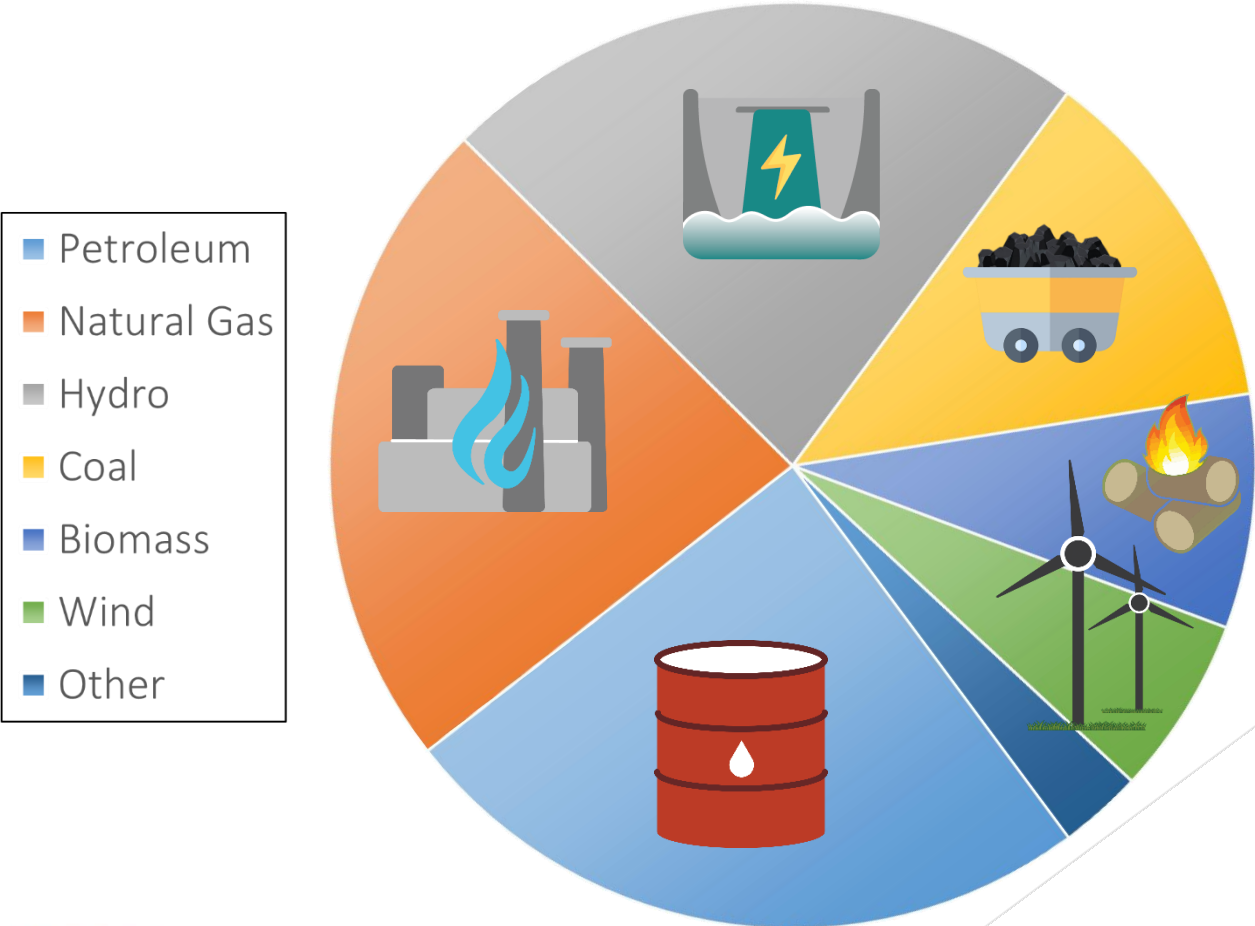
OREGON'S ENERGY FLOW 2020



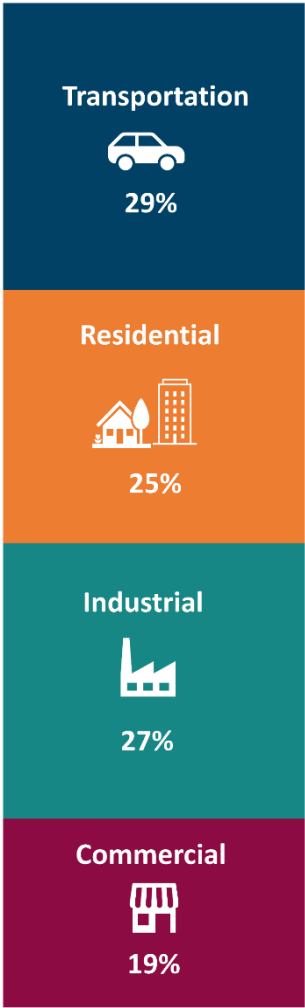
Numbers are in trillions of British thermal units (Btus)

OREGON'S ENERGY LANDSCAPE

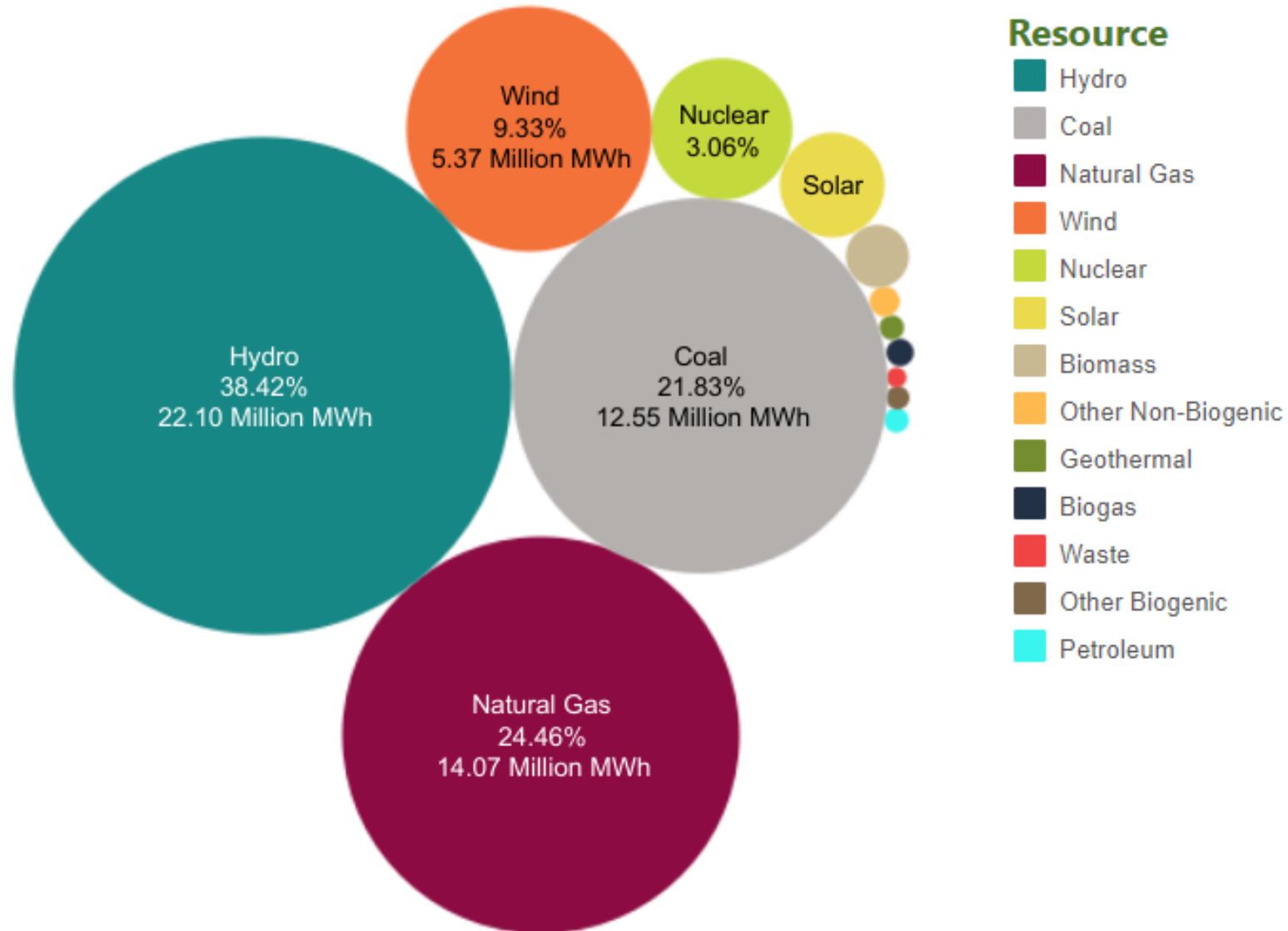
ENERGY SOURCES



ENERGY SOURCES

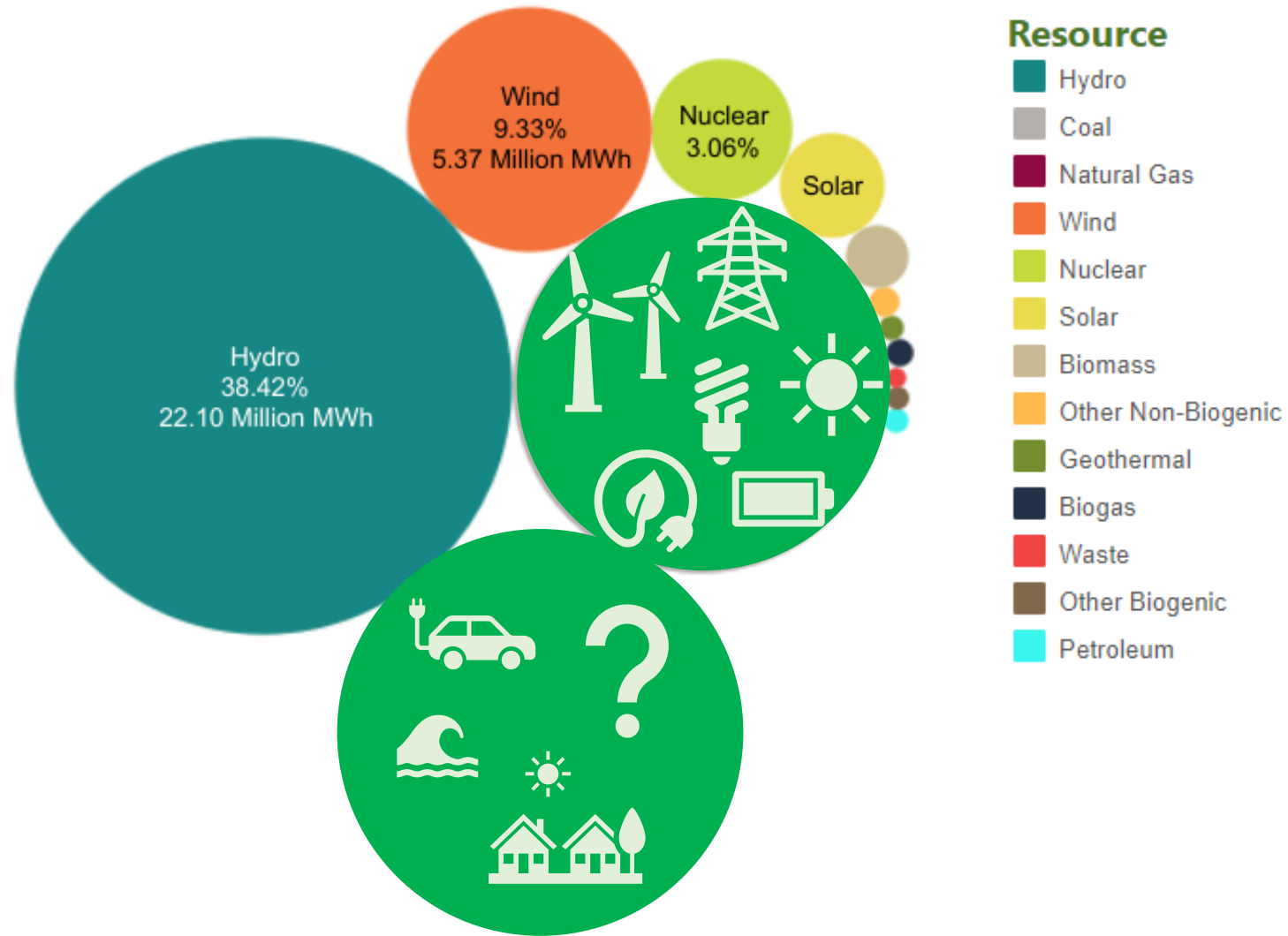


RESOURCES USED TO GENERATE OREGON'S ELECTRICITY (2021)

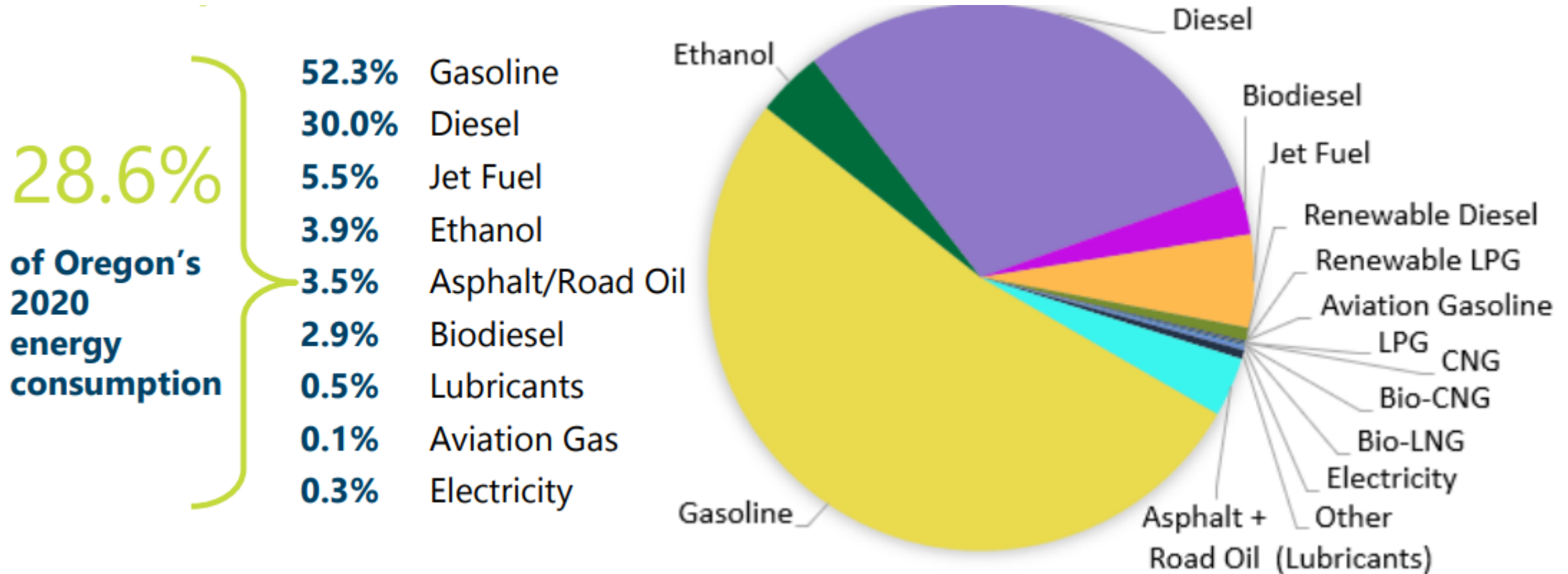


RESOURCES USED TO GENERATE OREGON'S ELECTRICITY (2040)

HB 2021:
100% clean
electricity
by 2040

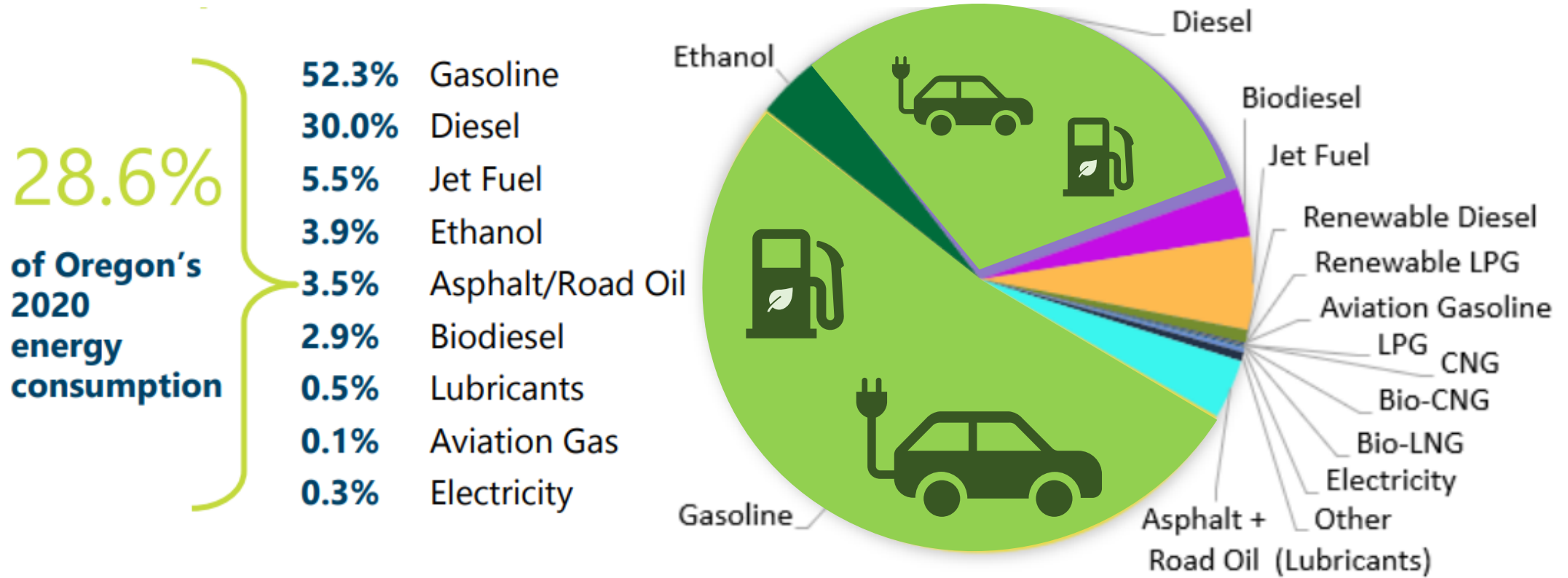


TRANSPORTATION FUELS (2020)



TRANSPORTATION FUELS (2050)

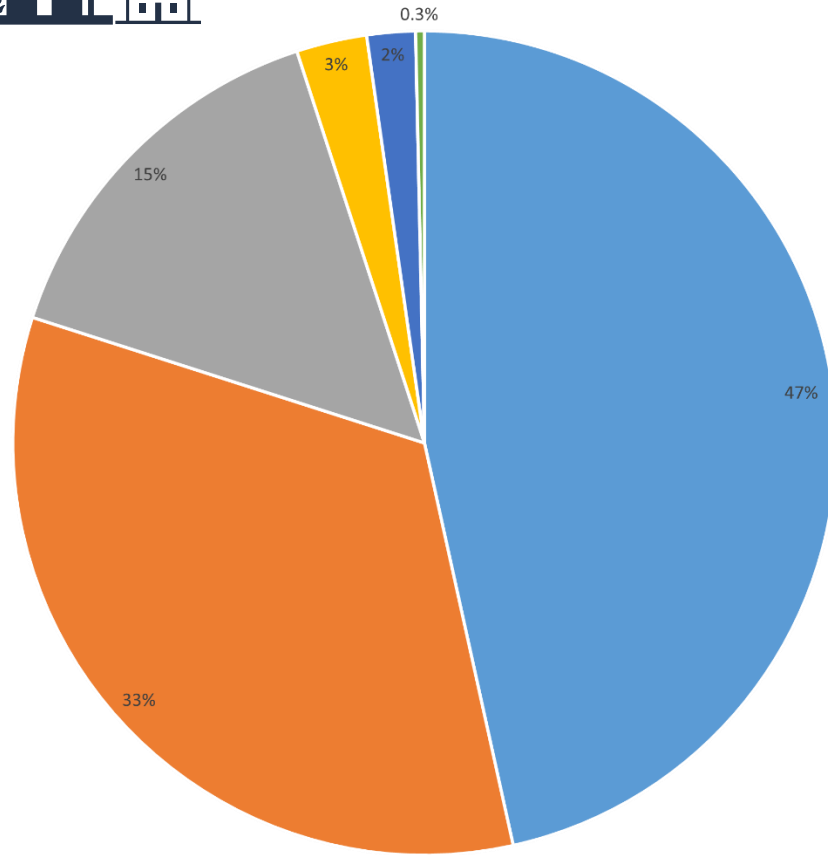
The Climate Protection Program



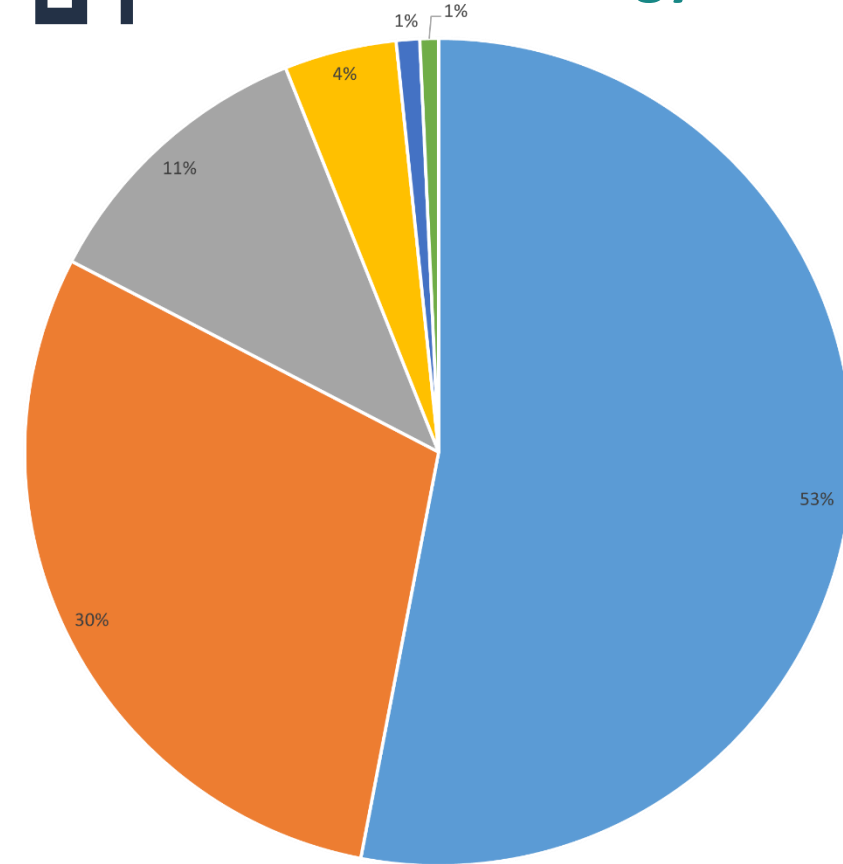
OREGON'S ENERGY CONSUMPTION



Residential Energy Use



Commercial Energy Use



- Electricity
- Natural Gas
- Biomass
- Petroleum
- Solar
- Geothermal

Why an Energy Strategy?

2022 Biennial Energy Report

- Reviewed 20 technical studies from around the country
- Concluded that the state would benefit from a State Energy Strategy

An Energy Strategy can help

- Align policy development, regulation, investment, and technical assistance
- Identify pathways to meet the state's policy goals, considering different technologies, approaches, and tradeoffs
- Maintain affordability, reliability
- Strengthen the economy
- Prioritize equity
- Maximize benefits and minimize harms

HB 3630: COMPREHENSIVE STATE ENERGY STRATEGY

ODOE directed to develop an energy strategy that identifies pathways to achieve Oregon's energy policy objectives and is informed by the following:

- Stakeholder perspectives
- Existing resource plans, energy-related studies, and analyses

The Oregon Energy Strategy must account for a variety of factors, such as:

- Costs, efficiencies, feasibility, and availability of energy resources and technologies
- Economic and employment impacts
- Energy burden, affordability, environmental justice, and community impacts and benefits
- Land use and natural resource impacts and considerations
- Energy resilience, security, and market implications

ELEMENTS OF THE OREGON ENERGY STRATEGY

1.

Summary of the Energy Strategy and pathways to achieve Oregon's policy objectives

2.

Description of stakeholder engagement and how stakeholder perspectives informed the strategy

3.

Recommendations of policy options

Technical Analysis

APPROACH TO TECHNICAL ANALYSIS

Scenario modeling - quantitative analysis

- Considers the whole energy sector and economy
- Explores different assumptions about the future
- Structured to ensure reliability, meet Oregon's energy policy objectives, and look for least cost solutions
- Evaluates tradeoffs
- Answers "what if" questions (ex. "What if more or less transmission is available?")

The model can't answer all questions

- Complementary analysis
- Apply results of modeling to other areas like jobs, public health, land use
- Evaluate equity effects

GOAL OF TECHNICAL ANALYSIS

Serves to inform decision making

- Not a prediction of the future but an investigation of choices
- Can illuminate the pros and cons of going one direction versus another
- Uncover strategies that can help manage or mitigate uncertainty
- Looking to 2050 can inform near-term actions needed, as well as policy gaps/opportunities

DEFINING KEY QUESTIONS

Questions drive the shape of the Oregon Energy Strategy

What are the most pressing questions, uncertainties, and state priorities that will provide the most valuable information to policymakers?

Example questions:

- What if developing new clean energy resources is delayed?
- What if consumer adoption of technologies like heat pumps and EVs occurs more slowly than expected?
- What if transmission expansion to access resources outside of Oregon is harder than expected?
- What if hydrogen pipelines and other clean fuel delivery systems cannot be constructed between Oregon and other states?

SCENARIO DEVELOPMENT

Model of Oregon's Economy

- Residential
- Commercial
- Industrial
- Transportation

Oregon's Energy Needs

- Electricity
- Transportation fuels
- Direct use fuels

Meeting our energy needs

- Reliability must be maintained
- Meet energy policy objectives
- Minimize cost
- Constraints lead to different results

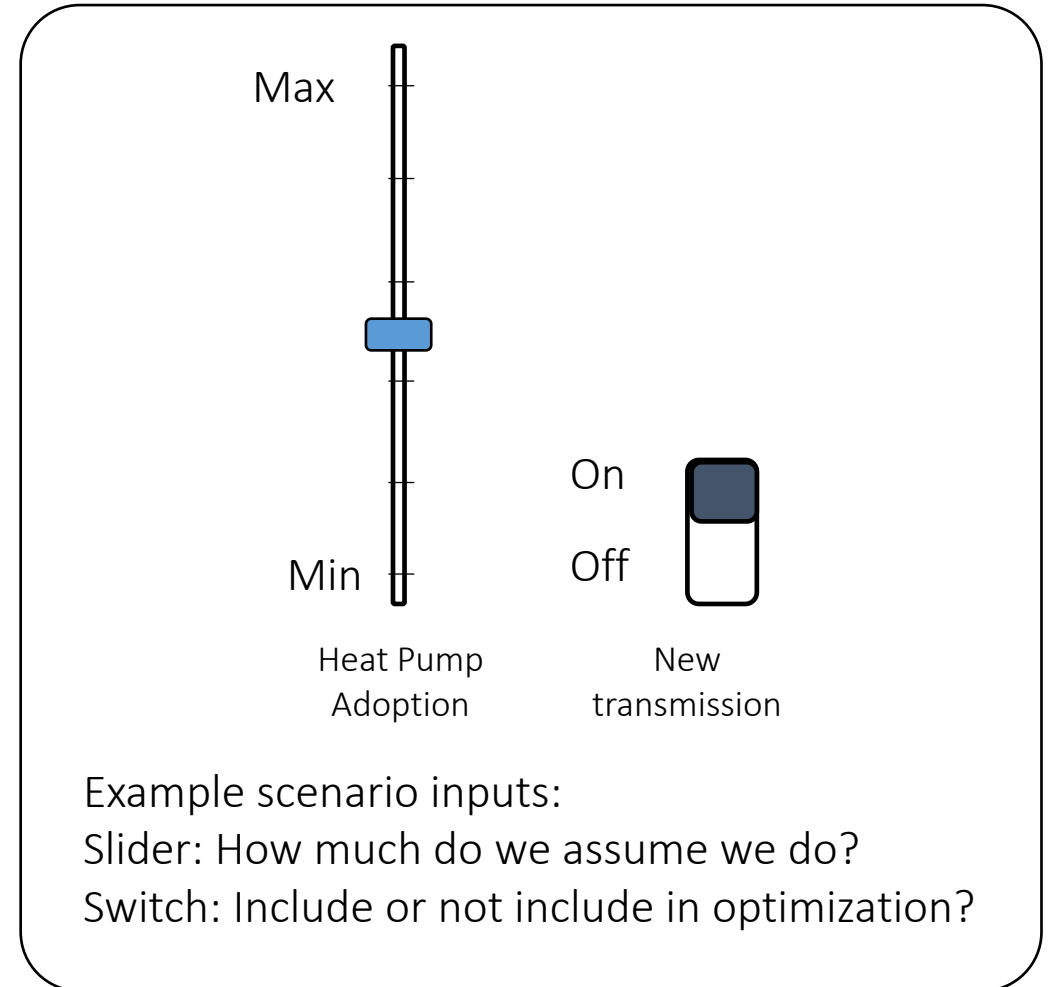
WHAT GOES INTO A SCENARIO?

Many assumptions go into projecting an energy pathway. Different levers can be set to test options:

- More or less
- Yes/no

The model optimizes decisions, informed by those levers

- Test uncertainties
- See impacts of policies/actions/customer behavior on energy needs and how energy is supplied.



ENERGY CONSUMING SUB-SECTORS



Residential

- Air conditioning
- Space heating
- Water heating
- Lighting
- Cooking
- Dishwashing
- Freezing
- Refrigeration
- Clothes washing
- Clothes drying



Commercial

- Airconditioning
- Space heating
- Water heating
- Ventilation
- Lighting
- Cooking
- Refrigeration



Industrial Sector

- Boilers
- Process heat
- Space heating
- Curing
- Drying
- Machine drives
- Additional subsectors
(e.g., machinery, cement)



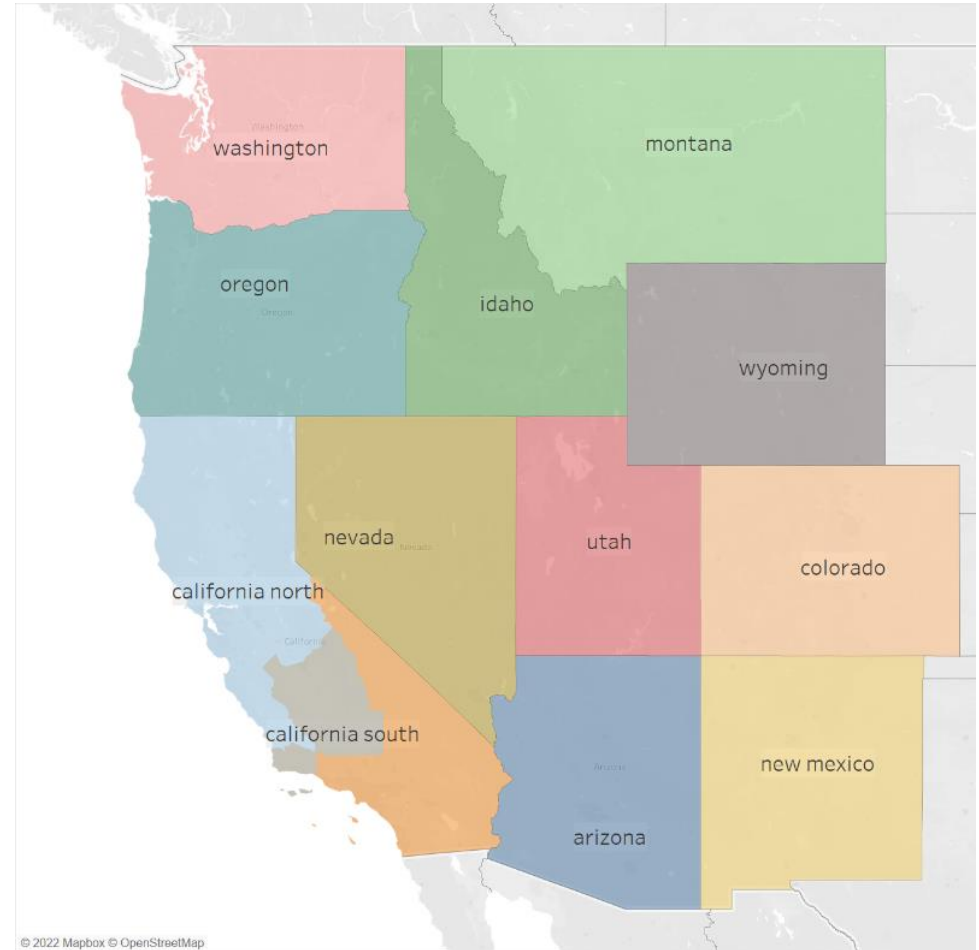
Transportation Sector

- Cars
- Light duty trucks
- Medium duty vehicles
- Heavy duty vehicles
- Transit buses
- Aviation
- Marine vessels

MODEL GEOGRAPHY

Oregon operates as part of a larger energy system

- Competition for fuels including biomass, renewables, and hydrogen derived from renewables
- Balances the electricity system over a large and diverse region
- Captures transmission line and pipeline flow and build constraints
- Resource, load, and temporal diversity contribute to economy and region-wide least cost strategy to reduce GHG emissions



EQUITY CONSIDERATIONS

Energy Wallet

Energy wallet for representative customer groups to examine costs when usage shifts between petroleum, electricity, and natural gas

Health Impacts

EPA Co-Benefits Risks Assessment (COBRA) model to determine health benefits of reduced air pollutant emissions

Geospatial Mapping

Process to be refined to ensure energy metrics identified and prioritized by communities are considered (mapping likely at census tract level)

Community Benefits

Draw from, supplement, and expand on current discussions in Oregon

Economy & Employment

Leverage economic and job impacts studies conducted in the region and nationally—review to be informed by feedback

STARTING POINT: EXISTING MODELS & PLANS

Ground analysis in recent utility IRPs, CEPs, and CPP Compliance Plans

Review Oregon energy policies and document how modeling accounts for them

Review recent relevant work to identify potential data for incorporation

Review for regional perspective

Review program design elements

Engagement opportunities

GROUPS INFORMING THE ENERGY STRATEGY

Interagency Steering Group

- State agency coordination
- ODOE, DLCD, ODOT, PUC, DEQ, Business OR, Governor's Office; other agencies invited to share their expertise
- Meets 1x/month

Advisory Group

- Sounding board
- Composed of people with diverse perspectives from across Oregon
- Meets 1x/month

Working Groups

- Get into the weeds
- Composed of people interested in discussing technical and modeling aspects of the Energy Strategy
- Meet through July/Aug 2024 to inform technical analysis

- Focused Government-to-Government consultation with each of the nine federally recognized Tribes in Oregon
- ODOE will also engage with Tribal communities and organizations as appropriate

CONSULTATION WITH TRIBES

MEETINGS TO INFORM THE ENERGY STRATEGY

Listening Sessions

- Tell us what you think!
- Scheduling a few meetings, so everyone can find a time that works

Organizational Meetings

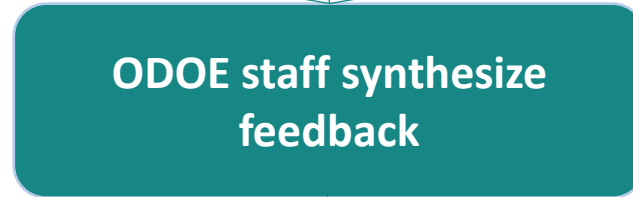
- Extra meetings to deepen our understanding
- Stay tuned to our website and email list for more

Webinars

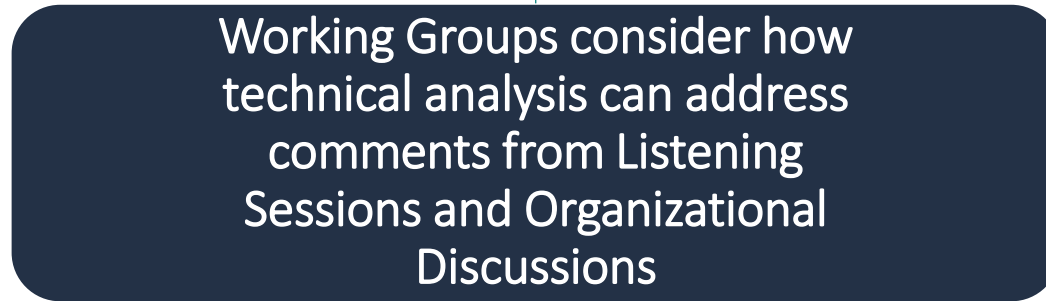
- Get updates on the Energy Strategy
- 1-2 more webinars planned for 2024

ENGAGEMENT TIMELINE

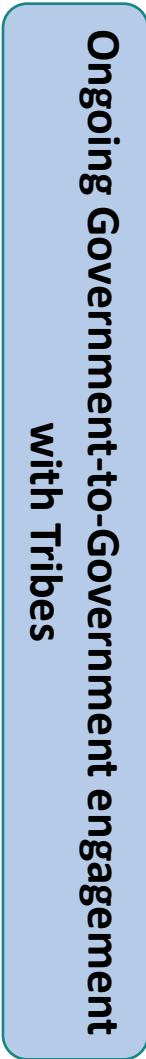
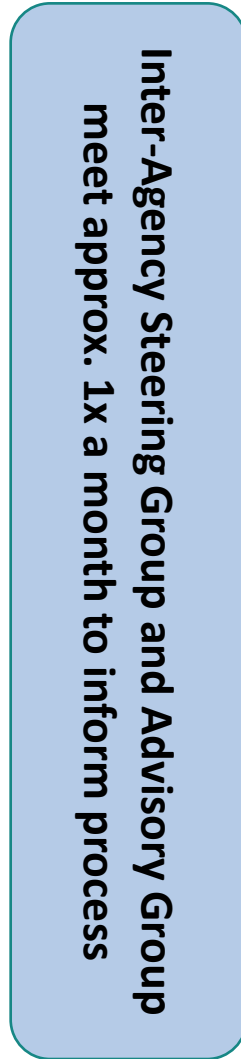
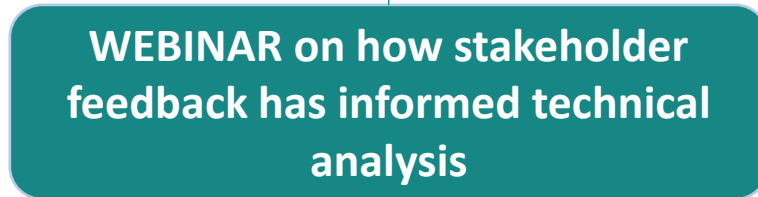
Step 1: July - August



Step 2: end of August



Step 3: September



ADVISORY GROUP DESCRIPTION

- **Role:**
 - Provide insights, suggest recommendations, ask questions, advise
 - Members will be asked to engage with their networks to help bring robust views to the meetings
- **Composition:**
 - Diverse representation of communities, socioeconomic backgrounds, geographic areas, perspectives, lived experiences, and subject matter expertise
 - No restrictions on who can express interest
- **Meetings:**
 - ODOE will be asking for expressions of interest: June 10 – 24
 - First Advisory Group meeting: July 9 or 10

ADVISORY GROUP SCOPE

Representation able to inform discussion on:

- State energy demand and trends
- Energy resources and technology choices in consideration of costs, energy efficiency, feasibility, and availability
- Economic and employment impacts
- Energy burden and affordability
- Energy resilience
- Environmental justice
- Land use considerations
- Natural resource impacts
- Emerging technologies and investment opportunities
- Energy generation, transmission and distribution infrastructure needed to achieve state energy policy objectives
- Energy efficiency development and deployment
- Energy security and impacts of broader markets
- Community benefits
- Community energy resilience

Advisory Group will represent a diverse range of:

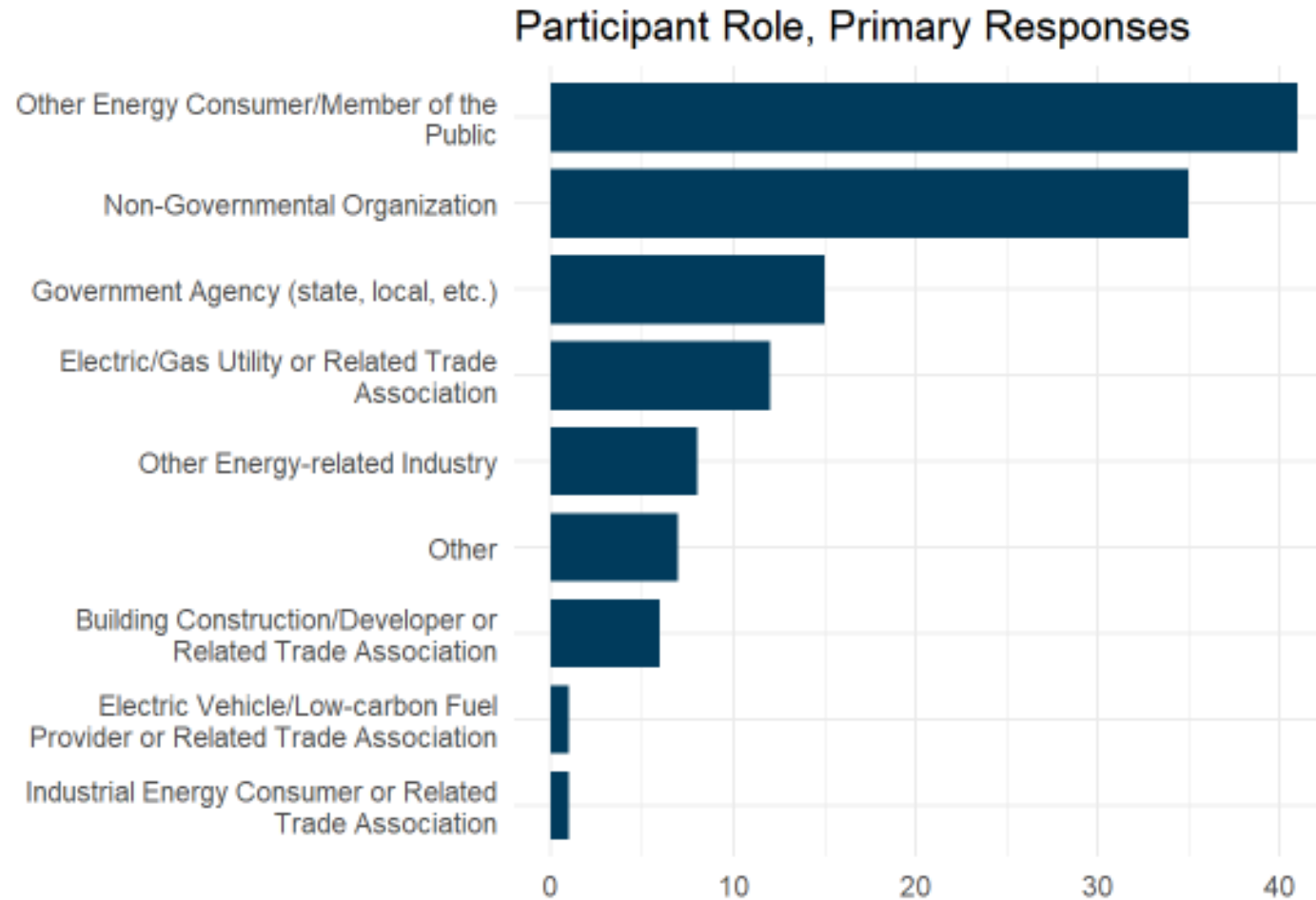
- Interests, expertise, and education
- Socioeconomic backgrounds
- Communities
- Geographic areas of the state



WORKING GROUPS DESCRIPTION

- **Role:**
 - Forum to deep-dive into key topic areas (see next slide)
 - Understand and discuss suggestions coming out of other meetings
- **Composition:**
 - Individuals interested in informing topical areas of the Energy Strategy in more depth
- **Meetings:**
 - First meetings will be scheduled in mid-July.

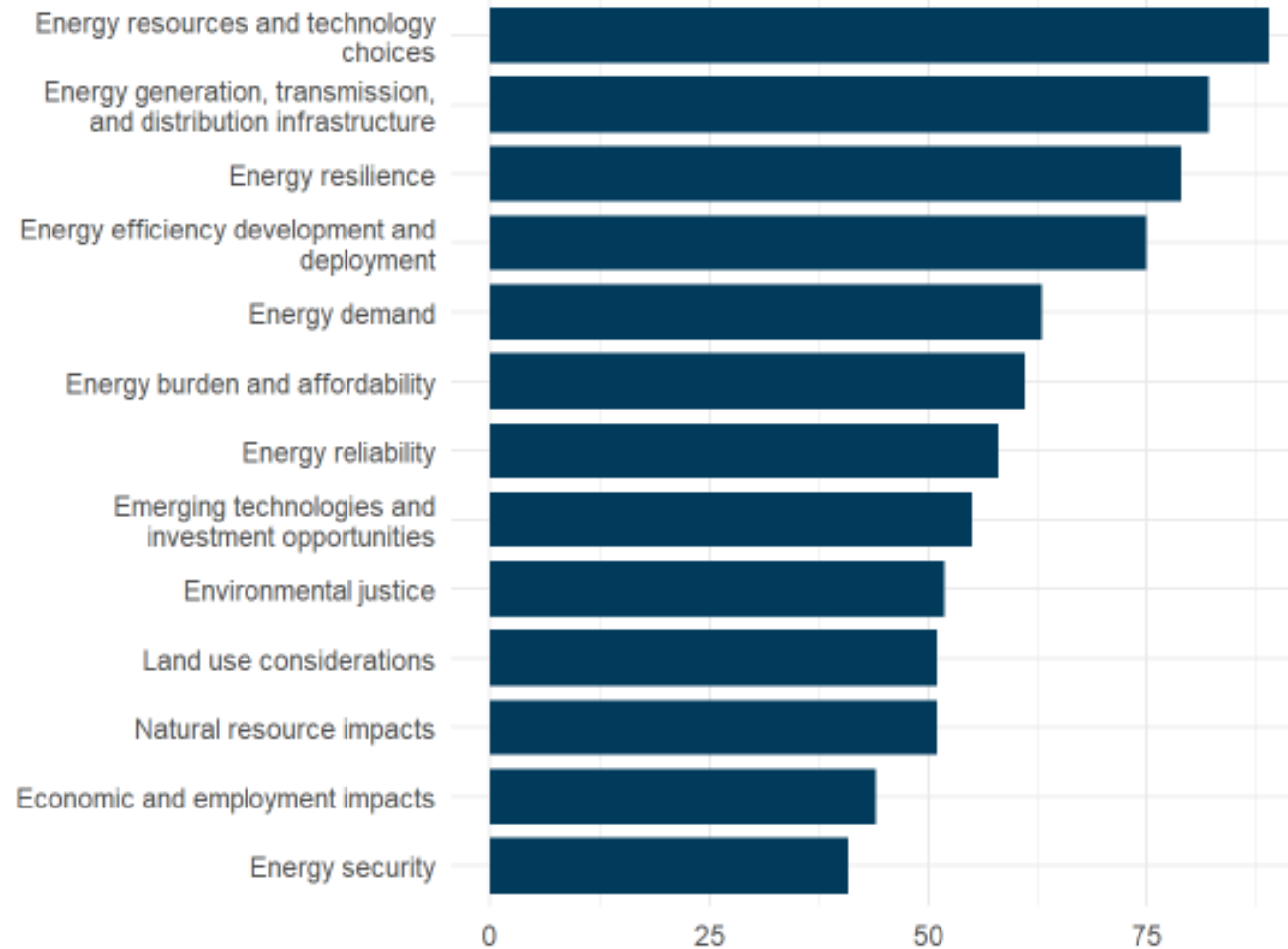
APRIL QUESTIONNAIRE: RESPONDENTS



Respondents that indicated more than one role were given a primary role based on logic found in the Cleaning Process section.

APRIL QUESTIONNAIRE: INTERESTS BY TOPIC

Working Group Interest by Topic



WORKING GROUPS FOCUS AREAS

Expected focus areas for Working Groups will include:

- End-use sector, including buildings, transportation, and industry
- Electricity systems, including generation, transmission, and distribution
- Fuels, including transportation, heating, and industrial
- Energy efficiency and conservation
- Environmental considerations, such as land use, water resources, and other air pollutants
- Environmental Justice and Equity
- Other effects and considerations, such as carbon sequestration and non-energy considerations

ENSURING AN INCLUSIVE PROCESS

- ODOE is committed to ensuring that the process of developing the Energy Strategy is inclusive
- We will work to lower barriers to participation wherever possible
- This includes providing translation/interpretation services, resources to enable participation, considering meeting times outside standard work hours
- Please let us know what you think is needed

POLLING QUESTION

Do you or the organization that you represent need financial support to participate in Energy Strategy meetings?

- Yes
- No
- Maybe

What resources would enhance your participation?

- Translation/interpretation services into
 - Spanish
 - Russian
 - ASL (American Sign Language)
 - Other
- Access to virtual and in person meetings
- Flexible meeting times

HOW DO I GET INVOLVED?

Stay informed!

- Check out our project page:
www.tinyurl.com/OregonEnergyStrategy
- Sign up for email updates! (on our project page)
- Consider filling out an expression of interest for the Advisory Group (June 10-24) – form will be available on the project page shortly
- Contact us at energy.strategy@energy.Oregon.gov





OREGON
DEPARTMENT OF
ENERGY

Discussion, Questions & Answers





OREGON
DEPARTMENT OF
ENERGY

Thank You

RESOURCES

Visit: www.tinyurl.com/OregonEnergyStrategy

Email: energy.strategy@energy.Oregon.gov

