



OREGON ENVIROTHON CURRENT ISSUE ORAL PRESENTATION 2024

Renewable Energy for a Sustainable Future

Background

Energy touches every aspect of our lives. It lights our homes, transports our food, cleans our water, fuels our cars, enables us to communicate with family and friends, and so much more. The environmental, economic, and social outcomes of our energy choices will shape the future of our communities. Governmental policies, industry, and public opinion are shifting to embrace a sustainable future that includes renewable energy.

The term “clean energy transition” refers to society’s shift from fossil-based systems of energy production and consumption — including oil, natural gas and coal — to renewable energy sources, which are more sustainable.

Renewable energy is energy that comes from natural sources that replenish themselves. Examples include solar energy, wind energy and hydropower. There are many benefits to renewable energy sources. They:

- Regenerate perpetually and aren’t depleted.
- Help reduce emissions of CO₂ and other pollutant gases, thus helping to fight climate change.
- Reduce dependence on energy imports.
- Provide sustainable opportunities for local economic growth and jobs.

Oregon’s electricity comes from a mix of in-state and out-of-state electricity generation. In 2022, about 39% of it was generated from hydropower, 26% from coal and 22% from natural gas. Most of the remaining 13% was from nonhydroelectric renewable resources, including wind, solar, biomass and geothermal power.

Oregon's Renewable Portfolio Standard (RPS) sets a requirement for how much electricity must come from renewable resources and plays an important role in Oregon’s efforts to promote renewable energy. Oregon’s 2016 RPS requires that 25% of the electricity Oregonians use comes from renewable resources by the year 2025 and 50% by the year 2040. While hydropower makes up a large portion of Oregon’s electricity resource mix, most is from dams built years ago and is not eligible for credit toward the RPS. Under the RPS, energy sources include solar, wind, biomass, small (low-impact) hydro, biogas, tidal and wave power. When the original 2007 RPS was adopted, just 2 percent of Oregon's electricity

needs were met with renewables.¹

In 2021, Oregon adopted the Clean Energy Targets bill (HB 2021) to complement the RPS targets and to promote the development and use of renewable energy.² This bill requires certain electricity providers to reduce the greenhouse gas emissions associated with the electricity they provide.

Making the transition to more sustainable renewable energy requires all levels of participation, from utilities and grid planners to individuals. Decisions about sustainable energy are not made only by politicians and corporations. Individuals can choose what energy practices to support and can advocate for the transition to renewables. Local, state and federal policies and incentives can help give renewable energy technologies a boost, including tax credits for renewable energy installations and electric vehicle purchases.

Oral Presentation

Your team has been hired to assess the energy use of your community and to recommend a plan to the county commission, city council or other governing body to significantly increase renewable energy use in your community over the next five years.

Actions may include:

- Developing a wind farm on community-owned land
- Developing low-impact hydropower, such as adding a turbine to an irrigation canal
- Developing large-scale solar project on community-leased land
- Promoting installation of solar photovoltaic (PV) systems on multiple business and home rooftops
- Promoting energy efficiency
- Promoting electric vehicle usage
- Developing other renewable energy sources
- A combination of the above

Your task is to research and present your recommendations to the governing body.

Presentation Elements

Your presentation should include the following elements:

- A definition of what you are considering your community. Is it your city, town, neighborhood or other?
- An overview of the current energy picture in your community.
- Details of and reasoning for your group's recommended plan for increasing renewable energy

¹ For information about Oregon's Renewable Portfolio Standard, see [oregon.gov/energy/energy-oregon/Pages/Renewable-Portfolio-Standard.aspx](https://www.oregon.gov/energy/energy-oregon/Pages/Renewable-Portfolio-Standard.aspx).

² For information about the Clean Energy Targets Bill, see [oregon.gov/deq/ghgp/pages/clean-energy-targets.aspx](https://www.oregon.gov/deq/ghgp/pages/clean-energy-targets.aspx).

use in your community.

- Steps for carrying out your recommended plan.
- The benefits your recommended plan will provide the community and beyond, including environmental, economic, and social benefits.
- Challenges your recommended plan would pose to the community and how you would overcome those challenges.

What to Consider

As you develop your recommendations, consider the following.

1. Determining the current energy situation in your community:
 - What are your community's primary uses and what characteristics affect its energy needs? For example: Is it urban or rural? Are the homes large or small? Do residents drive long or short distances? What are the main businesses or industries?
 - What are the sources of energy your community currently uses?
 - What proportion of its current energy usage is from traditional sources and what proportion is from renewable sources?
 - What challenges does your community face in significantly increasing renewable energy?
 - Who is currently involved in promoting renewable energy in your community? Who else could you enlist?
2. Comparing the different options:
 - How much renewable energy would each option deliver? What other benefits would it provide?
 - What is the projected monetary cost of each option? How cost-efficient is it?
 - What are the environmental costs and benefits of each option?
 - What are the social costs and benefits of each option?
 - How would local land use and employment be affected by each option?
3. Assessing the potential impact of your recommendations:
 - What outcomes do you project from your recommendations?
 - Are your recommendations feasible, practical and cost-effective?
 - How do your recommendations support the underserved populations in your community or other communities (Energy Justice)?
 - What challenges do you foresee in implementing your recommendations, and how could your community overcome these challenges?
 - Would your recommended plan benefit just your community, or would it generate excess energy that could help the state move toward its RPS target?



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CURRENT ISSUE ORAL PRESENTATION 2024

Oral Presentation Resources

Oregon's Energy Sources

- **Electricity Mix in Oregon:** oregon.gov/energy/energy-oregon/Pages/Electricity-Mix-in-Oregon.aspx
- **Energy Efficiency:** Energy Efficient Devices: oregon.gov/energy/save-energy/Pages/All-Energy-Efficient-Devices.aspx
- **Find Your Utility:** oregon.gov/energy/energy-oregon/Pages/Find-Your-Utility.aspx
- **Oregon Solar Dashboard:** oregon.gov/energy/energy-oregon/Pages/Oregon-Solar-Dashboard.aspx

Oregon's Energy Uses

- **How Oregon Uses Energy:** oregon.gov/energy/energy-oregon/Pages/How-Oregon-Uses-Energy.aspx
- **Oregon Biennial Energy Report:** oregon.gov/energy/Data-and-Reports/Pages/Biennial-Energy-Report.aspx
- **Oregon Electric Vehicle Dashboard:** oregon.gov/energy/Data-and-Reports/Pages/Oregon-Electric-Vehicle-Dashboard.aspx
- **Oregon Transportation:** oregon.gov/energy/energy-oregon/Pages/Transportation.aspx

Other Relevant Oregon Resources

- **Oregon Solar & Storage Rebate Program:** oregon.gov/energy/Incentives/Pages/Solar-Storage-Rebate-Program.aspx
- The [Climate and EJ screening tool](#) is super helpful in identifying communities of concern when considering new developments.

General Information on Renewable Energy

- **Cost Comparison of Energy Sources:** www.renewable-energysources.com/#2
- **How Does the Land Use of Different Electricity Sources Compare:** <https://ourworldindata.org/land-use-per-energy-source>
- **Local Renewable Energy Benefits and Resources:** epa.gov/statelocalenergy/local-renewable-energy-benefits-and-resources

- **Oregon’s Clean Energy Industry:** renewablenw.org/sites/default/files/Reports-Fact%20Sheets/RNW_OR_Factsheet_R5.pdf
- **Renewable Energy Explained:** eia.gov/energyexplained/renewable-sources (Click on each source for more information. To learn about the environmental impacts of a source, click first on the source and then on “_____ and the Environment” for that source.)
- **Video: Renewable Energy 101, National Geographic:** youtube.com/watch?v=1kUE0BZtTRc

Organizations

- **Energy Trust of Oregon:** energytrust.org
- **NW Energy Coalition:** nwenergy.org
- **Renewable Northwest:** renewablenw.org
- **Solar Oregon:** solaroregon.org
 - Recent How To Go Solar + Storage Webinar: <https://www.youtube.com/watch?v=2VDbX3oGLP0&t=8s>