



2023 Oregon Envirothon Oral Presentation Topic:

Reaching Oregon's Emission Goals While Adapting to a Changing Climate

Background information

Oregon and the world are seeing the effects of a changing climate. The Oregon Global Warming Commission (OGWC) 2020 report states, "Here in Oregon, the impact of climate change could not be more evident than the tragedies experienced in 2020, from the extreme runoff event that caused damage to and closed I-84 and flooded homes in the Pendleton area in the winter, to the extensive drought declarations and devastating fires experienced in the fall. The report further states that "Climate change is an equity issue, multiplying a series of threats – from food and housing insecurity to health hazards – that are already facing disadvantaged and vulnerable communities, including low-income, black, Indigenous and rural households."

In 2020, Oregon's governor issued an executive order directing state agencies to take actions to reduce greenhouse gas (GHG) emissions and consider climate change in agency planning. The executive order established greenhouse gas emissions reduction goals for Oregon of at least 45% below 1990 levels by 2035 and at least 80% below 1990 levels by 2050. Oregon is not on track to meeting its emission goals.

Global climate change is having dramatic effects on natural resources, including fish and wildlife populations and their habitats. Natural resources can be part of the solution when it comes to reducing GHG emissions. Forests, soil and oceans naturally sequester carbon, and therefore play a key role in helping Oregon reduce its overall carbon emissions.

Many of Oregon's communities depend on natural resources such as forests, soils and oceans to sustain their residents' livelihoods. A changing climate has a dramatic impact on fisheries, the agriculture and forest sectors, and the communities they support – so it's important to plan now.

You are tasked with creating a compelling, educational briefing on the impacts of a changing climate, as well as climate mitigation actions that are appropriate to your area.

This presentation should address the following:

- Identify where Oregon's greenhouse gases are generated, and the emission goals Oregon is trying to reach.
- Articulate the major impacts of a changing climate that are of concern for your own local area. This may be changes in water availability, wildfires, floods, increased temperatures, ocean acidification, etc.

- Articulate how these changes in climate will impact your community, especially the members of disadvantaged and vulnerable communities.
- Identify ways a changing climate is impacting/will impact one of the natural resource industries (forests, fisheries or agriculture) in your local area.
- Describe practical, locally relevant climate adaptation actions that are appropriate to the natural resource industry you have just identified.
- Describe practical, locally relevant climate mitigation actions that are appropriate to your local area.
- You will also need to address whether these climate mitigation actions will play a role in helping reach our lower emission goals for Oregon.

Consider the following while developing your presentation:

- How do your suggested climate adaptation and mitigation actions support the underserved communities in your local area?
- Your proposed climate adaptations recommendations should be feasible, practical and cost-effective.
- Your team should describe how your local climate mitigation recommendations could become a collective action to make a difference in Oregon.

Resources:

Oregon Global Warming Commission: <https://www.keeporegoncool.org/>

1. Climate Change in Oregon Summary: <https://www.keeporegoncool.org/climate-change-in-oregon>
2. Commission reports:
 - a. Biennial Report to the Legislature 2020: <https://static1.squarespace.com/static/59c554e0f09ca40655ea6eb0/t/5fe137fac70e3835b6e8f58e/1608595458463/2020-OGWC-Biennial-Report-Legislature.pdf>
 - b. Natural and Working Lands Proposal: <https://static1.squarespace.com/static/59c554e0f09ca40655ea6eb0/t/6148a9d36431174181e05c7c/1632152029009/2021+OGWC+Natural+and+Working+Lands+Proposal.pdf>
 - c. Climate resources (including cities' action plans): <https://www.keeporegoncool.org/resources>

Oregon Climate Change Research Institute: <https://blogs.oregonstate.edu/occri/>

1. Fifth Climate Assessment Summary: <https://oregonstate.app.box.com/s/3ce2qvmxy881vug4qu4wgb4ypijbv7m5>

- a. Full report: <https://oregonstate.app.box.com/s/7mynjzhda9vunbzqib6mn1dcpd6q5jka>
2. Supporting Tribal Resiliency: <https://blogs.oregonstate.edu/occri/tribal-resilience/>
3. Tribal Climate Adaptation Guidebook: <https://blogs.oregonstate.edu/occri/projects/tribal-climate-adaptation-guidebook/>
4. Guidelines for considering traditional knowledge in climate change initiatives: <https://toolkit.climate.gov/tool/guidelines-considering-traditional-knowledges-climate-change-initiatives>
5. Indigenous peoples and Northwest Climate Initiatives: https://cpb-us-e1.wpmucdn.com/blogs.uoregon.edu/dist/c/389/files/2010/11/tribes_NPLCC-118h7sr.pdf

Oregon climate adaptation and mitigations efforts:

1. Oregon Department of Energy: Reducing carbon emissions: <https://www.oregon.gov/energy/energy-oregon/Pages/Greenhouse-Gases.aspx>
2. 2021 Oregon Climate Change Adaptation Framework: https://www.oregon.gov/lcd/CL/Documents/2021_CLIMATE_CHANGE_ADAPTATION_FRAMEWORKandBlueprint.pdf
3. Oregon's Climate Action Plan: <https://oeconline.org/oregon-climate-action-plan/>
6. Department of Environmental Quality: Oregon's Climate Protection Program: <https://www.oregon.gov/deq/rulemaking/pages/rghgcr2021.aspx>
7. Oregon Global Warming Commission: Biennial Report to the Legislature: <https://static1.squarespace.com/static/59c554e0f09ca40655ea6eb0/t/5fe137fac70e3835b6e8f58e/1608595458463/2020-OGWC-Biennial-Report-Legislature.pdf>
8. Oregon's Climate Resources: <https://www.oregon.gov/lcd/CL/Pages/Climate-Change-Resources.aspx>
9. <https://regeneration.org/>
10. The Nature Conservancy: Forests and Farms Can Fight Climate Change: <https://www.nature.org/en-us/about-us/where-we-work/united-states/oregon/stories-in-oregon/forests-farms-fight-climate-change/>

Forestry resources:

1. The Oregon Department of Forestry Climate Change and Carbon Plan: <https://www.oregon.gov/odf/forestbenefits/Documents/odf-climate-change-and-carbon-plan-draft.pdf>
2. Oregon Global Warming Commission: Forest Carbon Accounting Report: <https://static1.squarespace.com/static/59c554e0f09ca40655ea6eb0/t/5c094beaaa4a99fa6ad4dcde/1544113138067/2018-OGWC-Forest-Carbon-Accounting-Report.pdf>
3. Carbon special report: https://oregonforests.org/sites/default/files/2020-07/OFRI_CarbonSpecialReport_DIGITAL.pdf

4. Carbon poster: https://learnforests.org/sites/default/files/20-OFRI-020_carbon_poster2020_DIGITAL-small.pdf

Agriculture resources:

1. OSU Extension Small Farms: <https://extension.oregonstate.edu/smallfarms>
2. Sustainable Agriculture Research and Education (SARE): Cultivate Resilience on Farms and Ranches: <https://www.sare.org/resources/cultivating-climate-resilience-on-farms-and-ranches/>
3. Oregon Climate and Agriculture Network (OrCAN): Lay of the Land and Levers for Change: https://www.oregonclimateag.org/files/ugd/49fc7a_632fc8fb42fe49d4b0dbc04f2b687c8b.pdf
4. Climate-resilient practices: <https://www.oregonclimateag.org/practices>
5. Toolbox: <https://projects.sare.org/information-product/a-climate-resilience-toolbox-for-working-with-oregons-farmers-and-ranchers/>
6. OSU Dry Farming Project: <https://smallfarms.oregonstate.edu/smallfarms/projects/dry-farming>
7. ATTRA climate-resilient practices: <https://attra.ncat.org/climate-solutions/>

Fisheries resources:

1. NOAA Western Regional Action Plan (WRAP): https://media.fisheries.noaa.gov/dam-migration/rap-west_coast-highlights.pdf