



Friends of Family Farmers ♦ PO Box 396 ♦ Corbett, OR 97019

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Comments for Oregon Global Warming Commission's Biennial Report

September 4, 2020

Dear Oregon Global Warming Commission:

Thank you for the opportunity to provide comments on the pending Oregon Global Warming Commission (OGWC) 2020 Biennial Report. My name is Amy Wong and I am the Policy Director of Friends of Family Farmers (FoFF). FoFF is a statewide grassroots nonprofit organization with more than 8000 supporters from across Oregon. FoFF brings together independent family farmers, food advocates, and concerned citizens to shape and support socially and ecologically responsible, family-scale agriculture in Oregon that respects the land, treats animals humanely, and sustains local communities.

There are two things that FoFF would like to bring to OGWC's attention to keep in mind when drafting your report. First, FoFF usually conducts a biennial "listening tour" to agricultural communities around the state to help guide our policy priorities. This year, owing to Covid-19, FoFF pivoted to an online survey. It is of note that out of the hundreds of farmers that completed the survey, the number one issue they wanted FoFF to focus on is climate change. This demonstrates that not all Oregon farmers support the actions of the Farm Bureau, and other plaintiffs, in the [lawsuit](#) they filed this summer against Gov. Kate Brown over the carbon-reduction policy in Executive Oregon 20-04.

Second, FoFF is a member of the Stand Up to Factory Farms Coalition, which is working to protect Oregon from the expansion of additional

large-scale mega-dairies. These industrial dairies pose increasing risks to human health and the environment as they create colossal volumes of waste, pollute air and water, contribute to climate change, and undermine the economic vitality of the state's rural communities.

Mega-dairies are enormous water users, extracting billions of gallons of water a year from rivers, streams, and groundwater aquifers to water the crops that absorb animal waste and feed the cows, to flush manure from the barns, water cattle and run milking operations. This immense water use is unsustainable, particularly considering nearly every river in Oregon suffers from low flows and warming water, while most of Oregon's surface water and much the groundwater are already overallocated.

The large quantities of manure that mega-dairies produce creates air pollution that puts public health at risk. Decomposing manure emits substantial amounts of toxic air pollutants—including ammonia, hydrogen sulfide and particulate matter—known to cause respiratory symptoms and nuisance odors. A growing body of research shows that living near CAFOs increases childhood asthma rates and the need for asthma treatment.

These emissions also harm Oregon's environment. According to the Department of Environmental Quality, livestock manure is “by far the most significant source of ammonia” in the state, and contributes to regional haze. The haze resulting from mega-dairy ammonia emissions is harming the iconic Columbia River Gorge National Scenic Area. When the state was considering Lost Valley Farms permit application, the U.S. Forest Service cited the mega-dairy as a threat to the Gorge and requested that the operators mitigate emissions to prevent haze.

Mega-dairies also contribute significantly to climate change through methane and nitrous oxide emissions. Livestock production is the dominant source of the greenhouse gas methane in the United States, with manure management as one of the top sources of methane emissions in 2018, increasing by close to 60% percent between 1990 and 2018. Dairy

operations are a large part of these noted increases in manure methane emissions. In Oregon, agriculture is similarly the leading source of methane emissions. Despite making a commitment to reducing climate emission in Executive Order 20-04, Governor Kate Brown failed to address the emissions from mega-dairies.

FoFF asks that OGWC consider highlighting the GHG emissions from Oregon mega-dairies in Section III. Progress Toward Achievement of the GHG Reduction Goals.

Please feel free to be in touch with questions or if additional resources are needed.

Sincerely,

Amy Wong
Friends of Family Farmers

September 4, 2020

Oregon Global Warming Commission (via email)

Dear Global Warming Commission Members:

Please accept these comments on the Global Warming Commission's (GWC) outline for its 2020 report to the Oregon legislature on "Oregon's progress towards achievement of the greenhouse gas (GHG) emissions reductions goals." [ORS 468A.260](#) (Progress Report). This Progress Report will be pivotal to the State responding responsibly to the climate emergency. Therefore, it needs to be brutally blunt on Oregon's failures. The Progress Report needs to recommend that the Legislature implement bold measures rapidly.

Oregon has failed catastrophically to reduce GHG emissions. Emissions have soared past the state's 2010 target of arresting increases and the 2020 firm goal of emissions being 10% lower than 1990 levels. Oregon has a clear path forward - make up for lost time. Volunteer reductions have been completely ineffective. Moreover, the consequences of further inaction or slow steps are massive. The climate has changed and is changing much more rapidly than predicted. Climate-induced impacts will continue to get worse - mounting physical and mental health; unreliable transportation and infrastructure; deteriorating ecosystems, fisheries, agriculture and water supplies. Oregon is woefully unprepared for these impacts.

Consequently, the Progress Report needs to highlight that current laws, budgets and policies are blocking rapid, far-reaching changes. They have not kept pace with the crisis. Oregon needs to reduce significantly its anthropogenic GHG emissions in the next 2-5 years. Because of the lead times woven into the fabric of state agency actions, none of the new actions in Executive Order 20-04 is likely to result in significant actual reductions before 2026-2028. The Legislature can fill this gap by adopting new deadlines and funding climate programs, including economic recovery legislation.

For example, the Report make the following recommendations to the Legislature:

- **Rapid actions.** Direct rapid actions in the next ten years that achieve measurable substantial reductions of GHG emissions. (e.g., adopt reduction targets for 2025, 2030, 2035 and 2040 of progressively greater reductions with the largest percentage reductions between 2025 and 2035).
- **Fund Climate Actions.** The Legislature should fully fund all programs that transition Oregon off fossil fuels. (e.g., green bonds and banks, agency climate programs, electric vehicle rebates, mass transit, and require low-carbon methods for government-funded construction (30% must fund renewable energy and efficiency)). It should also fully fund robust climate adaptation planning, infrastructure and construction.
- **Establish statewide climate communications.** Oregon needs a robust statewide system of educating the public with current detailed information about the progress of actions reducing greenhouse gases and achieving a low carbon economy. A system that shows we are adapting rapidly to climate changes. The public has a right to know how and needs the confidence in its government on climate actions. The Communications should be presented in multiple venues and quarterly or more often.

- **Provide climate jobs training and public education.** Our workers, particularly those who have lost jobs due to the pandemic, and our students need governments to help Oregon's economy transition equitably to a low-carbon society (e.g., electric vehicles and infrastructure, low carbon agriculture, green construction), and adapt to the changes in our climate (e.g., water conservation, mental and physical health, dry and other adaptive farming, fire and flooding response). These investments will enable Oregon to thrive from the numerous [economic benefits of climate action in the US](#).
- **Update the Legislature's Fiscal Impact Analysis.** Currently, the Legislature's fiscal impact analysis does not score bills based on their potential to lead to increases in GHG emissions and related costs thereof. It also does not evaluate all bills on their potential to reduce GHG emissions, and the related cost savings with lower emissions climate-induced impacts. Thus, the Legislature's analysis needs to be updated to adapt to climate change, including the social costs of carbon.

With the COVID19 pandemic, our legislature, agencies (particularly the Health Authority) and the private sector have shown that rapid substantial changes can happen in Oregon. It is time to make a similar effort on GHG emissions reductions and preparing/adapting to the current and future changes in our climate. The role of the GWC is to lead us boldly into our new future.

Respectfully,

Helen Kennedy
Marcola, Oregon



September 3, 2020

VIA ELECTRONIC MAIL

Oregon Global Warming Commission
Oregon Department of Energy
550 Capitol St NE
Salem, Oregon 97301
Oregon.GWC@oregon.gov

Re: Comments for 2020 Biennial Report to the Legislature

Dear Commission Members:

On behalf of the Oregon Natural Desert Association (“ONDA”), we are pleased to submit comments for consideration in the development of the Oregon Global Warming Commission’s 2020 Biennial Report to the Legislature. ONDA is an Oregon public interest organization dedicated to protecting, defending, and restoring the health of Oregon’s native deserts. We represent approximately 10,000 members and supporters across the state and beyond and maintain offices in Portland and Bend, Oregon.

The emerging and intensifying impacts of climate change are affecting ecosystems, natural resources, and communities across the nation and the world. In Oregon’s high desert, climate change is already producing some of the highest observed temperature increases in the United States (Figure 1). These changes are expected to manifest in more intense and more frequent wildfires, increased incursion by invasive species (e.g., cheatgrass), loss of native vegetation and dependent wildlife and an overall decline in ecological health. Providing for ecosystem resistance and resiliency, landscape connectivity and adaptation will be critical for conserving high desert lands, waters and wildlife in the face of current and future effects of climate change.

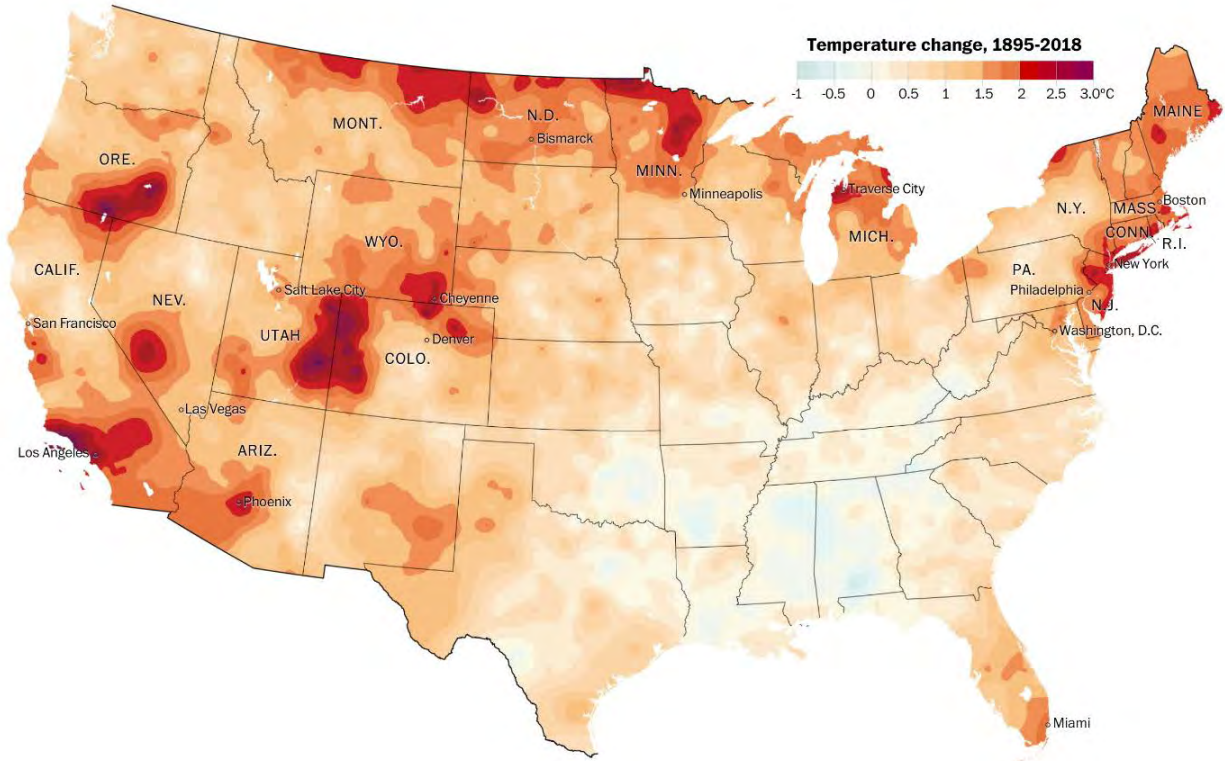


Figure 1. Over the past 100 years, Oregon’s high desert has experienced a temperature increase between 2 and 3 degrees celcius, the most significant increase within the state and making the region one of the warmest in the country (NOAA and <https://www.washingtonpost.com/graphics/2019/national/climate-environment/climate-change-america/?noredirect=on>).

The concepts of resistance and resilience relate to the ability of a landscape to withstand disturbance. As Chambers *et al.* (2016) explain:

Resistance is the ability of a plant community to retain its existing processes, functions, and structure in the face of stressors, including disturbance and invasive species, while resilience is the capacity of a community to regain its structure, processes, and functions after it is altered by such stressors.

A number of environmental components influence resistance and resilience within sagebrush-bunchgrass ecosystems of Oregon’s high desert. Among the most important are native perennial bunchgrasses and biological soil crusts. Healthy stands of native bunchgrasses and shrubs can successfully resist cheatgrass invasion, provided the site remains free from uncharacteristic disturbance (*e.g.*, roads, frequent wildfires, grazing) (Chambers *et al.* 2007, Chambers *et al.* 2016, Rosentreter 1994, Ray-Mukherjee *et al.* 2011, Knick & Rotenberry 1997).

Conserving the high desert can also contribute to climate mitigation strategies in the state and region. Properly managed, the natural systems that dominant the high desert are capable of sequestering terrestrial carbon, storing significant amounts of carbon in native plants and

healthy top soils. While perhaps not as efficient as Oregon's forestlands at absorbing carbon, the sheer scale of our state's grass and shrubland communities represent a substantial opportunity for mitigating climate change stressors.

Similar to forested landscapes, we encourage the commission to consider how to incorporate and address climate change in Oregon's high desert in the 2020 Biennial Report. The effects of climate change on, and the potential for Oregon's high desert to contribute to climate change mitigation cannot be understated and warrant inclusion in the Commission's recommendations on effective climate mitigation policies, missed opportunities and priorities, and additional actions that agencies and others should take in addressing climate change. Of particular interest is discussion of high desert carbon stocks, the potential benefits of improved land use and planning in the desert, climate resiliency, the need for climate refugia and critical habitat connectivity corridors for native wildlife, and related actions and mitigation measures to arrest or slow the alarming changes Oregon's desertlands are already experiencing.

Thank you for this opportunity to provide comments on this important effort. Please contact me with any questions.

Sincerely,

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September 4, 2020

Cathy MacDonald
Chair, Oregon Global Warming Commission
Delivered by email to Oregon.GWC@oregon.gov

Chair MacDonald,

Portland General Electric appreciates the opportunity to offer input on the Oregon Global Warming Commission's (OGWC) 2021 report to the Oregon Legislature. As a public body with representation from a range of environmental organizations, industries, geographies, and state agencies, the OGWC has the opportunity to provide legislators with a cohesive picture of Oregon's progress in reducing greenhouse gas emissions and recommend how to prioritize the significant work ahead.

Transportation Sector

The transportation sector is transforming – over the next several decades, cars and trucks powered by clean electricity will become the most common vehicles on the road. PGE is already partnering with customers, policy makers and regulators to ensure the necessary infrastructure and programs are in place to support this future.

A seamless transformation of the transportation sector requires progress on infrastructure and workforce challenges. The up-front costs for deploying infrastructure can make the business case for electric vehicle charging investment difficult where initial utilization is low, such as with rural or public charging. Lack of federal standards on charging ports, communication standards, ADA requirements creates costs and complexity for deploying EV infrastructure. Non-standard design and interoperability will become a larger cost element as infrastructure is deployed if not standardized.

The workforce related to electric vehicles and EV infrastructure is still developing. In some situations, there are not enough electricians, technicians, and engineers, with the necessary skills to install, operate, and manage charging infrastructure and high voltage power. This can cause project delays and longer downtimes. Transportation electrification infrastructure needs are not limited to technicians and electricians – design and engineering professionals must understand the challenges and best practices for electric vehicle infrastructure site design. We support partnerships that include union labor to build a workforce pipeline that gives priority to diversity and equity in the workforce, and includes communities of color and historically underserved communities. We suggest targeted training through state-approved joint management-labor apprenticeships and coordinated sharing of best-practices.

PGE supports other ways for government to support the transition to electric transportation. We continue to support requirements that new buildings be made EV-ready through installation of electric service capacity and conduit in order to reduce retrofit costs later. We will continue to work with stakeholders in support of state and federal programs that address the first-cost barriers and charging needs to EV adoption for residents, businesses, governments, and fleets. We support charging solutions targeted for low income customers and rental/multifamily residents and have specifically targeted these customers in our proposed Residential Home Charging Rebate program. Where public investment is considered for hydrogen fueling, such as for long haul heavy vehicles, programs should require that the hydrogen is generated by clean energy. PGE also supports system-level approaches to decarbonization in the transportation sector through planning and design, increasing transit ridership, and bike/pedestrian strategies, and encourages cities to evaluate EV-only strategies to accelerate EV adoption.

We offer the comments below on specific items described in the document titled *Transportation GHG Emissions Reduction Options*:

Authorize utilities to deploy fast charging infrastructure:

As part of our Transportation Electrification Plan, PGE did an analysis of the need for electric vehicle chargers in our service territory. Based on PGE's analysis, there are about 1,000 public EV chargers in our service territory today, across businesses, multi-family, and other public locations, mostly installed over the last decade. To serve the forecasted growth of EVs in our service territory, we will need more than five times that number by 2025. Our analysis found a need for almost 800 DC fast charger units across our territory.

Given the scope of buildout needed and the need for a seamless EV driver experience statewide, utilities, private providers, and governments all need to step up. The OGWC report should support the roles of each of these entities. The utility role in transportation electrification is well established – if utilities plan for and invest in transportation electrification proactively, they can capture benefits for the grid and for customers. If clarifications

are needed to current law to authorize utility investments, PGE supports doing so. To simplify the customer experience for drivers across the state, utilities may need to collaborate and support deployment of infrastructure outside their service territories to serve their customers who operate EVs. In July, PGE filed program proposals with the Public Utility Commission to support business and fleet customers transitioning to electric vehicles, which may include supporting fast charging.

Allow public EV charging to generate Clean Fuels Program credits based on capacity rather than consumption of electricity

Under Executive Order 20-04, the Department of Environmental Quality is already considering allowing certain electric vehicle charging stations to generate credits based on installed capacity *in addition to* dispensed electricity. Credits issued based on installed charging capacity will help make it economical to install public charging in underserved areas, or where people do not have access to workplace charging or off-street parking to charge. Capacity credits also help drive private investment in high capacity charging, reducing the gaps in available charging for governments and utilities to fill. This issue is best left to the existing rulemaking at DEQ.

Built Environment

To meet Oregon's greenhouse gas reduction goals, all sources of emissions, including emissions from buildings, will need to be addressed. We offer the comments below on items described on this topic in the document titled *Built Environment GHG Emissions Reduction Options*:

Establish a life cycle building carbon intensity standard and set carbon codes for new and existing buildings
PGE believes building carbon codes should be structured around net zero carbon targets. This is consistent with the C40 and the World Green Building Council Net Zero Carbon Buildings Declaration on which some Oregon cities, like Portland, are a signatory. This type of standard will leverage the electric grid and community-level management systems, such as PGE's three smart grid test bed communities. The transition to lower emissions from buildings and appliances is likely to take a long time, so the new construction market offers the lowest cost opportunity to get decarbonization underway, followed by replacement of failing equipment, and last but not least early retirement of aging equipment. Similarly, equipment installed in existing buildings that is failing or near end-of-life should be replaced with grid-connected equipment. Smart, grid connected technologies, like heat pumps and water heaters, play a critical role in building decarbonization and can be used to integrate renewable resources.

Update appliance standards

The Oregon Department of Energy recently published draft rules including ten appliance standard updates, most notably the requirement that all electric water heaters manufactured on or after January 1, 2022 and sold in Oregon be grid-connected water-heaters that use a common communication port. Grid-connected devices such as water heaters that customers can voluntarily enroll into demand response programs are critical tools that will help achieve Oregon's greenhouse gas reduction targets because they promote smarter energy use and support integrating variable renewable resources onto the electric system. The OGWC should encourage the Legislature to support these standards (its approval is required by law) and encourage the Oregon Department of Energy to explore the next opportunities to promote or require grid-connected appliances that provide grid flexibility.

Utilities should design and deploy smart grid-enabled neighborhood-located microgrids

A network of well-planned microgrids is an important part of a reliable clean energy future as it supports decarbonization, makes the region more resilient against disruption, and support communities during an emergency. Microgrids should be designed to be grid connected, which supports renewable integration, and be able to self-supply as an island during emergencies or outages to provide local resiliency. Otherwise, we miss an opportunity to integrate this smart, flexible load that could help manage the grid and integrate more renewable resources. A system that normally provides and is paid for grid services also helps to reduce the costs of the microgrid. The OGWC should support microgrids with these design features, prioritized for locations of community or public significance.

PGE is working with the City of Beaverton to build a microgrid at their Public Safety Center that will enable power to flow even if the grid is down, helping emergency response operations continue without disruption. The solar and energy storage components also support clean energy at the facility and on the grid. In Hillsboro, Portland, and Milwaukie, PGE is working with customers to take advantage of demand-response signals as well as incentives for using smart-home technologies, giving customer great control over their total energy costs and carbon footprint through our smart grid test bed. We are utilizing the test bed to learn about key elements of

community microgrids, including new technology, advanced automation and community participation. Working with customers can help reduce peak demands, better manage two-way flows, and integrate more renewable energy. Additionally, demonstrations within the test bed will accelerate the development of distributed resources, which include customer-hosted renewables like rooftop solar; flexible resources like batteries, thermostats and water heaters; and electric vehicle charging.

Electricity Sector Decarbonization

PGE set forth a goal in 2018 to reduce our greenhouse gas emissions by more than 80 percent, and we continue to share customers' and our communities' vision for a clean and reliable energy future. By simultaneously continuing to drive down emissions using a diverse portfolio of clean and renewable resources and promoting economy-wide emission reductions through electrification and smart energy use, PGE can help realize a clean energy future for Oregon. PGE will continue to work with the Public Utility Commission (PUC) and stakeholders as the PUC implements Governor Brown's EO 20-04 on climate change, and we support more direct approaches to considering GHG emissions within the integrated resource planning process.

PGE also supports exploring utility clean energy programs for customers who want to decarbonize faster and encourages the OGWC to support this approach. We are working with the Public Utility Commission to expand our Green Future Impact program, which allows nonresidential customers with a load of more than 30kW to subscribe to a fixed annual amount of power from a new renewable facility. While the solar facility being built through this program is not yet operating, the first tranche of this program is fully subscribed. PGE is also interested in exploring green options for communities. We have been working with city representatives to understand their bold climate action plans and begin the process of outlining the various resources and solutions PGE has available or can develop to help them achieve their plans. We are exploring a range of necessary measures to ensure a clean and sustainable future for our communities. Energy efficiency, demand response, flexible load, community solar, transportation electrification, microgrids, battery storage, large scale renewable resources—we need all of these solutions to support our state's transition to a clean energy future.

The transition to clean energy comes with the need for continued focus on resource adequacy (planning years in advance and acquiring resources to ensure we have enough capacity to meet future electricity needs across a wide range of conditions and with a sufficient degree of reliability). Building a clean energy future means new technologies factor into ensuring resource adequacy. PGE is an active participant and a leader in efforts to explore a regional resource adequacy program through the Northwest Power Pool (NWPP). If successful, this regional resource adequacy program will not be fully implemented and operational until 2024 at the earliest. In the meantime, there is a need for Oregon to develop its own resource adequacy program that fairly allocates and enforces resource adequacy obligations on all load serving entities in IOU territory, and will ultimately complement and work in harmony with any regional program. The PUC has an active docket exploring such a state resource adequacy program and required contributions by all load serving entities including electricity service suppliers. PGE encourages the OGWC to acknowledge the importance of planning for resource adequacy alongside – not as a barrier to – a clean energy future.

We offer the comments below on items described on this topic in the document titled *Built Environment GHG Emissions Reduction Options*:

Eliminate all coal by wire electricity imports into Oregon by no later than 2027

Accelerating the current 2030 timeline on eliminating coal by wire imports to support a cleaner electricity mix in the state impacts the Colstrip plant, in which PGE is a partial owner. Our 2019 IRP conducted a high-level analysis of removing Colstrip from our portfolio by 2027. This initial analysis showed some economic benefits, but it would bring forward a 280MW capacity need.

As an outcome of the PUC's Order on our 2019 IRP, PGE submitted a report to the Commission in July 2020 to demonstrate how removing PGE's share of Colstrip Units 3 & 4 from its portfolio sooner than is currently planned in 2035 would impact costs, risks and pricing for customers. The study concluded that it's in the best interest of our customers, in terms of long term portfolio cost and risk, to remove Colstrip from PGE's portfolio in 2025, which also supports meeting our customers' growing preference for clean energy and Oregon's greenhouse gas reduction goals. However, as one of six co-owners of Colstrip Units 3 & 4, PGE has no unilateral decision-making powers. Any retirement decision for a unit would require unanimous agreement of the co-owners. PGE continues to consider options, including accounting and ratemaking approaches that facilitate accelerated retirement of

carbon emitting resources while allowing for recovery of utility investments and taking impacts to customer prices into account.

Thank you for your ongoing leadership of the OGWC and your consideration of our comments. We would be pleased to discuss these issues further as you and staff develop the draft report.

Sunny Radcliffe
Director of Government Affairs and Environmental Policy
Portland General Electric

September 2, 2020

TO: Oregon Global Warming Commission

FROM: Robert Cortright, Salem

SUBJECT: COMMENTS ON DRAFT BIENNIAL REPORT

The commission's forthcoming biennial report needs to make it clear that action by the state to reduce emissions from light vehicle travel is well behind where it needs to be and that for the transportation sector major changes to state, regional and local land use policies, plans and investments are needed to get the state on-track to meeting its emissions goals. Needed changes should focus on planning for compact, mixed use development and investing in expanded transportation options.

Progress toward achievement of the GHG Reduction Goals

We're way behind where we need to be. In 2010, I served on the Transportation and Land Use TAC for the GWC's Roadmap to 2020. Aside from Metro's Climate Smart Communities plan - which demonstrates the effectiveness and benefits of compact development and expanded transportation options in reducing emissions - it's stunning to see how little progress we've made and how much the prescriptions for reducing emissions outlined in the 2010 Roadmap report remain the same today.¹

We know what we need to do to reduce transportation emissions: it includes and requires reducing vehicle miles travelled (VMT) per capita by 20% or more by the year 2050.² Accomplishing this level of VMT reduction in turn requires that we make major changes to land use and transportation plans by planning for most new housing and jobs in compact, mixed use neighborhoods and by expanding transportation options - for transit, walking and cycling - especially in our larger urban areas.

The bad news is that over the last 10 years we've made little progress and plans are taking us in the wrong direction. Despite good work by the Portland metropolitan area, most of our communities - and our state DOT - are continuing to do business-as-usual planning - that largely ignores GHG reduction, and calls for lots more roadway projects that will increase

¹ The 2010 GWC Roadmap to 2020 report includes 12 detailed recommendations for changes to transportation and land use plans. See pages 31-40 -attached

² . Even with electric vehicles and other actions the STS concludes that Oregonians will need to drive significantly less than we do today – about 22% less than today by 2050. The STS says VMT per capita needs to drop from about 23 vmt in 2010 to 18 vmt by 2050. On an annual basis it corresponds with a reduction in driving from about 10,000 miles a year to 8,000 miles per year. STS Technical Appendix, Volume 2, page 65, December 2012

driving and emissions - making it even harder to meet our GHG reduction goals. ODOT's [2018 Statewide Transportation Strategy \(STS\) monitoring report](#) confirms that VMT and emissions have "blipped" up over the last five years and that existing plans and policies are off-track toward meeting our goals for 2040 and 2050.³

The worse news is that we knew better: the GWCs 2010 Roadmap to 2020 called for most - if not all - of the actions that the state is now talking about in its "Every Mile Counts" effort: accommodating most new development in walkable neighborhoods, dramatically expanding transit service and improving conditions for walking and biking, expanding transportation options programs and better managing parking. Again, in spite of this knowledge and [solid evidence](#) that such policies will make our communities safer, healthier and more prosperous most of our metropolitan areas are planning for more vehicle travel, more sprawl and ignoring GHG emissions.

We need to be clear that technology and EVs alone won't be enough to meet emissions goals. We also need to drive less: we need to rebuild our communities and transportation system to enable people to drive less. The state's current targets⁴ for reducing transportation GHG in metropolitan areas - which call for a 20-30% reduction in GHG per capita - are based on dated and overly-optimistic assumptions about likely improvements in vehicle technology, fuels and changes in the vehicle fleet to EV's and other more fuel efficient vehicles. Improvements in battery technology and other technological advances have been more than offset by slower fleet turnover, lowering of fuel economy standards and consumer preferences for SUVs over more fuel efficient vehicles. When LCDC updates metropolitan targets next year it is certain to show that we are far behind where we need to be and that even greater reductions in driving will be needed to meet emissions goals.⁵

Commission Recommendations

We need to do much more

Governor Brown's Executive Order (EO 20-04) is a promising start: it directs key state agencies to use their full authority and discretion to meet our emission reductions goals. Unfortunately, the response from key agencies so far - particularly ODOT and DLCD - is mostly to consider yet

³ [ODOT's Report](#) (p.20) concludes that existing plans and trends will fall far short of the STS Vision which calls for 60% reduction in GHG emissions per capita by 2050. City Observatory provided a [full review](#) of ODOT's 2018 Monitoring Report earlier this year.

⁴ Metropolitan GHG reduction targets were set by LCDC in 2011 and updated in 2017 and scheduled for an update in 2021. Targets are set forth in [OAR 660-044](#) and call for reductions of 20-30% in GHG emissions per capita by 2050.

⁵ Even greater efforts will be needed because the STS aims to accomplish a only a 60% reduction in emissions below 1990 levels. This is not only well short of the current adopted state goal which calls for a 75% reduction below 1990 levels, it's even further short of the 80% goal set forth in Governor Brown's executive order, which reflects the latest scientific consensus.

again the actions that the GWC called for back in 2010. Most of the "Every Mile" work on land use and transportation planning that state agencies are doing now is just more talk: meaningful changes to rules, plans, programs and actual funding decisions remain on the horizon - a year or two or more away.

If we're serious about emissions reduction, we have to do more and soon. Accordingly, the GWC's report recommendations should call for state agencies, principally ODOT and DLCD (and their respective commissions) to include the following actions to expand and accelerate work to implement the EO 20-04:

- Putting our money where our priorities are: the state should put big highway projects - projects that are likely unneeded, that will increase driving and worsen emissions and that we can't afford - on-hold until the state has a plan and is on-track in meeting emission goals. Instead, ODOT should shift funding to support transportation options and compact mixed use development that reduces vehicle travel and emissions.
- [Ending the myth](#) perpetuated by highway boosters that expanding road capacity reduces traffic congestion and emissions. The well-proven reality is that [roadway expansion induces more travel and emissions](#) and supports and encourages additional auto-dependent development. ODOT should update its models to account for induced development and seek to achieve VMT reduction consistent with state GHG reduction goals - rather than ever increasing travel demand.
- Holding ourselves accountable to meeting emissions goals by putting in place "carbon conformity" requirements that tie transportation funding to performance in meeting emissions goals. This would expand existing air quality review requirements to include carbon pollution and require that ODOT and local governments show that their long-range plans and short-term investments put them on-track to meet emissions goals in order to qualify for state or federal money for roadway projects.
- Stopping business-as-usual planning for urban growth and roadway expansion, and instead redirecting land use and transportation plans - and investments - to rebuild our communities with compact mixed use development and expanded transportation options.
- LCDC and DLCD should integrate emission reduction into planning rules for housing, economic development and UGB expansion:
 - Housing rules should directing local governments to plan for most new housing, especially multifamily housing, be located in walkable, compact, mixed use neighborhoods
 - New employment should be focused in mixed use areas and, in larger communities, in areas well served by public transit.
 - UGB should only be allowed where communities have adopted plans that meet emissions reductions targets.

Best Practices to address environmental justice

Efforts to reduce transportation GHG emissions can and should be integrated with work to improve social equity outcomes. The GWCs report should include the following:

- Recommend that LCDC integrate emissions reductions into its work to expand affordable housing by directing that local governments plan for most new housing - especially multifamily and affordable housing - in compact, mixed use neighborhoods where residents will have a range of affordable transportation options.
- Recommend that ODOT and the OTC allocate 20% of state transportation funds to projects that benefit disadvantaged communities, especially those that make walking, transit and cycling safer and more convenient.

Public Comments on the OGWC Biennial Report

Biennial report comments:

Email Address: bethwooddad@gmail.com

Subject: Comments on 2020 Commission Report Outline

Message: I write to the Commission today to stress that the Commission's upcoming report must be direct about Oregon's lack of progress towards our climate goals and about the urgency to take swift and decisive action. Let's not mince words: progress on the Commission's 2020 climate action roadmap is dismal. We have but ten years left to make the dramatic changes that the IPCC's 2018 report called for and our lack of progress has increased the challenge ahead of us.

This report must deliver an imperative for the 2021 Oregon legislative session to act on climate change and fund a just transition to a clean and sustainable economy. The legislature must fund infrastructure for clean transportation, electricity generation and clean manufacturing. Job training and a strong social safety net for displaced workers are critical. Funding for timber counties to eliminate their financial dependence on logging is critical. Financial incentives for carbon sequestration through regenerative forestry and agricultural practices are also crucial.

Further, the report must call unequivocally for rapid and comprehensive implementation of Oregon's Climate Action Plan as directed by Governor Brown's Executive Order 20-04. There can be no delay. The legislature must fully fund the agencies to create and implement the regulations and other initiatives without delay.

Please set the appropriate tone in your 2020 report. One of extreme urgency with an unequivocal and immediate call to action.

Name: Julie Chapman

Email Address: bugthewonderdog@gmail.com

Subject: re: Annual Report and upcoming presentation to Board of Ag

Message: What I notice in ODA and ODF EO 20-04 Implementation plans is a dearth of response to the goal for program development and enactment for soil/forest/ag carbon sequestration. These state agency goals are critical to accomplish the work of the EO: rapid adoption of de-carbonization measures through emissions reductions and carbon sequestration in natural and working lands. I appreciate OGWC's intention to begin pilot program(s) immediately. I hope that pressure can be applied and vision for EO program development can be offered to the natural resource agencies. Thanks

(Sent via [Keep Oregon Cool!](#))

Sept. 4th, 2020

To the Oregon Global Warming Commission,

It is my understanding that we have woefully failed at decreasing carbon emissions to the degree that is essential for mitigating the worst effects of climate change.

This reality the need to transform the department of forestry from a net carbon emitter to its primary function for a livable planet- a carbon sequester.

Climate smart forestry practices need to be adopted immediately, on state and private industrial forests. All remaining old growth should be off limits even as we work to expand old growth forests, and delay timber harvests to 80-100 year stands of trees- that are not clear cut, but harvested in a sustainable manner.

It should also be a priority of our state to provide extensive job training, and public education on transitioning equitably to low carbon society (*e.g.*, expanding renewable energy expediently! electric vehicles and infrastructure, low carbon agriculture, green construction), and adapting to climate change (*e.g.*, water conservation, mental and physical health, dry and other adaptive farming, fire and flooding response).

The economic struggles we face from the pandemic is the perfect time to be transitioning to a sustainable, carbon sequestering economy. This is the time for education and planning, while supporting all those whose livelihoods have been lost to the pandemic, or to fossil fuel related jobs that must be phased out.

I understand that the Global Warming Commission has not been given the funding to help manifest the needed changes. While we continue to hop for Federal funding to assist these efforts, the GWC should also be pushing for public banking at municipal levels- which is not unconstitutional. Only banks can multiply the money they are given to invest in business and jobs.

Public banks could multiply whatever we get from the feds, or our own coffers, to support and enable and scale up the work that transforming global warming and economic inequity will require.

Thank you for your work!
Harriet Cooke, MPH

503-975-4571

Oregon Global Warming Commission
550 Capitol St. NE
Salem, OR 97301
Oregon.GWC@Oregon.gov

Subject: Comments on the Biennial Report Outline

I urge the Commission to think big in this biennial report – as big as the climate emergency we face. The report should examine the role that *state government* action should play in accelerating the transition to a clean energy future. These should include the need to increase the state’s RPS law to 100%, the need to transition our vehicle fleet to electricity with different timeframes for different vehicle categories, and the need to shift building energy use to all electricity. In addition, the report should examine other policy measures such as various types of incentives to direct consumer behavior, a state Green Bank to finance energy efficiency and GHG reduction projects for residences, businesses and industries, programs to provide worker training for the new clean energy job, and public education on transitioning equitably to low carbon society.

With regard to recommendations to state agencies responsible for implementation of EO-20-04, I have the following observations. In particular, the Oregon Department of Forestry failed to adequately respond to the Governor's Climate Executive Order. The Commission should clearly identify how industrial logging is a carbon emission activity, and provide guidance on how the Oregon Department of Forestry can begin to champion the adoption of climate smart forestry practices in our state forests and private industrial forests. Regarding transportation, the responses from the various agencies and commissions involved do not capture the urgency of the crisis we are in. The report should examine the relative contributions needed from vehicle emissions reductions and reductions to vehicle miles traveled (VHT), and identify ways in which the involved agencies can better cooperate to speed up overall transportation emission reduction..

Sincerely,

Dr. Pat DeLaquil
155 SE 16th Ct.
Gresham, OR 97080

AUGUST 31, 2020

Catherine MacDonald

Global Warming Commission/Oregon Dept. Of Energy

Subject: Suggested content for 2020 GWC Report to Legislature

Thank you for inviting me to submit inputs to the subject report. Four areas are suggested that will have a significant impact on reducing GHG emissions. More detailed information has been submitted

previously to Janiine Benner and Dr. Kristen Sheeran. This submittal conforms to the 2020 report outline. Should you need further information please do not hesitate to contact me.

John Dunzer johndunzer@msn.com

OGWC 2020 REPORT John Dunzer's COMMENTS REGARDING CARBON CAPTURE AND SEQUESTRATION TECHNOLOGY

Under Section 111 Progress Toward Achievement of the GHG Reduction Goals

Insert the following discussion under emissions reductions actions necessary to achieve the state's 2050 goal

A sense of urgency to keep global emissions of greenhouse gases from peaking beyond 2020 has led to the conclusion by scientists that successful timely decarbonization of electrical generation must include carbon capture and sequestration technology. Oregon must move away from fossil fuels but a successful transition requires existing gas fired power generators to stop dumping carbon pollution in the air for decades more. Carbon capture and sequestration (CCS) technology has been proven to reduce emissions quickly and cheaply and Federal tax incentives are in place to enable industry to recover investment costs. Oregon electrical generators have no program for implementing CCS and Oregon has no program to encourage them to implement this critical link to controlling climate change.

Under Section 1V Commission Recommendations

Insert the following discussion under need for a new plan to get us to our 2035 goal

There is an urgent need to tackle climate change immediately and all stakeholders now acknowledge that we cannot tackle climate change without Carbon Capture and Sequestration (CCS). Measures to reduce greenhouse gas emissions, including more electric cars, will mean we need more electricity; and **CCS is an unavoidable option if we are to meet this electricity demand with an acceptable carbon footprint. Start immediately having PGE prepare a plan for adding CCS to their Port Westward Electric Generation Facility.**

Under Section V Conclusions

Insert the following conclusion under prospects for meeting our goals

To meet our climate change targets, Oregon will need to decarbonize the power sector by the 2030s, and the heavy industry sector beyond that. Oregon cannot do this without CCS.

John Dunzer's COMMENTS TO OGWC REPORT REGARDING BIOJET FUEL USAGE

Under Section 111 Progress Toward Achievement of GHG Reduction Goals

Insert the following discussion under efforts taken by public entities to reduce emissions

The Federal Department of Agriculture has developed a replacement for petrochemical aviation fuel and chemicals using woody based resources. Alaska Airlines utilized this cellulose biofuel in one of its commercial flights. Oregon has huge resources of biomass created by logging. It could be used to reduce the carbon impact from the aviation industry. There is no program by Oregon government or industry to utilize this proven technology.

Under Section 1V Commission Recommendations

Insert the following discussion under efforts being taken by private and public entities to reduce emissions

Oregon's transportation sector currently makes the largest contribution to the state's GHG emissions. Using wood waste to produce biofuels for replacing fossil fuels now utilized as aviation fuels is a demonstrated technology. Start immediately to design and build a biorefinery located adjacent to Wauna Mills on the Columbia River to take advantage of the synergy of biofuel and pulp and paper manufacturing and easy access to PDX and biomass resources.

Under Section V Conclusions

Insert the following conclusion under prospects for meeting our goals.

To meet our climate change targets, Oregon will need to more aggressively attack reducing GHG emissions from all the elements of its transportation system. Since the usage of biofuels in aviation fuel has already been demonstrated and requires no changes in aviation equipment, it can be implemented on a timely basis.

John Dunzer's COMMENTS TO OGWC 2020 REPORT ON HYDROGEN PRODUCTION

Under Section 111 Progress Toward Achievement of the GHG Reduction Goals

Insert the following discussion under emission reduction actions necessary to achieve the state's 2050 goal.

Oregon's transportation sector has proven to be the largest problem in reducing GGE to meet 2050 goals. Hydrogen was expected to be a large component of any plan to reduce transportation emissions. The use of Hydrogen will reduce vehicle weight, expand vehicle range, and reduce refueling time over battery equipped vehicles. The present cost of hydrogen production gas remains too high to effectively compete against battery equipped vehicles. Oregon's present estimates for transportation GHG reduction show that emission reduction goals cannot be met primarily because of freight. The characteristics of hydrogen equipped vehicles are better suited to freight usage if the cost of manufacturing the hydrogen gas can be made less expensive. Switching to manufacturing of hydrogen by electrolysis using recent technology advances has been shown to significantly reduce hydrogen manufacturing costs. Utilization of hydrogen equipped freight vehicles has the potential to bring GHG reductions in transportation much closer to Oregon goals.

Under Section 1V Commission Recommendations

Insert the following discussion under emissions reduction due to changing markets.

Oregon has incentives for the purchase of battery equipped vehicles but these incentives are not expected to meet GHG reduction goals. Oregon needs to accelerate sales of hydrogen equipped vehicles to appeal to those who provide freight transportation.

Under Section V Conclusions

Insert the following conclusion under role of government action in accelerating market transitions.

To meet our climate change targets in reduction of GHG emissions from the transportation sector, Oregon will need to incentivize other alternatives to battery equipped vehicles for freight usage. Hydrogen equipped vehicles provide an attractive alternative assuming the cost of manufacturing hydrogen gas will be significantly lowered by using technically advanced electrolysis for manufacturing.

OGWC 2020 REPORT John Dunzer's COMMENTS REGARDING LOCATING RENEWABLE ENERGY TO LOCATIONS THAT WILL INCREASE COMMUNITY RESILIENCY.

Under Section 111 Need to respond to the need to ramp up efforts and respond to challenges

Insert the following discussion under efforts being taken by private and public entities to add renewable energy projects to specific areas.

Oregon requires its energy providers to generate their energy using a certain amount of renewable power. Coastal Oregon is predicted by the State to be without electrical power for approximately 3 to 6 months should a Cascadia event occur. The best way to mitigate this would be to locate new renewable power sources and pumped storage that would survive a Cascadia event in the coastal area. Pacific Power has rejected this approach for the North Coast and a proposal has been made to replace Pacific Power with a public utility district (PUD)

Under Section 1V Commission Recommendations

Insert the following discussion under additional actions that should be taken by agencies and others.

The North Coastal area of Oregon's subject to Cascadia Inundation probably cannot survive a 3-6 month loss of electricity. Shifting this area's energy supplier to a PUD from Pacific Power would provide a 30% reduction in consumer electrical costs which could be used to construct a Cascadia survivable renewable local electric generation facility. The proper location of new renewable energy facilities is not controlled by regulators and opportunities to increase community resilience are overlooked.

Under Section V Conclusions

Insert the following conclusion under the need to give more authority to agencies to act

Reducing GHG emissions will require the addition of new renewable energy facilities. The proper location of these facilities can increase community resilience.

Email Address: danielfrye@gmail.com

Subject: Climate Change

Message: Dear Commissioners, Climate change is the most significant economic, public safety, environmental justice, & national security issue of our times and Oregon needs to move faster and act more aggressively.

Items for inclusion in the next bi-annual OGWC report:

- More specific actions across the board to substantively reduce GHG emissions by 2030.
- Force, via funding changes, the state economy away from fossil fuels & to a mix of renewables.
- Add next generation modular nuclear energy into the renewables equation & direct the appropriate agencies to prepare for permitting.

Transportation:

- Ensure that ODOT's project planning for the next cycle (2024-2027) is laser-focused on reducing vehicle emissions via all mechanisms (reducing VMT, enabling ZEV infrastructure, accelerating public transportation, accelerating state & local govt transition to ZEVs).
- Strongly encourage the PUC establish a more just rate structure and to move faster to decarbonize electricity generation.

Forestry:

- Move more of Oregon's state forests into conservation.
- Increase harvest rotation of Oregon's harvestable state forests, optimally to at least 80 years.
- Direct ODF to quit pretending they have climate smart forestry practices and actually adopt climate smart practices.

Thank you,
Dr. Daniel D. Frye
OLCV Metro Climate Action Team (MCAT)

Name: Dr James Gaudino MD MS MPH FACPM

Email Address: jag8nw@comcast.net

Subject: Comments on the Outline of the Oregon Global Warming Commission (GWC) Biennial Report to the Legislature for the 2021 Legislative Sn

Message: Addressing Greenhouse Gas & Climate related-impacts GHG-CRIs on Oregonian's health & wellbeing must involve actively engaging leadership/expertise of Oregon's underfunded public health system, fully funding it, including work with/services for vulnerable communities/people.

Developing the role of Government means building funding FROM ANY revenue-generating fees and taxes, e.g., Clean Energy/Jobs or other bills by the Legislature & specifically funding work by Oregon's public health infrastructure (state (OHA), Tribal and local public health authorities (LPHA)) . ReMaking recommendations on additional gov't agency actions, the Governor/Legislators should:

1) Request specific, separate budget item(s) for OHA funding for full, ongoing funding for public health GHG-Climate-related programs and actions, including fully supporting OHA Climate Health Program capacity and actions

- 2) Vigilantly fund OHA GHG-Climate-related programs/actions in ANY other legislation passed.
- 3) Delegate to OHA, Local (LPHAs) and Tribal public health authorities lead role(s) and responsibilities in any actions a) to assess, prevent, mitigate, and set/adjust policies/programs addressing GHG-CRI on health, mental health and wellbeing & b) to monitor/evaluate impacts of such policies/interventions esp for vulnerable and special populations.
- 4) Empower OHA, LPHA to forge proposals for rulemaking to measure/reduce adverse point-source and other diesel/co-pollutant emissions from transportation and other point-sources--plan/implement primary & secondary actions much sooner addressing inequity/injustice concerns.,
- 5) Fund the public health system for ongoing planning/ implementation of actions to educate and mobilize the public and create, coordinate, leverage and add financial incentives for effective, innovative cross-collaborations with other agencies to increase participation with individual and community-wide GHG reduction efforts. a) Fund public health cross-collaborations to educate citizens & leaders about human health co-benefits of GHG-CRI reduction efforts. b) implement/coordinate GHG-CRI reduction efforts; c) lead/provide rapid funding promoting energy conservation/efficiency through weatherization/energy efficiency upgrades in homes/commercial structures.
- 6) Fund, through public health, community level-interventions consistent with framework on climate mental wellness and resilience (International Transformational Resilience Coalition).
- 7) Fund OHA and LPHAs, to coordinate/ implement sustainable ongoing evidence-based efforts to address community, family and individual psychological preparedness and engagement to prepare, respond and adapt to GHG-CRI, acutely during climate-related disruptions and before, during and after GHG-CRIs on health, mental health, wellbeing.

September 4, 2020

Dear Oregon Global Warming Commissioners:

Please consider the below outline points for inclusion in the Commission Recommendations to the Oregon legislature for action during the 2021 session.

1. Direct LCDC/DLCD to develop an aggressive work program to to modernize the Statewide Planning Program by updating the Statewide planning goals to address climate change for mitigation, sequestration and adaption including consideration of new climate change goal. This update should include revision of Goal 1 lacks guidelines relevant to today's technology, and moreover, does not address equity in land use decision-making. Provide the funding necessary for DLCD to develop and carry out the work program.

Background: A July 2009 LCDC meeting staff report stated “[DLCD] *believes that changes to the statewide planning goals and implementing rules likely will be needed for the state to fully and properly respond to the various challenges of climate change.*” 2010 the State Climate Change Adaption

Framework noted *“First, the criteria for state and local decisions about land use, infrastructure investments, and management of natural resources must be reviewed to ensure that today’s decisions are not setting individuals or communities up for predictable future losses.”* In the 2011 OGW Road to 2020 the first proposition is to *“Embed Carbon in the planning process, including carbon generated by local transportation and land use decisions in the communities land use process.”* At the July 2020 LCDC the staff report summarizing public feedback on DLCD’s May 15 EO 20-04 report said The staff report on this project said **“Stakeholders unanimously** expressed support for [updating the planning goals for climate]. Multiple individuals articulated this effort as one of the **top three most critical actions** as a response to EO 20-04. Stakeholders expressed wanting to see specific and implementable actions taken as a result of this review, and DLCD received the recommendation to seek federal and non-profit grant funding to supplement 2021-23 efforts to modify these goals.” This work is a decade overdue.

2. Establish the use of best practices in diversity, equity and Inclusion in the development and implementation of not just the the State’s climate change action program but of all local (city, county, Metro, special purpose districts) climate change action programs.
3. Establish a robust statewide system of educating the public with current detailed information about the progress of actions reducing greenhouse gases and actions that achieve a low carbon economy, and adapt to climate changes.
4. The sequestration function of forest lands needs to be acknowledged and made a key component of Oregon’s climate change action program and a prioritized directive for ODF. Climate smart forestry practices need to be adopted for State forest and private industrial forests so they become carbon sinks rather than carbon sources.
5. Provide extensive job training, and public education on transitioning equitably to low carbon society (*e.g.*, electric vehicles and infrastructure, low carbon agriculture, green construction), and adapting to climate change(*e.g.*,water conservation, mental and physical health, dry and other adaptive farming, fire and flooding response, tree planting).
6. Fund transitions off fossil fuels and adaptations to the changing climate. (droughts, frequent intense rain events, ocean acidification, extreme heat, vegetation changes and rising sea levels)

Take care,

Jonathan Harker, AICP
2915 NE 49th Avenue
Portland, OR 97213

-We are attempting to control greenhouse gas by use of a myriad of environmental, property, and land use legislation passed for purposes other than control of the climate crisis. It is time to pass legislation that clearly states that the state of Oregon in support of life will:

- restrict or eliminate activities that release green house gases
- promote actions that produce green energy

It is entirely too cumbersome and feeble to continue indirectly managing lethal global warming.

Bill Harris
503-228-3448

--Name: Katie Hughes

Email Address: khughes98@gmail.com

Subject: Public Comment on Climate Report

Message: Hi there,

I am reaching out to express my deep concern about Oregon's progress on the climate action roadmap. It is extremely concerning to see how little progress has been made, and how far we have to go to come close to meeting our goals. I strongly encourage that your report is direct about the dismal progress we have made, and to demand the need for a dramatic course correction towards swift and decisive action.

- 1 Identify and recommend rapid actions over the next ten years to achieve substantial reductions of greenhouse emissions and substantial increases in carbon sequestration towards net zero emissions.
- 2 Fund transitions off fossil fuels and adaptations to the changing climate. (droughts, frequent intense rain events, ocean acidification, extreme heat and rising sea levels)
- 3 Establish a robust statewide system of educating the public with current detailed information about the progress of actions reducing greenhouse gases and actions that achieve a low carbon economy, and adapt to climate changes.
- 4 Provide extensive job training, and public education on transitioning equitably to low carbon society (e.g., electric vehicles and infrastructure, low carbon agriculture, green construction), and adapting to climate change(e.g.,water conservation, mental and physical health, dry and other adaptive farming, fire and flooding response).
5. Identify and implement funding sources for the just transition, including but not limited to a Green public bank.

Oregon Global Warming Commission:

If we are to escape dire consequences of climate change, we must alter our course and correct our behaviors that exacerbate build up of greenhouse gasses.

Some strategies we can take to ameliorate the damage already done:

Make substantial investment in transitioning the state to clean fuel, clean electricity and off fossil and carbon burning.

Educate the public to the fact that a vegetable diet is gentler on the climate and environment than meat. Chicken is gentler than beef or pork. Beef is one of the most prominent producers of methane, a

more potent greenhouse gas than carbon di-oxide. Reducing the amount of factory raised meat we eat will be a positive step toward a healthier environment and climate.

Study and implement strategies used in Europe for land planning to mitigate storm water run off to absorb rain water more effectively and lessen the effect of high water events.

Encourage all new buildings to catch rainwater for later use. Alter building codes to enable grey water re-use in yards and agriculture.

Analyze and implement strategies for helping the population adapt to global warming including extreme heat, drought, flooding, wind (hurricanes), wildfire, rising seas, and acidifying oceans.

Establish programs of education to keep the public informed on our progress in transitioning to a cleaner energy paradigm including electric vehicles and infrastructure, low carbon agriculture and green construction. Show our progress on adapting to global warming and climate change including water conservation, mental and physical health, dry and other adaptive farming, fire and flood response.

Thank you for tackling this difficult issue,

Sincerely, Eve King-Lehman, Marcola OR 97454

From: Elizabeth Lindsey <eaglsing@gmail.com>

Sent: Saturday, August 22, 2020 8:53 AM

To: Oregon GWC * ODOE <Oregon.GWC@oregon.gov>; saraw <saraw@oeconline.org>; Dan Frye <daniel.d.frye@gmail.com>

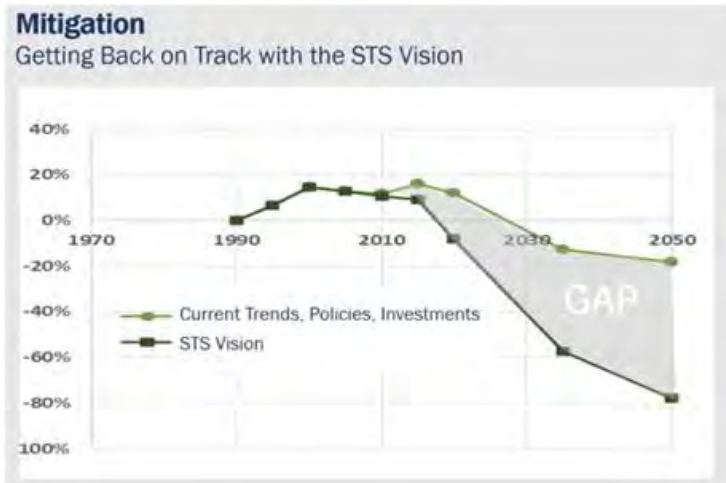
Subject: Comments on OGWC Biennial Report

Oregon Global Warming Commission:

Concerning your biennial report to the legislature, I have the following suggestions to make the plan effective:

III. Progress Toward Achievement of the GHG Reduction Goal

There should be a bullet point concerning where Oregon is relative to past climate goals i.e. that Oregon is failing to see reductions and is not meeting past goals. Graphs illustrating this point for the various sectors would make the situation clear. Here is a sample for the Transportation sector from ODOT:



You should make the focus on the 2020 gap for your current report. There should be thought about why we are so far off target, why Oregon is close to a business as usual situation in many sectors.

IV. Commission Recommendations

Annual tracking of progress to meet the climate goals is needed in each sector, and sub-sectors. This data needs to be available in the first quarter of each year (Q1) with adjustments to the data possible after that as more accurate data is received.

This annual climate progress report should trigger steps to get us back on target in each sector lead by the relevant agencies. Falling behind needs to trigger expedited progress and re-evaluation of what steps are necessary; this adjustment of regulation needs to occur within Q2.

Thank you for addressing these matters in your report.

Sincerely,

Elizabeth Graser-Lindsey
21341 S. Ferguson Rd.
Beavercreek, OR 97004

OGWC,

As you prepare your recommendations, give high priority to the prescription made by vox.com journalist, David Roberts during August, 2020:

1. Give highest priority to moving Oregon from fossil fuel dependency to embrace of clean energy future within the next ten years.
2. In the period 2020-2023, ramp up production capacities of clean energy infrastructure.
3. In the period 2023-2030, use that ramped up clean energy infrastructure to move Oregon from fossil energy to clean energy to the point that our GHG emissions are reduced by 80%.
4. In the period 2030-2050, use the clean energy infrastructure to reduce GHG emissions reduction by 100%.

Thanks for all your great work!

Mark McLeod
Member, Steering Committee
Metro Climate Action Team
510-757-4954 (text)
SustainableMcLeod@gmail.com

From: Squarespace <no-reply@squarespace.info>
Sent: Sunday, August 23, 2020 5:10 PM
To: Oregon GWC * ODOE <Oregon.GWC@oregon.gov>
Subject: [Fortimail Spam Detected] Form Submission - New Form - Comment concerning the OGWC pending report ; IV Commission Recommendations

Name: Sue Craig

Email Address: sueacraig@gmail.com

Subject: Comment concerning the OGWC pending report ; IV Commission Recommendations

Message: It is my hope as a citizen involved with Oregon Wild, Sierra Club, 350.org, and Interfaith Earthkeepers, that you have given much research, and diligent reading of the present information concerning the sequestration of CO2 by living forests of Oregon. Thank you. Sue Craig

Name: Ray Quisenberry

Email Address: rayquisenberry@centurylink.net

Subject: GWC report to the legislature comments

Message: It is crucial that instruction about the climate crisis and a review of the science be presented to all our high school and university students. Either as part of a general science course, or a stand alone class. This should be a required course. In addition, funding needs to be in place to provide an elective course on the community college level. We need everyone informed on the issue.

Thank you

Biennial report comments:

From: asalzman@emoregon.org <asalzman@emoregon.org>
Sent: Friday, September 4, 2020 11:53 AM

To: Oregon GWC * ODOE <Oregon.GWC@oregon.gov>

Cc: 'Britton Conroy' <bconroy@emoregon.org>; 'Peter Sergienko' <petersergienko@gmail.com>; 'Cherice Bock' <cbock@emoregon.org>

Subject: Comments on Biennial Report outline

Chair Macdonald and members of the Oregon Global Warming Commission:

Ecumenical Ministries of Oregon would like to comment on the OGWC's 2020 Biennial Report outline. We believe that these comments should be integrated into the report to ensure that Oregon continues to equitably and earnestly lead the way on climate action.

First, we commend OGWC on considering environmental justice in its outline. We hope that this consideration becomes a major focus of the final report, and we urge OGWC to continue bringing members of impacted communities to the table as the commission drafts its report and considers the recommendations it will make to legislators.

Second, we request that OGWC's report include in its "Brief Summary of the State of the Climate" section the conclusions of the Intergovernmental Panel on Climate Change's (IPCC) "[Special Report: Global Warming of 1.5°C](#)." EMO was pleased to see this report cited in Chair Macdonald's July 10 memorandum to the OGWC, and we believe OGWC should share this same information with legislators. Although Governor Brown's EO 20-04 sets ambitious targets for emissions reductions, we believe legislators ought to know that these goals are inconsistent with the IPCC's recommended warming ceiling of 1.5°C, which requires net zero carbon dioxide emissions by 2050. Exceeding 1.5°C of global warming would have serious implications for the health and wellbeing of people and ecosystems around the world, including here in Oregon. To this end, we believe that OGWC's report should detail an emissions trajectory consistent with 1.5°C of warming, alongside the trajectory for basic compliance with EO 20-04.

The report also ought to recommend that emissions be reduced as quickly as possible. Frontloading emissions reductions will make the transition to a low-carbon economy smoother and more equitable overall than postponing serious action. In particular, as OGWC advised in its 2018 Biennial Report, the commission should urge a rapid shift to sustainable land use practices, which would require reducing logging-related emissions (which constitute [the biggest portion of Oregon's emissions](#)) and investing heavily in carbon sequestration in the next decade.

Thank you for your consideration of these comments, and we look forward to reading the final report.

Sincerely,

Aaron Salzman (he/him/his)

Climate Advocacy Associate, [Ecumenical Ministries of Oregon](#)

asalzman@emoregon.org | 402-881-7142

Thank you for this opportunity to provide input to the Biennial report. First and foremost the Commission needs to hold state agencies accountable for doing their part in helping the state meet its

ambitious GHG reduction goals. We need to do all we can to leave most fossil fuels in the ground and as rapidly as possible transition to renewables. We cannot back off the Governor's Climate EO and rather need to redouble our efforts to rebuild our economy with a focus on clean energy jobs.

I encourage you to focus especially on the Forest and Transportation sectors.

Forestry: Our coastal forests have the capacity to sequester carbon on a per acre basis greater than any forests in the world. Yet, sadly, our state forests and privately held industrial forests are carbon sources rather than carbon sinks. ODF puts a priority on generating revenue with little or no attention paid to increasing carbon stores. Fundamentally the "get out the cut" culture dominant in ODF needs to change. ODF needs to adopt climate smart practices and the most essential practice is delayed harvests. In addition the Oregon Forest Practices Act needs to be strengthened to be at least as strong as our neighbors, California and Washington.

Transportation: What seems most notable about the agencies response to Transportation issues is the lack of urgency - actions to address GHG reductions need to be front loaded. Vehicle emissions reductions need to be the top priority by reducing vehicle miles traveled, VMT. More funding of alternatives such as bike lanes, electric transit, congestion pricing are needed. We also need to really focus on developing EV charging stations across the state.

Sincerely,

Rand Schenck
2947 NE 31st Ave
Portland, Or 97212

Greetings!

Thanks for making the draft available for comment. Though the strategy addresses six themes--economy, natural world, built environment and infrastructure, public health, cultural heritage, and social systems--it leaves out one that deserves at least as much attention, if not more, namely governance.

The story of Oregon's response to climate change is one of a massive failure of governance. If the goals set by the state were of real consequence, then the year after year lack of response to trends counter to those goals wouldn't be a collective shrug. As you show in Figure 1 on page 8 of the draft, we are moving in the absolute wrong direction.

This is not new news. The Oregon Global Warming Commission has alerted the Legislature for some time now of exactly what Figure 1 shows. And neither the Oregon Legislature or the Governor or State Agencies have done anything of consequence in response, except to propose the creation of this draft strategy. Further, the draft strategy does nothing to fundamentally change the relationships of State Agencies to this issue and its trends other than to propose further interagency coordination, so far proven to not bend the curve.

Consequently, my reading of this draft is that it leaves out perhaps the single most important theme, namely governance. How will we organize ourselves to take on this issue? What will we change in pursuit of our goals? Are we willing to really change anything, and if we don't, where will we look for accountability? Frankly, the lack of commitment to real outcomes in the draft is a loud signal that no one expects this to fundamentally change what they do or how they do it.

For example, we should be all in on a strategy to decarbonize the energy and transportation sectors in Oregon. If we are all in on that goal, then the next question ought to be how we'll organize ourselves to achieve it. It's not so much who will meet with who, but whether we can look to our current "silos" for the action we need.

With no evidence that the current structure can deliver, assigning responsibility to the current players in the current configuration is a recipe for the predictable continuation of the status quo. Since the draft allows all actors in our current governance system to continue doing what they do, as they have done it, there is absolutely no chance that this strategy or any other will produce the success we need and say we want.

My only conclusion is that this draft and its recommendations is meant to provide a thin patina of respectability for our goals and what we say we're going to do to achieve them. This should not be acceptable.

What to do? First, conclude that this draft is not nearly ready to be viewed as a finished product. Send the draft back. There is a lot here that can be used in a better version 2.0, but polishing the draft as it is will not be useful for Oregon or the goals we say we seek.

Second, instruct the agencies to frame the next draft to address our governing system and its ability to deliver on our goals. In the absence of any evidence that the current system can work, it's time to reorganize State government around and towards the goals we've set.

Third, don't accept a next draft until there are clear expected outcomes and mechanisms for accountability. In short, the clear message from the first draft is that doing what we're doing is not working. It's the same message that the Oregon Global Warming Commission has been sending for some time. Doing more of the same is not a useful strategy. It's time for real change, and if the draft can't deliver, then send it back until it can.

This is not easy. But it's necessary. Asking Agencies to be the vehicles for their own innovation and change is probably expecting too much for institutions vested in the status quo. Nonetheless, give them one more chance to produce, and if they can't, then start over with different actors.

Thanks for your willingness to tackle this task, and to provide Oregon with an innovative blueprint for actually walking our talk. It's long overdue.

Best,

Ethan Seltzer
Emeritus Professor, Urban Studies and Planning
Portland State University
3082 NE Regents Drive 97212

From: Squarespace <no-reply@squarespace.info>
Sent: Thursday, September 3, 2020 11:52 PM
To: Oregon GWC * ODOE <Oregon.GWC@oregon.gov>
Subject: Form Submission - New Form - OGWC request for 2020 Report Comments

Name: Jane Stackhouse
Email Address: jane@janestackhouse.com
Subject: OGWC request for 2020 Report Comments

Message: With all due respect to the work of the Oregon Global Warming Commission as a citizen observer I think all the 2020 report can honestly say is we are failing to achieve our greenhouse gas reduction goals and we must exponentially increase our efforts. Our time is running out and we have made no substantial reductions in emission except for those forced upon us the Coronavirus pandemic.

As terrible as this pandemic is it has provided two benefits. With most of the developed countries in 'confinement' for the first half of this year we have seen a decrease in greenhouse gas emissions. In April the International Energy Agency projected this may amount an 8% reduction for the year . Still not the goal we set back in 2007 which was to be 10% below the 1990 level of 56.4 MMT CO₂e (about 50 MMT of CO₂e). The other significant benefit is we have demonstrated the ability to make significant behavior changes in the face of a global threat. We now stay closer to home, wear masks, work and meet socially through internet meeting devises because a global crisis indicated we must. How can we find that same level of urgency for climate change caused by increasing greenhouse gas levels?

Some groups are saying we should not initiate any new regulations and should stop the work mandated by the Governor's Executive Order 20-04 to reduce greenhouse gas emissions in Oregon. They are wrong. This is the time to reinforce the behaviors that have helped reduce emissions (working from home, less travel, and decreases in industrial emissions). The International Energy Agency reported decreases in all types of energy use except clean solar and wind which grew. We must look at how we can rebuild our economy during the pandemic in a way that moves us closer to clean energy solutions.

I had high hopes for the Governor's Executive Order in March and I have been impressed with the work that many agencies have done to respond to the order. All agencies are using remote meeting tools to work from home, hold meetings, and involve the public. As I watch the process I find my anxiety and sense of urgency only increases. We have to move faster.

DEQ has moved ahead the most rapidly with a series of workshops and will hold public meetings in October then they begin rule writing. ODOT has asked for input via survey but is continuing with business as usual now rather than seeking immediate reductions for the sector that is 42% of all of our emissions. The buildings code experts are looking at changes in code that can be helpful but will be at least three years out. The PUC is still waiting for legislation to enable them to lower rates based on income when it appears they have the power to do so now. ODF seems to think that business as usual will suffice when they could increase carbon sequestration through regenerative forestry practices. I might feel frustrated if this were 2007 but I just feel hopeless because according to the Intergovernmental Panel on Climate Change (IPCC) we have nine years to reach significant reductions.

As we talk about the impact of climate change on Oregon we need to also consider the social cost of carbon. It's between \$10 and \$150 a ton depending on the amount of risk we are willing to take. And it increases every year we wait to take action. My recommendation is to apply a social cost of carbon to

every decision we make from now on. We also need to set interim goals and hold ourselves accountable for the 35 MMT of reductions needed by 2035. Let's distribute this proportionally across sectors. Each agency would then need to demonstrate how their plans will achieve the emissions reductions in the areas they oversee. I realize there is overlap and that forestry might think it has achieved this by ignoring the social cost of the carbon they fail to store with current practices but we can explain that to them. We also need the 2050 goal to be net zero emissions.

We talk about the changes climate change is bringing and we know that we need to reduce emissions. What we seem to ignore is the fact that we have already made a very warm blanket and even if we slow how much we add to it every year any addition makes it a warmer and warmer blanket.

Name: David Stone

Email Address: dns@efn.org

Subject: Transportation

Message: 1. This one is easy:

Implement a No idle" policy. Too many people leave their cars idling when they park and go into a store to shop. Yesterday, a Hummer did this at the post office, where the driver had to wait in line for 15 minutes (typical wait at the PO). The temp was cool, the vehicle was parked in the shade, no need to idle to run the AC for the passenger waiting inside. Such needless idling is rampant - at convenience stores, at slow fast food lines, at drive-up bank lines etc. My bank has a sign asking drive-up drivers not to idle, most ignore the sign.

British Columbia has a no idle policy, Already some local jurisdictions in Oregon have no idle policies. Oregon can have one state wide too. Start with government vehicles (with rigorous enforcement). Move to public service announcement campaign and then enforcement.. We did this with smoking and it worked. It would even cut down on vehicle theft.

2. Harder, but doable:

Synchronize traffic signals. In too many cities, the traffic signals are synchronized backwards. - the light turns green and just when you arrive at the next light, it turns red. Sitting and idling and accelerating each time the light turns green wastes a lot of gas, generating excess greenhouse gasses.. This is not the same as timing the lights so that vehicles going the speed limit get a string of green lights. That is good, but synchronizing the lights in addition is better - it can reduce congestion, stress and save driver time and even reduce road rage, all without any enforcement. Who wouldn't love that?

Thank you.

Biennial report comments:

From: Ed Sullivan <esulliva@gmail.com>

Sent: Friday, September 4, 2020 8:32 AM

To: Oregon GWC * ODOE <Oregon.GWC@oregon.gov>

Cc: Jonathan Harker <jonathanharker@comcast.net>

Subject: 2020 Biennial Report Outline Comments

I have been working with Jonathan Harker on the response of Oregon's planning community to global warming. I have read, and agree with, his comments sent to the Commission earlier today and will continue to work with him and other like-minded people on Oregon's response to this existential crisis. Here are Mr. Harker's comments again:

Please consider the below outline points for inclusion in the Commission Recommendations to the Oregon legislature for action during the 2021 session.

1. Direct LCDC/DLCD to develop an aggressive work program to modernize the Statewide Planning Program by updating the Statewide planning goals to address climate change for mitigation, sequestration and adaption including consideration of new climate change goal. This update should include revision of Goal 1 lacks guidelines relevant to today's technology, and moreover, does not address equity in land use decision-making. Provide the funding necessary for DLCDC to develop and carry out the work program.

Background: A July 2009 LCDC meeting staff report stated “[DLCD] *believes that changes to the statewide planning goals and implementing rules likely will be needed for the state to fully and properly respond to the various challenges of climate change.*” 2010 the State Climate Change Adaption Framework noted “*First, the criteria for state and local decisions about land use, infrastructure investments, and management of natural resources must be reviewed to ensure that today’s decisions are not setting individuals or communities up for predictable future losses.*” In the 2011 OGW Road to 2020 the first proposition is to “*Embed Carbon in the planning process, including carbon generated by local transportation and land use decisions in the communities land use process.*” At the July 2020 LCDC the staff report summarizing public feedback on DLCDC’s May 15 EO 20-04 report said The staff report on this project said “Stakeholders **unanimously** expressed support for [updating the planning goals for climate]. Multiple individuals articulated this effort as one of the **top three most critical actions** as a response to EO 20-04. Stakeholders expressed wanting to see specific and implementable actions taken as a result of this review, and DLCDC received the recommendation to seek federal and non-profit grant funding to supplement 2021-23 efforts to modify these goals.” This work is a decade overdue.

2. Establish the use of best practices in diversity, equity and Inclusion in the development and implementation of not just the the State’s climate change action program but of all local (city, county, Metro, special purpose districts) climate change action programs.

3. Establish a robust statewide system of educating the public with current detailed information about the progress of actions reducing greenhouse gases and actions that achieve a low carbon economy, and adapt to climate changes.

4. The sequestration function of forest lands needs to be acknowledged and made a key component of Oregon’s climate change action program and a prioritized directive for ODF. Climate smart forestry practices need to be adopted for State forest and private industrial forests so they become carbon sinks rather than carbon sources.

5. Provide extensive job training, and public education on transitioning equitably to low carbon society (*e.g.*, electric vehicles and infrastructure, low carbon agriculture, green construction), and adapting to climate change(*e.g.*,water conservation, mental and physical health, dry and other adaptive farming, fire and flooding response, tree planting).

6. Fund transitions off fossil fuels and adaptations to the changing climate. (droughts, frequent intense rain events, ocean acidification, extreme heat, vegetation changes and rising sea levels)

Thank you for your consideration of these comments.

Comments to Oregon Global Warming Commission

I'm a futurist, a former urban planner, physics teacher, and advocate of *The Limits to Growth* ever since publication in 1972. Two fundamental themes drive human behavior: Economics (whose Greek roots mean "family management"), and territoriality. Economist Jeffrey D. Sachs says,

"Since the great dispersal from Africa [about 70,000 years ago], and surely before that within Africa, human groups have battled each other for territory and to secure their basic survival needs (including water, food supplies, shelter, and minerals). Indeed, human nature was forged in a cauldron of territorial competition, which instilled in our genes and our cultures a remarkable capacity to cooperate within a group, combined with a deeply rooted tendency toward conflict and distrust between groups (according to race, religion, language, national origin, and other markers of identity." --*The Ages of Globalization* (2020) page 28.

Capitalism is a territorial economic system to increase its leaders' wealth. Early human conflicts were managed with escalating vendettas. As human groups increased, this became intolerable, so religions and governments formed, claiming a monopoly over justice. We now see injustice and inequality must be addressed in many areas: race, gender, wealth, generations, sexuality and others.

Governments can increase equity two main ways: taxes and regulations. Humans also prefer simple answers; Senate Bill 2020 was too complex. A carbon tax is simpler, like British Columbia's, using the income to subsidize those with lower incomes. Subsidies can also be indirect, providing public services we all need, like health care and free education. The wealthy can buy these, but lower income people cannot afford to improve themselves; the gap grows.

Governments are formed to provide basic infrastructure and safety. (We are now our own greatest enemy.) Transportation and electricity are key, and linked. Government-built dams provide flood control, water management, and electricity. We now need to convert deserts to solar electricity farms. Fossil-fueled transportation must be cut, but not until there's an electric recharging grid. So tax carbon and install charging stations at every roadside rest area. (Rest areas can use gas taxes.) Require every new large building to include charging stations and be LEED certified at some level. Tourism (a carbon-intensive industry) destinations and hotels need lodging taxes devoted to infrastructure, not industry promotion. (General rule: identify and repeal viscous cycles, like lodging taxes.)

Much money is spent on recreation and entertainment, mostly by those of higher income. In particular, tax carbon-hungry recreation like power boats and RVs of every sort with registration fees based on horsepower. (The 2018 session taxed kayakers and other non-motorized boaters with an annual "fee" in direct violation with the Act Admitting Oregon to the Union of 1859. Repeal it.) Add a limited sales tax on all on-site entertainment. A new baseball stadium? From a climate perspective, really dumb. Look at secondary and tertiary impacts of such activities. For example, many boat owners park their boats on trailers, requiring heavy vehicles to tow them, then using for daily commuting. It also requires larger lots to park them, lowering housing density, increasing public transportation and other infrastructure costs. Such taxes and registration fees make the public more aware that their "small" personal decisions have climate impact. Tax lead-based aviation gas, which is poisonous.

We need a timber severance tax on all *logs* shipped out of Oregon, to pay for more reforestation.

We need some long-range thinking. Consider steps to repeal citizen-initiated sections of Oregon's constitution that restrict our use of carbon (gas) taxes to reduce carbon consumption.

Finally, consider a paradigm shift: We like growth, but we must measure it by *quality* not *quantity*.

John Weigant, 503-841-1727, johnweigant@comcast.net, 18989 NE Marine Dr. #15, Portland, 97230

OGW Commissioners;

I would like to ask you to emphasize climate mitigation with a focus on our working lands in particular. This is where I believe we can make the biggest impact. Changes in forestry practices are a necessary without a doubt but I invite you to really look at the opportunity that changing agricultural practices can make.

What is needed is a push to Department of Ag. to educate, encourage, and hopefully find a way to incentivize farmers into making changes that will ultimately benefit them thru better soil health and water retention, and that will sequester carbon in the soil which will then benefit us all. The research on carbon sequestration in correctly maintained agricultural soils is impressive. Please make our working lands a topmost priority in the effort to avoid further climate destruction.

Thank you for the opportunity to comment. I appreciate the work that the commission has done and continues to do.

Linda Kelley

Eugene, OR 97405

Dear Oregon Global Warming Commissioners,

I am writing to express my concern over ODFs initial report on the climate Executive Order (20-04). The report does not include any concrete steps that ODF will take to help avoid the worst climate impacts. Industrial forestry in Oregon, which ODF is obligated to regulate, has been the largest contributor to greenhouse gas emissions of any sector in the state. I ask that the Oregon Global Warming Commission work with ODF to produce concrete climate solutions to store more carbon in Oregon's forests.

The Executive Order is clear that ODF is charged with identifying ways to contribute to Greenhouse Gas emissions (GHG) reduction goals. The initial report instead relies mostly on symbolic actions that will have no meaningful effect on reducing emissions or reforming forestry practices. Please recommend concrete, science-based changes that will help increase carbon storage such as reducing clearcutting, lengthening the rotation time between harvest activities to allow trees to store more carbon, reducing road building, and promoting an incentive system for private forest owners to store more carbon in their forests.

Moreover, the initial ODF report lacks any timeline for a transparent process for public engagement. That stands in stark contrast to many of the other state agencies that are holding an open process for the public to engage ahead of their final reports in 2021. Please allow Oregonians a chance to engage in the creation of your proposal and share their input with the Commission and with ODF.

We need ODF to step up and help become part of the climate solution and not just contribute to the climate crisis. ODF has an important role in helping remedy climate change. I look forward to working with the agency on this effort.

I ask that the Commission take a leadership role in encouraging our state agencies to do the right thing for Oregon's climate. In the case of ODF, this means going back to the drawing board, consulting peer-reviewed science and producing concrete steps for a.) avoiding greenhouse gas emissions from industrial forestry, b.) storing more carbon on the landscape, and c) engaging the public, independent scientists, and stakeholders in the process.

Sincerely,
Ms. Elizabeth Tobey
4860 Highway 66 Ashland, OR 97520-9712
elizabethparktobey@gmail.com

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Sincerely,
Ms Victoria Meier
4669 Exeter St West Linn, OR 97068-3824 meier235@gmail.com

These are my remarks on climate actions that we in Oregon need to take.

- *Our plans must be for **substantial** greenhouse gas emissions.
- *We need to make the public see the urgency of action on climate change.
- *We need to fund the transition to renewables and away from fossil fuels. Therefore no more new infrastructure for fossil fuels.
- *Carbon storage in our forests must take precedence over cutting for revenue.

Thank you for taking on this work and for considering my remarks!

Gisela S. Ray
503 477 5121
PDX 97216

Name: Dr James Gaudino MD MS MPH FACPM

Email Address: jag8nw@comcast.net

Subject: Comments on the Outline of the Oregon Global Warming Commission (GWC) Biennial Report to the Legislature for the 2021 Legislative Sn

Message: Addressing Greenhouse Gas & Climate related-impacts GHG-CRIs on Oregonian's health & wellbeing must involve actively engaging leadership/expertise of Oregon's underfunded public health system, fully funding it, including work with/services for vulnerable communities/people.

Developing the role of Government means building funding FROM ANY revenue-generating fees and taxes, e.g., Clean Energy/Jobs or other bills by the Legislature & specifically funding work by Oregon's public health infrastructure (state (OHA), Tribal and local public health authorities (LPHA)) . ReMaking recommendations on additional gov't agency actions, the Governor/Legislators should:

1) Request specific, separate budget item(s) for OHA funding for full, ongoing funding for public health GHG-Climate-related programs and actions, including fully supporting OHA Climate Health Program capacity and actions

2) Vigilantly fund OHA GHG-Climate-related programs/actions in ANY other legislation passed.

3) Delegate to OHA, Local (LPHAs) and Tribal public health authorities lead role(s) and responsibilities in any actions a) to assess, prevent, mitigate, and set/adjust policies/programs addressing GHG-CRI on health, mental health and wellbeing & b) to monitor/evaluate impacts of such policies/interventions esp for vulnerable and special populations.

4) Empower OHA, LPHA to forge proposals for rulemaking to measure/reduce adverse point-source and other diesel/co-pollutant emissions from transportation and other point-sources--plan/implement primary & secondary actions much sooner addressing inequity/injustice concerns.,

5) Fund the public health system for ongoing planning/ implementation of actions to educate and mobilize the public and create, coordinate, leverage and add financial incentives for effective, innovative cross-collaborations with other agencies to increase participation with individual and community-wide GHG reduction efforts. a) Fund public health cross-collaborations to educate citizens & leaders about human health co-benefits of GHG-CRI reduction efforts. b) implement/coordinate GHG-CRI reduction efforts; c) lead/provide rapid funding promoting energy conservation/efficiency through weatherization/energy efficiency upgrades in homes/commercial structures.

6) Fund, through public health, community level-interventions consistent with framework on climate mental wellness and resilience (International Transformational Resilience Coalition).

7) Fund OHA and LPHAs, to coordinate/ implement sustainable ongoing evidence-based efforts to address community, family and individual psychological preparedness and engagement to prepare, respond and adapt to GHG-CRI, acutely during climate-related disruptions and before, during and after GHG-CRIs on health, mental health, wellbeing.

(Sent via [Keep Oregon Cool!](#))
