



Forest Carbon Coalition

Advancing nature's climate solutions

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Sent by electronic mail

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RE: ODF implementation of Executive Order 20-04

Dear Mr. Minor, Ms. Sheeran, and Mr. Imeson:

The Forest Carbon Coalition and its Oregon partners have the following recommendations to offer as the Oregon Department of Forestry (ODF) begins to fulfill its duties under Executive Order 20-04 (EO 20-04). We are encouraged that Governor Brown has exercised her authority to accelerate climate action in Oregon through this measure. Given that the industrial logging and wood products sector is Oregon's most carbon intensive and presents one of the state's most serious threats to climate resiliency, we believe it is imperative that ODF exercise any and all authority and discretion to:

- (1) Reduce greenhouse gas (GHG) emissions from industrial logging activities;
- (2) Regrow climate resilient forests on damaged and degraded lands, and;
- (3) Implement these tasks in the most cost-effective manner possible.¹

As ODF prepares its initial submission by May 15th, we want to ensure that the scope of actions proposed by ODF is in line with these mandates. To be in compliance with EO 20-04, we believe ODF's suite of proposed actions must include binding commitments to:

¹ General state agency duties to reduce emissions and climate impacts in a cost-effective manner are set forth in Executive Order No. 20-04 § 3(A-D).

Reduce emissions and climate impacts across all ODF program areas

The directives set forward in EO 20-04 should apply to all ODF operations, regulatory and management programs that have a direct or indirect influence on GHG emissions and resiliency to climate change. These include activities ODF carries out in association with its fire protection, private forests, state forests, administration, and facilities maintenance programs as well as its collaborative activities with managers of national forest and BLM lands. **In its May 15th submission, ODF must provide details of how each of these regulatory and management programs will be modified to meet EO 20-04's mandates.**

Restore nature's carbon storage and sequestration capacity

Compared to the carbon dense ancient and native forests that once dominated Oregon's forested landscapes, the matrix of clearcuts, logging roads and timber plantations that now characterize industrial forestlands and portions of state, federal and other private lands store and sequester far less carbon and are far more vulnerable to the effects of climate change.² According to the most recent Forest Inventory and Analysis (FIA) data, average carbon densities on western Oregon forestlands range between 108 tons per acre on industrial forestlands to 157 tons per acre on national forests. These values are far below the natural capacity of old-growth forests, which can store more than 320 tons carbon per acre.³ Carbon sequestration dead zones now exist where highly productive carbon sinks once stood. Recent clearcuts, in fact, are net emitters of CO₂ for ten to fifteen years after logging.⁴

Industrial forestlands are also more vulnerable to the effects of climate change, weakening the resiliency of forest ecosystems and endangering nearby rural communities. These lands and the waters that traverse them are far more susceptible to drought, disease, wildfire, floods, landslides, low summertime streamflow, thermal pollution, fish kills, regeneration failures and harmful algae blooms than the natural forests and watersheds they have replaced. Each of these facts has been presented to ODF, the Carbon Policy Office and the legislature on numerous occasions over the past several years.⁵

² Krankina, O., D.A. DellaSala, et al. 2014. High biomass forests of the Pacific Northwest: who manages them and how much is protected? *Environmental Management*. 54:112-121.

³ Seidl, R., Spies, T.A., Rammer, W., Steel, E.A., Pabst, R.J., Olsen, K., 2012. Multi-scale drivers of spatial variation in old-growth forest carbon density disentangled with Lidar and an Individual-Based Landscape Model. *Ecosystems* 15: 1321-1335.

⁴ Turner, D.P., Guzy, M., Lefsky, M.A., Ritts, W.D., Van Tuyl, S., Law, B.E., 2004. Monitoring forest carbon sequestration with remote sensing and carbon cycle monitoring. *Environmental Management* 33(4): 457-466.

⁵ Center for Sustainable Economy, et al., 2018. Input on forest carbon study and policy interventions to reduce the adverse impacts of industrial forestry on climate change and climate resiliency. Submitted to ODF and CPO July 10th, 2018. Portland, OR: Center for Sustainable Economy.

Given these realities, ODF's overriding commitment should be to expedite the recovery of these damaged and degraded lands back into real, climate resilient forests capable of providing sustainable supplies of high-quality wood products while replenishing carbon storage, carbon sequestration and other ecosystem services back to their natural levels. Proforestation and other climate smart practices should be front and center of ODF's strategies to accomplish these goals.⁶ In addition, nature's baseline capacities should inform selection of all ODF targets and desired conditions adopted in the context of EO 20-04 implementation, and ODF should make this explicit in its May 15th submission.

Protect all remaining tracts of carbon rich native and old growth forests

Undisturbed native and old growth forests in the Pacific Northwest are among the most carbon dense ecosystems on Earth.⁷ When they are logged, most of this carbon ends up in the atmosphere. In 1990, forest scientists estimated that the conversion of over 5 million hectares of old-growth forests into tree plantations in western Oregon and Washington has added up to 1.8 billion metric tons of carbon to the atmosphere - a carbon deficit that represents 104 years of Oregon's current in-boundary GHG emissions.⁸

The loss of native and old growth forests continues today, in part due to ODF's failure to take action to stop it. As a result, old-growth forests now exist in mere fragments, estimated by Oregon's Department of Fish and Wildlife at roughly ten percent of their original extent. **To satisfy EO 20-04, ODF must make every reasonable effort to increase the protection for all remaining tracts of these native forests as blueprints for proforestation and climate adaptation, to ensure that rich stores of carbon stay in forests, and to maintain a wide range of ecosystem services of immense value to Oregon's rural and urban communities.**

Natural control of disease is one ecosystem service that is now receiving widespread global attention. We are in the midst of a global pandemic caused, in part, by the loss and degradation of biodiverse forests. In many parts of the world, the destruction of native forests into fragmented patches is increasing the likelihood that viruses and other pathogens will jump from wild animals to humans.⁹ The loss of natural controls on insects, disease, and other

⁶ Moomaw, W.R., S.A. Masino, E.K. Faison, 2019. Intact forests in the United States: proforestation mitigates climate change and serves the greatest good. For. Glob. Change, 11 June 2019: <https://doi.org/10.3389/ffgc.2019.00027>.

⁷ Krankina and DellaSala et al., 2014, note 2.

⁸ Harmon, M., Ferrell, W.K., Franklin, J.F., 1990. Effects on Carbon Storage of Conversion of Old Growth Forests to Young Forests. *Science* 247: 699-702.

⁹ Bloomfield, L.S.P, T.L. McIntosh, E.F. Lambin, 2020. Habitat fragmentation, livelihood behaviors, and contact between people and nonhuman primates in Africa. *Landscape Ecology* 35: 985-1000.

pathogens has been linked to increased likelihood of zoonotic disease transmission.¹⁰ The chilling lessons from SARS-CoV-2 (the virus that causes COVID-19) is a stark reminder that our intrusion into remaining wild areas must halt. As such, ODF's May 15th submission should reflect a commitment to inventorying and protecting all remaining native forests from logging and other human disturbances.

Report and regulate GHG emissions from the logging and wood products sector

Although uncounted in Oregon's official GHG inventory, it is widely understood that the logging and wood products sector is very carbon intensive. As early as 2013, the Oregon Global Warming Commission published estimates of timber harvest related emissions in Oregon. These findings have been updated in OGWC's most recent report to the legislature.¹¹ Between 1990 and 2002 the OGWC report estimated emissions to range between 21 million and 36 million metric tons CO₂ equivalent per year (MMT CO₂-e/yr).¹² In 2017 and 2018, two studies in Oregon - one by OSU researchers and one by Center for Sustainable Economy estimated emissions to average roughly 34 MMT CO₂-e/yr between 2000 and 2015.¹³ These figures, which come from comparing emissions with logging and wood-products sector vs. what the emissions would have been without these activities (with-and-without approach), confirm that logging is Oregon's number one source of GHG emissions.

ODF has resisted this with-vs.-without analytical approach, preferring instead, a with-vs.-with approach that assumes the sequestration on lands previously logged and replanted offset the emissions from this year's logging. The with-vs-with approach hides the true emissions of industrial forest management.¹⁴ **As EO 20-04 is implemented, Oregon must go beyond the limited framework of its existing GHG inventory and honestly account for all aspects of the logging and wood products sector emissions in its biennial update, as suggested by some of the world's foremost forest carbon researchers.**¹⁵ ODF, OGWC

¹⁰ Pongsiri, M.J., J. Roman, V.O. Ezenwa, T.L. Goldbergh, H.S. Koren, S.C. Newbold, R.S. Ostfeld, S.K. Pattanayak, D.J. Salkeld, 2009. Biodiversity loss affects global disease ecology. *Bioscience* 59(11): 945-954.

¹¹ Oregon Global Warming Commission (OGWC), 2018. Forest Carbon Accounting Project Report. Salem, OR: OGWC.

¹² Kelly, Peter. 2013. A Greenhouse Gas Inventory of Oregon's Forests. Salem, OR: Oregon Department of Energy, Oregon Global Warming Commission.

¹³ Law, B.E., et al. 2018. Land use strategies to mitigate climate change in carbon dense temperate forests. *Proceedings of the National Academy of Sciences of the United States of America* 115: 3663-3668; Talberth, J., 2017. Oregon Forest Carbon Policy: Scientific and technical brief to guide legislative intervention. Lake Oswego, OR: Center for Sustainable Economy.

¹⁴ Talberth, J., 2017, note 13, pages 8-10.

¹⁵ Hudiburg, T.W., B. E. Law, W.R. Moomaw, M.E. Harmon, J.E. Stenzel, 2019. Meeting GHG reduction targets requires accounting for all forest sector emissions. *Environmental Research Letters* 14: Article 095005.

and their academic and technical partners have the data and tools needed to make this happen.

Protect drinking water supplies from depletion and degradation

Industrial forest practices have depleted Oregon's drinking water supplies and routinely contaminate these waters with thermal, nutrient, sediment and chemical pollution. Paired watershed studies have found dry season depletion rates to be 50% or more as healthy watersheds are converted into tree plantations.¹⁶ ODF's own modeling has found that hot microclimates in clearcuts significantly boost stream temperatures.¹⁷ Climate change will make water supplies even warmer and scarcer and create synergistic effects that may lead to a dramatic increase in harmful algae blooms (HABs). HABs flourish in waters that are warm, slow moving, and laced with chemicals and fertilizers that nurture their growth. Industrial forest practices worsen each of these contributing factors.

Future changes in climate will intensify the impacts of industrial timber production on Oregon's water supplies. **Given the clear connection between industrial forest practices, water shortages, and the health risks of HABs, ODF's proposed actions must include measures to protect surface drinking water supplies from further degradation.** During the 2019 legislative session, HB 2656 (the Safe Waters Act) was introduced as a means for doing this by prohibiting most forms of clearcutting, new logging roads, and spraying of chemicals and fertilizers in surface drinking water supplies with limited exceptions for ecological restoration and forest carbon storage projects.¹⁸ ODF should embrace this approach as part of its compliance with EO 20-04.

Reduce demand for carbon intensive wood products

ODF, through its own activities as well as through the Oregon Forest Research Institute (OFRI) has been a staunch advocate for storing carbon in wood products rather than leaving it in forests. ODF must abandon this advocacy if it is to comply fully with EO 20-04. Every ton of CO₂ stored in wood products comes at the expense of many more tons released along the way. In contrast, leaving forests standing ensures that carbon not only stays out of the

¹⁶ Perry, T. D., J.A. Jones, 2016. Summer streamflow deficits from regenerating Douglas-fir forest in the Pacific Northwest, USA. *Ecohydrology*. 1-13; Segura, C., K.D. Blandon, J.A. Hatten, J.A. Jones, V.C. Hale, G.G. Ice, 2020. Long term effects of forest harvesting on summer low flow deficits in the Coast Range of Oregon. *Journal of Hydrology* 585: 124749. <https://doi.org/10.1016/j.jhydrol.2020.124749>.

¹⁷ Oregon Department of Forestry. 2016. Oregon Department of Forestry (ODF), 2015. Detailed analysis: predicted temperature change results. Agenda Item 7, Attachment 3 to the meeting packet prepared for the Board of Forestry, June 3rd, 2015. Salem, OR: ODF

¹⁸ HB 2656, 2019 Regular Session. Available online at:

<https://olis.leg.state.or.us/liz/2019R1/Downloads/MeasureDocument/HB2656/Introduced>.

atmosphere but continues to accumulate for centuries. The bottom line is that conventionally produced wood products are very carbon intensive. More so than many substitutes.

Wind, solar and other renewable energy sources are less carbon intensive than woody biomass. Energy from woody biomass, in fact, has been shown to be more carbon intensive than coal.¹⁹ Bamboo, hemp and other fiber alternatives are less carbon intensive than wood-based paper and packaging. Wood buildings may or may not be less carbon intensive than other designs - it all depends on how the wood is sourced, where it is sourced from, and other factors particular to the design of individual buildings.²⁰ As such, as part of its implementation strategy for EO 20-04, ODF should abandon its one-size-fits-all programs that promote woody biomass for electricity production and cross laminated timber and other mass timber products as climate solutions. Instead, **ODF should encourage or permit timber production only when evidence clearly indicates that the harvested wood products will result in lower levels of atmospheric carbon dioxide than would occur without the timber harvest.** Moreover, ODF should propose actions that help industries and consumers reduce wasteful levels of demand for wood products on par with similar demand reduction strategies for fossil fuels.

Leverage reductions in emissions and climate impacts on federal lands

ODF directly manages state forestlands and regulates activities on private lands by administering the Forest Practices Act. But in addition, ODF has lead or co-lead regulatory authority that extends to federal lands as well, through implementation of various joint federal-state programs related to the Clean Air Act, Clean Water Act, Safe Drinking Water Act, Collaborative Forest Landscape Restoration Program and other authorities. Federal forestland managers acknowledge their duties to comply with various standards and procedures adopted by states under these programs.²¹ Thus, in developing its implementation plans for EO 20-04, ODF should take an 'all lands' approach to make full use of its statutory authority and discretion. **In its May 15th submission, ODF should describe each of the authorities it possesses to promote emissions reductions and minimize climate impact on federal forestlands.**

¹⁹ See, e.g. Serman, J.D., L. Siegel, and J.N. Rooney-Varga, 2018. Does replacing coal with wood lower CO₂ emissions? Dynamic lifecycle analysis of wood bioenergy. *Environmental Research Letters* 13: Article 015007.

²⁰ Talberth, J., 2020. To save our climate we need taller trees, not taller wooden buildings. Portland, OR: Center for Sustainable Economy. Available online at: <https://sustainable-economy.org/to-save-our-climate-we-need-taller-trees-not-taller-wooden-buildings/>.

²¹ For example, national forest system managers recognize their duties to comply with all "[f]ederal, state or local air control rules, regulations, and directives." Forest Service Manual 2580.1(a).

Reduce climate-related fire risks exacerbated by logging and timber plantations

ODF has been pursuing a risky strategy when it comes to wildland fire management – financing and facilitating commercial logging operations on federal public lands. Many of the commercial ‘thinning’ operations carried out on federal public lands increase, rather than decrease fire risk, and result in higher levels of GHG emissions than if the land were not damaged by logging and fires were simply allowed to burn. Two recent federal court decisions have reprimanded the Forest Service and BLM for promoting commercial logging projects without acknowledging and mitigating their potential to increase rather than decrease fire risk.²² A well-established body of literature has confirmed that mechanical thinning results in a substantial net loss of forest carbon storage, and a net increase in carbon emissions that can substantially exceed those of wildfire emissions.²³ Logging tends to make wildland fires burn more intensely, as well, because it creates hotter drier microclimates, increases in-stand wind velocity, and leaves behind substantial logging residues that provide tinder for wildfires.²⁴

Timber plantations on private lands, not natural forests on federal public lands, present a much higher risk of severe wildfires. Research has shown that fires burn faster, hotter, and more catastrophically in industrial tree plantations than they do in more biodiverse forests on federal public lands.²⁵ This is especially concerning given that most rural communities directly abut these private forests. As such, any efforts to develop thinning projects for wildland fire risk reduction should be focused on these highly flammable tree plantations on private lands adjacent to rural communities and infrastructure. Thinning operations focused on expediting the development of complex, late successional, more fire-resistant forests could have the advantage of increasing carbon storage while reducing community vulnerability to wildfire. Thus, **ODF’s fire protection strategies should be redirected in the context of EO 20-04 to focus on the highest risk lands – private industrial forestlands – and on ways to expedite the conversion of these tree plantations back into fire resistant forests.**

²² Oregon Wild v. Bureau of Land Management and Seneca Sawmill Company 6:19-cv-00247-MC. United States District Court of Oregon. 2019; and Bark; et al. v. United States Forest Service; and High Cascade Inc. No. 19-35665 D.C. No. 3:18-cv-01645-MO. United States Court of Appeals, Ninth Circuit. 2020.

²³ Hudiburg, T.W., et al. 2013. Interactive effects of environmental change and management strategies on regional forest carbon emissions. *Environmental Science and Technology* 47: 13132-13140; Campbell, J.L., M.E. Harmon, and S.R. Mitchell. 2012. Can fuel-reduction treatments really increase forest carbon storage in the western US by reducing future fire emissions? *Frontiers in Ecology and Environment* 10: 83-90.

²⁴ See, e.g. Bradley, C.M. C.T. Hanson, and D.A. DellaSala. 2016. Does increased forest protection correspond to higher fire severity in frequent-fire forests of the western USA? *Ecosphere* 7: article e01492.

²⁵ Zald, H.S.J., and C.J. Dunn, 2018. Severe fire weather and intensive forest management increase fire severity in a multi-ownership landscape. *Ecological Applications* 28:1068-1080. doi:10.1002/eap.1710.

Adopt a 'polluters pay' approach for funding ODF's climate actions

The cost of achieving EO 20-04's goals should not fall on taxpayers, but rather on the corporations that are most responsible for climate change and loss of climate resiliency. In Oregon, big corporate owners of Oregon's forestlands are the state's worst contributors to climate change. They make profits by forcing society to bear the climate costs that result from their carbon dioxide emissions. In other words, they internalize profits and externalize climate costs, and this imbalance provides incentives for them to engage in forest-management practices that generate more carbon emissions than would occur if they bore the costs, themselves. To correct the imbalance, **ODF should take all appropriate steps to internalize all of the costs now being externalized by their practices and borne by society.**

Advocating for fair taxation is one approach. ODF's funding as well as funding for schools, infrastructure, and social services has been hampered by a steadily declining stream of tax revenues from private forestlands.²⁶ Reversing this trend and establishing fair tax rates to levels commensurate with the damages being externalized from these lands is an efficient, market-based approach that will help solve Oregon's chronic financial woes, decouple county funding from destructive logging on public lands and generate funds needed to responsibly implement EO 20-04.

Carbon taxes are another approach to consider. In 2017, legislation to establish a Forest Carbon Tax and Reward program was drafted to levy taxes based on the social cost of carbon on big industrial forestland emitters.²⁷ This tax would reduce incentives for forest practices that result in high levels of carbon emissions. The revenues generated by the tax would reward practices that increase the amount of carbon stored in Oregon's forests by financing climate-smart alternative practices, such as long rotations, alternatives to clearcutting, and forest carbon reserves. ODF should develop information detailing the feasibility of this proposal and provide other appropriate support.

A third approach is to rescind and redirect subsidies to encourage these climate smart forest practices. Each year, various tax breaks, subsidies, and direct expenditures are granted to forestland owners and mills without any sideboards ensuring that these funds will not be used for the harmful logging practices that are driving climate change. A partial tally of these

²⁶ Green, E., 2018. Cut and run dry: Do Oregon tax laws favor the timber industry? Street Roots 7 Sep. 2018. Available online at: <https://news.streetroots.org/2018/09/07/cut-and-run-dry-do-oregon-tax-laws-favor-timber-industry>.

²⁷ LC 2875, 2017 Regular Session. Available online at: https://sustainable-economy.org/wp-content/uploads/2017/02/LC2875_DRAFT_2017_Regular_Session.pdf.

subsidies suggests the level to be over \$750 million per year.²⁸ In this late stage of the climate crisis, any and all public support for forestry activities on private lands should be reserved for forestland owners who maintain healthy forest cover and implement climate smart practices.

The Forest Carbon Incentives Act of 2019 can serve as an exemplar of legislation to rescind certain subsidies (i.e. tax breaks for logging equipment and logging roads) and make others contingent upon healthy forest cover being present.²⁹ Counties would be required to set aside 30% of increased revenue streams to finance climate smart practices on non-industrial forestlands, and could keep 70% of the increased revenues for schools, infrastructure, and social services. **As it implements EO 20-04, ODF should provide Governor Brown and the Legislature with information they can use to evaluate these innovative, cost effective approaches for financing EO 20-04 implementation consistent with the bedrock principle of polluters pay.**

Promulgate GHG air quality rules under existing OFPA authority

In signing EO 20-04, Governor Brown acknowledged that greenhouse gas emissions are pollutants that endanger public health, safety and welfare.³⁰ As part of its statutory mandate to protect air quality, **ODF has the authority and duty to promulgate air quality rules to regulate these emissions. This rulemaking process should adopt site-specific practices to reduce both direct (i.e. emissions from recently clearcut lands) and indirect (i.e. foregone sequestration) emissions from logging, clearcuts, roads, use of chemical fertilizers and pesticides, slash burning and soil disturbance.**

While CO₂ is the primary pollutant, all other GHG pollutants should be addressed as well. For example, fertilizers applied broadly to timber plantations catalyze nitrous oxide (N₂O) emissions, a gas 300 times more powerful than carbon dioxide. Recent estimates of this effect suggest that for every metric ton of fertilizer applied, between 1.75% and 5% of that weight is converted into N₂O emissions.³¹

²⁸ Green, E., 2019. Taxpayers prop up the biggest carbon culprit in Oregon: timber. Street Roots 18 Oct. 2019. Available online at: <https://news.streetroots.org/2019/10/18/taxpayers-prop-biggest-carbon-culprit-oregon-timber>.

²⁹ HB 2659, 2019 Regular Session. Available online at: <https://olis.leg.state.or.us/liz/2019R1/Downloads/MeasureDocument/HB2659/Introduced>.

³⁰ The EO 20-04 preamble reads, in pertinent part: "Whereas GHG emissions present a significant threat to Oregon's public health, economy, safety, and environment...".

³¹ Shcherbak, I., Millar, N., Robertson, G.P., 2014. Global meta-analysis of the nonlinear response of soil nitrous oxide emissions to fertilizer nitrogen. *PNAS* 111(25): 9199-9204.

Modernize the OFPA to make climate smart practices the law

If managed well, Oregon's forestlands can capture and store more carbon per acre than typical tropical ecosystems. But to do this, Oregon's Forest Practices Act needs to be modernized to make climate smart practices the law and not the exception. Climate smart forestry techniques are those that simultaneously reduce logging related emissions, build carbon stocks on the landscape, maintain or enhance sequestration capacity and improve climate resiliency. Forest carbon reserves, afforestation, reforestation, long rotations, alternatives to clearcutting (i.e. variable density thinning) and ecological restoration of tree plantations to expedite development of old growth characteristics are examples of such climate-smart techniques.

A blueprint for modernization was introduced during the 2017 legislative session. HB 3226 (2017) included provisions for forest-management plans and carbon-storage targets for large corporate owners, science-based buffers for aquatic ecosystems, set-asides for developing carbon rich mature and old growth forests, and mechanisms for public participation.³² **As part of EO 20-04 implementation, ODF should identify all the OFPA changes that need to be made to bring Oregon's forest practices up to the standards set by best available climate science.** HB 3226 provides an important roadmap for doing so.

Halt harmful and costly logging projects on Oregon's public forestlands

One of the most cost-effective actions ODF can take to implement EO 20-04 is to eliminate harmful logging projects that increase emissions and reduce climate resiliency on state forestlands and catalyze similar actions on the state's county, national forest and BLM lands as well. These lands are relatively unimportant from a timber supply perspective but are the only places where public trust resource values – clean water, fish, wildlife, recreation and carbon storage can be maximized. As such, logging these lands is typically not cost effective: it generates social costs far in excess of benefits.

In Oregon, climate-related damages from logging on public forests is at least 10 times and perhaps more than 80 times revenues earned from timber sales.³³ Add to this the fact that public lands logging programs also lose money for taxpayers, further eroding their cost effectiveness. On federal lands, the taxpayer burden of timber sales in Oregon averages at least \$255 million per year over and above any revenues earned.³⁴

³² HB 3266, 2017 Regular Session, available online at:

<https://olis.leg.state.or.us/liz/2017R1/Downloads/MeasureDocument/HB3226/Introduced>.

³³ Niemi, E., 2020. Climate Costs and Risks of Logging on State Forests. Memorandum submitted to ODF 3 November 2019. Available online at: <https://forestcarboncoalition.org/wp-content/uploads/2019/11/BoF-L-2019-1104.pdf>.

³⁴ Figures based on Talberth, J. and E. Niemi. 2019. Environmentally harmful subsidies in the US: Issue 1 - the federal logging program. Portland, OR: Center for Sustainable Economy. Available online at:

For these reasons, **ODF should immediately suspend further implementation of its annual operating plans (AOPs) for state forests for FY 2020 and FY 2021 until it has fully developed its program for implementing EO 20-04 and until it can provide a reasonable accounting of benefits and costs for these logging projects that include climate damages.** Continuing clearcut logging on state forests would run afoul of the core goals of EO 20-04: to reduce emissions that cause climate change and the state's vulnerability to climate change.

In a separate comment letter to ODF, several organizational signatories of this letter have also joined in a call for suspending the state lands logging program. In that letter, they note that, as planned, the FY 2021 AOPs will generate 1.6 million metric tons CO₂-e at a social cost of at least \$667 million³⁵ and further degrade the landscape's resiliency to the effects of climate change.

Thank you for the opportunity to comment on ODF's implementation strategy for EO 20-04. In the coming weeks, we would like to discuss these recommendations with you in more detail. We will contact you soon to schedule this.

Sincerely,

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<https://sustainable-economy.org/wp-content/uploads/2019/05/CSE-Federal-logging-report-May-2019.pdf>.

³⁵ Based on a median social cost of carbon estimated at \$417 per tonne CO₂ by Ricke, K., L. Drouet, K. Caldeira, M. Tavoni, 2018. Country-level social cost of carbon. *Nature Climate Change*, 24 September 2018.

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