Sierra Pacific Industries

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Liane M. Randolph, Chair
California Air Resources Board
1001 "I" Street
Sacramento, CA 95814

RE: Short Lived Climate Pollutants - Proposed 2030 Target Scoping Plan

Dear Chair Randolph and Board Members:

This letter is submitted to request that the California Air Resources Board staff include all wildfire emissions and associated black carbon in the CARB emissions scenario modeling. Black carbon from wildfire (anthropogenic or natural) must be accounted for since wildfire smoke has been, and likely will be a significant contributor to annual emissions. Therefore, it is essential to include wildfire emissions in the scenario modeling since it will influence whether the opportunities and tradeoffs relating to how wildfires are mitigated can be appropriately understood. Because wildfire is such a significant source of emissions, an inadequate assessment caused by excluding wildfire from the modeling scenarios will be misleading to the public and decision makers, since they will not have the data necessary to appropriately develop emission reduction policies and recommendations.

Company Profile

Sierra Pacific Industries (SPI) is a family owned vertically integrated timber products company. SPI owns 2.1 million acres of timberland, approximately 1.8 million acres in California and 300,000 acres in Washington State. In California, SPI operates 10 sawmills and five cogeneration power plants, along with other manufacturing facilities. The company is the second largest lumber producer in the United States, producing everything from timbers and framing lumber to fencing and specialty products. SPI employs about 3,500 people in California.

Forestry Climate Contributions

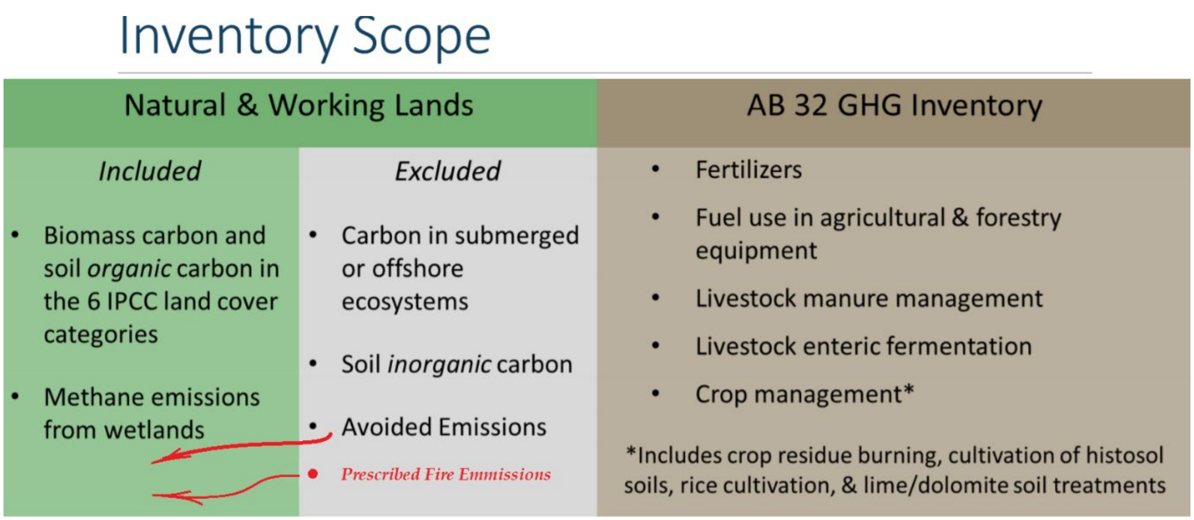
The Forest Carbon Action Plan was written by members of 14 different state agencies, 3 federal agencies, and 2 county organizations. A recommendation central to the Forest

Carbon Action Plan is the urgent need to create healthier forests that are drought and fire-resistant. The goal for these interventions is to reduce tree mortality, ensure adequate sequestration is occurring and to curb the black carbon and other negative emission impacts caused by wildfires. California is spending hundreds of millions of dollars on forest health and fire resiliency projects to achieve this recommendation (Forest Climate Action Team. 2018, pg 143).

Forest health and wildfire resiliency projects are being done to remove the excessive number of trees, shrubs, and other woody debris (collectively biomass) found in most California forests. The project's objective is to modify the forest's structure to allow adequate growing space between individual trees to have enough water during drought years, and a distribution of individual trees, groups, and openings, which together with the reduction of woody debris, will creates a fuel profile that makes the forest resistant to fire and drought. These biomass removals generally target trees in the understory, and includes the spacing of intermediate and codominant trees, while leaving the largest overstory trees untouched. The tree spacing and fuel profile modifications can be done mechanically with or without prescribed fire, or using prescribed fire exclusively. The choice of which mix of management practices are utilized to retore forests to a healthy and fire-resistant condition has substantial differences in their economic impact, harmful emissions, logistics, support for the decarbonization of long-haul trucking and air travel, and risks to environmental and human infrastructure. All of these factors' potential for positive or negative impacts will be inappropriately characterized without wildfire emissions impacts included in the CARB modeling scenarios.

Mechanical treatments to support a growing bioeconomy

The innovative disposal of low-grade wood from forest health and resiliency projects through its utilization as fuel for gasification and pyrolysis refineries, and engineered wood products will require mechanical harvesting and transportation of that woody material. While some stakeholders want to emphasize prescribed fire instead of mechanical treatments the choice between these alternatives is not mutually exclusive, but the basis for where and how much prescribed fire is appropriate must be founded on accurate and holistic carbon emissions accounting. What CARB needs is to accurately distinguish the climate impacts of prescribed fire and wildfire emissions from treated and untreated forests compared to emissions from utilizing that material as an innovative biofuel or engineered wood product, including the health effects of smoke from prescribed fire and/or the potential reduction in emissions (avoided) from mechanically treating those forests with and without wildfire. Otherwise, the negative emissions impact of prescribed fire will not be accounted for adequately even though those emissions are real and detrimental to public health. Excluding wildfire emissions will also mask the real reduction in emissions caused by disposing of or utilizing this biomass in building materials, and/or bioenergy and if those treated forests are burned during a wildfire. There is a calculable amount of potential wildfire fuel that gets removed during a mechanical treatment and that needs to be accounted for. This fuel if transformed into a long-lived wood product or low carbon fuel can provide additional avoided emissions. In particular it will be important to calculate the emission trade-offs if the material becomes a liquid fuel that can be used in difficult to electrify segments of the economy such as long-haul trucking and aviation An analysis that takes into account the health effects of prescribed fire smoke and avoided emissions will not cause the prohibition of prescribed fire but it will help policy makers understand the actual emissions tradeoffs (including health effects) between these disposal pathways for low grade wood residuals and thus allow policy makers to make informed decisions relating to which regulations and incentives can provide the best support of California's emission goals.



Where mechanical treatments can be utilized additional benefits can be attained for watershed, wildlife, and recreational resources. By virtue of those activities being mechanically implemented and the woody residuals recovered, these activities can be planned and implemented to increase sequestration (tree growth) and offset carbon emissions (bioenergy), reduce air pollution (black carbon from prescribed and uncontrolled wildfire emissions), limit liability (fire risk associated with prescribed fire), provide certainty regarding the retention of important vegetation structural components and composition that align with broader landscape level wildlife habitat needs without the risk of losing those forest structural and composition elements due to a prescribed (Caples 2019) or managed fire (Tamarack 2021) being too hot. The logistics of implementing projects also favors mechanical treatments because there is a much larger time frame when mechanical treatments can be conducted, which means the scheduling and treatment of know quantities of forest can be planned with greater certainty. An accurate and holistic analysis of these disposal pathways is what is needed for assessing short lived climate pollutants from wildfire, since that kind of analysis will highlight the opportunities available from utilization of low value wood residuals from forest health and resiliency projects.

Furthermore, the forest area available to use mechanical harvesting to collect low-grade wood waste that can be disposed of in gasification and pyrolysis refineries, and engineered wood products needs to be reanalyzed so that the magnitude of this potential economic resource is accurately estimated. The modeling of where mechanical harvesting can occur should use constraints relating to access, soil productivity, slope, harvesting technology, and administrative designations (wilderness, roadless areas, etc.) that could make those operations infeasible. The existing estimates of the forest area available to mechanical harvesting incorrectly uses a topographic constraint of 40% for ground based harvesting equipment. This assumption does not account for low ground pressure tethered harvesters that can easily access slopes up to 70% when cutting small trees and carrying them to an access road. CARB needs to reanalyze the forest land available for mechanical treatments such that it reflects the capabilities of tethered mechanical harvesters. A more accurate volume estimate of low-grade wood available to support gasification and pyrolysis refineries, and engineered wood products will enable decision makers to understand the current potential for modifying the emissions from wildfire. The necessary modeling would compare a scenario that maximizes mechanical harvesting of low-grade wood waste and its disposal as bioenergy (liquid or electricity) and disposing of that same volume of wood using prescribed fire.

Prescribed fire treatments

Where harvesting technology, vegetation type, soil productivity and administrative authorities <u>do not align</u> to support mechanical harvesting, then there <u>must be an increased utilization of prescribed fire</u> on the California landscape. Prescribed fire will play an important role in abating high intensity wildfire, but it should not be over emphasized. Using prescribed fire to reduce the negative effects of catastrophic fire is an important tool where mechanical treatments are infeasible or where prescribed fire is introduced to produce a desired ecological response in combination with a mechanical treatment.

The biggest shortcoming of using prescribed fire is that no raw material outputs are generated except for harmful emissions and, prescribed fire has a fairly high degree of uncertainty regarding how many acres can be treated in a year and whether the objectives of the burn will be met. The "value" created by using prescribed fire is watershed security (reducing future fire behavior and thus protecting water quality) and hopefully a reduction in future fire suppression costs. Both of these outcomes however have a fairly high degree of uncertainty because the success of a prescribed burn relies heavily on the weather to achieve the desired fire behavior and intensity. If the fire is too hot it will remove too much vegetative cover and increase levels of sedimentation, trees expected to sequester carbon will be killed, and potentially an escape will cause unintended loss of property not associated with the project. A prescribed fire that is too cool will not reduce the fuel loading and/or stand density sufficiently and the desired effect of watershed security and reducing future fire suppression costs will not be realized.

These uncertainties in outcomes are controllable where mechanical harvesting is conducted. Mechanical forest harvesting allows professional foresters to plan for and control post-project stand conditions including tree species, spacing, composition, size, frequency, distribution and fuel loading and the timing for the number of acres treated. Long-term plans that utilize sustainable forestry practices and mechanical forest harvesting can provide reliable estimates of the volume of wood products over time, which is essential for business to make investments in manufacturing infrastructure. Mechanical treatments that create usable wood products therefore have a "multiplier" effect; that simultaneously creates the desired forest structural condition that improves forest resilience to moderate and high-severity wildfire (a.k.a watershed security), supports forest product infrastructure and jobs, sequesters carbon in wood products, and can create a renewable bioenergy feedstock that offsets fossil fuel use and reduces harmful emissions.

These multiplier effects are why mechanical treatments that generate wood products are the best method for reducing tree density and containing costs. Mechanical treatments should be emphasized where harvesting technology, vegetation type, soil productivity and administrative authorities align to allow for mechanical removal and utilization of vegetation biomass.

Support for Innovative Wood Products

The utilization/disposal of low-grade wood waste has been uneconomical in recent years due to the cost of fuel, cheap natural gas, less expensive solar and wind energy, and the uncertainty of the raw material supply. In addition, the bioenergy disposal pathway for low-grade wood waste has never had the externalities associated with that practice monetized. Externalities such as avoided hazardous emissions, avoided health impacts, or avoided watershed and wildlife impacts each are not acknowledged in a meaningful way and thus bioenergy derived from excess forest biomass has struggled to make it to market.

The state and federal government have a goal of treating 1,000,000 acres of forest annually in order to implement the California Forest Carbon Plan and the California Wildfire and Forest Resilience Action Plan. The primary product of most forest health and wildfire resiliency projects is low-grade wood waste. This amount of activity will conservatively generate approximately 15,000,000 bone dry tons. This woody material can either be burned or find another fate. In order for decision makers to understand what the emission implications are for disposing of this quantity of wood by the alternative methods available, CARB needs to provide the comparison of emissions between those disposal pathways. Without that data the dialog around which management practices should be emphasized will be relegated to one-off analysis that don't allow the breadth of perspective needed to create good policy.

Conclusion

SPI requests that the CARB include wildfire emissions in its scenario modeling so that policy makers can understand fully the short-lived climate pollutant impacts from this source. SPI also requests that CARB analyze and compare: the emissions from wildfire, emissions from prescribed fire, emissions from mechanical treatments, and wildfire emissions in forests treated with prescribed fire and mechanically treated. This analysis must also include a comparison of the economics, health impacts, logistical feasibility, support for decarbonization of long-haul trucking and air travel, and environmental and infrastructure risks associated with each management practice. Understanding those impacts will allow the appropriate accounting of the benefits of alternate disposal pathways for the excess biomass in California forests. Yes, mechanical modification of forests structure to a healthy and resilient condition and the appropriate development of the industrial facilities to take advantage of this natural resource faces many obstacles, however the first one is simply for decision makers to have a clear understanding of what we collectively are giving up by not emphasizing the utilization of this forest biomass in innovative ways to meet California's emission goals.

Sincerely,

Cedric Twight, RPF #2469
California Regulatory Affairs Manager
Sierra Pacific Industries