

August 16, 2017

Little Hoover Commission  
925 L Street, Suite 805  
Sacramento, CA 95814

RE: California Forest Management Hearing August 24, 2017

Commissioners:

Thank you for the invitation to participate in the August 24, 2017, hearing to discuss the role of wood products market development in maintaining forest health and pursuing California's climate change objectives. The information below responds to the questions posed in your August 1, 2017, invitation letter:

*Topics about which the Commission is particularly interested in learning include (numbered for clarity):*

1. *A snapshot of California's current timber market. How much timber is California importing, and for what purposes are Californians importing this timber?*

The best available estimates indicate that imports from other U.S. states and abroad account for approximately 80% of the lumber and 90% of all wood products (lumber as well as plywood and veneer, pulp products, and industrial products) used in California.<sup>i</sup> These imports, alongside California-grown timber, are used for a wide range of applications including building framing and finishes, furniture, paper and cardboard products, shipping pallets, and industrial applications. California also produces lumber and other products from timber harvested in-state. California sawmills produced almost 7% of the softwood lumber produced in the United States and about 5% of total U.S. consumption in 2012. More than half of all timber harvested in California originates in five counties, led by Shasta (16% of 2012 state total) and Humboldt (15.1%). The majority of timber harvest occurs on private lands (83%), followed by national forests (14%) and other public lands (3%).<sup>ii</sup> Nearly all of the timber harvested in California is processed in-state, and a 2003 study found that 62.5% of lumber produced in California is used in-state.<sup>iii</sup> Approximately 52,200 workers, earning more than \$3.3 billion annually, were employed in the primary and secondary forest products industry in California in 2012.<sup>iv</sup>

These statistics indicate that California imports the vast majority of wood used in-state, and that California has a significant, although concentrated, timber harvest and wood products manufacturing industry. The lumber deficit, when viewed alongside the contraction and

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concentration of the timber industry over the past three decades, suggests there is room for growth of in-state production of lumber and other wood products. California sawmill capacity fell approximately 70% between the late 1980s and 2012. This decline is attributed to the interplay of several factors: an insufficient number of mills, a reduction in timber harvesting, high transportation costs that make long-distance transport of raw logs cost prohibitive, the automation of wood processing and increases in efficiencies, and price volatility that has impacted the sector as a whole. There are approximately 77 wood products processing facilities in California, down from 262 in 1968. Total employment in California's primary and secondary forest products industry is approximately half of what it was in 1990.<sup>v</sup>

2. *An overview of the directive in SB 859 to expand wood product markets and how the Natural Resources Agency interpreted that directive. Please discuss the other goals beyond forest health that will be linked to market development, such as skills training and economic development.*

Senate Bill 859 (2016), Sec. 9, requires the California Natural Resources Agency (CNRA) to, “establish a working group on expanding wood product markets that can utilize woody biomass, especially biomass that is removed from high hazard zones” and “submit recommendations to the Legislature on actions that may be taken to encourage the development of the wood product markets, including the identification of potential pilot projects”. The S.B. 859 Working Group includes members from CNRA, California Department of Forestry and Fire Protection (CAL FIRE), Governor’s Office of Business and Economic Development (GO-Biz), CalRecycle, Sierra Nevada Conservancy, Department of Finance, and the USDA Forest Service, among others. The Working Group compiled a report, which is now undergoing review and vetting across state agencies that are expected to be engaged in implementation.

The Working Group intends these recommendations to complement policies and programs related to use of woody biomass in bioenergy applications. The Working Group designed these recommendations to address both the urgent need to utilize dead and dying trees in the Sierra and long-term forest management needs in the Sierra and statewide.<sup>1</sup> The Working Group did not directly address facilitation of consistent access to material inputs, although implementation should consider opportunities to pursue or incentivize consistent supply.

The recommended actions, policies, and pilot programs are aimed at increasing demand for forest products and the knowledge and skills needed to develop and manufacture them. At the outset, the Working Group identified **three goals** that expansion of wood products markets must serve. Recommendations were selected based on their expected ability to advance these goals:

1. **Utilize material that is removed from High Hazard Zones**, particularly utilization pathways that can be alternatives or complements to bioenergy production;<sup>2</sup>
2. **Promote forest health and carbon sequestration**, as described in the Draft 2017 Forest Carbon Plan and Draft 2017 Scoping Plan Update, and advance other statewide resource management and climate change goals; and
3. **Promote rural economic development**, including job creation.

<sup>1</sup> These conditions are described in detail in the Draft Forest Carbon Plan (January 2017).

<sup>2</sup> The High Hazard Zones identified through the Tree Mortality Task Force can be viewed online: <http://egis.fire.ca.gov/TreeMortalityViewer/>

These recommended actions and pilot projects are intended to help enable wood products markets and market actors to be successful so that they can serve as reliable elements of California's forest health and climate change policies. Successful implementation would advance the goals of the Tree Mortality Task Force, the 2017 Draft Forest Carbon Plan, regional forest management and rural development initiatives, and the Natural and Working Lands climate change strategy. The recommendations should be viewed as one component of a broader set of efforts taking place. The State's role in market development will by nature be limited. The main actors are entrepreneurs, investors, wood products industry leaders, local governments, community based groups, tribes, local land owners, and the USDA Forest Service. These recommendations reflect actions that the State could engage in to encourage and enable market development in partnership with these key actors.

The Working Group determined that these goals would be best served by a focus on increasing demand for higher value products and promoting localized manufacturing. The recommended actions are intended to enable market expansion broadly rather than favor specific end products or material uses. That said, based on the information available to the Working Group, the most promising markets for establishment and expansion are (a) engineered mass timber and wood-based composite panel products used in building construction, retrofits, and remodeling and (b) wood processed for use in other industries and applications, including cellulosic nanotechnology applications and biochar.<sup>3</sup> The recommendations target growth in these markets and related manufacturing and applied industries. **Business model innovation**, such as development of community-led, diversified wood products campuses,<sup>4</sup> could advance a wide range of opportunities and should be encouraged across all strategies.

The Working Group's recommendations, organized around **three strategies**, are:

1. **Remove state barriers and create pathways to success**, with a focus on the challenges inherent in site redevelopment, permitting both new manufacturing operations and the use of new wood materials, and gap financing to incentivize broader investment.
  - a. **Remove regulatory barriers**
    - i. Improve process for remediation and redevelopment of former sawmill and other rural industrial sites
    - ii. Accelerate use of mass timber construction through outreach on building codes, use of lifecycle GHG emissions analysis for construction materials, and encouraging low-carbon building for state facilitates, where feasible
  - b. **Remove financing barriers**
    - i. Provide ongoing financial assistance and assurances by creating an information clearinghouse of existing state financial resources and incentives applicable to wood products industries, and by identifying resource gaps in state and federal financial assistance programs
2. **Promote innovation**, with a focus on building the institutional infrastructure necessary to bring new wood products to market.
  - a. Support and utilize applied research and development

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<sup>3</sup> Please contact CNRA for a bibliography of materials the Working Group used to inform recommendations.

<sup>4</sup> "Wood products campuses" refer to co-located businesses with complementary production processes and/or product lines.

- b. Encourage investment in new product testing
  - c. Promote California-grown and California-manufactured wood products
  - d. Strengthen partnerships between the wood products industry, rural economic development organizations, and academia
3. **Invest in human capital**, with a focus on assuring that the necessary workforce is available and trained appropriately to staff new wood products operations, and that the building blocks of innovation in this sector exist in the California's public technical and higher education systems.
- a. Expand accredited associate degree and certificate programs
  - b. Strengthen career pathways

In addition, the Working Group proposes four pilot projects aligned with the above strategies. Some of these recommendations could be accomplished using existing resources and state authorities. Others would require new investments and legislated authorities.

The Working Group recommends that the Governor's Office of Planning and Research convene a **Rural Economic Development Steering Committee** and direct its first activities around expansion of the wood products market. This body, made up of state agencies, federal agencies, tribes, local governments, industry associations, investors, entrepreneurs and community groups would coordinate implementation of the recommended actions identified in the S.B. 859 Working Group's report, along with other activities that the Steering Committee identifies as necessary to encourage expansion of wood products markets in California. CNRA would serve as co-lead for implementation of the vision to expand wood products markets. The Steering Committee would have three work groups, one focused on each of the key strategies. Membership in the work groups would include the broadest array of stakeholders necessary to achieve the work groups' objectives and will include membership beyond the Steering Committee membership. The Steering Committee would evaluate its work and expand to other areas of rural economic development if warranted.

3. *An examination of the long-term market opportunities the State of California is exploring for forest biomass. What obstacles stand in the way of fully utilizing these opportunities, and are there policy, statutory or administrative changes that could help overcome these obstacles?*

California is exploring market opportunities for forest biomass through a broad spectrum of policies and programs, including:

- *The California Energy Commission's Electric Program Investment Charge (EPIC) Applied Resource and Development and Technology Demonstration and Deployment grant programs: Recent awards include \$25.7 million in funding for Innovations to Improve Woody Biomass-to-Electricity Systems and Demonstration and Evaluation of Environmentally and Economically Sustainable Woody Biomass-to-Electricity Systems in 2016 and 2017 (GFO-15-325, Groups 1 & 2).*<sup>vi</sup>
- *The California Energy Commission's Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP), which is structured to assist in development and deployment of alternative and renewable fuels and advanced transportation technologies to help attain the state's climate change policies.*<sup>vii</sup> To date, ARFVTP has funded three small-

scale forest biomass demonstration projects, and two additional technologies for converting lingo-cellulosic agricultural waste materials such as orchard wood into biofuels. Profitable implementation of the latter projects would demonstrate the efficacy of these emerging technologies on forest biomass, providing the foundation for gradual migration of new projects into more remote forest locations. The 2017-2018 Investment Plan Update for the Alternative and Renewable Fuel and Vehicle Technology Program includes a current allocation of \$19.4 million for biofuel production and supply. This Investment Plan Update states:

*The potential supply of woody biomass feedstock from dead trees exceeds that of any other source of waste material in the state, and the sustainable harvesting and use of this biomass can avoid carbon emissions. Through the ARFVTP, the Energy Commission hopes to attract technologies that can economically convert this feedstock into lowcarbon biofuels.*<sup>5</sup>

- *California's Healthy Soils Initiative:* Activities include evaluation of the potential for beneficial use of other carbon-based soil amendments (e.g. biochar and mulch) on agricultural and fire-impacted forest lands.<sup>viii</sup>
- In addition, the *Tree Mortality Task Force Utilization-Market Development working group* has identified a number of opportunities to utilize dead and dying trees from High Hazard Zones. Given the expected duration of the tree mortality epidemic and the ongoing need to process low-value dead and dying trees, these uses and strategies will remain relevant for the foreseeable future.
- *Implementation of the recommendations of the S.B. 859 Wood Products Working Group, pending review:* Some of the recommendations outlined in this report will require additional resources and authorities to be fully implemented.

4. *An analysis of how market development is linked to forest health and, consequently, California's climate goals.*

Wood products, bioenergy, and biofuels markets are linked to the health of California's forests and statewide climate goals in two ways: as revenue-generating mechanisms to finance forest management and restoration activities, and as biomass utilization pathways that can reduce net greenhouse gas (GHG) and black carbon emissions associated with land management, the occurrence of catastrophic wildfires, and emissions from the electricity and transportation sectors. State engagement on research, development and deployment of technologies that are aligned with climate goals can result in reduced net emissions across the forest (or, natural and working lands), electricity, and transportation sectors. The need for both forest management and lower-emission and carbon-sequestering biomass utilization will grow as the state, along with federal and private landowners partners, acts to achieve the forest management and restoration goals laid out in the Draft Forest Carbon Plan and the 2017 Climate Change Scoping Plan Update (January

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<sup>5</sup> California Energy Commission. 2017-2018 Investment Plan Update for the Alternative and Renewable Fuel and Vehicle Technology Program - Commission Report. May 12, 2017.  
[http://docketpublic.energy.ca.gov/PublicDocuments/16-ALT-02/TN217569\\_20170512T074739\\_20172018\\_Investment\\_Plan\\_Update\\_for\\_the\\_Alternative\\_and\\_Renewab.pdf](http://docketpublic.energy.ca.gov/PublicDocuments/16-ALT-02/TN217569_20170512T074739_20172018_Investment_Plan_Update_for_the_Alternative_and_Renewab.pdf).

2017 draft). The need for increased forest management and the associated wood processing and biomass utilization infrastructure exists in nearly every forest-dependent region of the state.

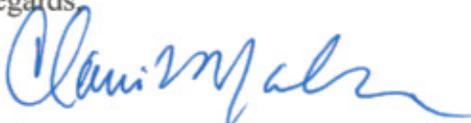
In order to support the goals of the Draft Forest Carbon Plan, wood and biomass material generated by commercial forestry operations, as well as that produced through forest health and restoration treatments and hazardous fuels treatments, must be either utilized productively or disposed of in a manner that minimizes net GHG and black carbon emissions. Timber and other biomass harvest volumes are expected to increase as a result of the forest management activities needed to restore the resilience of California forests and prepare them for the conditions expected under climate change. These volumes will include green and dead trees suitable for timber production, smaller-diameter green and dead trees with little traditional timber value, and tops and limbs.

Removal will result in a temporary drop in carbon in standing live pools, which is expected to be replaced over time as carbon is sequestered in new tree growth on the treated area. Some of the residual biomass may be left in place for habitat or other purposes, but strategic utilization of the remainder can divert material from decay and open pile burning and produce net carbon benefits through applications in the built environment, soils, and energy and fuels. Utilization of this material contributes to beneficial uses including durable wood products, compost and other soil amendments, animal feed and bedding, and production of renewable electricity and biofuels. Research, development and implementation activities underway in energy, wood products, and soil amendment fields should be evaluated for utility in meeting disposal needs on regional and community scales.

A resilient forest products and biomass strategy is one that includes a diversity of utilization pathways (i.e., market end uses) that are scaled to handle the material generated through both public and private sector forest health activities, as well as the private timber industry. The approach should be regionalized, such that material production and utilization is balanced at scales appropriate to given markets and sustainable forest management. Transportation costs of forest biomass are significant relative to the material's value, so distance from source to processing site will determine feasibility for both private and public investors. Regional and local approaches will also be better suited to discussions related to facility siting, economic development strategies, local impacts of forestry operations, and climate resilience of both natural resources and the human populations that depend on them.

Thank you for the opportunity to engage in the Commission's review of forest management and discuss the relationship between wood products markets and California's long term forest health and climate change goals. I look forward to participating in the hearing on August 24, 2017.

Best Regards,



Claire Jahns

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ENDNOTES

<sup>i</sup> Compiled from:

Battles et. al. California Forest and Rangeland Greenhouse Gas Inventory Development. Final Report. California Air Resources Board Agreement 10-778. Dec. 30, 2013 (rev. Jan. 30, 2014).

<https://www.arb.ca.gov/cc/inventory/pubs/battles%20final%20report%2030jan14.pdf>.

California Department of Forestry and Fire Protection. *Forest and Range: 2003 Assessment*. State of California, Department of Forestry and Fire Protection: Fire and Resource Assessment Program (FRAP), October 2003,

[http://frap.fire.ca.gov/data/assessment2003/Assessment\\_Summary/assessment\\_summary](http://frap.fire.ca.gov/data/assessment2003/Assessment_Summary/assessment_summary).

Laaksonen-Craig, S., et al. *Forestry, Forest Industry, and Forest Products Consumption in California*. University of California: Division of Agriculture and Natural Resources (Publication #8070), 2003,

<http://anrcatalog.ucanr.edu/pdf/8070.pdf>.

<sup>ii</sup> McIver, C., et al. *California's Forest Products Industry and Timber Harvest, 2012*. United States Department of Agriculture: Forest Service, Pacific Northwest Research Station (General Technical Report PNW-GTR-908), October 2015, [https://www.fs.fed.us/pnw/pubs/pnw\\_gtr908.pdf](https://www.fs.fed.us/pnw/pubs/pnw_gtr908.pdf).

<sup>iii</sup> McIver et. al. (2015); Laaksonen-Craig, et. al. (2003).

<sup>iv</sup> McIver et. al. (2015)

<sup>v</sup> McIver et. al. (2015); California Department of Forestry and Fire Protection. *California's Forests and Rangelands: 2010 Assessment*. State of California, Department of Forestry and Fire Protection: Fire and Resource Assessment Program (FRAP), June 2010,

[http://frap.fire.ca.gov/data/assessment2010/pdfs/california\\_forest\\_assessment\\_nov22.pdf](http://frap.fire.ca.gov/data/assessment2010/pdfs/california_forest_assessment_nov22.pdf)

<sup>vi</sup> California Energy Commission. <http://www.energy.ca.gov/contracts/epic.html>.

<sup>vii</sup> California Energy Commission. <http://www.energy.ca.gov/altfuels/>.

<sup>viii</sup> California Department of Food and Agriculture et. al. Healthy Soils Action Plan. Sept. 2016.

<https://www.cdfa.ca.gov/oefi/healthysouils/docs/CA-HealthySoilsActionPlan.pdf>.