



THE PACIFIC FOREST TRUST

Our Private Forests are Our Public Treasures.

December 10, 2007

Re: Scoping Plan recommendations regarding the role of forests in the California Global Warming Solutions Act of 2006

Submitted via email

The Pacific Forest Trust (PFT) appreciates the opportunity to submit comments to inform the California Air Resources Board (CARB) Scoping Plan process pursuant to the California Global Warming Solutions Act (GWSA) of 2006. PFT recognizes the tremendous task and opportunity that the California Air Resources Board has to address the complex issue of global warming. We respectfully offer the following recommendations regarding how the forest and land use sector can and should play a critical role in climate change mitigation.

PFT is a non-profit organization dedicated to sustaining private forestlands for their wealth of public benefits, including climate benefits. We own and manage forestland and hold conservation easements in California and the Pacific Northwest. In collaboration with landowners, forest managers, public agencies and others, PFT has led the development of forest climate policies and projects to achieve substantial benefits for the climate through conservation and stewardship. PFT has actively participated in the development of a number of greenhouse gas reduction standards, including the World Resources Institute's generic and sector-specific protocols for Land-use, Land-use Change and Forestry, the Regional Greenhouse Gas Initiative, the federal "1605b" Registry and the California Climate Action Registry Forest Protocols.

Background

Forests are both a part of the global warming problem and part of its solution. When forests are disturbed through human activities like conversion, deforestation and unsustainable timber harvest, much of the carbon stored in forest biomass is released to the atmosphere as emissions of carbon dioxide (CO₂). Globally, forests and land use change account for roughly 20 - 25% of all CO₂ emissions, largely due to forest loss. Historically, these emissions were considered to be much greater, comprising closer to 40% total global emissions. Both historical and current emissions have contributed to the excess CO₂ that is currently in the atmosphere.

Forest loss and carbon depletion is also a local problem. California has lost and continues to lose significant amounts of forestland and associated climate benefits. Compared to its historic "forest baseline," California has lost over a third of its forest cover (about 20 million acres) from conversion to other uses, and projections of population growth and development suggest that we will continue to lose forestland well into the future unless current trends are reversed. Furthermore, California's existing forests hold far less carbon than they once did, as forests transitioned from natural forest conditions with the removal of old growth forests and advent of short



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rotation forestry. In addition to these human causes of CO₂ emissions, greenhouse gas emissions associated with catastrophic fire and other natural disturbances are expected to increase in the future along with rising global temperatures.

The loss and depletion of forestlands and forest carbon stocks represent significantly more than direct greenhouse gas emissions from California's forests. In many cases, it also means the loss of future capacity to remove additional CO₂ from the atmosphere, as well as the loss of significant public values and ecological benefits that forests provide.

As CARB considers and develops forest climate policies to prevent, absorb and reduce net levels of CO₂ emissions, we urge that it do so within a broader context. This context should include an acknowledgment that the climate benefits of forests are among the many critical benefits that forests provide, including water quality, biodiversity, fish and wildlife habitat, recreation and local economies. While forests can and should play a significant role in California climate policy to mitigate global warming, these other values should also be included in mitigation policies to ensure, at a minimum, their continued protection and adaptation, and ideally, to maximize all these values for their long-term sustainability.

Overview of Recommendations

A suite of regulatory, incentives and market-based policies involving the forest sector can and should be part of the Scoping Plan. These policies include the forest sector in a greenhouse gas cap and trade system and other incentive-based policies to minimize emissions from forests and facilitate increased overall forest-carbon stocks across the landscape. The following recommendations should be implemented in the context of adaptation and sustainability and are discussed in more detail:

- 1) Establish an overall biological carbon target and "floor" for the forest sector.
- 2) Include the forest sector in a multi-sector cap and trade system.
- 3) Develop incentives to reduce excess fuel loads to minimize emissions from catastrophic wildfire.
- 4) Identify and facilitate opportunities for the sustainable production of biofuels (energy & transportation) in a manner that incorporates and does not increase upstream emissions and avoids double counting and perverse environmental impacts.

1) Set a cumulative carbon stock target and "floor" for the forest sector

An overall target and floor are critical for encouraging greenhouse gas reductions in the forest sector, creating accountability and catalyzing new climate policies for forests.



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The forest sector has the capacity to provide significant greenhouse gas emission reductions to help meet the goals of the GWSA. To encourage these reductions and their enabling policies, CARB, in consultation with the California Resources Agency, should establish an overall biological carbon target for the forest sector. This target should be expressed as a cumulative number of forest carbon stocks to be attained by 2020 and subsequent years (e.g., 2050). The Climate Action Team's (CAT) Macroeconomic Analysis provides a good starting point for developing an appropriate forest sector target. However, the reductions estimated in this report are only expressed as anticipated reductions on an annual basis, and while this number may be helpful, the target for the forest sector is more appropriately expressed as a cumulative number to reflect the duration (i.e., permanence) of reductions that are *achieved and sustained* over time. Otherwise, the reflection of carbon sequestration in one particular year may not reflect the overall true net climate impact of forest activities. Such an approach would also be consistent with the GWSA, which requires emissions reductions to be, among other things, permanent. To track the potential impacts of leakage on an overall state forest carbon target, CARB should concurrently monitor greenhouse gas emissions of imported wood products and consider policies to minimize emissions associated with these activities.

Based on the CAT's Macroeconomic Analysis, a conservative cumulative target for the forest sector could be around 60 million metric tons (mmt) of CO₂ reductions. This number corresponds to the cumulative reductions anticipated from the measures proposed in the report to increase biological carbon stocks (e.g., conservation, afforestation/ reforestation, changes in forest management and urban tree planting). PFT believes the target could be much greater than 60 mmt, since the report considers a very narrow scope of forest activities, and could be significantly expanded to capture greater reductions from the forest sector. The final target adopted by CARB should be evaluated more fully and potentially increased over time as strategies to achieve reductions from the forest sector become more defined¹ through the scoping plan process.

In addition to an overall target for the forest sector, CARB should establish a greenhouse gas emissions floor for the sector that is based on greenhouse gas emissions caused by human activity and "business as usual" projections. Similar to the target, the floor would be established in terms of overall forest carbon stocks and serve as a basis for a forest sector cap in a GHG emissions cap and trade system (see next section), as

¹ PFT suggested in previous comments on the CAT Macroeconomic Analysis that methodologies in the future, with appropriate funding, should incorporate a comprehensive spatial analysis of the GHG reduction activities (and baselines) identified in the report to ensure there is no double counting of reductions within or across sectors. It would also be helpful to include a "feasibility" assessment for each proposed activity, which could help identify a low and high range of overall GHG reductions that could be anticipated in the forest sector by 2020 and beyond.



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well as a catalyst and benchmark for additional climate policies related to the forest sector (e.g., land use policies).

2) Include the forest sector in a multi-sector cap and trade system

Since forests are both a source and sink of CO₂, they can and should have a robust role in a multi-sector cap and trade system, both as offsets and as part of a cap.

Emissions from the forest sector should be under a cap

Given that forests can be a source of CO₂ emissions, the California Air Resources Board should take action to ensure that California's global warming solutions do not ignore the current and historical climate impacts of forest conversion and carbon depletion or the opportunities of restoring these carbon stocks. Carbon stocks are a proxy for forest-based emissions, as declining carbon stocks indicate emissions of CO₂. A cap on the forest sector could effectively minimize emissions by discouraging the loss of forest carbon stocks through required mitigation where losses due to human activity are significant (i.e., above a certain threshold). Foregone future sequestration should also be included in the mitigation requirement.

As CARB considers a cap for the forest sector, it should consult with the California Department of Forestry and Fire Protection and the Office of Planning and Research, as they seek to revise the California Environmental Quality Act (CEQA) guidelines to include an assessment of greenhouse gas emissions impacts of projects. The adjustment to CEQA guidelines could offer a basis (or surrogate) for a cap on forest-based emissions, and the larger land base in general with a mitigation requirement for land conversion and/or significant depletion of carbon stocks.

It is important to note that a cap on the forest sector does not preclude the sector from also providing offsets to a cap and trade system. While significant net emissions from the forestlands (due to human activity) would require mitigation, net increases in forest carbon could still be eligible to serve as offsets or some functional equivalent in a cap and trade system.

Forests should be eligible to provide offsets in a cap and trade system

Like any other offset sector, forests can provide real, quantifiable, additional, permanent and verifiable greenhouse gas reductions consistent with the standards of California Global Warming Solutions Act and the recommendations of the Market Advisory Committee report. They can also meet a high level of rigor and accuracy so that forest-based emissions reductions are comparable to reductions in other sectors. The California Registry Forest Protocols recently adopted by the Air Resources Board on October 25th provide a strong and standardized accounting framework that is consistent



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with these principles. For this reason, we recommend that they serve as the basis for offsets within a cap and trade system.

Forest-based offsets, like offset projects from any other sector, must meet the standards outlined in the California Global Warming Solutions Act of 2006

As CARB considers a greenhouse gas cap and trade system and the use of forest offsets the following, commonly accepted GHG reduction project principles should apply to the forest sector:

➤ **Baselines:**

Baselines are long-term projections of what would have occurred in absence of a project, often called business-as-usual. A standardized approach to establish a project baseline, like those outlined in the California Climate Action Registry Forest Protocols, is important as they are objective and may be replicated and applied consistently. Baselines for forest projects, and privately managed lands in particular, should be established on a state-by-state basis using a common approach to establish such baselines. Forests are regulated at the state level, and as a consequence, states have developed infrastructures around these state processes, making it cost-effective and most accurate to develop baselines at the state level so local institutions and data can be used effectively.

➤ **Additionality:**

Like offset projects in other sectors, forest projects must also be additional or surplus to what would have happened in the absence of the project (i.e., the baseline). This requirement is critical to ensure that emission reductions from sectors or projects that are not included in a cap are real and make a difference from an atmospheric perspective, above and beyond what would have happened otherwise.

➤ **Permanence:**

Permanence refers to duration or “permanence” of GHG reductions. Greenhouse gas reductions from forest projects should be comparable to reductions from other GHG emitting sectors. When direct emissions are reduced from one year to the next in other sectors (e.g., the power sector), these reductions are considered permanent. GHG reductions from forests, on the other hand, are not considered permanent in any given year, as CO₂ is absorbed and stored in forests that may release the stored carbon.



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While there is no way to entirely guarantee the permanence of forest-based reductions, conservation easements are a key tool that can legally secure GHG reductions for the long-term and minimize the risk of their loss due to human activity. The easement ensures legal permanence by dedicating the land to permanent forest use, removing the threat of forestland conversion and facilitating greater overall forest carbon stocks. The requirement of a permanent easement is consistent with the Regional Greenhouse Gas Initiative (RGGI), programs in New Zealand and Australia, and the California Climate Action Registry Forest Protocols.

An easement is a voluntary, flexible perpetual agreement between the landowner and a qualified entity that places legally enforceable restrictions on land-use activities like conversion. Landowners are financially compensated for these agreed-upon restrictions. Easements are beneficial because they are time-tested, commonly used legal instruments that state agencies, landowners and non-profit organizations all have extensive experience using. In addition to securing carbon stocks and mitigating risk, by dedicating the land to permanent forest use, easements also support and protect many other public benefits that forests provide, including water quality, biodiversity and wildlife habitat.

➤ Leakage:

With respect to offset projects, leakage is the displacement of GHG emissions from within a project area to somewhere outside the project area, thereby minimizing the overall climate benefits of a project. To address this risk, programs should require forest projects to account for leakage that occurs within a forest ownership (i.e., by reporting entity-wide changes in carbon stocks). However, since leakage is an issue that is common all sectors, it must be ultimately addressed at a programmatic level through such instruments like a program-wide risk mitigation pool (i.e., a pool of GHG reductions to hedge against all forms of risk, including leakage) or general discounting where leakage is determined to be an issue.

➤ Adaptation and Sustainability:

Addressing climate change includes not only mitigation, but adaptation and sustainability as well. Greenhouse gas reduction projects, to minimize risk of further emissions, should incorporate adaptation principles that help forests and natural systems better respond to the negative effects of climate change. For this reason, forest projects to reduce GHG emissions should also incorporate adaptation features such as native species biodiversity and natural forest composition. Currently, the CCAR Forest Protocols include requirements for native species and management for natural forest conditions. As a practical risk mitigation tool, these requirements help ensure that forest practices to benefit the climate also promote more resilient forests in the face of increasing temperatures,



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drought, pests, disease and catastrophic wildfire. We recommend that forest-based GHG reduction projects, at a minimum, incorporate these fundamental adaptation criteria, and potentially others as well, to ensure that investments made today provide lasting climate benefits into the future. Conservation easements can play an instrumental role to support these criteria as well.

3) Provide incentives for land use planning and the removal of excess fuel loads to minimize emissions

CARB should consider ways to provide incentives for removing excess fuel loads and coordinate with land use planning initiatives to minimize emissions and encourage additional GHG reductions from forests.

There are opportunities across the state to minimize GHG emissions due to catastrophic wildfire, particularly in overstocked young forests. When properly done, low-intensity controlled burns that reflect a more natural fire regime² can reduce excess fuel loads on the landscape and allow the remaining trees to grow bigger and store more carbon. Combined with restoration and management for greater diversity and older forests, on average, the state can both avoid GHG emissions associated with catastrophic fires and encourage greater and healthier storage of forest carbon on the landscape in forests that will be more fire resistant and resilient, while still producing any wood products.

Subsidies, cost-share and technical assistance should all be considered, in conjunction with leveraging federal and state funds, to help private forest landowners and managers undertake proper fuels management on their forestlands. Aside from redirecting existing funding sources, new sources of funds may come from auction revenue for adaptation from a GHG cap and trade system or revenue that could evolve from new small-scale biomass facilities (see next section). We recommend that CARB coordinate with the legislature, the California Department of Forestry and Fire Protection and the United State Forest Service to facilitate these initiatives.

While we recommend the aforementioned activities to minimize GHG emissions associated with catastrophic wildfire at the landscape level, we do not think avoided catastrophic fire is an appropriate candidate for offset projects in a cap and trade system. Wildfire is too unpredictable at the project level to create a creditable GHG offset that would meet the 1:1 reduction ratio that a cap and trade system or markets would demand.

² In some instances, controlled burns may also require some initial thinning of smaller trees.



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CARB should seek to facilitate land use policies that minimize GHG emissions associated with forestland conversion to non-forest uses

As mentioned earlier, when forests are converted to non-forest uses, there are direct CO₂ emissions associated with conversion as well as the loss of future sequestration benefits. There is also a relationship between residential development in the urban-wildlands interface and increased fire risk. Through the promotion of denser development, closer to established infrastructure and public services, the GHG emissions associated with forest conversion (and the land base generally) and fire can be minimized, not to mention any emissions associated with vehicles miles traveled.

In collaboration with the state legislature, relevant state agencies and local governments, CARB can promote land use policies and incentives to minimize emissions. For example, CARB could coordinate with the state insurance commissioner and the California Department of Forestry and Fire Protection to develop fire insurance requirements that are scaled on the basis of distance from public services. CARB may coordinate with state agencies, counties and local governments to structure permitting and fees to encourage cluster development and state and regional land use plans that incorporate both development/urban expansion and forested zones³, which can be used as “climate reserves,” among other things, to help meet the state’s GHG reduction targets.

4) Encourage sustainable forest-based biofuels/bioenergy

Sustainable managed forests can potentially provide a ready source of biomass for energy generation and biofuels production, both of which present greenhouse gas reduction opportunities if done the right way.

PFT encourages CARB to consider policies and programs to promote forest-based biofuels for transportation and biomass energy as part of the Scoping Plan. Forest-based biomass has the potential to be a less GHG-intensive form of fuel⁴ or energy compared to some conventional forms. However, to ensure that biofuels create a net climate benefit, full upstream accounting is critical. While it is often assumed that biomass energy and fuels are “carbon neutral” because it comes from a renewable resource like forests, this may not always be true if overall forest carbon stocks are removed or depleted on the landscape through conversion or unsustainable harvest to

³ These forest zones for climate protection can and should include forests that are managed for commercial timber.

⁴ Although cellulosic ethanol is not yet ready for wide-scale use, it is anticipated that this low-carbon fuel will become a much bigger player in the next few years, and programs should be fully prepared to incorporate it into their accounting methodologies.



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provide the material for production of fuel or energy downstream (e.g., tropical deforestation to establish palm oil plantations). Certain actions can lead to increased CO₂ emissions, not to mention other unintended environmental consequences.

If a power entity is looking to reduce emissions by substituting biomass for fossil fuels, there must be an accounting mechanism in place to ensure that the lifecycle emissions of the biomass are thoroughly accounted. One option would be to encourage upstream accounting through entity-wide reporting as outlined in the California Climate Action Registry Forest Protocols⁵. This would allow purchasers of biomass to track emissions from the forestland base, since they would be measured and reported by the forestland owner and verified by a third-party verifier, on a yearly basis. It would also allow for transparent, credible and high confidence calculations of the emissions profile of forest-based biomass.

It is important to note that any direct GHG reductions that result from fuel switching from conventional forms of fossil-based fuels and energy to biomass are appropriately accounted for in the power and transportation sectors, not the forest sector. In spite of the accounting classification, biomass energy/fuels can be a financial incentive for forest landowners to maintain forests as forests (i.e., maintaining forest climate benefits) while fostering GHG reductions in the power and transportation sectors.

In addition to the development of comprehensive GHG accounting, CARB should collaborate with the California Department of Forestry and Fire Protection, local governments and the US Forest Service to assess and develop the potential for small-scale mills and biomass facilities. The state should collaborate with the federal government on funding for continued research of transportation fuels from forest biomass, as well as state of the art air pollution control mechanisms for biomass energy production.

Conclusion

The Pacific Forest Trust sincerely appreciates the tremendous effort on the part of the California Air Resources Board to include the forest sector in the overall strategy for meeting the state's significant climate targets. We thank you for considering our initial recommendations on the Scoping Plan, and look forward to working with you as part of the ongoing process to implement the California Global Warming Solutions Act. If you have any questions regarding these comments, please do not hesitate to contact us.

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⁵ Entity-wide reporting is distinct from project-level reporting, and thus would not require the additional cost of undertaking a GHG reduction project.