

September 21, 2007

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Richard Bode, Chief Emission Inventory Branch (rbode@arb.ca.gov)
Jeanne Panek, Forestry Lead (jpanek@arb.ca.gov)
Members of the Board (arbboard@arb.ca.gov)
California Air Resources Board
P.O. Box 2815
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Dear Ms. Nichols, Mr. Bode, Ms. Panek and Members of the Board:

Weyerhaeuser Company appreciates the opportunity to comment on the California Climate Action Registry (CCAR) Forestry Protocols and requests that this letter be added to the record of comments associated with the public workshop held on September 6, 2007.

Weyerhaeuser Company, one of the world's largest forest products companies, was incorporated in 1900. In 2006, sales were \$21.9 billion. It has offices or operations in 18 countries, with customers worldwide. Weyerhaeuser is principally engaged in the growing and harvesting of timber; the manufacture, distribution and sale of forest products; and real estate construction, development and related activities.

Weyerhaeuser does not own or manage timberlands in California. However, we do own and operate 13 forest product manufacturing facilities around the state. Weyerhaeuser also owns and operates a major real estate construction company in California. Weyerhaeuser's wholly owned subsidiary, Pardee Homes, is a major developer and builder of single and multi-unit homes, and commercial and industrial centers. Pardee Homes' approach to development has been recognized as being in the vanguard of environmental and energy and climate change design. Among its numerous awards, Pardee has been the recipient of the Green Building "Project of the Year" award in 2006, and the U.S. EPA's Energy Star Partner of the Year award for years 2003, 2004, 2005 and 2006.

Weyerhaeuser also recognizes that the work the Board is doing with respect to carrying out its mandate under AB32 is both of regional and national interest. Thus, the decisions that CARB will make with respect to the use of lands and the role of sustainably managed commercial forest lands is of great interest to Weyerhaeuser. As you will see from our comments below, the role of sustainably managed forests and the GHG-benefits of the wood building materials that come from them, provide significant benefits from both an economic development and a climate change perspective.

For these reasons, Weyerhaeuser offers the following comments as a means to encourage you to make changes to the CA CAR forestry protocols that will encourage, rather than discourage sustainable managers of commercial forest lands to engage in the State's efforts to address the challenges of Climate Change in ways that will also help the state to maintain and strengthen the forest products sector.

Weyerhaeuser Company is also a member of the American Forest and Paper Association, and participated in their efforts to provide comments on this matter that were submitted to the Board on September 4, 2007. We endorse those comments, and you will note that much of what we say has been drawn from the AF&PA observations and recommendations.

ENCOURAGING COMMERCIAL FORESTRY ENGAGEMENT:

The CCAR Forestry Protocol, as adopted, discourages the participation of managed forestry operations through two key provisions: 1) the perpetual easement requirements for forest-based projects and 2) the methodology for calculating baselines from which additional carbon can be measured. Rather than attempt to “adjust” the CCAR rules to reflect concerns raised by the commercial forest and forest product sectors, we understand that CARB intends to form a workgroup in late October to develop additional protocols to take advantage of the forestry sector’s carbon sequestration potential. We are very pleased to hear of this intended action, and stand ready to make a constructive contribution to that process.

Weyerhaeuser believes that sustainably managed commercial forests, and the benefits they produce, should be – and indeed must be – part of any framework that intends to ensure sustainable economic development, address energy security and help meet the long term challenges from global climate change. In this context, we fully endorse and support the approach to develop a commercial or managed forest lands protocol that can recognize the differences between such lands and conservation and preservation forest lands.

When coupled with timber production, sustainably managed forests provide several positive carbon benefits that are quite significant when compared to unmanaged forests. These include:

CARBON STORAGE IN WOOD PRODUCTS: Approximately one-third of the carbon in wood harvested for the industry ends up in long-lived products such as lumber and wood-based panels,¹ and is sequestered in some cases for decades, even centuries.² *Long term storage of carbon in such products is internationally recognized by climate scientists and policymakers, including the recently released guidelines by the Intergovernmental Panel on Climate Change.*³

LOWER CARBON FOOTPRINT: Wood as a building material requires less energy to extract, process, transport, construct and maintain over time and is a better insulator than other building materials such as cement and steel.⁴ In addition, harvested wood that is not made into products is used as a substitute for fossil fuels, often through co-generation which further amplifies the benefits of using this GHG-neutral fuel. Wood fiber for other uses, such as packaging material, provides many of the same advantages. Moreover, economic returns to active forest management can have substantial effects on landowner decisions about whether to convert forests to non-forest uses.⁵ Being able to obtain a “carbon dividend” will add to that benefit and help to encourage landowners to keep their lands engaged in commercial forestry.

¹ Based on data from the FAO database FAOStat <http://faostat.fao.org/>.

² Based on half-lives in Annex 3.12 of USEPA 2007, INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS AND SINKS: 7 1990 – 2005

³ Intergovernmental Panel on Climate Change (IPCC). 2006. *2006 IPCC guidelines for national greenhouse gas inventories*

⁴ <http://www.beconstructive.com/pdf/Factsheet4.pdf> based on http://www.corrim.org/reports/2006/final_phase_1/index.htm

⁵ The forest and agricultural sector optimization model (FASOM): model structure and policy applications. 1996. Adams, Darius M.; Alig, Ralph J.; Callaway, J.M.; McCarl, Bruce A.; Winnett, Steven M. Res. Pap. PNW-RP-495. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 60 p

MORE RAPID CARBON SEQUESTRATION RATES: Young trees that are regenerated to replace those that are harvested have higher sequestration rates than old trees. As forests age, they absorb carbon dioxide at considerably slower rates while giving off increasingly more carbon dioxide through respiration and decay. (Absorption tapers off between 50 and 300 years depending on species and growing conditions).⁶ Ultimately, old forests release as much carbon to the atmosphere as they remove from it.

MORE RESILIENT TO CLIMATE STRESSES: In addition, sustainably managed forests that are periodically regenerated are less susceptible to catastrophic fire, disease and insect epidemics. Forests managed in accordance with silvicultural principles⁷ are generally more productive and less likely to experience stand-replacing wildfires as a result of investments in regeneration, stocking control, pest management and fire protection.

ENSURING PERMANENCE AND CREDIT FUNGIBILITY IN GHG TRADING MARKETS:

The Registry's requirement for perpetual easements is too limited a tool to address all of the "permanence" related risks to forests' sequestered assets. It is also seen as a factor that, because it attempts to tie the permanence risk of sequestered carbon to the land, causes the value of any additional sequestered carbon to be discounted.

Liability for forestland carbon stocks, both increases and decreases, should be assigned to the land owner of the carbon asset being registered, not the land. This will enable the landowner to use various options to mitigate any losses or decreases in registered forest carbon stocks, and to capture value from the carbon via "market mechanisms" under any future cap-and-trade carbon trading program. It also allows the "market" to add or subtract the value of the permanence risk to the price of a carbon credit to reflect who owns that liability, and how that liability will be addressed. It also creates an auditable system wherein all of these elements (title to the carbon, liability for loss, etc.) are documented in the contracts that would be used to transact a "carbon credit" trade.

GHG registries should include a portfolio of elements that will encourage landowners to maintain their forests for the long term, enhance the value of timberlands, and ensure that landowners have the ability to sustainably manage the land for both GHG mitigation value and timber value in the most flexible way. At the same time, these options should ensure that the fundamental principal of additionality is maintained, and that the liability for changes to carbon stocks on the land, both decreases as well as increases, is clearly established, tracked, and managed over time following GHG accounting and registry requirements for transparency.

In a fully robust carbon market, these objectives can be realized by taking a much broader approach to ensuring that carbon offsets, when originating from the land, are securitized in ways that ensure that the seller can cost-effectively provide market-based "back up" to their value. The following are some recommendations of mechanisms that can be incorporated into a sustainably managed commercial forest protocol to achieve this:

⁶ Appendix 1 of Technical Guidelines for Voluntary Reporting of Greenhouse Gas Program: Chapter 1, Emission Inventories: Part I Appendix: Forestry: March 2006.

⁷ The Practice of Silviculture. 7th edition. 1962. David M. Smith. John Wiley & Sons, Inc. New York.

- BANKING:** Allowing a forest owner to “bank” some or all of any annual carbon stock gains as a hedge against future reductions.
- INSURANCE:** Obtaining insurance against carbon stock losses, wherein the insurer would provide a payment that could be used to purchase replacement carbon reduction units (credits).
- LIKE-KIND POOLS:** Development of like-kind carbon stock insurance pools – forest carbon management units created to act as a replacement reserve. (Both private and public forest land owners should participate in the development of these pools, for mutual benefit, and to reduce costs.)
- PHYSICAL RISK MANAGEMENT:** Obligations to apply state-of-the-art sustainable forest management methods to reduce the risk of fire, pest and other force majeure risks – methods that have been developed and employed with considerable success over decades or longer by many of the largest forest land owners in the world.
- FORCE MAJEURE SAFE HARBOR:** Provisions should allow for carbon stock losses due to force majeure events (fire, wind blowdown, disease, and pest damage) to be subtracted from the inventory baseline, without the recording of an emission, so long as the landowner re-grows (regenerates) the carbon stocks to the levels equal to the amounts lost. Such increases would not be considered additional, but a replacement for the lost carbon stocks. As the replacement stocks are generated, they would be added to the baseline, until the full loss is replaced.⁸

ADDITIONALITY AND BASELINE REQUIREMENTS

Calculating baselines and additionality based on business-as-usual (BAU) scenarios is not appropriate for measuring long term changes in carbon stocks in forests.

The current approach is biased against landowners who are sequestering additional carbon annually on a BAU basis, and those who harvest some or all of that annual gain in carbon stocks for the production of long-lived forest products.

Other methods, such as a baseline year approach, should be allowed by the protocol. Under a baseline year approach, any annual increases in carbon stocks are considered as additional.

In addition, verification and certification are also more straightforward using a year as a baseline. Important factors such as changing forest management objectives, markets for alternative land uses, timber prices, ecosystem service prices (e.g. the price of sequestered carbon), and changes in technology and knowledge all contribute to a high level of inherent uncertainty when defining a baseline under a BAU scenario.⁹

⁸ http://www.pi.energy.gov/enhancingGHGregistry/documents/January2007_1605bTechnicalGuidelines.pdf
Section 1.1.3.4 Natural Disturbances p.244

⁹Ruddell, Steven, R. N. Sampson, M. Smith, R. A. Giffen, J. Cathcart, J.M. Hagan, D. L. Sosland, J. Heissenbuttel, J.F. Godbee, S.M. Lovett, J.A. Helms, W.C. Price, R.S. Simpson. 2007. The Role for Sustainably Managed Forests in Climate Change Mitigation. Society of American Foresters. Washington, DC. Journal of Forestry. In Press.

The Regional Greenhouse Gas Initiative, DOE's 1605b Greenhouse Gas Registry and the Chicago Climate Change all use a baseline year approach.

FOREST PRODUCT CARBON

The carbon in forest products should be fully recognized by the Sector, Project and Certification Protocols. As stated earlier, long term storage of carbon in such products is internationally recognized by climate scientists and policymakers. The current California Protocol puts such product carbon in an "optional" category that cannot be used to develop greenhouse gas reductions. Consequently, an entity's decision to send forest products to the wood products carbon storage pool is not rewarded.

We recommend that forest product carbon must be considered a mandatory pool, along with above and below-ground living biomass, dead biomass, and soil, and it be tracked, registered and certified. The owner of the rights to the product carbon (typically the landowner, product manufacturer or end customer) may register the product carbon. Registration rights for product carbon may be transferred among parties however the registering party must demonstrate ownership of the product carbon through market based buy/sell agreements or contracts.

We support the inclusion of default methods and values to simplify calculations while retaining the ability for reporters to use appropriate alternative methods.

Standardized look up tables should be included in the protocol to determine the amount of carbon stored in forest products. Appropriate tables have been developed for the DOE 1605b GHG Registry found at <http://www.pi.energy.gov/enhancingGHGregistry/documents/PartIForestryAppendix.pdf> on page 162. The values in these tables are discounted for uncertainty and provide users with a simplified approach to determining product carbon levels.

We support the inclusion of the 100 year method¹⁰ as an optional method for calculating carbon stored in forest products. The calculation method recommended by the Registry for such products is similar to the one recommended by the IPCC to develop national inventories of carbon in products. It results in large net increases in stored carbon in the early years due to crediting of new products with fewer debits for decaying products. It is an appropriate method for measuring product carbon back to 1900 (for a national inventory) as these start up effects have an opportunity to smooth over time. However, it is less appropriate for current or shorter time horizons that are covered in the Protocol.

In addition, reporters may want to use more appropriate conversion factors than those provided in the recommended or default product carbon calculations which tend to underestimate the amount of forest products harvested.

¹⁰ Miner (2005), "The 100-Year method for forecasting carbon sequestration in products in use", in Mitigation and Adaptation Strategies for Global Change published on-line May 22, 2006

The appropriate use of all methods will be confirmed during the verification/certification process.

INVENTORY

Because acceptable inventory and reporting procedures are time-consuming and expensive, it is important to provide flexibility for acceptable carbon inventory procedures. There should be options for conducting annual inventory of on-site carbon storage, ranging from look-up tables to field sampling. Carbon quantification using look-up tables can be discounted to take into account greater uncertainty. Reducing inventory and monitoring expenses will help to keep such costs more in line with the value of carbon.

NATURAL FOREST MANAGEMENT

In the current Project Protocol, forest management projects must use natural forest management practices which promote and maintain native forests that are comprised of multiple ages and mixed native species in the forest overstory and understory. First, natural forest management in no way is limited to only stands of mixed species with multiple ages, in both California or in other parts of the world. There are many single cohort stands dominated by single species that exist due to light requirements and competitive nature of the dominant species (e.g., most pine species and Douglas-fir grow best with light, and while today they are mostly planted in this fashion, historically they germinated naturally after large stand-replacing disturbances). Second, this requirement of having mixed species and multiple age management has no direct relationship to carbon sequestration.

Instead, we suggest that for impacts unrelated to carbon stocks, the Protocol require compliance with state regulations. Compliance with California's Forest Practice Rules should suffice without supplementary management requirements.

REPORTING

ASYMMETRY: Simple changes in carbon stocks over time, including increases or sequestration, should be allowed under entity-wide reporting. Currently, California considers decreases in carbon stocks to be emissions but, unless you are enrolled in a carbon project, California does not consider increases in stocks to be GHG reductions. On the other hand, a decrease in overall carbon stocks is always considered an emission. This double standard should be eliminated - both gains and losses in forest land carbon stocks must be recognized in computing changes in carbon stocks over time.

APPLICABILITY: It is unclear whether emissions from forestry operations will be included in regulations implemented under AB32. Most, if not all, mandatory programs to regulate GHG emissions do not impose requirements on the forestry sector.

OPTIONS: Depending on the ultimate scope of the future CARB Mandatory Reduction Requirements and Registry Protocols, *forest land owners should be afforded the following options under which they can register carbon stock changes on their land:*

- If there is a mandatory program that requires measurement and reductions from forestry operations, a land owner should be able to include its forest carbon stocks, and annual carbon stock changes in its enterprise-wide carbon inventory.
- If the reporting entity includes manufacturing as well as timber growing operations, these would be combined and reported under rules comparable to the CCAR General (GHG) Reporting Protocol, in a consolidated account. Any increases in carbon stock should be considered credits and similarly, any reductions in carbon stock should be considered emissions. Consolidated registrations would be held to net changes (increases and decreases) from a consolidated baseline. Note that for an entity reporting under this scenario the Forest Project Protocol would be unnecessary.
- In order to avoid unnecessary and expensive carbon accounting, it is important that entity-wide reporters have the option to be exempt from reporting carbon fluxes from forests that are sustainably managed. This is based on the fact that carbon stocks on sustainably managed forests are likely to be stable or positive over time. This provision would allow entities to avoid expensive carbon accounting and verification procedures on land that likely will have *de minimis* changes over time. In addition, landowners should have the ability to certify all or part of their forest land as being managed sustainably and choose to include actual estimates of changes in carbon stocks on the remaining parts their lands, rather than relying on the assumption of *de minimis* changes. This allows landowners the opportunity to undertake activities that would maximize carbon sequestration over time (and the accounting and verification requirements) on specific areas of their ownership should they so choose. This reporting option for lands certified to a sustainable forestry standard, such as the Sustainable Forestry Initiative, Forest Stewardship Council, Canadian Standards Association Sustainable Forest Management certification, or the American Tree Farm System, has been adopted by the Department of Energy's Voluntary Reporting of Greenhouse Gases 1605b Program.¹¹
- If a mandatory system does not require measurement and reductions from forestlands, the Forest Project Protocol should be used to verify carbon offsets. Note that for those registering offsets from sustainably managed land, reporting a complete inventory through the Forest Sector Protocol is unnecessary.

Summary

In order for the Protocols be more effective in reducing atmospheric carbon, we encourage you to proceed with plans to add an alternative or supplementary protocol for commercial sustainable forest management

¹¹ http://www.pi.energy.gov/enhancingGHGregistry/documents/January2007_1605bTechnicalGuidelines.pdf
(Section 1.1.3.5 Sustainably Managed Forests Page 244 4.)

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activities to accurately account for harvest and regeneration practices to restore, enhance, and maintain forests and their carbon stocks.

Key components of such a protocol tailored to managed forests include:

- Appropriate reversal requirements to deal with additionality and permanence issues around harvesting, forest disturbance or land use change.
- Allowing full recognition and certification of forest product carbon.
- Accounting of changes in carbon stocks over time.
- Recognition of the stability of carbon stocks on sustainably managed lands.
- Minimized accounting costs.

We are available to answer any questions you may have, and look forward to an opportunity to make further contributions to your efforts as you go forward with the development of additional rules that will apply to commercial, sustainably managed forests.

Thank you for your consideration.

Sincerely,



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