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To: ETAAC Co-chairs Dr. Alan Lloyd and Dr. Bob Epstein

Subject: Comments on the November 2007 Draft ETAAC Report

I want to commend the members of the Economic and Technology Advancement Advisory Committee (ETAAC) for preparing a thorough and insightful draft report. As noted in the first paragraph, a whole array of policies will be necessary to achieve the reduction of "approximately 174 [million] metric tons of GHG from the projected "business as usual" scenario. " (p 1-1). Since business in California is always innovating and rarely 'usual', it may be more appropriate to call the undesired scenario the 'autopilot' scenario.

My specific comments refer the forestry sector chapter. As the recently released CO2 emissions estimates from CARB show, the forest sector is unique in California as it is a major sink, rather than a source, of CO2 emissions. In 1990, the forest sector had emissions of 0.2 MMT CO2 and provided a sink equivalent to -6.7 MMT CO2.
http://www.arb.ca.gov/cc/ccei/inventory/reports/staff_report_1990_level.pdf
This suggests that the forest sector major roles will be as a provider of verified emission offsets and as a provider of carbon-neutral biomass for cogeneration facilities.

As the draft ETAAC report notes, there are many opportunities for additional climate benefits via increased net carbon sequestration in forests (after adjusting for long term risks of losses to wildfires, insects, disease, drought, windthrow, etc.) as well as through the use of forest products to offset more energy intensive alternatives. However, if forest actions are much more expensive than other alternatives, they may never occur. As ETAAC prepares its final report to CARB to complement the report from the Market Advisory Committee and other reports, it would appear that two additional forest related issues merit attention from ETAAC. Both relate to the 'economic' component, rather than the 'technology' component of the ETAAC mandate. These are 1) promoting the development of independent measurements of the cost-effectiveness in terms of $/CO2 ton of different forest-related opportunities and 2) the promotion of financial instruments that can help build broader portfolios of opportunities as opposed to strategies that focus only a handful of projects.

The wide array of potential activities to increase forest carbon stocks, reduce the threat of future losses of those carbon stocks, and offset value of forest products and biomass energy calls out for the need for a high quality and independent method to assess cost effectiveness. A key issue will be calculating the cost-effectiveness of the various potential opportunities. It is

logical that entities with substantial emission liabilities will choose offsets by comparing the cost effectiveness of forest actions to other actions.

If forest actions are more expensive, they may never occur. For example, the October 2007 report of the Climate Action Team (CAT) provides estimates for 'forest conservation' via the purchase of development rights to reduce the carbon loss from forestland conversion. There calculations imply a rather high cost of $45/CO2 ton ($ 31.5 million to purchase land that could eventually release 0.669 million metric tons of CO2 (MMTCO2 tons – or about $45/CO2 ton) http://www.climatechange.ca.gov/events/2007-09-14_workshop/final_report/2007-10-15_ATTACHMENT_B.PDF p 192 and p 197). Even though the CAT authors used fairly low land prices for forest lands that would be immediately developed (the assumption needed to justify the immediate credit for carbon sequestration), they still ended up with a much higher cost per CO2 ton than those in Europe where prices are now around $30/CO2 ton.

A common characteristic of the carbon sequestration aspect of forests is that the estimated benefits or losses will occur years or decades in the future while the financial interest is typically for immediate payment. This can create a challenge for well functioning CO2 offset markets even if the projects are all cost-effective. It is also no different than what happens when companies sell stock. The current focus on individual projects with complex monitoring procedures is akin to the using full-priced stockbrokers to pick single internet stocks as a way to develop a retirement portfolio. Given that no one has a crystal ball, the challenge is to build up a portfolio dominated by long term winners and only a few examples of approaches that do not work as well as projected. Over time, California could benefit from approaches toward CO2 offsets that resemble mutual funds with low transaction costs, transparent rules for balancing returns and risks, and portfolios that include a lot of different approaches. This could fit in well with ETAAC's California Carbon Trust idea.

Sincerely,

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