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California Resource Recovery Association

Recyclers Global Warming Council

January 15, 2009

John Nickerson
California Climate Action Registry
523 W. Sixth Street, Suite 428
Los Angeles, CA 90014

Re: Landfill Carbon Sequestration from Wood Products

Mr. Nickerson:

The Recyclers Global Warming Council (RGWC) of the California Resource Recovery Association (CRRA) represents interests within the CRRA and overall resource recovery industry to address the issue of climate protection through "Reduce, Reuse, Recycle, & Compost" strategies. The CRRA is the oldest and one of the largest non-profit recycling organizations in the United States dedicated to reducing waste, pollution, and green house gas production through reuse, recycling, composting and product stewardship.

The RGWC is concerned that development of protocols for forestry and other sectors do not give full and proper consideration to "Reduce, Reuse, Recycle, & Compost" as significant climate protection strategies. In the case of the forestry protocol, allowing 'sequestration' credit for the forestry sector by assuming materials go to landfills is simplistic, and has the effect of institutionalizing landfilling and short-changing other end-of-product-life options that have more favorable climate protection outcomes and other co-benefits (compared to burying a resource in the ground as "waste").

At minimum, in developing the protocol for forestry and other sectors that intersect with the 'waste' sector, we urge that CCAR:

A. Utilize and develop life-cycle sequestration rates for other options besides landfilling, including in the case of the forestry protocol sequestration to soil through composting/mulching and 'sequestration' for extended life-cycle thru re-use, as well as re-cycling into MDF and other wood products.

B. Re-evaluate the assumption that in the future wood 'wastes' will end up in landfills. With the decreased availability in general of forest products (shrinking resource pool), more wood products are already coming from recovered wood - as a walk down the plywood products aisle at Home Depot will reveal.

C. Reach out to the 'waste' sector, including the CRRA to ensure that the full range of stakeholders are included from the very start in developing the various protocols.

WHY is all this important to 'waste' sector stakeholders? Among other reasons, because these protocols set the stage for cap and trade system use - whether for emissions from a capped sector, OR from offsets from a non-capped sector such as composting or building deconstruction. For example in the City of Oakland, at the decommissioned Oakland Army Base, warehouses containing old-growth dimensional lumber were recently deconstructed instead of traditional wrecking ball demolition into a landfill. The wood recovered from deconstruction was recertified, and resold back into the economy thus extending the life-cycle of the wood product AND creating co-benefits of local green-collar jobs (i.e., an economic co-benefit vs. landfilling). Such alternatives to landfilling should be included in the forestry protocol, NOT just assuming wood-based carbon gets "sequestered" in landfills.

Composting/mulching co-benefits, compared to the alternative of landfill disposal, include that in addition to sequestering carbon in agricultural soils (where it is available to support plant growth), it also improves water retention which in turn reduces energy consumption to deliver water, AND also reduces the need for fossil-fuel based fertilizers such as ammonium nitrate. While landfilling may sequester carbon to the satisfaction of the forestry sector in creating protocols for itself, doing so can have negative net climate impacts relative to other options for sequestering wood-based carbon.

In a bigger picture, one of the issues raised in the December 18, 2009 Forest Project Protocol Workgroup conference call is the limitation of sector-based inventory account systems when carbon travels between sectors, as it often does when it is embedded in materials and not consumed in the short run in the energy or transportation sectors. This is true not only when carbon is directly embedded in wood, but also when consumed carbon (i.e., embodied energy) is embedded in non-wood materials and products. The concern when embedded carbon is involved is that under a sector-based approach, focusing on California's in-state emissions sources tends to at best discount, and at worst completely ignore embedded carbon where:

- A. Emissions reduction benefits of actions taken in CA would reduce emissions over multiple sectors
- B. Emission reductions would occur outside of CA as a result of actions taken within CA

Using a systems-based inventory approach, research indicates that recycling, waste prevention and zero waste materials management offer greater GHG reduction potential by an order of magnitude of 5-10 times more than the 1-5% allocated to the "waste" industry in the form of landfill methane emissions under sector-based inventories. This is a bigger issue, and perhaps less applicable to the forestry sector. However, the key learning is that prevention-oriented approaches tend to reduce emissions at lower cost and with environmental co-benefits (compared to end of pipe controls). Sector-based GHG inventories are useful to target end-of-pipe solutions, and technology substitution. An alternative view, systems-based inventories, is useful to target prevention-oriented emissions reductions strategies. Reduce-reuse-recycle-compost are prevention-oriented emissions reduction strategies: they significantly reduce, or in some cases eliminates, repetition of multiple carbon-emitting processes in raw material extraction, processing, and transformation, and the manufacture, and transport of finished products along the entire supply chain to consumers. See slides # 79-95 at

[http://yosemite.epa.gov/r10/ECOCOMM.NSF/Programs/wcf/\\$FILE/301-1-presentation.pdf](http://yosemite.epa.gov/r10/ECOCOMM.NSF/Programs/wcf/$FILE/301-1-presentation.pdf)

Climate protection is a complex and evolving field which warrants continual re-examination of assumptions and approaches. CRRA's RGWC welcomes the opportunity to learn and participate.

Best Regards,

Mark Gagliardi, Chair
CRRA, Recyclers Global Warming Council

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