



Theroux Environmental

June 10, 2007

Commissioner James D. Boyd, Chair
Bioenergy Interagency Working Group
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

*to Dockets
also via email*

SUBJECT: Docket No. 06-BAP-1: Comments to the California Bioenergy Action

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Commissioner Boyd:

I applaud your leadership of the California Energy Commission (CEC), and as Chair of the Bioenergy Interagency Working Group, for advance bioenergy development in California. This close interagency communication is a rare opportunity to further common goals, one that can provide base-level change so critical to real progress.

The following comments are respectfully submitted to the Working Group for your review. I hope to expand upon current Working Group efforts by illuminating certain areas of confusion within existing state regulatory language and policy that stand as barriers to progress, and to offer recommendations that the Working Group can facilitate.

Feedstock Dependent Purview & "Cessation of Waste"

I believe the CEC is best positioned among our state agency to oversee the clean conversion of the myriad forms of *biomass* into energy and fuels. This extends beyond promulgation of law to regulation, to implementation of regulations and in the creation and on-going maintenance of policy. Recent global inclusion of both BioPower and BioFuels within the common usage of the term **Bioenergy** is an excellent example of CEC's proper guidance, as seen in Renewable Portfolio Standard (RPS) *Guidebook* recognition of biogas injection to natural gas pipelines as our first element of Renewable Fuels eligibility.

This question of administrative oversight *should* be clear, yet remains quite confused in particular between the CEC and the California Integrated Waste Management Board (CIWMB) primarily due to the lack of a precise means of transfer of authority.

The Bioenergy Action Plan element delineating Individual Agency Responsibilities provides that CIWMB will, in part,

3. a. Identify and quantify the amount of material currently being landfilled and assess the potential for its conversion to bio-fuels and other bio-based products by December 31, 2006."¹

CIWMB's assessment includes, in part, the need for determination of just when a discarded resource is no longer, legally, a *waste*. If something is a "waste", the purview should be that of CIWMB; if *not* a waste, the Waste Board shouldn't have any oversight regarding the conversion. **What is missing in regulation and policy is guidance for "cessation of**

¹ Bioenergy Action Plan for California: CEC-600-2006-010, July 2006; pg. 3.

waste”.² How much pre-processing must be accomplished, so that a material that was once a waste can now be declared (and administered) as a non-waste feedstock?

There are precedents. For management of our large direct-combustion Bioenergy facilities, feedstock must contain less than 10% contaminants (black plastic irrigation tubing in orchard pruning, for example). This 10% solution is also found when CIWMB oversees inert waste disposal (dirt, rock, concrete). Industry also recognizes this level of cleanliness as generally acceptable: paper recyclers must maintain less than 10% total short-fiber residue, plastics and staples in their waste paper recovered from MSW, to meet sales specifications of large paper manufacturers. Here, as in most of our standard “recycling industry”, there is a recognized *performance-driven* maximum contaminant level dictated by the marketability of the recycled goods and materials, more than some arbitrary *prescriptive* level imposed by agency policy.

Yet this is not recognized conversely: one cannot simply segregate *biomass* from Municipal Solid Waste (MSW) to remove the feedstock from the jurisdiction of “Waste Management”. Once a waste, always a waste seems to be the mantra, regardless how carefully the percentage of non-biomass contamination is controlled.

Recommendation #1: Pre-processing of MSW that can produce a biomass feedstock that consistently maintains 10% or less non-biomass contaminants should no longer be considered “waste” under our state laws and regulations, for purposes of RPS eligibility and respective purview of CEC and CIWMB.

CIWMB Diversion Credits for Biomass

The Bioenergy Action Plan element outlining Multi-Agency Collaborations requires the Working Group to oversee actions that in part,

“2. a. prove the commercial readiness of biofuels production and advanced biomass conversion technologies including cellulosic feed stocks derived from forestry, agriculture, and urban wastes; gasification; pyrolysis; biomass-to-liquids; and landfill gas to energy systems by 2010”

When considering infrastructure approaches for advanced biomass management, California municipalities must focus on CIWMB's “Diversion Credits” as a major impetus for managing biomass in their jurisdiction. Tight restriction of available diversion incentives for conversion of biomass remain as an impediment to broader technologic commercialization and project implementation.

When state regulations were instituted regarding municipal credits for diversion of biomass material from landfill disposal, choices for clean conversion were extremely limited. Diversion from disposal at a landfill to use as feedstock in a direct-combustion facility was seen as the *equivalent* of mass-burn incineration of MSW, classified as “transformation”. Right or wrong, this was viewed as providing little public good, and diversion credit was restricted to a 10% cap that could be claimed either for *conversion* or for *transformation*, but not for both.³ The

² Dr. Kay Martin, recently-retired director of Ventura County Department of Energy and Waste, has provided specific findings to CEC and CIWMB wherein she identified regulatory precedent established for the State of New York as an appropriate model for new California “cessation of waste” regulatory language, citing New York State Department of Environmental Conservation Rules and Regulations, NYSDEC Subpart 360-1.

³ Conducting a Diversion Study - A Guide for California Jurisdictions; CIWMB Pub# 311-99-006; April 2001: “Biomass conversion, as defined in PRC section 40106, can count toward diversion in 2000 (but

CEC has certainly heard the arguments that standard biomass to energy facility operation provides far more “public good” than is being monetized; setting aside that debate for a moment, however, another perhaps more subtle consideration lies underneath. Technologies for clean conversion of biomass feedstock are now available that certainly should NOT be equated to disposal or transformation, no more than conversion of biomass to product via composting or anaerobic digestion are considered methods of “use constituting disposal”.

A municipality can claim no more than a 10% diversion credit for conversion of biomass to energy, fuels or products, unless the technology is either composting or anaerobic digestion, for which 100% diversion credit is available.⁴ This artificially directs municipal choice over systems for project development, not based upon cleanliness or efficacy, but upon an imposed economic driver. Again, this is improperly assigning a *prescriptive* standard to the choice of technologic approach, rather than relying on appropriate *performance-based* criteria.⁵

A municipality must consider revision of their Integrated Waste Management Plan (IWMP) and its Source Reduction and Recycling Element (SRRE), to claim diversion credit for any expansion of programs that could document the increase in recovery of materials otherwise sent to a landfill.⁶ It therefore makes sense for all municipalities to plan ahead, and consider specific revisions to their IWMP that can incorporate new methods and technologies for waste diversion.

Modifying and clarifying our state regulation and policy that can recognize these new clean “conversion technologies” as other than disposal or transformation, in light of future municipal diversion credit, can therefore send a strong signal encouraging development of the requisite local planning document context so necessary for successful BioPower and Biofuels programmatic expansion.

Recommendation #2: For purposes of Landfill Diversion Credits, eliminate the current cap related to use of clean, non-combustion thermal conversion of biomass into BioPower and Biofuels, making credible diversion for clean non-incineration thermal conversion equal to that available for composting and anaerobic digestion.

Eligibility of Bioenergy from Purpose Grown Crops

Again as stated in provision for *Multi-Agency Collaboration*, Section 2, the Energy Commission is to coordinate use of state funds and solicit federal support for strategic RD&D projects to

only if transformation is not also counted toward a jurisdiction’s 2000 diversion rate) if certain conditions are met (PRC section 41783.1)”

⁴ PRC Section 40201. Transformation means: “incineration, pyrolysis, distillation, gasification, or biological conversion other than composting. “Transformation” does not include composting or biomass conversion.”

⁵ PRC 41783.1. (a) For any city, county, or regional agency source reduction and recycling element submitted to the board after January 1, 1995, the 50 percent diversion requirement specified in paragraph (2) of subdivision (a) of Section 41780 may include not more than 10 percent through biomass conversion...”

⁶ PRC 41781.2 (g): Notwithstanding any other provision of law, for purposes of determining the base amount of solid waste from which the diversion requirements of this article shall be calculated for a city, county, or regional agency which includes biomass conversion in its SRRE pursuant to Section 41783.1, the base amount shall include those materials disposed of in the base year at biomass conversion facilities...”

include (among other elements) *afforestation* (replanting of trees) for production of biopower, biofuels and chemicals.

Critical to this task is eligibility of a project for support with the RPS. Policy regarding what can constitute eligible renewable energy projects are provided in the RPS Guidebooks. The definition of "Biomass" continue to be refined; our most recent and comprehensive revisions (dated March 14, 2007) included "substantive changes" in many areas that directly impact *bioenergy* as eligible renewable energy generation.⁷

"Dedicated biomass crops" are identified in the Preliminary Roadmap for Development of Biomass in California, for the ability to "... *serve a variety of purposes in addition to supplying feedstock for biomass conversion, including soil remediation, groundwater and nutrient management, and new local economic development opportunities* ..." ⁸

Yet *dedicated biomass crops*, often referred to as "purpose-grown energy crops", are not specifically recognized as an eligible biomass feedstock in this most current Guidebook language. Since an extensive list specifying eligibility is now provided that *does not* include a line-item specifying that *conversion of purpose-grown crops into bioenergy, biofuels and bioproducts constitutes an eligible project* under the RPS, the natural assumption is that they are not eligible. This contradicts the Action Plan stated intent, in that the most clearly dedicated California state funding support for renewable bioenergy available (that provided under the RPS) would be inaccessible to bioenergy projects utilizing purpose grown crops.

Recommendation #3: Revise PRS definitions of "biomass" in the Overall Program Guidebook and respective sections of the Eligibility Guidebook to specifically include "dedicated biomass crops" as an eligible feedstock for generation of BioPower and manufacture of BioFuels.

Thank you for the opportunity to provide comment; I am available as questions arise.

Sincerely,

Theroux Environmental



Michael Theroux
Principal

cc: California Energy Commission Dockets Office, MS-4, Re: Docket No. 06-BAP-1

⁷ Overall Program Guidebook (pub# CEC-300-2007-003-CMF, adopted 3-14-07), and the Eligibility Guidebook (2nd ed., Pub# CEC-300-2007-006-CMF, adopted 3-14-07).

⁸ CEC 500-2006-095-D, December 2006, pg. 59.