California Biomass Energy Alliance

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March 8, 2013

The Honorable Mary Nichols, Chairman
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Subject: Cap-and-Trade Auction Proceeds Investment Plan
Draft Concept Paper Comments

Dear Chairman Nichols:

The ***California Biomass Energy Alliance*** ("CBEA") thanks you for the opportunity to comment on the development of the Cap-and-Trade Auction Proceeds Investment Plan ("Draft Plan"). CBEA generally supports the investment principles for cap-and-trade auction proceeds set forth in the Draft Concept Paper, and particularly the principles calling for investments that (1) further the purposes of AB 32 (the California Global Warming Solutions Act of 2006); (2) achieve near-term greenhouse gas ("GHG") emission reductions; and, (3) foster job creation and maximize economic benefits for California.

One of the major barriers to developing and commercializing clean solid-fuel bioenergy technologies is the deployment of untapped fuels. Technologies are available to take advantage and advance bioenergy generation, yet the State falls far short of its potential to produce clean, reliable bioenergy because its seemingly abundant fuel source – most notably agricultural and forest waste – remains inaccessible due to the significant cost of deployment. A solution to this problem would fit nicely within the principles outlined in the Draft Plan.

Agricultural residues and in-forest residues are the most difficult types of biomass to collect, process, and transport. For those reasons, these bioenergy fuel sources are the most expensive to utilize. Yet, agricultural and forest wastes can provide the most benefit, including avoided emissions of criteria pollutants, and avoided methane and carbon monoxide that would be generated from open burning of agricultural or forest wastes. Additionally, many of these opportunities for collection of waste wood fuel exist in the most impacted communities (top 10 % of zip codes identified by "CalEnviroScreen"), in the Central Valley from Stockton to Bakersfield. These locations offer opportunities to collect additional agricultural wood waste, which contributes to criteria pollutant emission reductions, greenhouse gas emission reductions and opportunities to create jobs in many of the most disadvantaged communities in

California. Biomass energy plants that could utilize additional biomass wood fuel exist currently in these areas and several large plants are in the process of being switched from fossil fuel to biomass fuel and will have significant new wood fuel requirements.

Much of the State's agricultural and in-forest wastes are disposed by open burning, which is the least environmentally-preferable alternative for the disposal. Biomass-to-energy offers a much better alternative. In 2009, the California biomass industry converted 2.4 million tons of agricultural residues, and 1.1 million tons of in-forest residues into energy. In doing so, criteria air pollutants from the combustion-for-disposal of these materials, including particulates, NOx, CO, and hydrocarbons, are typically reduced by 98 percent (see ***Figure 1***), and in the case of in-forest residues whose use as fuel facilitates the performance of needed thinnings, the overall health and fire-resiliency of the treated forest has been markedly improved. Many opportunities for collection of additional forest wood waste, which would produce the benefits of reduced criteria pollutants, reduced emissions of greenhouse gases and better forest health, exist in or near communities that are severely economically disadvantaged. Although these areas have very good air quality, which causes them to score lower on the scale established by the "CalEnviroScreen," they have enormous potential to contribute to GHG reduction efforts and to create jobs in economically disadvantaged areas of California.

Additionally, extensive research has demonstrated that today's biomass energy industry not only displaces the use of fossil fuels, it also decreases the amount of biogenic greenhouse-gas emissions associated with the materials that are used as fuels. Bioenergy production reduces atmospheric greenhouse-gas levels by promoting forestry practices that enhance long-term forest-carbon sequestration, and by reducing the greenhouse-gas potency (including the very important reduction in emissions of methane from open burning of forest waste) of the gases associated with the recycling of biomass carbon to the atmosphere that is an intrinsic part of the global carbon cycle. These biogenic greenhouse-gas benefits are provided in addition to the benefit common to all renewable energy production of avoiding the use of fossil fuels.

The State of California does not just benefit from biomass with cleaner air and reduced greenhouse-gas emissions associated with the disposal of the State's biomass wastes, but decreased consumption of landfill space, reduced wildfire risk in the State's forests and generally healthier forests. The fuel-production alternative also provides many more jobs than conventional disposal of the biomass materials, primarily in rural economically disadvantaged areas of California.

Figure 2 below depicts the fuel-supply areas of existing facilities within PG&E's service area, and acreages of public lands that are within the fuel-sheds of these facilities. Some forest landowners rely upon these facilities to process byproducts of fuel reduction and forest health management activities. Public land managers have stated that they prefer to require removal of biomass to a powerplant but often the project does not generate sufficient revenue to cover the transportation cost. Hence, the biomass is piled and burned. The proximity of biomass

facilities to forest management projects directly affects the nature and affordability of forest management biomass disposal needs. Powerplant closures and curtailments result in difficult choices for land managers, particularly where open burning is not a viable option for public health, public safety or operational considerations.

Funding emphasis from the AB 32 Cap-and-Trade Auction proceeds should be placed on a program designed to maximize the deployment of a clean energy fuel source that addresses the need to access woody biomass. The CPUC has recognized in its EPIC proceeding that this is a more appropriate funding source:

> "If ongoing fuel or other subsidies are necessary, it may be wise for the state to consider a more diverse funding source beyond electricity ratepayers, such as the revenues anticipated from the cap and trade program of AB 32 or another source that more appropriately allocates costs and benefits beyond electricity ratepayer benefits. The Commission will continue to participate in and be supportive of multi-agency and/or multi-party discussions of bioenergy policy for the state, such as the Bioenergy Interagency Working Group. A coherent strategy and/or program for encouraging more bioenergy in the state, capturing not only the electricity benefits but also the non-energy benefits, should be a continuing priority. But EPIC funds alone are not the appropriate source for funding such a program." http://docs.cpuc.ca.gov/WORD_PDF/AGENDA_DECISION/167158.pdf

If California wants to advance bioenergy generation in California, it must address the fuel issue. The solution is consistent with the Governor's Budget proposal for the auction proceeds, which noted examining the diversion of organic waste to bioenergy. It is also consistent with the legislative direction that emphasized GHG reduction through clean energy and solid waste diversion. This solution for bioenergy generation would also fit well within the principles outlined in the Draft Plan as there will be immediate and calculable emissions reductions results and jobs created.

CBEA thanks you for the opportunity to comment in this proceeding and looks forward to working with you on getting the much needed emissions reductions for the State.

Sincerely
California Biomass Energy Alliance

Julee Malinowski Ball, Executive Director

JMB/kmg

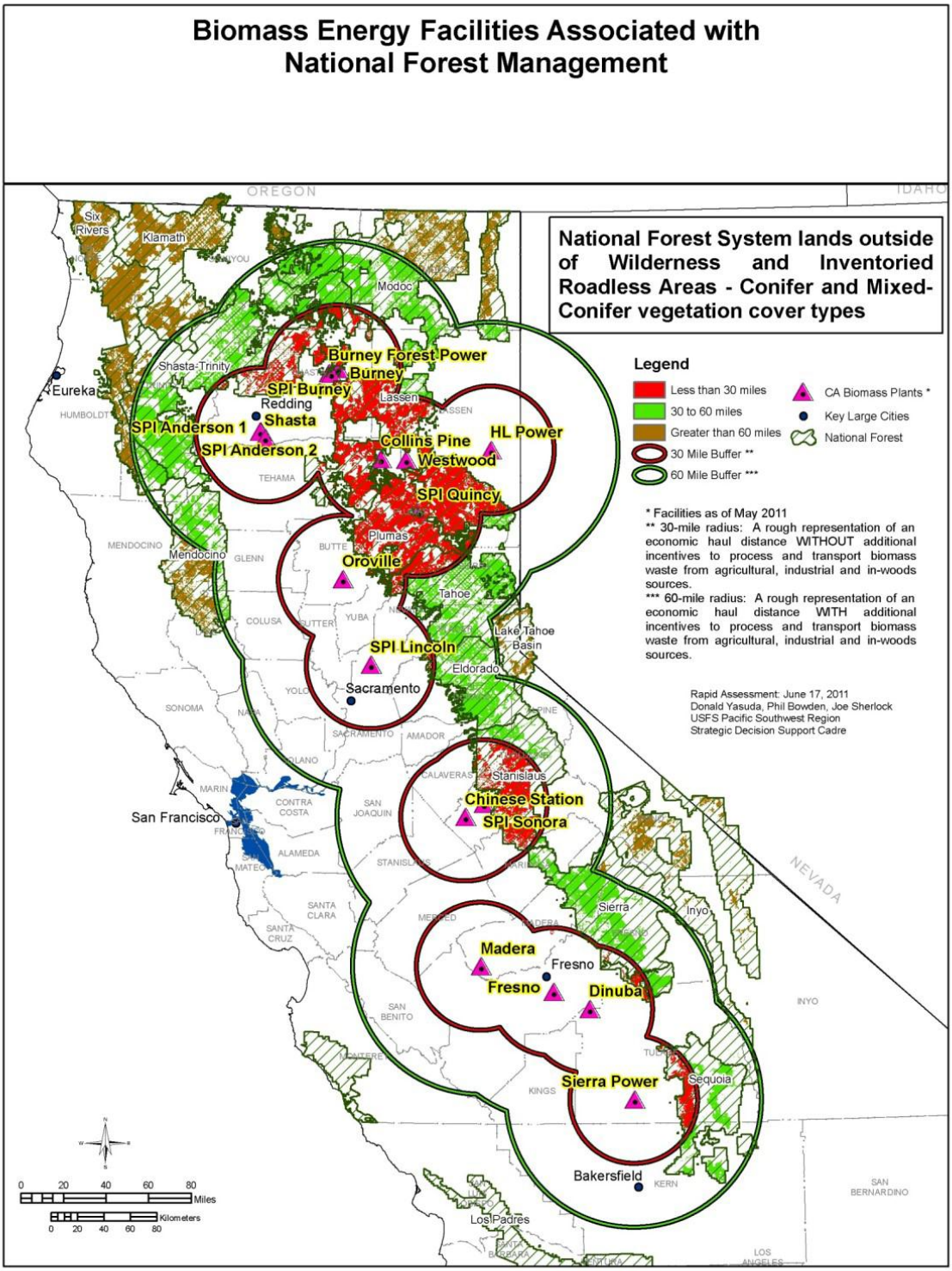
Figure 1:

Comparison of Emissions Between Biomass Boilers and Field Burning

Pollutant	Field Burning (lb./ton)	Biomass Boiler (lb./ton)	Percent Reduction for Biomass Boiler (Percent Reduction)
Sulfur Oxides	1.7	0.04	97.6
Nitrogen Oxides	4.6	0.70	84.8
Carbon Monoxide	70.3	0.40	99.4
Particulates	4.4	0.26	94.1
Hydrocarbons	6.3	0.00	100.0
Total	87.3	1.4	98.4

Emission factors from "Hydrocarbon Characterization of Agricultural Waste Burning", CAL/ARB Project A7-068-30, University of California, Riverside, E.F. Darley, April 1979.

Figure 2


Biomass Energy Facilities Associated with National Forest Management
National Forest System lands outside of Wilderness and Inventoried Roadless Areas - Conifer and Mixed-Conifer vegetation cover types
Legend
Less than 30 miles
30 to 60 miles
Greater than 60 miles
30 Mile Buffer **
60 Mile Buffer ***
CA Biomass Plants *
Key Large Cities
National Forest
* Facilities as of May 2011
** 30-mile radius: A rough representation of an economic haul distance WITHOUT additional incentives to process and transport biomass waste from agricultural, industrial and in-woods sources.
*** 60-mile radius: A rough representation of an economic haul distance WITH additional incentives to process and transport biomass waste from agricultural, industrial and in-woods sources.
Rapid Assessment: June 17, 2011
Donald Yasuda, Phil Bowden, Joe Sherlock
USFS Pacific Southwest Region
Strategic Decision Support Cadre
Burney Forest Power
Burney
SPI Burney
Redding
Shasta
SPI Anderson 1
SPI Anderson 2
Collins Pine
Westwood
HL Power
SPI Quincy
Oroville
SPI Lincoln
Sacramento
Chinese Station
SPI Sonora
Madera
Fresno
Fresno
Dinuba
Sierra Power
Bakersfield
Eureka
San Francisco
Mendocino
Tahoe
Lake Tahoe Basin
Plumas
Lassen
Modoc
Six Rivers
Klamath
Shasta-Trinity
Stanislaus
Sierra
Inyo
Sequoia
Los Padres
OREGON
NEVADA
0 20 40 60 80 Miles
0 20 40 60 80 Kilometers