

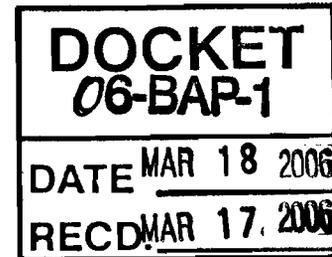
California Biomass Energy Alliance, LLC



3379 Somis Road, P.O. Box 8, Somis, CA 93066 • 805-386-4343 •
calbiomass@reesechambers.com • www.calbiomass.org

March 18, 2006

Susan Brown, Project Manager
California Energy Commission
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512



Re: Docket No. 06-BAP-1

Dear Ms. Brown:

The California Biomass Energy Alliance and the Green Power Institute would like to provide the following joint comments on the Bioenergy Action Plan for California. Our comments are in two sections. The first section addressed specifically the recommendations in the Plan. The second section is CBEA's recommendations for technical clean-up of the report.

RECOMMENDATIONS

The existing biomass industry applauds the Action Plan's recommendation to set a target of the development of 1,500 MW of new biopower capacity by 2020 so that biopower can continue to provide a 20 percent share of in-state renewable power as part of the RPS. However, a target is not enough. A target cannot be financed. The target must be backed up by specific and focused mandates that will lead directly to contracts for plants that can be financed for the development of new biopower. Results should be measured in terms of tons per year of biomass diverted from burial, open burning, and forest overgrowth accumulation, and cubic feet per year of biogas, marshaled to productive use.

CBEA has six recommendations that should be a part of the Action Plan as things that should be done in 2006 to provide long-term certainty for biomass programs

Recognize the unique benefits of biomass in renewable purchase programs

1. The Governor should direct the CPUC to enact a solid-fuel-biomass-only segment within the renewable portfolio standard (RPS) as one way to encourage growth of the biomass industry, while at the same time, provide for continued operation of the existing plants in the longer term, beyond the time when their contracts with the IOUs expire.

The existing RPS imposes the requirement on IOUs to reach a level of 20% renewable energy in their retail sales portfolios by 2010 (as amended by the State's Energy Action Plan). The RPS requires a technology-undifferentiated number of kilowatt-hours to meet the 20% requirement. The fuel collection, processing, and transportation costs borne by the biomass industry result in biomass power being more expensive than most other forms of renewable energy (the fuel for a wind generator is free, as is the fuel for a geothermal generating plant or a small hydro-electric plant). As a result, biomass power is not competitive in a "low-price wins" RPS competitive solicitation, and new biomass is not expected to prevail within the existing RPS.

Like all renewables, energy production from biomass fuels displaces the production of a like amount of energy from conventional (fossil) sources, with all of the social and environmental benefits associated therewith, including no net greenhouse gas generation. However, unique to biomass, the use of biomass fuels for energy production avoids the societal costs of the alternative disposal of these waste materials by burial in landfills, open burning, or forest decomposition. The avoidance of alternative disposal of biomass residues is by far the most important source of the environmental benefits associated with the production of energy from biomass resources, which have been shown to be worth more than 10 ¢/kWh of electricity produced.¹

The future of biomass energy production faces a difficult dilemma. On the one hand, it delivers unique and valuable social and environmental benefits that not even other renewables can match. On the other hand, biomass energy production is expensive, and in most cases the energy market cannot carry the entire enterprise by itself. The case for public policy intervention on behalf of biomass energy production is clear and overwhelming.

A solid-fuel-biomass-only segment within the RPS, set at 3.0% (that is, 15% of the overall 20% RPS requirement), should be established to provide a competitive opportunity for biomass plants with expiring contracts, as well as for new biomass plants. A 3% solid-fuel biomass RPS requirement would provide for approximately a 50% increase in the biomass industry, relative to today's level, and would be well within the readily available biomass fuel resources of the State.² The competition for lowest price within the biomass category would assure the lowest possible biomass energy costs to reach the 3% threshold.

To ensure the State achieves the goals of a biomass portfolio standard, we suggest the following issues would also need to be addressed:

2. The State must recognize the full value (market and non-market) of producing energy from biomass resources in order to continue to receive the unique benefits that biomass provides. This issue was addressed on page 33 of the Action Plan, but was not addressed

¹ Morris, G., *The Value of the Benefits of U.S. Biomass Power*, NREL Report No. NREL/SR-570-27541, November 1999.

² *Biomass Resource Assessment in California*, CEC PIER Program Consultant Report, CEC-500-2005-066-D, April 2005

in the chapter on recommendations. There needs to be a value assigned to the netting of the environmental impacts of bioenergy (avoidance of alternate disposal netted against the emissions from the power plant), in order to recognize the contribution of biomass energy production to improved air quality, reduced landfilling, and improved forest health and productivity in California.

3. In addition to the two recommendations made for the CIMWB (section g, page 38), the board should also be directed to remove the loophole that currently permits counties to bury biomass in landfills as “alternative daily cover,” and count it as diverted from the landfill.

4. In terms of better accessing forest fuel, which is crucial to any efforts to expand biomass energy production in California, CBEA supports the comments docketed by the California Forestry Association on this Action Plan.

Environmental benefits of biomass should be paid for by beneficiaries

5. The Legislature should act swiftly to provide for the re-authorization of the PGC fund monetary support, with escalation, until the end of the collection of the PGC funds from ratepayers.

All of the operating biomass plants receive support from the PGC renewables trust fund that is funded by ratepayers and distributed by the CEC. Because the consumption of wood wastes is environmentally beneficial in a number of ways, the State has determined it preferable to have the biomass plants run full-time, as opposed to operating only during peak periods of electricity demand when electricity prices are high. To accomplish this, the PGC subsidy funds are paid, via the CEC, to biomass plants only during off-peak times of electric demand, when electricity prices are otherwise low. Payment support during off-peak times has resulted in all of the biomass plants running essentially baseload, consuming the maximum amount of wood waste fuel.

The distribution of the PGC funds by the CEC is currently scheduled to end December 31, 2006, and requires reauthorization by the Legislature to continue to the end of the period of collection of the PGC funds from ratepayers at the end of 2011.

First, legislature should be asked to extend the PGC funds distribution by the CEC to the end of 2011.

Second, the CEC should be directed to continue the support payments to biomass plants by the CEC with escalation for the balance of the term of the PGC program, in accordance with a reasonable index such as the CPI of the nearest major metropolitan area. Escalation of the “fixed subsidy” is justified by the fact that every business cost of biomass plant operation, such as medical and other insurances, salaries and benefits, chemicals and consumables, fuel transportation costs, and contract maintenance, increases with inflation. The regulated utilities account for inflation and escalating costs in their periodic rate adjustments by the CPUC, but biomass plants currently have no

such option. More recently, the incredible increases in the cost of diesel fuel have resulted in increased costs of collection and transport of the biomass fuel by as much as 20%, forcing periodic curtailments on many of the plants, despite the existence of the CEC subsidy in off peak periods.

6. Impose a surcharge on all trash-disposal bills in order to augment or, if necessary, replace the PGC funds that are currently used to support biomass energy production. These funds should be dedicated to the exclusive application of supporting the productive use of California's biomass resources.

CBEA strongly agrees there needs to be a long-term, stable funding source for supporting biomass energy production in California. Since the biomass industry is, in fact, a massive waste management industry that also happens to produce renewable electric energy, CBEA suggests that the above-market costs of biomass power, if not paid through either the "Existing" or "New Renewables" accounts, be paid for by all of the waste-disposers in California, by way of a trash-bill surcharge.

Since 1989, with the passage of AB 939 (the landfill waste diversion, recycling, and reuse bill), the costs of the California Integrated Waste Management Board (CIWMB) have been met by a small surcharge on the trash disposal bills of Californians. Since the non-electric environmental benefits of the biomass industry (e.g. disposal of agricultural wastes, lessening of forest overstocking and fire danger, improvement of watersheds, conservation of landfill space and compliance with AB 939) are enjoyed by all Californians, a small surcharge on everyone's trash disposal bill appears justified. The surcharge would be small, probably less than 75 cents per month, and could be distributed to biomass plants as a fuel-based subsidy (i.e. \$/ton of fuel used). Administration of the funds could be by the CEC or the CIWMB.

AB 939, which mandated specific levels of waste diversion from landfills, allowed the costs of compliance with the diversion mandates to be passed on to the waste disposers. This trash bill surcharge is a perfect example of this concept.

Finally, such a surcharge is in accordance with the provisions in AB 1890 (1996, Chapter 854), which highlighted the importance of cost-shifting in order to preserve and expand the industry. Public Utilities Code Section 389 specifically states:

The Secretary of the California Environmental Protection Agency, in consultation with interested stakeholders including relevant state and federal agencies, boards, and commissions, shall evaluate and recommend to the Legislature public policy strategies that address the feasibility of shifting costs from electric utility ratepayers, in whole or in part, to other classes of beneficiaries. This evaluation also shall address the quantification of benefits attributable to the solid-fuel biomass industry and implementation requirements, including statutory amendments and transition period issues that may be relevant, to bring about equitable and effective allocation of solid-fuel biomass electricity costs that ensure the retention of the economic and environmental benefits of the biomass

industry while promoting measurable reduction in real costs to ratepayers. This evaluation shall be in coordination with the California Energy Resources Conservation and Development Commission's efforts pursuant to subdivision (b) of Section 383, addressing renewable policy implementation issues. The secretary shall submit a final report to the Legislature, using existing agency resources, prior to March 31, 1997.

Nine years later, the evaluation requirement has been satisfied, the reports have been written, but there has been no action taken.

Assuming that the existing industry can continue to be supported with PGC funds through the CEC's existing program, an additional secure funding source of ten million dollars per year dedicated to biomass fuels production would be sufficient to stimulate the development of approximately 100 MW of new solid-fuel biomass power generating capacity in the state, providing for the disposal of three-quarters of a million bdt per year of biomass that currently is being open burned or buried.

In general, we suggest all the recommendations should be made clear what component of the biomass industry they would assist. For example, recommendations g.1 and g.2 should be made clear that they assist strictly the municipal solid waste industry. All recommendations should also be made clear what the expected benefits are. For example, recommendation e.2 has no specifics about what such a project would look like, who it would benefit, or what it means to the industry in the near term. With what is provided, there is no apparent reason why this is listed in actions that must be taken in 2006. In fact, it isn't apparent this is needed at all, and should be deleted or moved to a long-term recommendation.

Finally, CBEA was pleased to see the recognition of the need to promote awareness of the importance of the biomass power industry to policy makers especially and to the public. Our experience has been that once given the information such as what is outlined in this paper about the benefits of biomass power, everyone agrees this is a good thing, most agree the State has a stake in it, and some agree the State should do something about it. Few, however, want to take the steps and make the tough decisions to support the productive policies we have outlined here today.

If this Action Plan accomplishes anything, it needs to provide a more comprehensive list and description of all the benefits. It must affirmatively say these are good things and declare that it is in the State's best interest to maintain and grow this industry. With the policy direction CBEA has provided, there should be no question what needs to be done by California policy makers.

TECHNICAL CLEANUP

Page 2, second full paragraph:

Despite the many benefits of using bioenergy, California's existing bioenergy industry faces a range of technical, market, and regulatory challenges. The solid-fueled biomass power industry has declined ~~more than~~ 230 percent from its peak capacity in 1990 before partially recovering during the energy crisis. It has been in steady decline since 2001 despite the enactment of the California RPS program, which provides no incentives for existing biomass generators. A key challenge faced by bioenergy in California (and elsewhere) is that its benefits are not adequately recognized or compensated in the market. An example is the price paid for biopower in electricity supply contracts. Bioenergy development faces a range of other challenges and impediments, many of which can be addressed by state action.

Page 3, first line of text on the page:

competitive power and fuel supply in California, ~~without sacrificing~~ while enhancing other state mandates such as environmental protection.

Page 4, bullet point h:

Direct the California Department of Food and Agriculture and the California Department of Forestry to develop a plan to determine how to gain better access to biomass resources and to continue basic and applied research to identify the highest value use for forest fuel and harvest residues. Coordinate activities with the State Water Resources Control Board to ensure that ~~criteria for watershed protection and water quality are met~~. key watersheds are identified for treatments in order to improve watershed health and productivity, and protect against devastating effects of wildfires and insect attacks.

Page 5, point 2.c.:

Work with the National Biomass R&D Initiative and the Western Governors' Association to influence federal funding and policy decisions.

Page 6, first paragraph, second sentence:

It is estimated that California has about 30 million dry tons (MDT) per year of technically recoverable biomass resources – enough to power more than 3 million homes or produce enough biofuel to run about 2 million automobiles (displacing approximately 1.5 billion gallons of gasoline each year) at today's efficiencies.

Page 9, set of bullet points: make first two bullets the last two bullets, in order to emphasize the unique benefits of biomass.

Page 9, currently the last bullet:

Improving water quality and watershed protection by reducing environmental impacts from fossil fuel spills and leaks, and by preserving forest integrity by performing treatments in order to reduce the threat of wildfires and insect attacks ~~erosion and runoff~~.

Page 13, first paragraph under Forestry Residues, second sentence:

Offsite residues include forest and shrub land biomass that would need to be collected specifically for energy conversion and include logging slash, scrub, chaparral, and forest thinning resulting from fuel treatments conducted as part of efforts to mitigate forest fire risk and improve forest health.

Page 14, last two paragraphs on the page:

Most solid-fueled biomass power plants are currently selling their output under fixed price energy contracts with an investor-owned utility (IOU). Many facilities also receive capacity revenues. ~~These prices typically include fixed components for operations, maintenance, and an additional component for capacity.~~ Many also receive an Energy Commission subsidy for some or all of their generation. New biomass projects can compete under the IOU Renewable Portfolio Standard solicitation process. In this case, projects compete against other renewable technologies and are subject to a Market Price Referent (MPR) established by the CPUC, which in ~~2005~~ 2004 was approximately 5.8 cents per kilowatt-hour. For those facilities that require revenue in excess of the MPR to cover expenses, payments under the California Energy Commission's Supplemental Energy Payment program may be available.

In some cases, solid biomass and landfill gas are also used for direct heat applications. In certain onsite applications, such as dairies, sewage treatment plants, and forest products mills, biomass and biogas can be used in cogeneration (the simultaneous production of power and useful heat). Eleven of the 28 existing solid-fuel biomass generators in the state are combined heat and power. In such cases, power may or may not be delivered to the grid, depending on whether there is excess power after meeting onsite requirements. At today's high oil and natural gas prices, biomass may provide an economically competitive alternative to conventional sources.

Page 15, first paragraph:

Due to their relatively small scale, biomass power plants are characterized by high capital and non-fuel operating and maintenance costs, as well as low

efficiency (which makes them sensitive to biomass feedstock costs) compared to fossil fuel plants using similar technologies. The lower efficiency is due primarily to the high moisture content of biomass fuels. Technology developments that may help address these issues include gasification of solid biomass for use in combined cycle systems. Gasification has the potential to increase electrical generating efficiencies while reducing emissions. ~~Once this technology is commercialized, it should enable net electrical efficiencies to increase from the current 20–28 percent up to 35 percent or more, while simultaneously producing power with far fewer air emissions.~~ Biomass co-firing in existing or new coal and natural gas-fired plants would take advantage of the higher overall efficiencies of these plants and also reduce the capital investment required. This represents a significant potential opportunity for bioenergy going forward, although not so much in California, which has only a few small coal-fired power plants.

Pages 20 – 22, set of bullet points: make first three bullets the last three bullets, in order to emphasize the unique benefits of biomass.

Page 21, currently first bullet point on page: Delete the last sentence in the bullet point. Amend the new last sentence as follows:

Finally, improving the use of waste and residues from forests and farms further decreases GHG emissions associated with biomass decomposition, and with emissions from both prescribed fires, and the devastating release of carbon due to wildfires.

Pages 21 – 22, bullet point on Water Quality and Watershed Protection:

Water Quality and Watershed Protection. Petroleum-based fuels and chemicals are toxic to the environment and continue to constitute a major source of pollution to surface- and ground-waters. In contrast, biofuels, such as ethanol and biodiesel, are less toxic and are biodegradable. As a result, these fuels result in less environmental impacts from spills and leaks. Watershed ~~protection~~ integrity is also enhanced by integrating forest thinning with bioenergy projects, which ~~preserves forest integrity and reduces the threat of erosion and runoff~~ improves the health and functioning of the watershed, and protects it against the devastating threats of wildfires or insect attacks.

Page 24, second paragraph under *Non-optimal Financial Incentives*, second last line of the paragraph, change ~~could~~ to would. Fourth paragraph of section, second sentence:

Many facilities have experienced an extended period of a combination of electricity price uncertainty, reduced fuel availability and increased pricing, and in some cases, operational issues that have resulted in economic hardship.

Page 26, first full paragraph, first sentence:

Perhaps what separates solid biomass most from other renewable energy options is the need to collect, process, transport, and store feedstock.

Page 26, last paragraph. There is an assertion that achieving the targets in the Draft Report would require investments exceeding \$4 billion. This number has neither justification nor attribution. We think that it vastly understates the costs, one of the primary reasons why we urge that the Report focus on what is reasonably achievable for California.

Page 27, last paragraph (*Public Perception*), continuing onto pg. 28:

The general public has little knowledge or up-to-date information about the multiple benefits of bioenergy. ~~Many may recall an earlier time when biomass facilities did not live up to expectations, and the public's perception of these facilities was as "incinerators," burning an exotic and sometimes objectionable mix of fuels.~~ Biomass is rarely given the attention or accolades of solar or wind energy, even though it provides ~~many of~~ the same benefits of fossil fuel displacement, as well as a suite of waste-disposal benefits that no other renewables can match. Building up a large and successful bioenergy industry will require significant outreach and education to the public and to local and state officials on the broad-based benefits of biopower, biofuels, biochemicals, and other bio-based products. For example, improved public awareness could aid in addressing objections to the siting of new projects.

Page 28, first paragraph under *Need to Commercialize New Technology*:

Existing biomass generating technology is well established, and highly reliable. The biomass power generating industry in California is an integral component of the state's waste disposal infrastructure, as well as its renewable energy infrastructure. Biomass energy has a bright future in California, based on available, commercial technology. ~~To a great extent, the future success of bioenergy, particularly in California, depends on a~~ A number of emerging technology platforms, which ~~that~~ are at various stages of development, have the promise to make the biomass future even brighter. These include gasification, pyrolysis, and lignocellulosic ethanol. Broadly speaking, these technologies offer the potential for improved efficiency and reduced emissions relative to current technologies, as well as potential economic benefits.

Page 30, second paragraph, first sentence:

Although several of the early facilities were plagued with operational issues and some ceased to operate, the state now has a well developed solid biomass power industry that produces ~~in excess of~~ 600 MW of baseload and dispatchable power.

Page 30, third paragraph:

As an established industry, the role of the state regarding biopower is mainly one of enhancing the market to allow this industry to thrive and grow. It has long been the state's policy to institute cost-shifting policies for biomass that would compensate biomass producers for the environmental services they provide. So far, no permanent cost shifting policies have been enacted. This industry faces a range of technical, market, and regulatory challenges. Fostering the growth of this industry, while continuing to encourage development of landfill gas and biogas capacity, which currently exceeds 300 MW, is a goal of this Action Plan.

Page 31, top of page, continuing paragraph from previous page:

objectives. To further support these objectives, this Action Plan recommends the establishment of appropriate but achievable targets for increasing the production and use of bioenergy. Progress on achieving these targets will require a sound implementation plan and adequate resources.

Page 32, last paragraph, continuing onto next page:

Encourage and enable coordination among state agencies. More than any other renewable resource, biomass cuts across virtually all aspects of the economy and of state regulation in both the benefits it provides as well as the regulatory jurisdictions it impacts. A number of state agencies have some role to play in the bioenergy solution, and none can do it alone. Of particular concern is the need to address emissions issues and waste management issues in a coordinated, holistic manner. For example, the emissions from biomass power plants are often regulated without acknowledgement of the fact that the facility will be contributing to improved regional air quality by reducing open burning of agricultural and forest residues.

Another challenge is to provide appropriate funding for the implementation of state initiatives that, while they may be strategically important to overall success in reaching state mandates and targets, additional state expenditures may not be easily justifiable under traditional state budgeting rules. Many times, cost effectiveness cannot be accurately or adequately demonstrated in advance of their implementation.

Page 35, point no. two in middle of page:

Address areas where greater state agency coordination could enhance the opportunities for bioenergy products to contribute to a stable and economically competitive power and fuel supply in California, ~~without sacrificing~~ while enhancing other state mandates, such as environmental protection.

Page 39, second point (no. 3) at top of page:

Coordinate activities with the State Water Resources Control Board to ensure that key watersheds are identified for treatments in order to improve watershed health and productivity, and protect against devastating effects of wildfires and insect attacks. ~~criteria for watershed protection and water quality are met.~~

Page 39, point no. 2.c.:

Work with the Western Governors' Association and the National Biomass R&D Initiative to influence federal funding and policy decisions.

Page 40, point n. b. 1):

Expand and coordinate the use of existing state programs, such as the Pollution Control Financing Authority, ~~the California Power Authority~~, the Dairy Power Production Program, and the Energy Commission Tier I program for existing generators and Supplemental Energy Payments program.

Thank you for taking our comments and recommendations into consideration. If you have any questions, you may contact either of us, or CBEA's Sacramento representative, Julee Malinowski-Ball at 441-0702.

Sincerely,



Phil Reese
Chairman, California Biomass Energy Alliance
Board Director, Colmac Energy, Inc.



Gregg Morris
Director, Green Po Deposit, CBEA, project #1180, Inv. # 1767
Institute

wer