

California Energy Commission Staff  
1516 9<sup>th</sup> St.  
Sacramento, CA 95814

Re: Comments to Pier Staff Workshop: Session 1- Biomass and Bioenergy Research

Commission Members and staff,

Thank you for conducting a very informative session on Biomass and Bioenergy Research. The time allotted was clearly not sufficient for fleshing out all of the issues but you did provide valuable updates to the current situation and any future amplification would be of great interest to my company.

As indicated during the panel discussion and brief Q&A, policy issues loom large in moving various biomass projects forward. In addition, prompting utility companies to loosen their internal acceptance and processes that allow for other forms of alternate energy development and delivery is very much in order.

A possible area of research could be done on the total benefit of various alternative systems that could serve as some sort of template documentation which then could be used in ushering newer technologies into the marketplace. The process of covering the same ground over and over in the effort to seek approvals because the various bureaucracies have yet to establish routine policies and practices could be abbreviated if definitive research showing benefits over existing systems was available that the burden of proof would be against the adoption of those technologies. For instance, once methane production via anaerobic digestion or gasification is validated as an environmentally preferred means and that practical standards are set for purity, that utilities must accept the introduction of the gas to their distribution network and that a feed in tariff exist which reflects the benefit of the generation. On electrical generation, any form of alternate energy that has met a level of proof of benefit to the environment be given clear and unfettered access to the grid with any approving bodies being required to show cause to deny within 90 days or allow for the permit to connect. If Air Resources Boards need to get involved, if reductions over current practices can be claimed and verified, approving bodies should be required to show cause to deny within 90 days or allow for approval to construct and then have normal jurisdiction to monitor.

Another area of policy development as well as research is in integrating various forms of alternative energy development into the RPS. Generating electrical energy is one of the least profitable ways of earning a return of biomass conversion. It is clear why the RPS is exclusively focused on utility energy displacement but it should be broadened to include other forms of energy use. Ethanol is one of the better known products being delivered. However, newer technologies are being developed that deliver biodiesel, gasoline, clean crude, and hydrogen. The scope of the Energy Commission covers fuel development but their needs to be better integration at a policy level and at R&D on how the State reaches the goals intended.

On the policy front as well, it seems that some communication with CalRecycle should be taking place that encourages use of municipal biomass and MSW in converting waste to energy. Although their goals for recycling are most laudable it seems that more flexibility is in order that recognizes the recycling value of using MSW and municipal green waste for alternative energy and alternative fuel development. Diversion credits, in the least, should apply when MSW and Green waste is used to these ends. More importantly some research should be conducted around the relative efficacy of recycling plastic and

waste tires as well as other petrochemically derived materials compared to converting these materials into various fuels and energy.

On the biomass front, developing alternative uses of biomass especially for alternative energy and fuels, requires a deeper understanding of the economic parameters. People can suggest availability of sources, but issues of raw cost and transportation as well as cost of delivering of products needs to be better understood. Suggestions for additional research:

1. Availability of various feed stocks and estimated caloric content
2. What is the current use of possible feedstocks (i.e. almond hulls for cattle feed, sorghum for export) and current price paid
3. What are the best possible purpose grown feedstocks for energy content, cost per acre to grow, competitive uses in marketplace and price?
4. Efficacy of using livestock and poultry waste for various types of waste to energy technologies. Is anaerobic digestion better than gassification for energy generation? What are the economics of collection and transportation on a regional scale versus inside the fence applications?
5. What types and blends of feedstocks could be suggested that would assure a steady supply of feedstocks for baseline energy generation?
6. What is the availability of rail use and efficacy for its use in transporting feedstocks by rail?
7. What types of use of feedstocks might be considered for blended alternative energy development? For instance using sugar beets and sweet sorghum to extract sugars for conversion to ethanol and use silage for gassification.
8. What current waste to energy facilities exist, what is their mode of operation (i.e. incineration, ethanol production, gassification), where do they obtain feedstocks what general economic issues confront them and can alternative technologies improve on their delivery?

Lastly, it would be valuable to know how newer technologies could advance other energy and environmental efforts. In particular, it would be valuable to know how the development of hydrogen sources for use on the hydrogen highway or in other markets can reduce GHG emissions. What logistics are involved in this emerging market? Is there a premium available for "renewable" hydrogen versus the common conversion from methane? What subsidies or tax breaks might exist for biofuels? What would be the standard for declaring what constitutes a biofuel- would it allow for some percentage of source material derived from petrochemically produce goods like plastic and pet coke?

If any further clarification of these issues raised is needed please don't hesitate to call, write or e-mail me at the contact information below.

Sincerely,

Van Rainey, Director of Operations  
JUM Global/ CBES global  
816 Lucerne St  
Livermore, Ca 94551  
Phone: (925)960-0430  
Cell: (925)784-0076  
Email: vr@jaxumglobal.com