

DOCKET

09-IEP-1G

DATE April 21 2009

RECD. May 05 2009

Input to the CEC re Biomass Workshop 4/21/09

I would like to comment on the questions listed from the Biomass Workshop on 4/21/09. I will use the same numbers as shown on Attachment A.

1. I think the RPS energy goals can be met with in-state biomass. The CA Biomass Collaborative information supports this. My company plans to produce 100% to 200% of our electricity from walnut shells, walnut oil and solar, which are all produced on our site, by 2012. I think that there are a lot of other processors and agricultural operations that would like to do the same thing and have the fuel and buildings to do it. I think this alone would just about meet the goals.

Transportation fuels might be a different story. Dairy biogas can be converted to run trucks. But crops raised for fuel may not be efficient enough to make a net positive impact. We certainly don't want to continue to grow corn to make ethanol as we do today. Cellulosic ethanol has promise but is a long way from being doable. Syn-fuel from biomass, as we are starting to do, looks like it has promise but also looks like it will cost about \$4.00 per gallon. There are a lot of waste oils that can be used. Oil-bearing algae may be another source if we can locate it adjacent to power generators, use waste heat and reduce emissions. I think we will be making great progress in the next few years, but have a ways to go. Wise investment of research money and more of it needs to be done.

Our basic transportation system needs to be revamped. We need to go towards electric powered mass transit. Batteries and electric cars should be used more. Hybrids that run on electricity, bio-fuels, hydrogen and solar are needed. The cost to transport ourselves, our food, our products and our fuel via trucks and cars is outrageous. Trains and boats are much more fuel efficient. Revamp this and you won't need so much fuel to begin with.

The over-arching issues are emissions, electrical interconnections and costs. We need to have a different standard for RPS generators and bio-fuels than we now have for fossil fuels. Fuel life cycle equations need to be developed and employed by the air districts. We really need for them to look at the whole picture and even then allow these fuels some time to meet the more stringent requirements. I have attached some specific changes desperately needed for electrical interconnections. Costs will be higher for bio-fuels, but if the true cost of fossil fuels is placed on fossil fuels via removal of subsidies, carbon cap and trade, putting the security costs squarely in the shoulders of imported fossil fuels, then that problem will solve itself. The technology is there and will improve. However, if these regulatory issues are not changed, we will not meet these goals.

2. Fuel cells hold a lot of promise. Using algae to filter the engine emissions and provide a fuel, animal feed, food or fertilizer product do too. There will be more coming along soon. We need to do fuel-life-cycle evaluations to look at everything, not just the NOX.

We should not be spending large sums of money and energy cleaning up biogas to be put into the pipeline, shipped someplace else and used for generation. Then transport that energy back to where it was originally produced. This is inefficient. We need a systems analysis approach. Producing and using the energy near the fuel source is critical. These are relatively low energy fuels, so using high energy fuels to transport them makes no sense.

3. It looks as though there are more landfills that can be converted. We need to also decide whether that is the most efficient way or whether incinerators or pyrolysis is better. The same is true for waste water treatment facilities and animal waste lagoons.
4. I think the biggest reasons are the relatively low cost of fossil fuels early on, the emissions regulations and the interconnection hassles now. If I were not committed to using my biomass for energy, I would have quit a long time ago. Spending the time and resources working through these issues is not worth it. We need to change this.
Solutions; make it worth it to do by paying more for this energy and putting the true –cost of energy on all forms; make the emissions regulation look at full life cycle information and allow bio mass and gas time to meet them; get rid of the impediments to interconnection; encourage and pay for distributed generation of energy.
5. The MPR is too low, the interconnection fees are too high, the emissions requirements too low and are a moving target. Why would anyone spend millions of dollars putting in a digester then not get paid very much or be shut down by emissions?
6. Yes. The gas companies don't like it and the dairymen are too smart to continue to get ripped off. Why clean up the dairy bio-gas, compress it, pipe it great distances and then get paid less than natural gas only so it can be burned in another air district up wind of them to produce the electricity that they have to buy back at retail? This is ridiculous. Keep it at the dairy so that they can use the heat and electricity on-site and then work on the emissions on-site.
7. Also see 17. The market will rectify this issue, as long as it reflects the true costs. I think initially more fossil fuel natural gas will be used for transportation and more biomass for electricity. Then if syn fuels come along competitively, they might replace some of this. Any alteration (pelletization, densification) should not be done because the more you put into it the higher the cost. Instead, biomass and biogas should be converted to fuel as close to "natural" as possible and used for fuel as close as possible to where it was generated from.
8. Pretty much the same answer as above. Animal bedding and feed can then be used for fuel or compost or both.
9. Again, we are hauling biomass long distances using fossil fuels. Encourage biomass generators close to fuel source. Distributed generation is much more logical then centralized power transmitted long distances through transmission lines that impact the environment and lose a lot of the power.
10. Large transmission lines, fuel for transportation, roads, railroads, larger power plants. Cost of these could pay for distributed generation located close to the fuel source and load.
11. This question is irrelevant. See 9 & 10.
12. Same as 11.

13. Why do this? See above. If we have a true cap and trade system, coal plants will fade away and renewable will become more viable. If you blend the fuel types, the evaluation and benefits will get blurred. Why do this?
14. See 1-7.
15. See 1-7.
16. Transportation and transmission costs become less important if these fuels are converted close to the source. Jobs remain where they are needed. Smaller facilities can be cost and energy efficient, sometimes more so, than big plants. Emissions and char-ash remain close to where they can be cleaned up by the same environment that created the fuels. Why are we stuck in a big centralized system that requires moving energy around? Why, when we see the problems that this system has, do we try to solve the problem by employing the same big system thought process? I think it should also be understood that resources from forestry should be left in the forest as much as is practical. They are necessary for soil erosion control, water and nutrient retention, habitat, and many things like that. We should remove only that which is worth it to remove and more efficiently use the byproducts of products that are our primary objectives and we are already transporting.

17.

1. see 7. The more energy you put into these fuels, the less cost effective and environmentally costly they become.

2. See above about the forestry issue and local power production.

3. Diverting lumber and other combustables to biomass plants is good. Keep them close. Green material can be dried by using waste heat from this plant then burned or pyrolysed. If they are high moisture, it is better to run them through a digester and use the biogas for power.

4. see 3 above

I think they are all doable and will contribute to the solution. Transportation is expensive and environmentally unsound. We will not need as much transportation fuel if we don't transport low energy products around. Develop these as close to the source and load as possible. Cities should have digesters, biomass plants, recycling separation and generators in the transfer facilities in the cities. The power and waste heat can then be used there. The amount to be transported and disposed of is greatly reduced.