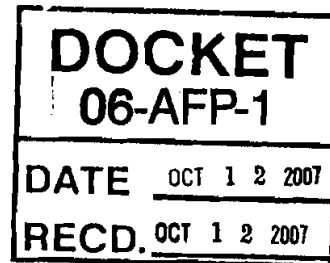


October 12, 2007

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California Energy Commission
Dockets Office, MS-4
Re: Docket No. 06-AFP-1
1516 Ninth Street
Sacramento, CA 95814



Regarding: Comments to October 9th 2007 workshop on AB 1007,
Alternative Vehicle Fuels

Greeting Commissioners and fellow participants:

Enclosed please find comments to the October 9th workshop;

- 1) **Long term versus short term solutions:** There is a need to prioritize energy alternatives both from the standpoints of risk and time-frame, suggesting four categories; a) short-term low risk b) short-term high risk, c) long-term low risk d) long-term high risk. Unfortunately most of the discussions in CEC workshops have not adequately addressed prioritization, and unless we successfully address the short term, the long-term solutions may be irrelevant. The issues that need to be included are infrastructure, land and water use, technical viability, and time to develop technical viability and infrastructure. In fact some options such as solar electric panels, hydrogen power, and biofuels may NEVER be viable on a large scale.
- 2) **Hybrid and Plug-in vehicle true efficiency;** Several requests have been made to the CEC for the data and analysis of the comparative efficiency of conventional, hybrid, and plug-in hybrid vehicles. The analysis remains out of the public domain, and unfortunately the comparison that has been used is significantly inaccurate. In particular, in spite of the popular support for plug-in's, in California they have a higher carbon footprint than a well-engineered hybrid. And as noted in 3), there is no economic or scientific basis for a new demand on the electric grid such as plug-in's to "move to the front of the line" to use green electric power sources. For the indefinite future all new grid demand will likely be supplied by natural gas fired electric power.

- 3) **Subsidies versus viability;** Too frequently subsidies do not provide for the intent, for example real efficiency, real greenhouse gas reductions, or significant supply quantity. One example is electric power for the popular plug-in vehicle proposals, as noted in 2). If off-peak rates are offered, they need to be offered for all uses, not just plug-in's. To do otherwise makes no economic or scientific sense, and only amounts to political favoritism. Similarly, if all issues are included, subsidies for corn-ethanol production are not providing energy efficiency nor greenhouse gas reductions.
- 4) **Natural gas supply risk;** There continues to be no supply risk assessment for natural gas in California, an extremely critical issue in view of the continuing depletion of reserves in North America. LGN imports from suppliers like Russia carry large political risks of interruption and price volatility. As a proposed alternative fuel, natural gas is at least as risky as oil. California has a high dependence on natural gas, and an emergency plan is necessary in the event of a supply interruption.
- 5) **Land and water use and overall alternative fuel potential;** The impacts on land-use and limited water supplies in California, a leading producer of food world-wide, have not been satisfactorily addressed in AB 1007 proceedings, including the percentage of oil that could be displaced by alternative bio-fuels without compromising food production.
- 6) **Ethanol production in California;** Given the issues presented in 3) and 5), the proposed plan for 60 ethanol production facilities in California using corn feedstocks from the Midwest will continue to foster food shortages and food price increases, will further tax our limited fresh water supplies, and is unlikely to provide a lower carbon footprint. Even without transportation energy requirements to California, corn ethanol has had a marginal, if not negative net energy yield. Again, the AB1007 analysis of this issue is not in the public domain.
- 7) **Full life-cycle energy cost;** The "energy cost" to manufacture products, whether it is vehicles or solar electric panels, is significant. This analysis must include the real lifetime before retirement, maintenance work, process energy costs, and the energy cost to support the manufacturing work-force. No model has been provided in AB1007 proceedings, but clearly if all energy costs are included, the cost of products would increase between 50 and 90% of the increase in cost of energy required to produce the product in a stabilized free market economy. The average used in AB1007 analysis that 15% of total energy used by a vehicle during its lifetime is required for production is likely low, and is very dependent of vehicle efficiency. For a good hybrid it is likely close to 50%. And for solar electric panels that are very energy intensive to manufacture, and with lifetimes that few manufacturers will guarantee, it is possible that they require more energy to produce than they will generate in their useful lifetime. These issues have not been addressed in AB1007 analysis.

Note, further detail regarding the above summary is available in reports submitted after earlier AB1007 workshops, and the revised report, bg.AB1007.Oct10.pdf including over 70 cited references is available to interested parties, and will be subsequently delivered to the California Energy Commission.

Regards,

A handwritten signature in black ink, consisting of a large, stylized 'R' followed by a horizontal line extending to the right.

Bob Giebeler
Senior Member, Institute of Electrical and Electronic Engineers,
San Francisco Executive Committee