Subject: Low Carbon Workgroup
From: Allen Dusault <ADusault@suscon.org>
Date: Thu, 11 Oct 2007 13:37:03 -0700
To: Anil Prabhu <aprabhu@arb.ca.gov>
CC: Ladi Asgill <lasgill@suscon.org>

Anil,

There are three issues I wanted to raise. I don't know how much the models proposed can get at these question but I appreciate the opportunity to at least bring them up.

The first relates to secondary effects of biofuel crop production. The best example I can think of is where old growth forest is not directly cut down to convert land to biofuels production. Instead, the land that is converted may have been in ranching. In turn the rancher may push his beef production into old growth forest (i.e. rainforest in Indonesia or Brazil). That will have a big impact on CO2. I don't think that is something the models accommodate but it is a very realistic possibility. This is a particular concern as the 50 cent tariff the U.S. imposes on foreign biofuels will likely not prevent more biofuels from developing countries from becoming the primary feedstock for CA in the future as they are likely to be the low cost producers of biofuels (even with the tariff).

Separate but related issue. We don't know much about how much carbon will be stored or released in producing biofuels in CA or in other parts of the U.S. (corn and soybeans aside). It will therefore be difficult to use accurate numbers in any given model because the uncertainties are so huge. It is not just a function of type of crop grown but irrigation and fertilization practice, tillage system, rotation methods, equipment employed, soil type, etc. You could have sorghum grown for ethanol or canola grown for biodiesel with widely differing practices that yield order of magnitude differences in the carbon footprint for the same crop. Are we prepared to address that issue? It is something I started to work on several years ago and have a USDA grant to implement a carbon offset system. But it is extremely difficult to get good numbers.

Finally, it may be possible for the petroleum companies to increase fuel mileage with existing petroleum fuels (through additives/reformulation) that have significant carbon benefits. To date there is an economic disincentive for them to produce new formulations that give consumers better gas mileage because they lose revenue. I am not sure a LCFS would change the economic incentive part of the equation but if the petroleum companies don't disclose if they can make better gas mileage fuel, how do we get at that question? Note that there is good reason to believe the oil companies can make fuel that significantly increases mileage over current formulations.

Allen