

Sacramento E85 - Community Information Website
<http://www.geocities.com/SacramentoE85>

February 25, 2009

California Energy Commission
Dockets Office, MS-4
1516 Ninth Street
Sacramento, CA 95814-5512

Transmittal to: docket@energy.state.ca.us

RE: Docket # 08-ALT-1 AB 118 Advisory Committee

DOCKET

08-ALT-1

DATE FEB 25 2009

RECD. FEB 26 2009

-Abstract-

The main purpose of this letter is to comment on E85 ethanol fuel as it relates to AB 118 and the Low Carbon Fuels Standard (LCFS). An estimated 400,000 E85 Flex Fuel Vehicles (FFV's) drive on California's roads, and the fueling infrastructure has just begun to be made available for the public. It is important that this large opportunity not be marginalized by unfounded concerns regarding land use change, and that the State takes an active role in promoting this alternative fuel to its public and private fleet.

Today domestic corn ethanol is storing more carbon dioxide in the soil than is released from domestic land use change. The University of Nebraska BESS Model published in the Journal of Industrial Ecology in January 2009 reveals that net emissions of carbon dioxide are reduced by 51% compared to gasoline. Carbon dioxide released by land use change is replaced when the corn crop is grown each year, storing carbon dioxide in the soil. The LCFS value of gasoline should be increased significantly, as alternative fuels will be replacing the furthest away, military-protected, most polluting foreign oil sources. Tropical rain forests in South America have been destroyed for decades, and will continue to be regardless of the existence of ethanol fuels. Removing 10+ billion gallons of ethanol fuel from our domestic fuel supply would drive up the market price of fuel, encouraging an increase in the destruction of South America's tropical rain forests. Computer programs can be intentionally built to provide negative results, and should be shelved and reconsidered when they defy basic scientific reason and logic.

A couple of important aspects of corn ethanol production need to be addressed. Though atrazine herbicide use was considered in the LCFS value, more than half of domestic corn grown today is produced using glyphosate herbicide, cutting out 1 to 2 trips across the field, reducing the carbon dioxide released by tractors. Most corn fields today exist as a carbon "sink," as farmers switch to minimal and no-till practices. Though a concern was raised about *E. coli* levels in cattle fed distiller's grains, the finding was later recanted by the researchers and disproved by a University of Nebraska study.

A number of states already are promoting their E85 alternative fuel use by public and private fleets. The State of Illinois Green Fleets program provides a great example of increased use through lower fuel costs

for those using the fuel. The State of Oregon also recently joined the promotion through their Oregon Biofuel Consumer Credit program. At least 4 states have teamed up with the National Ethanol Vehicle Coalition to place blue E85 DOT highway signs near exits where E85 stations are located. The HOV carpool lanes should be made available to permitted users of E85 fuel similarly to other alternative fuels, as FFV's will travel over 75 miles before using one gallon of gasoline. The State of Illinois posts locations of biofuels stations inside their rest stop area displays. A service could be established for those who would like to send E85 fuel availability flyers to owners of E85 FFV's. Public Service announcements regarding the positives and availability of E85 and other alternative fuels should be placed in television, radio, and newspaper media.

-End of Abstract-

Dear Commissioners Boyd and Douglas:

The Sacramento E85 website provides an information source for California residents to learn about E85 fuel and where to fuel up their E85 Flex Fuel Vehicles. It is a grassroots, not-for-profit effort established solely for this purpose, selling no products and earning no revenue. The web address to access it is <http://www.geocities.com/SacramentoE85>.

Those of us in the Sacramento area who own E85 FFV's and can now fuel up with this alternative fuel are grateful for the efforts recently made by ARB, CEC, AQMD, DOE, Clean Cities, fire marshals, fuel station owners, and others to make this domestic renewable fuel available locally, and the continued efforts as E85 fueling stations become available here and other areas of the state. Until recently there were very few stations available and it appeared that California residents and fleet operators may miss out on this opportunity longer than those in most other states. With an estimated 400,000 E85 FFV's¹ in California, and with E85 FFV's being the largest portion² of the alternative fuel vehicles on the road today, this represents the largest targeted opportunity to decrease carbon dioxide emissions, lessen local air pollution, and replace foreign petroleum imports while benefiting the domestic economy and jobs market. It will be important that we consume as much ethanol from a variety of sources, not excluding corn ethanol, in 2009 and increasingly in future years. Some vital comments to this regard are addressed herein.

Specific Comments:

- 1) Land use change whether direct or indirect needs to be appropriately assigned to all biofuels or not addressed at this time altogether.
 - a. Whether a grain or oilseed crop, grass, tree, algae, or otherwise, any biofuel crop is going to be using acreage to produce (even oilfields use acreage). However, the great majority of these acres are already producing that particular crop at this time and for many decades in the past, so there is no change in land use in that case. In fact, much of this productive land is being changed to minimal or no-till practices, which is storing up carbon dioxide in the soil (referred to as a "sink"). It seems that the overall effect is that more carbon is being stored in the soil today than would be released by the small percentage of additional corn acreage on previously native land experienced in recent years.

- b. The most up to date scientific research conducted by the University of Nebraska using the BESS Model regarding corn ethanol finds that net emissions of carbon dioxide are reduced by 51% compared to gasoline. Additionally, the study found that for each unit of energy to produce ethanol, 1.5 to 1.8 units of energy are returned³. These findings were published in the Journal of Industrial Ecology on January 21, 2009⁴.
- c. A marginal percentage of domestic land may come into production of biofuels in the future, but it is considered that over many years the carbon dioxide would be replaced into the soil naturally by the plants. That means that the initial harvest of the crop releases carbon dioxide, but each successive harvest stores up carbon dioxide in the soil. How do we accurately credit carbon dioxide emission reduction to this fuel in successive years? We are going to continue to fuel our vehicles for many decades, perhaps as long or longer than it takes to store that carbon dioxide back up in the soil. Probably it is best to consider this zero-sum for carbon dioxide as well.
- d. Domestically produced ethanol (and all domestic alternative fuels) should be compared to the LCFS value of the furthest away foreign petroleum import. That furthest away, oil tanker transported fuel is the fuel that our domestic alternative fuels will be replacing, not the domestic petroleum from southern California. In addition, the carbon dioxide being released by our military (ships, carriers, jets, tanks, trucks, etc.) should be calculated in the LCFS value for the foreign oil-derived gasoline. Carbon dioxide released into the air due to the destruction and burning of oil fields (caused by pressure on these finite resources) should also be calculated into the LCFS value of this foreign petroleum. Domestically produced ethanol (and all domestic alternative fuels) should also be compared to the tar sand petroleum from neighboring countries when we have replaced petroleum imports from further away nations.
- e. It is indeed a sad and concerning occurrence that for many decades the tropical rainforests in South America and other regions have been cleared, releasing carbon dioxide into the atmosphere. This would occur regardless of the existence of ethanol fuels; corrupt governments, globally irresponsible landowners, and geopolitical instability are and will continue to be the culprits. This foreign activity cannot be accurately and fairly assigned to domestic ethanol production.
- f. Prevailing logic asserts that if we were to suddenly stop using the 10+ billion gallons of domestically produced ethanol (were we to find reason), the increased demand put upon the fuels market would raise the price of fuel. I learned this concept in my university's Economics 101 class, and it still proves true. This would cause an increased need for regions like South America to produce more sugar cane ethanol for the world fuel market, which in turn would cause them to clear and burn more tropical rainforest acreage at an increased rate. Therefore, our domestically produced ethanol is actually helping to store more carbon dioxide in the South American tropical rainforests, not the opposite. Probably a credit for reduced carbon dioxide should be given to domestic ethanol in this case, due to the savings of indirect land use change.
- g. If a desired outcome is wanted, a computer software program can be built to give you the outcome data that is wanted, regardless if it lacks science and reason. A minority of the research studies conducted on biofuels, particularly E85, have resulted in negative data that has been the topic of a number of recent interviews and publications. When those researchers seem to have a long-standing personal interest in discrediting alternative fuels or could have been persuaded by companies providing research funding, these studies

should be shelved and reconsidered. Particularly when they defy the basic logic given in point “f” above, other researchers on both sides of the debate should be consulted to fully understand the data prior to making important decisions regarding this issue.

- 2) Two other items of interest have arisen that would be good to address.
 - a. The analysis performed to determine the LCFS value for corn ethanol appears to not include a couple of important aspects. For pesticides, it uses atrazine for the whole corn crop. However, glyphosate is now the major herbicide, with more than half the U.S. corn crop using this product. This cuts down on 1 to 2 trips across the field to produce the corn crop, significantly reducing the carbon dioxide released by tractors and equipment. The LCFS value of corn ethanol needs to be reduced for this production component. Additionally, since most corn acres already in production had their carbon release many decades ago, those acres are now actually carbon “sinks” as the crops grow and the plant waste decomposes into the soil. Especially with minimal tillage and no-till practices used at many farms today, a credit to the LCFS for corn ethanol seems to need to be included in the value.
 - b. Mr. Tom Frantz previously submitted comment regarding the presence of *E. coli* in cow manure. It should be noted that Kansas State University researchers originally released these findings as a preliminary case, but upon further research later recanted⁵ and found no significant difference between cows fed distiller’s grains, a co-product of ethanol production, and regular grain. Additionally, researchers at the University of Nebraska⁶ replicated the studies and found no significant difference. They were even conducting research at feed levels much higher than what occurs on the farm, and did not find a significant difference from the control group. As most always, *E. coli* does exist in small amounts in livestock manure and as usual farmers need to make certain that manure does not come in direct contact with fresh foods. Additionally, fresh foods need to be handled, processed, and washed properly to ensure their safety. The primary finding of the UNL study was that livestock owners need to continue to properly vaccinate their animals, stopping *E. coli* at the source. It is important to realize that distiller’s grains have been in the livestock feed pathway for many years without being linked back to *e coli* in human food. There are recent attempts by special interest groups to try to draw a connection in order to slow the progress of this alternative fuel.

The domestic automobile manufacturers have committed to produce half of their vehicle fleets as E85 FFV’s by 2012⁷. President Obama recently stated that he would like to see an initiative that all gasoline vehicles have E85 FFV capability by 2013⁸. With these kinds of commitments being made to provide the vehicle fleet to consume domestic ethanol, even more fleet owners and citizens will soon be searching for E85 fuel to take advantage of its positives.

- 3) Below are several existing and proposed methods that the commission could employ through AB 118 or similar efforts in order to meet this need.
 - a. The State of Illinois has had an Illinois Green Fleets⁹ program in place for several years that provides for an E85 Rebate Program. In essence, due to the economic benefits that ethanol provides to the state (jobs and tax revenue), the program entices the use of E85

fuel priced near to the price of gasoline. Consumers will notice that their fuel economy decreases 10 to 25% when driving an FFV fueled with E85 when compared to gasoline, since E85 FFV's are tuned for gasoline and do not take full advantage of the higher octane of E85. Individual motorists mostly look after their interests in regards to a price signal from the fuel market. A lower price therefore is needed to make up for the difference. New technologies promise to decrease or remove the fuel economy reduction, but are not yet in mass production. In Illinois, consumers save their receipts of E85 purchases for the year, and if they have driven more than 17,500 miles using E85 at least half of those miles, they qualify for a \$450 tax rebate (if fewer miles, they qualify for up to \$340). The Illinois Green Fleets website has had over 147,000 visitors thus far.

- b. The State of Oregon has an Oregon Biofuel Consumer Credit¹⁰ program in place. This provides a 50 cent per gallon tax credit for E85 purchases. The maximum per taxpayer per year is \$200 (or up to 400 gallons of E85). That should provide for at least 20 tank fill-ups of E85 fuel, or at least half of the fuel consumed per year for many consumers. This is written into Oregon Law ORS Chapter 315.465 and 315.469.
- c. The States of Illinois, Nebraska, Missouri, Colorado and possibly others have a partnership with the National Ethanol Vehicle Coalition¹¹ to place blue E85 DOT highway signs at exits near where E85 fueling stations are located (as well as biodiesel signs), similarly as the blue "Fuel" signs you see today at exits. These signs help commuters and travelers to know of nearby available alternative fueling stations while in transit.
- d. In California, alternative fuel vehicle owners are able to apply for a yellow bumper sticker that notifies law enforcement officers that these vehicles are allowed to use the HOV carpool lanes, even when the driver is the only passenger¹². For now this seems limited to only electric, CNG and hybrid vehicles, but this should be expanded to allow E85 FFV owners to also apply. Additionally it has reached its maximum 85,000 registered applicants, and the allowed number of registrants would need to be increased substantially. My observation in Sacramento is that the HOV lanes are sorely empty during the peak traffic periods, when these E85 FFV alternative fueled vehicles could be using them, decreasing traffic congestion and air pollution substantially. Calculating that at most times E85 contains at most 22% gasoline, one can multiply their fuel economy times 5 to determine mpg of gasoline consumption. Therefore, a vehicle attaining a fuel economy of 15 mpg on E85 would actually be going 75 miles before consuming one gallon of gasoline—far better than the required 45 mpg regulation. There should be a qualification to be met, such as producing 5 receipts of E85 purchases of at least 10 gallons each. After 5 fill-ups of E85 the consumer should have built confidence in this fuel to perform well, and this ensures that the State would not be allowing many gasoline-fueled FFV's to then use the HOV carpool lane. This should be qualified by producing receipts annually demonstrating that at least half of all fuel purchases were E85 on an annual basis, and could be conjoined with an E85 Rebate Program.
- e. Traveling in Illinois I have noticed that the rest stop areas have glass case bulletin boards in the lounge area. They contain interesting displays about the state, but also importantly a map containing all E85 and biodiesel fueling stations. At very little cost displays such as these can be located at rest stop areas all over California, to inform drivers where the next location is that they can fill up with all alternative fuels.

- f. Several people have requested information about how to send informational flyers about E85 fuel availability to local fleet owners and residents who own E85 FFV's. The Department of Motor Vehicles used to be able to provide such information, but a recent confidentiality law blocks this ability. A service could be established that enables a business or individual to provide the flyers and postage to such a service, for that service then to address the flyers and deliver to the U.S. post office.
- g. Mainstream media outlets have had pressure by special interest groups to report negatively on biofuels and the efforts to move to alternative fuels. To counteract this and provide a public benefit, Public Service announcements should be placed regarding the positives and availability of E85, biodiesel, and other alternative fuels. These should be broadly placed in television, radio, and newspaper media, though they can be best targeted to those areas where the largest concentrations of alternative fuel vehicles and fueling stations exist.

Respectfully,

Paul Wikoff
Rocklin, CA

References:

- 1) Ward, Peter. "Investment Plan for the Alternative and Renewable Fuel and Vehicle Technology Program." Draft Staff Paper 2.04.2009. Viewed 2.17.2009.
<http://www.energy.ca.gov/2008publications/CEC-600-2008-007/CEC-600-2008-007-D-REV1.PDF>
- 2) U.S. Department of Energy – Alternative Fuels and Advanced Vehicles Data Center. "AFVs in Use." Viewed 2.17.2009. http://www.afdc.energy.gov/afdc/data/docs/afvs_in_use.xls
- 3) Moser, Dan. "UNL Research: Corn Ethanol Emits 51 Percent Less Greenhouse Gas Than Gasoline." 1.22.2009. Viewed 2.17.2009. <http://iannews.unl.edu/static/0901220.shtml>
- 4) Wiley InterScience. "Improvements in Life Cycle Energy Efficiency and Greenhouse Gas Emissions of Corn-Ethanol." Journal of Industrial Ecology. 1.21.2009. Viewed 2.20.2009.
<http://dx.doi.org/10.1111/j.1530-9290.2008.00105.x>
- 5) www.The-Farmer.com. "UNL Study Refutes E. coli in WDGS." 8.2008. Viewed 2.20.2009. <http://magissues.farmprogress.com/TFM/TF08Aug08/tfm040.pdf>
- 6) Klopfenstein, Terry J. et al. Beef Cattle Production Website of the University of Nebraska Lincoln. "2009 Nebraska Beef Cattle Report: Feeding Distillers Grains and *E. coli* O157:H7." Viewed 2.20.2009. <http://beef.unl.edu/beefreports/200917.shtml>
- 7) Kautz, Michelle. Domestic Fuel Website. 12.08.2008. Viewed 2.20.2009.
<http://domesticfuel.com/2008/12/08/automakers-submit-loan-plans-reaffirm-commitment-to-ffvs/>
- 8) Obama for America. Viewed 2.20.2009.
http://obama.3cdn.net/4465b108758abf7a42_a3jmvfyfa5.pdf
- 9) Illinois EPA-Illinois Green Fleets. Viewed 2.20.2009. www.illinoisgreenfleets.org
- 10) Oregon.gov Department of Revenue. 12.31.2008. Viewed 2.20.2009.
<https://secure.dor.state.or.us/piti/index.cfm?action=topic&id=127>
- 11) National Ethanol Vehicle Coalition. 10.29.2004. Viewed 2.20.2009.
www.e85fuel.com/news/102904fyi.htm
- 12) California EPA-Air Resources Board. "AB 2628 Eligible Vehicles – Single Occupant Carpool Lane Use Stickers." Viewed 2.20.2009.
<http://www.arb.ca.gov/msprog/carpool/carpool.htm>