Alliance of Automobile Manufacturers
Comments on the Draft Proposed Concept Outline for the
California Low Carbon Fuel Standard Regulation (March 2008)
Submitted June 12, 2008

The Alliance of Automobile Manufacturers (Alliance), which is a trade association of 10 car and light truck manufacturers including BMW Group, Chrysler LLC, Ford Motor Company, General Motors, Mazda, Mercedes-Benz USA, Mitsubishi Motors, Porsche, Toyota and Volkswagen, welcomes the opportunity to comment on CARB's proposed concept for the state's Low Carbon Fuel Standard (LCFS).

We strongly support the LCFS as an important and necessary program to achieve significant reductions of greenhouse gas emissions. Analyses of how atmospheric greenhouse gas concentrations might be stabilized at acceptable levels indicate that major emission reductions will be necessary. Proposals currently under discussion call for total emission reductions in the United States (and other developed nations) on the order of 50% to 80% below current levels by 2050. Reductions of this magnitude can only be achieved with emission reductions across all sectors, including from the use of transportation fuels with significantly lower carbon intensity than the fuels used today. We urge CARB to design the LCFS regulation to ensure this result from the transportation fuel sector and fully achieve the Governor's goal of a 10% reduction in greenhouse emissions from fuels by 2020. We also urge CARB to design the regulation to achieve this goal in a fuel neutral manner, whereby each fuel is credited based on its inherent carbon intensity. Our comments on specific aspects of the concept outline flow from these basic principles.

Vehicle Efficiency Adjustment Factors

The Alliance recommends eliminating the proposed vehicle efficiency adjustment factors. Including these factors would significantly constrain the ability of the regulation to encourage fuels that reduce GHG emissions. It would also impede progress towards the statewide emission reduction goal established under AB 32. We believe including the factors could even render the LCFS so ineffectual that it would make little or no contribution toward the 2020 statewide emission target. Thus, we see the factors as a serious design flaw in the program.

A hypothetical scenario might help illustrate this point. Assume that automobile manufacturers sell a number of conventionally powered vehicles in 2020 in amounts that increase GHG emissions by 18% but are also able to produce and sell enough battery electric (BEV) and plug-in hybrid vehicles (PHEV) in 2020 to comply with their AB 1493 and ZEV requirements and reduce GHG emissions by 28%, yielding an overall emissions reduction from the transportation sector of 10%. Under the proposed regulatory concept, refiners would be able to credit the additional electricity used towards their compliance with the LCFS without any change in the amount or composition of the petroleum-based fuels. Electricity generators, for their part, would have gained an economic advantage from the extra electricity sold without any incentive to

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change the carbon intensity of their fuel supply, either. Thus, all of emission reductions would be due to efforts by the automobile manufacturers alone, and other sectors would be able to avoid making any contribution toward additional emission reductions.

While it is unrealistic to assume that 100% of the LCFS could be met through the use of electric vehicles, this simplified scenario demonstrates how vehicle efficiency adjustment factors represent double-counting that weakens the LCFS program and undermines its effectiveness and fairness. To the extent that any combination of powertrains and fuels that benefit from vehicle efficiency adjustment factors can achieve a substantial market penetration, the proposed regulatory design means the LCFS itself would be responsible for a correspondingly smaller fraction of the resulting emission reductions and, therefore, would slow progress toward converting the fuel markets to fuels with a lower carbon intensity.

Importantly, the use of the vehicle efficiency adjustment factors also violates the principle of fuel neutrality, since the efficiency adjustments are so large as to create substantial advantages for certain fuels that are not warranted by the essential properties of the fuels themselves.

We believe the fuel standard should be solely on well-to-tank greenhouse gas considerations specific to each fuel without attempting to adjust for vehicle technology differences. This approach would keep the regulatory obligations of the automobile manufacturers separate from those of the fuel suppliers, avoid double counting and strengthen the emission benefits of the low carbon fuels program.

Separate Diesel Fuel Baseline

Whether to treat gasoline and diesel fuel separately instead of allowing the two fuels to be averaged in a common baseline is related to whether the regulation includes vehicle efficiency adjustment factors. CARB staff have recommended using separate baselines for the two fuels and assigned an efficiency adjustment factor of 0.78 to diesel fuel, based on an assumed average fuel economy advantage of a diesel engine relative to a spark ignition engine.[1] This approach is intended to achieve greater market fairness, given the inherently large advantage of diesel compared to other fuel-vehicle combinations.

The Alliance agrees that separating the fuel baselines in conjunction with vehicle efficiency adjustment factors may improve fairness, and separating the baselines is actually necessary if the factors are included, but the better, more consistent and truly fuel neutral way to achieve market fairness is simply to eliminate the vehicle efficiency adjustment factors and allow a common fuel baseline.

Assume, for simplicity, that the well-to-tank grams of CO_2 per gasoline gallon equivalent for diesel fuel is equal to that for gasoline, as is approximately the case. If CARB includes diesel fuel in the same pool as all other transportation fuels, adjusting its efficiency by a factor of 0.78 would mean that converting the entire on-road light duty vehicle fleet in California to diesel engines by 2020 would reduce CO_2 by 22 percent:

$$(1.00 - 0.78)/100 = 22\%$$

[1] *See* Farrell and Sperling, "A Low-Carbon Fuel Standard for California, Part 2: Policy Analysis," August 1, 2007, pp. 30-34, and CARB work group meeting reports from Nov. 16, 2007, and Dec. 20, 2007.

This outcome is more than double the LCFS 10% reduction target without any additional measures such as changing the carbon intensity of the fuel itself. As with the previous example using electric vehicles, all of the emission reductions would be due to changes in the vehicle fleet rather than to any contribution from refiners. This would be unfair.

Vehicles using more efficient powertrain designs or using alternative power sources will continue to help reduce GHG emissions and petroleum use in the marketplace due to their improved powertrain efficiencies and use of alternative fuels, independent of the LCFS program. Treating the various fuel/powertrain combinations differently under the LCFS, however, would give an extra, undeserved advantage to certain fuels and designs over others, thereby distorting both vehicle and fuel markets and potentially slowing the rate of transition to lower carbon intensity fuels.

Opt-in Opportunities

Finally, we would urge CARB to minimize the opportunities for industries to opt-in to the program to earn credits . As with the vehicle efficiency adjustment factors, such "opt-ins" would likely reduce the pressure on the fuels industry to actually produce and sell lower carbon fuels.

Respectfully submitted,

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