



National Petrochemical & Refiners Association

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Subject: Comments from Dec. 2 LCFS workshop

Dear Sir/Madam:

The National Petrochemical and Refiners Association (NPRA) is pleased to provide comments on the draft California Low Carbon Fuel Standard. NPRA's members comprise nearly 500 companies, including virtually all U.S. refiners and petrochemical manufacturers. Our members supply consumers with a wide variety of products and services that are used daily in homes and businesses. These products include gasoline, diesel fuel, home heating oil, jet fuel, asphalt products, and the chemicals that serve as "building blocks" in making plastics, clothing, medicine and computers.

The ARB's draft LCFS fails to deal with many of the fundamental legal, scientific, and policy issues associated with setting a standard for fuels today. First, not all sectors are in the same position. Under the federal Energy Independence and Security Act of 2007 (EISA), the fuels sector is already facing mandates that may not be achievable. Specific greenhouse gas (GHG) emissions reductions are required under these mandates. It is ill-advised to regulate further when serious questions remain about what is possible even under existing mandates. Second, significantly more scientific research needs to be conducted before government can consider creating an LCFS. As discussed below, there is serious concern in the scientific community over what tools are even available or obtainable to achieve such a standard. Third, even if the science were known today, such a standard cannot and should not be implemented in isolation from other significant technical issues and without consideration of fundamental national concerns. Energy security, a stable energy supply, water security, food security, and the

fundamental health of the American economy must be considered, and the LCFS fails to adequately address these factors. In particular, the stability of our energy supply is dependent on the full use of all available supply options. Any approach that cuts off these options is unwarranted, would jeopardize energy security and could have serious economic consequences, both regionally and nationally. These points are elaborated below. They demonstrate that it is simply premature to frame a new fuels program until these issues are thoroughly assessed and a serious dialogue takes place on the costs and benefits of further greenhouse gas emissions reductions in the motor fuels sector.

A number of the alternative fuel options identified in the proposed LCFS regulations by CARB have not been proven to be technically feasible. Even if some technical breakthroughs make them technically feasible in the near future, it is still unlikely that these very capital-intensive technologies will be considered economically feasible or worthy of capital investment by the financial community, particularly given the recent uncertainty of prices in the energy markets. In addition, these alternative fuels and alternative fuel vehicles have not been demonstrated to be reliable, safe or acceptable by consumers who must risk purchasing these more expensive vehicles and fuels. Unfortunately, none of the above factors is within the control of refiners, who are the obligated parties and must purchase the LCFS credits created and supplied from these unlikely alternative fuel markets in the future. Also, there does not appear to be any information in these proposed regulations that indicates that CARB is attempting to reduce these risk factors or uncertainties for these alternative fuel options. Given all these risk factors for the LCFS fuel options, NPRA fails to understand how this LCFS proposal can be considered a sound fuel policy at this time.

NPRA looks forward to the upcoming multi-media analyses which will address concerns about adverse environmental impacts.

A. Do No Harm.

A key principle to follow in developing policy recommendations is "do no harm." Policymakers should carefully consider the potential impact of policies on the environment, energy security, and consumers. Unfortunately, well-intentioned regulations or legislation, especially involving energy and environmental policies, can and do have significant unintended negative consequences. An example of such consequences can be seen with the biofuels mandates being rethought across the globe amid serious economic and environmental concerns. CARB would do well to exercise caution before imposing any new requirements.

To ensure energy security, legislatures and regulators should consider all potential impacts of new policy changes prior to imposing them on the refining sector, which already faces significant operational challenges. This is particularly the case as CARB examines a low-carbon performance standard. Policymakers must recognize existing federal motor fuels policy, and work to prevent duplicative, costly and potentially competing new regulations while addressing fuels in climate regulation or legislation. They must also look to avoid the pitfalls of regulatory policies of the past, many of which indicate that any type of LCFS could be either unachievable or carry significant, adverse consequences for consumers and our nation's energy security as well as water supply and food supply.

One need only look at the federal Renewable Fuels Standard (RFS) – which was dramatically expanded by EISA – to see the potential pitfalls of advancing regulation without fully understanding the consequences. EPA limits the amount of ethanol in gasoline to 10 percent by volume. Most of our automobile fleet is not designed to use fuel blends containing more than 10 percent ethanol. Flexible fuel vehicles (FFVs) can use E-85 (a mixture of 85 percent ethanol and 15 percent gasoline), but there is a relatively small number on the road today (only about 5 percent of all vehicles). Because of the large relative fuel price distortions needed in the marketplace to economically justify E85 purchases by the consumer, there is serious concern about consumer misfueling (using higher ethanol blends in vehicles and small equipment not so designed) and vehicle warranties with fuel blends containing more than 10 percent ethanol. Further, a gallon of ethanol has a lower energy content than gasoline; therefore, FFVs get 25-30 percent fewer miles per gallon which creates higher cost per mile and greater inconveniences with more refills for the consumer.

Dramatically increased ethanol use has also given rise to a global food versus fuel debate, because food prices have increased as crops (such as corn and soybeans) are used as biofuel feedstocks. Compared to producing fossil fuels, the production of biofuels require orders of magnitude more land and fresh water resources which compete with food production. The resource sustainability of this process has not yet been evaluated.

In addition, several challenges remain regarding unintended environmental consequences of significantly increased biofuels use and production. Numerous groups have raised concerns with impacts on water quantity and quality, as well as runoff of nutrients and agricultural chemicals from an aggressive expansion of biofuels production. Others have raised air quality concerns, such as the fact biodiesel may increase NOx emissions (a ground-level ozone precursor) and ethanol increases hydrocarbon emissions (another ground-level ozone precursor). There are also concerns as to whether biofuels can meet the lifecycle greenhouse gas emissions reductions requirements in EISA, which explicitly directs the government to consider indirect land use impacts from biofuels when determining what fuels meet compliance criteria. Many forecast these impacts to be substantial.

B. An Additional Regulatory Program Aimed at Reducing GHG Emissions From the Use of Petroleum Fuels is not Feasible.

Refiners theoretically could comply with this LCFS by ensuring the use of alternative and/or renewable fuels that have lower lifecycle GHG emissions than the gasoline and diesel they displace. However, the carbon content of petroleum based fuels cannot be lowered significantly. Therefore, the only compliance path available under an LCFS is alternative fuel substitution with all of the associated problems, high costs, and supply uncertainties. Any major reductions in fossil carbon used in transportation fuels will have to be almost wholly dependent on consumers purchasing new types of vehicles with low carbon alternative fuel capabilities, and then purchasing and using these low-carbon alternative fuels in these vehicles while preventing misfueling. These low-carbon alternative fuels and vehicles currently don't exist in anywhere near commercial quantities and would likely take decades to develop and deploy.

C. Low Carbon Fuel Standard Would Have Significant Negative Impacts.

There are many problems with simply defining an LCFS. How to define lifecycle and determine the points of measurement are questions critical to determining the effectiveness of any program. To date, policymakers wrestling with this issue have yet to develop any workable consensus on definitions. Such determinations also would create overly complex – and costly – regulations. Imposing such a standard on petroleum refiners places the compliance obligation squarely on an industry that has no ability to control the most critical factors necessary for the achievement of the program – alternative fuels, vehicle and infrastructure production. Petroleum refiners have no method of ensuring the use of alternative and/or renewable fuels that may have lower lifecycle GHG emissions than gasoline and diesel. Gasoline is carbon by nature. The only way to significantly reduce carbon from gasoline use is to blend gasoline with another “low carbon” product that petroleum refiners don’t produce or to have vehicles on the road capable of running on lower carbon sources of energy (*i.e.*, alternative fuel vehicles).

Some observers have suggested hydrogen, electric or natural gas vehicles as options for meeting an LCFS, but even if those were widely available in the marketplace (which they are currently not), electric cars would have to run on electricity from low carbon sources, hydrogen still would most likely be produced from fossil fuels or nuclear power and natural gas production would have to increase by opening up more areas to exploration and production. With significant opposition to both nuclear and expanded domestic energy production, it is unlikely the fuel sources needed to power alternative vehicles would be available to meet an LCFS along the lines of the proposals we’ve seen to date.

By keeping gasoline and diesel separate, the draft LCFS regulations do not provide credit or incentive to reduce GHG emissions by replacing gasoline with diesel in the light-duty vehicle market. Although this is not a NPRA advocacy position, it is a pathway that could lower carbon emissions in the transportation sector. By not allowing incentives for more efficient light duty diesel engines to replace gasoline engines, LCFS compliance may be limited to more expensive and less practical alternatives which the alternative fuel market may not be able to supply in the future for the many reasons given.

One study to date that has projected the economic impacts of an LCFS concluded the tools to meet such a standard do not exist and it could only be met by consumer price increases large enough to dramatically reduce demand. In this study, CRA International concluded: “Motor fuel prices increase to extraordinary levels in 2015 and 2020 due to the high price associated with low carbon fuel credits in response to the infeasibility of meeting near term LCFS requirements without large reductions in total fuel demand.” Under their analysis of meeting a national 5 percent and 8 percent GHG reduction through an LCFS by 2015 and 2020 respectively, gasoline prices would increase over 140 percent in 2015. Increases slow down over time as lower carbon fuel sources become available, but still create price increases in excess of 80 percent by 2050. The study concludes, “Since the LCFS requirements go beyond what can be accomplished with available low carbon biofuels, gasoline consumption must fall to make the share of low carbon biofuels sufficient to satisfy the LCFS. Therefore, delivered pump prices

(including the price of LCFS credits, if a trading system is created) must rise sufficiently to choke off gasoline demand...”¹

Finally, all of these factors might be compounded further due to the fact that an LCFS or GHG performance standard for fuels could be used to discriminate against Canadian crude produced from oil sands. Canada is currently the largest exporter of oil into the United States and serves most refineries in the northern part of this country. The use of Canadian oil sands has increased exponentially so that many refiners in the southern part of the United States are utilizing economical, heavier crudes to make their finished products. Several environmental groups have initiated efforts to block Canadian crude deliveries to the United States using arguments centered on “lifecycle” emissions. If an LCFS were used to discriminate against or otherwise impede Canadian crude imports into the United States, it would have several adverse impacts for American energy security and refinery production.

With artificially blocked access to future supply of nearby Canadian oil sands, California refiners would be forced to find crude supplies from other parts of the world – most likely from foreign, state-owned oil companies in unstable regions of the world while future supplies of Canadian oil sands will be diverted to other refinery regions. The LCFS block on using Canadian oil sands will not reduce its future output, but the shift in crude supply (“crude shuffle”) would likely have additional unintended consequences by actually increasing GHG emissions globally due to incremental transportation of crudes into and out of the US. The proposed use of lifecycle analysis against Canadian oil sands does not take into account Canadian regulations and ongoing energy use reductions in oil sands production, nor the offsetting increases in CO₂ emissions that would occur due to shuffling if the oil sands destination were altered due to U.S. regulations. In addition, at a time when American refiners are already seeing huge margin decreases – and even posting losses in some cases – due to wildly fluctuating prices of crude oil supplies, forcing them to purchase more crude from unstable regions may have the effect of raising the price of such crude slates. High crude oil prices, combined with high LCFS credit prices, could have an adverse impact on refining capacity in the United States, likely increasing our reliance on finished petroleum products from overseas and creating supply problems for the driving and flying public.

The evolution of Canadian oil sands, both in terms of extraction, production, and ultimate use by U.S. refiners, is a tremendous net positive for the American consumer that contributes significantly to North American energy independence and security. From a societal, environmental and economic basis, Canadian oil sands are a sound component of an energy solution for the United States. For these and the reasons articulated previously, an ill-defined and crafted LCFS has the very real potential to inflict substantial harms on consumers and North American energy independence. Moreover, the lack of available tools to meet such a standard for a decade or more places the compliance burden on the domestic refining industry while doing nothing to effectively incentivize the creation of the vehicles, fuels and infrastructure and other means that actually would be needed to meet such a regulation. Moving forward with an unrealistically stringent standard could prove devastating to the American economy.

¹ See http://www.nma.org/pdf/040808_crai_presentation.pdf.

Alternative fuel/vehicle programs with lower carbon emissions should be both technically and economically feasible for the ultimate fuel consumers. Being economically feasible requires that the alternative fuels have favorable consumer economics and address the inconveniences that limit their appeal to consumers. The proposed LCFS structure is flawed in that it places the compliance obligation on only one party (the domestic refining industry) that does not have direct control over alternative fuels or alternative vehicles. In addition, the distribution issues and costs are not addressed. An LCFS is the highest cost regulatory option aimed at reducing GHG emissions and could have the opposite result of its intended goal.

Given the scope of the challenges associated with developing an LCFS, NPRA questions an assumption that a new low carbon alternative fuel/vehicle system will become available for a mandated LCFS program without the new fuel/vehicle systems first being commercially proven. NPRA also believes the challenges facing any sort of LCFS program are so great that attempts to try and force the technology through a precipitous regulation of GHGs in the fuel supply would only lead to significantly higher industry and consumer costs, while possibly creating fuel supply shortages.

D. The Result of Any Regulations Should Augment, and Not Imperil, the Nation's Fuel Supply and the Distribution of Fuels.

Legislative and regulatory certainty is necessary to make reliable project feasibility analyses and to drive future investment opportunities. If policymakers fail to fully consider the fuel supply impacts of implementing regulations, then this situation will not improve. Refiners support and encourage continued environmental progress. However, if policymakers overlook and/or take for granted the supply side of the environmental-energy equation, then we are destined for more of the same. It is imperative, in our opinion, that determining the impact on supply must be fully embedded in the policy-making process. In working with policymakers on improvements to fuels and facilities, NPRA has often commented that industry needs time, flexibility or more realistic standards to minimize negative impacts on fuel supply. Policymakers, however, often opt to promulgate regulations that are technology forcing, constructed with limited and often theoretical margins of safety, and requiring implementation in the shortest time possible — all without adequate attention to fuel supply impacts.

Based on these unfavorable past experiences with consumers, CARB should avoid considering the imposition of any fuel control program regulations that involve the consumers voluntarily making a purchase decision unless the fuel program design has been successfully used or demonstrated at a smaller scale for a considerable amount of time. Without such a successful program demonstration, the future uncertainty with consumer voluntary purchases will undermine the confidence of the LCFS program being successful.

Sincerely,



Gregory M. Scott
Executive Vice President and General Counsel