THE INTERNATIONAL COUNCIL ON CLEAN TRANSPORTATION

1225 I Street NW
Suite 900
Washington DC 20005
+1 202.534.1600
www.theicct.org

June 20, 2016

RE: International Council on Clean Transportation comments on **"Proposed Fiscal Year 2016-17 Funding Plan for Low Carbon Transportation and Fuels Investments and the Air Quality Improvement Program**."

These comments are submitted by the International Council on Clean Transportation (ICCT). The ICCT is an independent nonprofit organization founded to provide unbiased research and technical analysis to environmental regulators. Our mission is to improve the environmental performance and energy efficiency of road, marine, and air transportation, in order to benefit public health and mitigate climate change. We promote best practices and comprehensive solutions to increase vehicle efficiency, increase the sustainability of alternative fuels, reduce pollution from the in-use fleet, and curtail emissions of local air pollutants and greenhouse gases (GHG) from international goods movement.

The ICCT welcomes the opportunity to provide comments on the Air Resources Board's Low Carbon Transportation and Fuels Investments and the Air Quality Improvement Program. We commend the agency for developing an approach to supporting the production of very low-carbon transportation fuels needed to meet the state's GHG and fuel carbon intensity goals. We believe that the Very Low Carbon Fuels Incentives program is a promising addition to ARB's policy framework and can provide a model for low-carbon fuel incentives elsewhere. The comments below offer a number of technical observations and recommendations for ARB to consider as it determines the funding and structure of the proposed program in the years to come.

We would be glad to clarify or elaborate on any points made in the below comments. If there are any questions, ARB staff can feel free to contact Dr. Stephanie Searle (stephanie@theicct.org) and Nik Pavlenko (n.pavlenko@theicct.org).

Fanta Kamakaté

Chief Program Officer

International Council on Clean Transportation

ICCT comments on ARB FY 2016-17 Funding Plan

Introduction

ICCT commends the California Air Resources Board (ARB) for demonstrating its commitment to meetings its stringent GHG reduction goals for the transportation sector through the expanded support of low-carbon alternative fuels, as is reflected in the Proposed Fiscal Year 2016-17 Funding Plan for Low Carbon Transportation and Fuels Investments and the Air Quality Improvement Program. We believe that the proposed approaches outlined in the Proposed Fiscal Year 2016-17 Funding Plan could be improved in order to more effectively reduce emissions. The ICCT recommends using the initial funding for the Very Low Carbon Fuels Incentives program to develop a Contracts for Difference (CfD) policy paired with a reverse auction to mitigate uncertainty for individual producers while leveraging other financial incentives to minimize costs. Increasing the funding allocation above the $40 million proposed for the Very Low Carbon Fuels Incentive would strengthen the early effectiveness of this program.

Policy Uncertainty

The proposed funding plan released by ARB on May 20th indicates that the Governor's proposed FY 16-17 budget allocates $40 million to be used for incentives for very-low carbon fuel production. This funding would be limited to support only fuels produced in California that also meet carbon intensity criteria. The funding would be provided on a per-gallon basis, with the subsidy increasing depending on the level of GHG reduction offered by the fuel.

The proposed incentive, as structured, does not address weaknesses that have reduced the effectiveness of other low carbon policies. Similar incentives, such as the federal Second Generation Biofuel Producers Tax Credit (SGBPTC), have not succeeded in commercializing second-generation biofuels and other very-low carbon fuels due to political uncertainty as incentives of this type are not guaranteed for more than 1-2 years at a time. While other low carbon fuel incentives, such as California's Low Carbon Fuel Standard (LCFS) and the Renewable Fuel Standard (RFS) are in place for longer periods of time, the variable credit prices under these programs do not offer a guaranteed level of future support for low carbon fuel producers. As a result of policy uncertainty, these incentives have been less effective than hoped at attracting investment in the emerging very low carbon fuel industry.

The ICCT believes that the proposed incentive approach does not target the core issues facing potential alternative fuel producers. The difficulty of commercializing very low-carbon fuels stems more from economic challenges than from technical barriers (Miller et al., 2013). While there have been a wide variety of demonstration facilities showcasing the feasibility of a variety of low-carbon conversion processes for many different feedstocks, investors have been risk-averse and thus slow to invest in the next generation of commercial facilities (Peters et al., 2014). High upfront capital costs in conjunction with uncertain market prices and uncertain long-term demand for their products has created high economic barriers for commercial success. Investment in these projects requires an expectation that fuel production will receive policy support and be consistently profitable over the long term.

The lessons learned from the federal Second Generation Biofuel Producers Tax Credit are applicable to the initial approach outlined in the proposed FY 16-17 budget. While the SGBPTC provides a sizeable incentive for cellulosic fuel production, at $1.01 per gallon, the law has been subject to substantial regulatory uncertainty, as it only provides funding certainty for one or two years at a time and must be renewed by Congress frequently. Consequently, investors

interested in supporting a project several years away from completion cannot plan on the SGPTC and must therefore ignore—or at best, severely discount, its financial benefit. The issue with the SGBPTC, which has a similar value to the proposed ARB per-gallon subsidy, is not that it offers too little funding; rather, it offers too few years of certainty.

Introducing a similar, per-gallon incentive with no long-term timeline or support structure is highly likely to suffer from the same issues as the SGBPTC. It takes several years to acquire permits, develop offtake agreements and construct a facility before a project is capable of selling its product. In order to attract investors, a tax incentive must be reasonably expected to continue for several years. Therefore, with only a one-year window for the proposed California very low-carbon fuels incentive, investors would be unlikely rely on the tax credit in their financial projections.

Alternative Approach

Instead of a short-term subsidy, the ICCT recommends making a longer-term, guaranteed commitment to support very-low carbon fuel production, similar to the alternate approach outlined in the proposed funding plan:

> *One approach that has been suggested is to set up a program that would look at the total market value of the fuels and contracting with fuel producers to guarantee a minimum floor price for a certain financeable term length (e.g. up to 10 years), taking into account the price for producing the fuel, in addition to the value of existing credits (i.e. RINS, LCFS credits, cellulosic tax credit, etc.). A structure like this would help to attract more private capital to California-based projects by mitigating the revenue risk concerns of the investment community. Structuring the program in the form of a guarantee would also ensure that funds would only be expended when necessary to compensate for weak market conditions or incentive program shortfalls.*

Long-term, guaranteed support for alternate fuel production is far more likely to support additional production of new technologies than short-term financial incentives due to the mitigation of revenue risk for investors. The ICCT recommends using the initial $40 million dollars to implement a smaller, initial stage of a “Contract for Difference” (CfD) policy paired with a reverse auction. The purpose of this approach would be to provide long-term support to a new alternative fuel producer, thus demonstrably adding to California’s very low-carbon fuel production capacity.

The proposed CfD policy would consist of a price floor guaranteed over 10 year contracts, ensuring producers are compensated whenever the market price for their fuels is lower than the price floor over that period. Fuel producers would bid competitively for the lowest guaranteed price floor in a reverse auction, creating a competitive mechanism to minimize the program cost. Whenever the market price for very low carbon fuels, including existing policy support, falls below a guaranteed price floor, the CfD program would pay the difference to producers.

The CfD program is designed to complement and leverage existing financial incentives for alternative fuel production, reducing policy and market uncertainty for investors by providing a stable price floor under a worst case scenario of poor market conditions and reduced policy support. One unique feature that can be incorporated into a CfD is that when a producer’s income exceeds the guaranteed price floor during good years, it could be required to pay a portion of the difference into the program, contributing to the fund along with the State. Such payments would effectively be in exchange for protection from years in which that producer’s

revenue drops below the price floor. A CfD essentially acts as an insurance program against market and policy risk. As the program accumulates funding from annual state allocations and from producer payments, it is able to provide a price guarantee for more and larger very low carbon fuel producers.

Starting from an initial pot of funding of $40 million dollars, the proposed CfD could likely support a demonstration plant, or a small, bolt-on facility to add cellulosic production capacity to an existing biofuel conversion facility. From there, as the program accrues additional funding and potentially payments back into the program when the price floor is exceeded, it could grow to support larger projects over time. By capping the incentive at $1 dollar per gasoline-equivalent gallon (GGE) and providing 10 years of support, the CfD could theoretically support 40 million gallons of new production over the course of 10 years in the worst-case scenario, but if existing incentives remain in place, the cost-effectiveness of the policy increases and more money remains within the fund.

Additional annual allocations of funding to the program paired with additional auctions would translate into additional contracts and thus additional production. By guiding the minimum production capacity upwards over the lifetime of the program, California could ensure that the program transitions from supporting smaller projects to commercial-scale ones. Investing additional funding into the program in the near-term would accelerate this process, allowing the fund to create more contracts and grow more quickly. While this program would be more complicated and time-consuming to implement compared to the proposed subsidy, it would be a more effective support mechanism for very low carbon fuels. Developing a new, very low-carbon fuel industry within California is a long-term process that requires long-term commitments on the part of both investors and policy-makers. The sooner that California can develop the policies that address the key economic concerns of this new industry, the sooner the it can expand and produce the alternative fuels necessary to meet the state's GHG and fuel carbon intensity targets.

References

Miller, N., Christensen, A., Park, J.E., Baral, A., Malins, C., & Searle, S. (2013). "Measuring and Assessing Risk in the Second-Generation Biofuels Industry". Washington, DC: The International Council on Clean Transportation. Available at: http://www.theicct.org/sites/default/files/publications/ICCT_AdvancedBiofuelsInvestmentRisk_Dec2013.pdf

Peters, D., Alberici, S., Passmore, J., & Malins, C. (2015). "How to advance cellulosic biofuels: Assessment of costs, investment Options and Required Policy Support". Utrecht, Netherlands: Ecofys. Available at: http://www.theicct.org/sites/default/files/publications/Ecofys-Passmore%20Group_How-to-advance-cellulosic-biofuels_rev201602.pdf