THE INTERNATIONAL COUNCIL ON CLEAN TRANSPORTATION

August 10, 2011

James Goldstene
Executive Officer
California Air Resources Board
1001 I Street
Sacramento, California 95812

Subject: Proposed Greenhouse Gas Cap and Trade Regulation

Dear Mr. Goldstene:

The International Council on Clean Transportation (ICCT) appreciates the opportunity to comment on CARB's June 2011 proposed cap & trade revisions. We support the important national and international precedent set by CARB's pioneering greenhouse gas (GHG) program for transportation and other sectors including world-class standards complimented by incentives and price signals.

We recommend that CARB reevaluate the transportation biofuels exemption in the near future. This exemption effectively assigns all transportation biofuels zero GHG emissions, creating an implicit subsidy, regardless of their actual GHG profile. This process should occur prior to the implementation of cap & trade phase II, when surface transportation combustion emissions will be included. The blanket exemption for biofuels would create leakage as transportation biofuels increase, and disadvantage advanced technologies such as hybrid, plug-in, and fuel cell electric vehicles.

We also recommend designing the cap & trade regulation, including the allocation of allowances, to facilitate the transition to a cleaner and more efficient transportation system. As noted in our December 2010 letter, any free allowances given to refineries should be tied to emission reduction strategies such as advanced technology and energy efficiency. As a second choice, we believe that CARB's output-based refinery allocation proposal is superior to grandfathering and should be set based on "best in class" emission rates. This approach should also be applied to petroleum production. We also recommend establishing a separate benchmark for transportation hydrogen production to recognize both the displaced GHG emissions from fuel cell vehicles and the absence of a cap on surface transportation petroleum combustion GHG emissions initially.

Please see our attached comments for additional information. If you have questions about our comments, please contact me at alloyd@theicct.org or Ed Pike of my staff at ed@theicct.org.

Sincerely,

Alan Lloyd
President, International Council on Clean Transportation

cc: Mary Nichols

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ICCT Comments on Proposed July 2011 Cap and Trade Regulation Revisions

1) Reassessment of Cap & Trade Surface Transportation Biofuels Exemption
We recommend that CARB include language such as the following in the staff report, for reasons more fully explained below:

"A number of stakeholders expressed the following concerns about the transportation biofuels exemption, which is contained in the initial rule and would exempt these fuels when surface transportation petroleum combustion emissions are included under cap & trade in 2015:

- a blanket exemption would allow leakage from the cap due to increasing uncapped biofuels consumption from increased consumption of E10, potentially E15, and also E85;
- a blanket exemption would remove the conservation incentive created by cap & trade for a sub-set of fuels;
- a blanket exemption would treat all biofuels equally regardless of whether they are less carbon intensive than petroleum fuels and disadvantage advanced technologies such as hybrids, plug-in vehicles, and fuel cell vehicles.

Several options will be evaluated in 2012 for consideration prior to implementation of cap & trade phase II. First, CARB could remove the exemption. Fuel suppliers could either treat transportation biofuels the same as other surface transportation fuels, or use LCFS accounting methods to justify reduced allowance obligations. Second, CARB could retain an exemption as either a blanket exemption regardless of emissions, or with emissions thresholds such as 50% or 60% reduction from conventional fuels similar to federal benchmarks for advanced biofuels and cellulosic biofuel.

The evaluation will consider a number of factors such as: the extent to which upstream transportation biofuels production emissions are captured under other cap & trade systems of similar stringency to California; the amount of leakage that would occur under a blanket exemption; the availability of LCFS accounting tools; and effect on incentives for the lowest carbon advanced transportation technologies."

Establishing a Level Playing Field
CARB's Low Carbon Fuel Standard (LCFS) establishes a global best practice to account for the GHG intensity of fuels. Through the development of the LCFS, the world has learned that biofuels can have greatly varying lifecycle carbon emissions, including land-use changes. Linking the cap & trade system to the LCFS to account for the carbon content of transportation biofuels would support the goals and successful outcomes of both policies.

We recommend allowing fuel providers the flexibility to choose between two options: 1) require allowances to cover the carbon content of the fuel, as required for other liquid transportation fuels; or 2) allow the use of LCFS accounting tools to determine the GHG burden of the fuel in order to adjust the compliance obligation.[1]

[1] The cap & trade system may cover some of the upstream emissions through coverage of other sectors; however procedures could be put in place to avoid double counting.

The blanket exemption would provide an implicit subsidy for surface transportation biofuels consumption, regardless of their GHG profile. For example, at a $20/ton GHG allowance price the exemption translates into a subsidy for conventional ethanol regardless of real carbon intensity (on top of existing federal subsidies) equivalent to about $0.16-$0.20 per gallon of gasoline-equivalent. Conventional ethanol would also receive a competitive advantage over lower carbon alternatives, such as hybrid vehicles, plug-in vehicles and hydrogen fuel cell vehicles. The exemption would remove an incentive to move to lower carbon biofuels, and potentially create a market for low-cost, high-carbon biofuels that would not otherwise exist in California.

Emissions Inventory and AB 32 GHG Targets
In support of the ambitious goal of AB 32 to reduce California's GHG emissions to 1990 levels by 2020, CARB has estimated that ethanol emissions, as currently exempted from the cap & trade regulation, would hold steady at about 5 million metric tons per year from 2008 to 2020.[2]

Sales of ethanol and other transportation biofuels that would also be exempted from the cap are very likely to grow significantly in coming years for a number of reasons: 1) ethanol blend levels in typical gasoline are increasing, currently to E10 (i.e. 10% ethanol from just under 6%) and potentially to E15 in the future; 2) the national Renewable Fuels Standard will more than double the amount of biofuels nationally; and 3) California is investing in E85 infrastructure such as AB118 grants. CARB's plan to meet ambitious AB32 goals does not leave room for any growth in emissions from outside the cap and thus these emissions should be included under the cap.

2) Petroleum Production & Refining Benchmarks
As noted in our December 2010 letter, any free allowances given to refineries should be tied to emission reduction strategies such as advanced technology and energy efficiency. As a second choice, we believe that CARB's output-based refinery allocation proposal is superior to grandfathering.

Output-based refinery benchmarks should be set based on "best in class" emission rates, similar to the EU approach. In this case we recommend a benchmark of 0.037 metric tons of allowances per barrel of output, approximately 20% lower than the proposed benchmark of 0.0465 metric tons of allowances per barrel. The ICCT recommended value is comparable to national average refinery emissions times 90%[3]. This value is met or exceeded by several California refineries while the remainder would be required to purchase allowances as shown in CARB's Appendix B to the recent cap & trade regulation revisions.

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[2] Inventory for sources under the cap & trade system and not under the cap & trade system (these estimates generally do not include AB32 measures)
http://www.arb.ca.gov/cc/inventory/data/tables/2020_ghg_emissions_forecast_2010-10-28.pdf
Inventory for reductions at sources both under the cap & trade system and not covered by cap & trade:
http://www.arb.ca.gov/cc/inventory/data/tables/reductions_from_scoping_plan_measures_2010-10-28.pdf

[3] Annual 2005 emissions from "Available and Emerging Technologies for Reducing Greenhouse Gas Emisisons from the Petroleum Refining Industry", US EPA, Oct 10, page 3. Production information for 2005 from EIA Table 1, http://www.eia.gov/petroleum/supply/annual/volume1/.

We also note that an alternative approach worth considering is a benchmark of approximately 0.03 metric tons of allowances per barrel based on California best in class refineries. EU refinery emissions are 0.0304-0.0306 metric tons per barrel throughput[4]. The EU ETS reduced the GHG benchmarks by an additional 15-20% from average EU refinery emissions[5]. While the EU reported per barrel throughput does not directly correspond to CARB's list of "Primary Refinery Product"[6], a California benchmark of 0.030 allowances/barrel of "Primary Refinery Production" will provide at least as many, if not more, allowance per barrel than EU refineries receive.

We oppose the WSPA proposal that mixes grandfathering, increased free allowances for refineries that increase their GHG emissions, and a very weak energy efficiency incentive. Grandfathering rewards the use of high-emitting processes and inputs. In addition, the WSPA proposal that CARB give a refinery free GHG allowances to offset most of allowances needed for emission increases would directly contravene the potential benefit of a cap & trade system. Facilities that choose to increase use of heavy Venezuelan crude, for instance, would receive free allowances to largely offset their increased GHG allowance obligation (while also increasing criteria pollutant emissions). Facilities that source more lower carbon crude, improve coking operations, implement renewable energy or carbon capture projects would lose most of the benefit of lower GHG compliance obligations due to cuts in their GHG allocations under the WSPA proposal. This proposal would run contrary to CARB's laudable efforts to encourage low carbon fuels and promote economic incentives for GHG emission reductions. As noted by a report of California's Economic and Technology Advancement Advisory Committees, free GHG allowance allocations to incumbent high carbon industries are a potential barrier to advanced technology.[7]

For crude oil production, please see our June 6, 2011 paper on potential benchmarks (http://www.theicct.org/2011/07/comments-to-carb-on-crude-oil-production-allocations/). We recommend a flat benchmark of approximately 5 grams CO2/ MJ for both light and heavy crude production. See figure 1 for example values from several production processes. We also recommend additional incentives for transitioning to renewable steam and electricity and energy efficiency measures for both crude oil production and refining.

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[4] Emission values from Table 3 from Ecofys "Methodology for the free allocation of emission allowances in the EU ETS post 2012", November 9. Refinery production rates from BP Statistical Review of World Energy June 2009, p 19.

[5] "Commission Decision of 27 April 2011determining transitional Union-wide rules for harmonised free allocation of emission allowances pursuant to Article 10a of Directive 2003/87/EC of the European Parliament and of the Council" (2011/278/EU) page 29 provides a final benchmark of 0.0295 kg per carbon weighted ton (CWT) vs average emissions of 0.035 kg/CWT given in Ecofys' "Methodology for the free allocation of emission allowances in the EU ETS post 2012", November 9, p 14.

[6] CARB's definition does not include products such as residual, coke, wax, lubricants, or still gas that may be consumed in the refinery. These products appear to make up approximately 10% of US refinery output based on EIA data available at: http://www.eia.gov/petroleum/supply/annual/volume1/

[7] ETAAC "Advanced Technology to Meet California's Climate Goals: Opportunities, Barriers & Policy Solutions". p 1-10. December 14, 2009. Available at http://www.arb.ca.gov/cc/etaac/meetings/ETAACAdvancedTechnologyFinalReport12-14-09.pdf

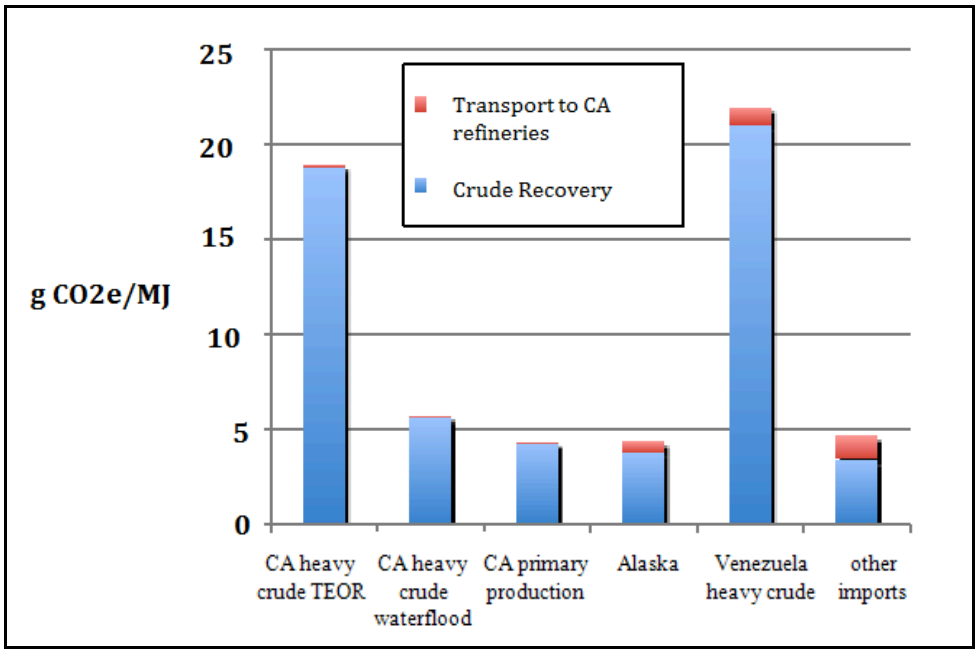

Figure 1: Crude Oil Production values in g CO2/MJ (Source: CARB)

3) Transportation H2 Production Benchmark

CARB staff have requested comments on the appropriate benchmarks for hydrogen production in Appendix B to the July 2011 Cap & Trade proposal. ICCT recommends establishing benchmarks for transportation hydrogen use. This value will not by itself pay for installing new hydrogen stations, but can play an important role in narrowing the operating stage profitability gap for hydrogen stations during the critical early ramp-up of fuel cell electric vehicles.

Hydrogen fuel cell electric vehicles could suffer an unfair playing field in Phase I of cap & trade because the full "well-to-wheels" emissions are subject to cap & trade, whereas petroleum burned in internal combustion engines is not. CARB can remedy this situation and encourage development of an advanced transportation technology through free GHG allowances. We recommend awarding these allowances based on avoided vehicle petroleum combustion emissions. ICCT calculates the avoided emissions value for distributed zero carbon renewable hydrogen at 31.6 tons GHG allowances/ tons renewable H2[8] in cap & trade phase I. CARB has proposed a value of 8.62 tons GHG allowances/ton centrally produced hydrogen using steam methane reforming. For centrally generated hydrogen, a smaller adder for hydrogen used for transportation purposes should also be added based on CARBs LCFS methodology. Future updates can be made as CARB covers vehicle tailpipe emissions and eliminates free cap & trade allowances for petroleum production and refining subsidy.

[8] Calculation based on 2.3x MJ gasoline displaced per MJ hydrogen and 96 g CO2/MJ gasoline from LCFS and 143 MJ per kg H2. Note that a smaller credit for distributed steam methane reforming would be appropriate based on displaced gasoline emissions minus H2 production GHG emissions.

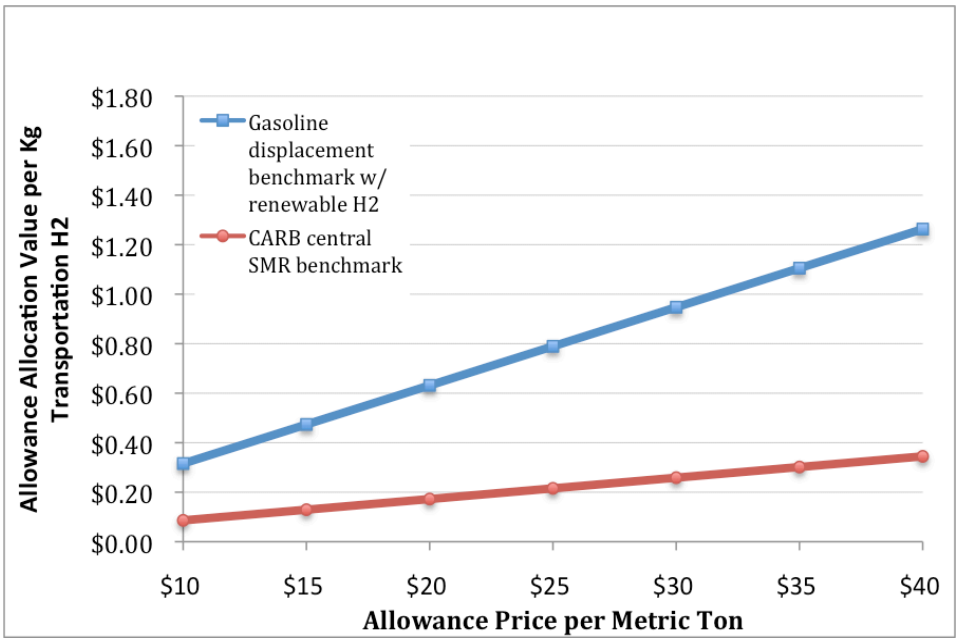

Figure 2: Allowance Value for Transportation H2 Production

We also recommend a streamlined allocation process that is appropriate for small businesses that are eligible for free allowances for transportation hydrogen. For instance, the cap & trade opt-in procedures may not be appropriate for a small renewable producer that has zero emissions or other small producers with small emissions that can be determined based on LCFS data. We encourage CARB to develop a straightforward LCFS process that can also be used for granting free GHG allowances to transportation hydrogen producers.

4) Petroleum Fuels Applicability Clarification

We support the proposed revisions to the transportation fuels applicability section (section 95852(d)) to reduce the possibility of misunderstanding over the coverage of domestic production of surface transportation fuels in phase II. We appreciate CARB's response to this recommended in our December 2010 comment letter.