

WSPA Comments on October 27th CARB LCFS Workshop

Below are several WSPA comments on the October 27th workshop, and attached is a set of comment slides from the Boston Consulting Group, our consultant.

A. Feasibility of a Sustainable LCFS Program- Low CI Fuel Availability

Under AB32, there is a requirement that the State Board rely upon the best available economic and scientific information in its assessment of existing and projected technological capabilities when adopting regulations under AB32. For many fuel projections, we feel the best available data on fuel availability is presented in the Energy Information Administration's (EIA) Annual Energy Outlook (AEO).

In the ARB published workbook on compliance curves, there are multiple instances where the projections used to illustrate the path to compliance are inconsistent with projections published by the 2014 AEO.

For Fuel Cell Vehicles (FCVs) and Natural Gas (NG), Hydrogen (H₂), and Electricity used as a transportation fuel, the ARB projections exceed the EIA's projections for the **entire United States** in the latter years of the projections. In addition, for Electric Vehicles (EVs) and FCVs as well as NG, H₂ and electricity used as transportation fuels, the ARB projections represent a disproportionately large percentage of the EIA's projections for the US.

ARB has not yet provided detailed information as to the basis of their projections, nor has ARB provided an explanation as to why their projections are so radically different than those of the EIA.

This is especially important to regulated parties as the credits from Electricity and NG as transportation fuels are shown in ARB's "illustrative" case to make up approximately 40% of the credits needed to meet the compliance goals of the LCFS. All indications are that these projections are grossly overestimated, and the credits needed to meet compliance may not be available.

In addition, regulated parties have no control over the manufacture of EVs, FCVs, or Natural Gas engines/vehicles. If these vehicles and engines are not manufactured or not purchased and/or used in the quantities envisioned by ARB or if the infrastructure is not in place to fuel the vehicles, the compliance targets become automatically infeasible.

More General Comments

- 1) ARB's own compliance scenario demonstrates the LCFS target of a 10% reduction by 2020 is not feasible. Even in the most back-end loaded schedule, by 2018 the level of banked credits begins to draw down. This means that by 2018 and in the subsequent years, even with ARB's overly optimistic estimates of low CI fuel availability, there are not enough alternative fuels generating credits to offset the deficits generated by ARB's predicted demand for gasoline and diesel. This is not a sustainable approach. The only way the reductions are 'achieved' through 2020 are by banking of early credits – ARB's estimate of banked credits is also overly optimistic. With just five years left in the program, it is

unconscionable that ARB would propose a program like this, with so much at stake for consumers and their GHG reduction initiatives, that is on its face infeasible and not sustainable.

- 2) The compliance scenario utilized to show alleged compliance with a 10% reduction by 2020 is not built with a robust analysis of what will be required to achieve the reductions either in 2020 or in the intervening years. In the September 25th workshop, ARB projected total national availability of alternative fuels and now at the October workshop, has proposed volumes of fuels that can be used to show compliance with a proposed schedule, but there is none of the connecting analysis to show how much of the United States (US) supply is truly available to California and at what projected cost, what supply logistics (marine, rail, etc.) are available to accommodate these alternative fuels, what infrastructure is needed to blend, transport and dispense these fuels, what incentives are needed for consumer acceptance, and other regulatory impediments. There is no rigor in this analysis and several examples of the shortcomings are provided in our and BCG's comments below, including impediments that could constrain compliance over the time period proposed by ARB.
- 3) The credit build from 3.5 million tonnes over the last 3.5 years to 10 million tonnes in the next year and a half is unsupportable. There is no robust analysis from ARB indicating why this increased level of credit generation would occur, other than optimism that if the LCFS program delivers more certainty about the program's future, there will be additional aggressive investment and accumulation of credits. There are a couple of underlying flaws associated with this line of thinking. First, the earliest the regulation will be considered by the Board in some context would be February which limits the time period with some 'certainty' to less than a year – but even then, there is a second rule adoption hearing planned for the summer of 2015 before the OAL process proceeds. Secondly, many key aspects of the regulation are in flux creating uncertainty. The GREET, ILUC, OPGEE, and credit generation provisions being updated make it difficult to assess even how ARB's proposed compliance scenarios would be achieved – barring the obvious issues with bringing the alternative fuels to market in the quantities that ARB requires. Lastly, there are still court cases pending that could invalidate the LCFS. ARB needs to assess a more realistic credit build – including a scenario where the build continues at roughly the same rate based on the current 1% compliance obligation. With a more realistic credit build scenario, it becomes even more evident that the program is infeasible and not sustainable ahead of the 2020 reduction deadline.

Fuel Specific Comments

Natural Gas

ARB has estimated that 600 million Diesel Gallon Equivalents (DGE) of Natural Gas (NG) will be used as transportation fuel in California by 2020, as compared to 100 DGE NG in 2013, which equates to approximately 15% of the diesel fuel used in California being converted to Natural Gas by 2020. This is also equivalent to a 600% increase in the use of Natural Gas as a transportation fuel between 2013 and 2020.

ARB has yet to address the comments submitted during the earlier fuel availability workshop, including:

- What evidence does ARB have to indicate that this percentage of the diesel fleet will convert to Natural Gas engines by 2020?
- How does ARB reconcile this estimate with the information presented in the ARB September 2014 Technology Assessment presentations that indicated conversion of Heavy Duty Diesel Engines to Natural Gas engines is being hindered by the capital costs, refueling infrastructure and methane emissions?
- How does ARB reconcile this estimate with the EIA projections for Natural Gas use, which shows an increase in Natural Gas for transportation fuel of 133% between 2014 and 2020, while ARB shows an increase of 400% during the same time period?
- How does ARB reconcile that it will use such a disproportionate share of the U.S. Natural Gas projections?

In addition, ARB's "illustrative" compliance scenarios indicate that Natural Gas transportation usage will make up approximately 26% of the credits needed for the 10% reduction by 2020 and that most of this will come from renewable natural gas.

We continue to assert that ARB has not illustrated that the vehicles needed to use this natural gas will be available. With respect to the renewable natural gas projections:

- Where is this very rapid increase in renewable natural gas coming from?
- How do you know whether or not the renewable natural gas is getting into transportation fuels if injected upstream of fueling locations?
- Is the LCFS actually increasing the amount of renewable natural gas used or just shifting renewable natural gas from one use to another (for example, shifting from electricity generation to transportation fuel)?
- If the LCFS is just shifting use of renewable natural gas, how does that result in a real decrease in greenhouse gases? Is it possible that shifting the use of renewable natural gas will result in increased greenhouse gases?

Electricity

ARB has estimated that 750,000 Electric Vehicles (EVs) will be on the road in California by 2020. The EIA estimates approximately 860,000 EVs will be on the nation's roads by 2020. For 2014, ARB's projected market share of US EVs is 44%. However, ARB is projecting California's market share will double to 88% of the EIA's total US projections.

- Other than the ZEV mandate, which has undergone numerous downward revisions during its existence, what evidence does ARB have to indicate that 750,000 EVs will be manufactured and on the road IN CALIFORNIA by 2020?
- How does ARB reconcile this estimate with the EIA projections for EVs?

In addition, the projected credits associated with Light Rail transit is approximately equivalent to an additional 300,000 EVs on the road.

As stated previously numerous times, we strongly object to the generation of credits from fixed guideways and/or electric forklifts. This proposal does not incent road transport GHG reductions, but rather “rewards” actions that are inconsistent with the goals of the LCFS in an effort to generate CI credits. Allowance of LCFS credits for electricity used in applications in place prior to 2010 will lead to a smaller reduction in transportation fuel CI, undermining the stated LCFS objectives. Further, such credits amount to a cross-sector subsidy from the transportation fuel sector to the electricity sector.

Both the overstated EV projections and the light rail / forklift credit generation proposals are further evidence that the LCFS program is infeasible. WSPA’s position continues to be that we are against including credits for fixed guideway systems and electric forklifts unless they are also properly accounted for in the 2010 baseline. Under no circumstances is it appropriate to make credits available for systems and equipment, such as BART, that have been in operation for decades.

Hydrogen

ARB has estimated that 40,000 Hydrogen Fuel Cell Vehicles (FCVs) will be on the road by 2020. In addition, ARB has estimated that 1,000 FCVs will be on the road during 2014, while the California Energy Commission stated during the meeting that only approximately 200-250 FCVs are registered to date in California (will need to be validated by year-end), so the ability to reach the 1,000 FCV figure appears to be in question. This undermines ARB’s projections in the other years and the credit generation potential from this alternative fuel. ARB should rerun the scenarios using a less optimistic H2 fuel cell outlook.

- Other than the ZEV mandate, which has undergone numerous downward revisions during its existence, what evidence does ARB have to indicate that 40,000 FCVs will be manufactured and on the road by 2020 or that 1,000 FCVs will be manufactured and on the state’s roads by the end 2014?
- What evidence does ARB have to indicate the public infrastructure will be available to fuel these vehicles if they are manufactured and purchased?
- How does ARB reconcile this estimate with the EIA projections for FCVs, which indicate there will be less FCV’s in the United States than ARB is projecting for California alone?

Renewable Diesel (RD)

WSPA understands the volumes of renewable diesel that ARB is assuming necessitates blends in the R11 to R12 range. Based on FTC requirements, any blends above R5 require supplier notifications and dispenser labeling. It is optimistic for ARB to assume that this will happen organically as a result of the LCFS program. First, renewable diesel is primarily blended at the refinery for several reasons, including but not limited to the following: there are fewer pipeline restrictions related to jet transfers, and additional blending capacity at downstream terminals would largely be dedicated to biodiesel blending.

A single company might be able to achieve higher blend levels, but it will be very difficult for 3rd party systems to blend above R5 without fungibility concerns. It is clearly overly optimistic to assume that all companies utilizing a 3rd party supply would be able to agree to go to a specified blending level at the same time in order to provide the necessary notification to downstream

marketers and retailers. It is difficult to see how this would happen in a coordinated manner as each supplier would be deciding how best to comply with their obligation under the LCFS given the multitude of compliance pathways available. ARB needs to assess a compliance scenario where the highest level of renewable diesel blending statewide does not exceed R5 to avoid the complications from the FTC regulations.

ARB needs to also provide a robust analysis of the supply logistics related to the assumed contemporaneous sugarcane ethanol (SCE) and renewable diesel volumes used in the compliance scenarios. This analysis is needed aside from the concerns expressed related to the general availability of these fuels to come to California. Obviously, limiting the renewable diesel blend to 5% as discussed above, would have a bearing on the logistical hurdles that may exist related to supply. Such an analysis is needed of how much sugarcane ethanol and RD ARB expects to travel by rail vs. marine for each fuel and then a review of the availability of supply logistics at the desired volumes. There is only a certain amount of unloading, storage, and rack blending capacity for each transportation route (rail and marine) at the established locations in the state. ARB needs to identify any limitations (pinch points) in each supply route to determine if the desired volumes are achievable without additional facilities being built to accommodate them. If additional facilities are needed, ARB needs to highlight this along with the schedule and cost implications to the compliance scenarios of constructing these facilities. Specific to rail – ARB needs to consider the highly publicized competition for rail cars related to crude and ethanol supply. ARB’s LCFS compliance scenarios already rely on rail ethanol, and biodiesel supply and the impact of pressing rail cars into renewable diesel service needs to be evaluated.

Slide Specific Comments

Slide 7

Can ARB please confirm that the revised CI values for CARBOB, CaRFG, and CARB Diesel will only be applied on a going forward basis (e.g. 2016 forward)?

Slides 10 & 12

Please provide a clear explanation as to how biofuels producers will manage the updated CI values for previously approved pathways.

- How long will previously approved CI values remain valid?
- Will ARB be recalculating CIs for previously approved biofuels or will biofuels producers need to produce these calculations?
- What will be the review/approval process to assess biofuels CIs given the new GREET model? What assurances can ARB provide to ensure that biofuels CI re-evaluations will occur in a timely manner?

B. Cost Containment Provisions

WSPA continues to believe the concept of a cost containment provision should be revisited by the State, as it fails to address industry’s concerns that, as proposed, it could lead to unintended market disruptions. More specifically, the possible drawbacks are it:

- adds no incremental security against market volatility during severe credit market shortage periods (e.g., no credits brought forward at the end of the year),

- has the potential to increase compliance cost during plentiful credit periods (e.g., the clearance price becomes the “floor”),
- is unable to accommodate long-term LCFS credit shortages and implicitly assumes that the regulated community will continue to carry an ever increasing burden year after year, and,
- lacks detail on how staff will set LCFS credit clearance prices in advance and accommodate possible market requirements.
- Staff’s proposal to set the initial price cap at \$200/credit is arbitrary (presentation slide 33). At the workshop ARB mentioned a “National LCFS Study” as well as administrative penalties in the British Columbia program, but did not provide any kind of real analysis. Staff needs to provide more reasoning, background and detail.
- Staff is proposing to assess interest on carry-over deficits (presentation slide 35). By the very nature of the reduction schedule, the same CI fuel generates less credits in future years which has the effect of “accruing interest” and incents timely repayment. Therefore, WSPA opposes charging any interest to carry-over deficits.

Additional WSPA comments on a Cost Containment Provision (“CCP”) as submitted to ARB on April 11, 2014. The majority of our comments are still relevant six months later, so we have re-included our thoughts here:

- We strongly believe a proposed cost containment provision (“CCP”) simply penalizes fuel suppliers for not meeting an infeasible mandate, and are not a substitute for a feasible standard.
- The staff workshop discussed two CCP options: the Credit Clearance Option and Credit Window. Again, WSPA does not support either of these measures as a substitute for a feasible standard. We are concerned about these measures because:
 - They may not achieve the LCFS goals and have no effect on the supply of low CI fuels, so the program will still be infeasible;
 - They would require ARB to become an active participant in the credit market;
 - Arbitrary price controls do not work;
 - There is little definition of the price-setting mechanism, administration and fund distribution;
 - The first option, which includes “interest”, exacerbates the compliance gap and penalizes regulated parties once again for an infeasible program;
 - The first option has no path to clearing carryover balances;
 - The second option is essentially a tax.
- The document has not yet described how the proposed CCPs result in GHG reductions as required by the Health & Safety Code. In general, the proposed CCPs are more appropriately classified as a penalty or fee, neither of which is effective in reducing GHGs at all, much less “cost-effectively.” Further, ARB staff do not explain how the penalties or fees currently proposed would “minimize costs” as required by the Act. § 38562(b). Indeed, the proposed CCP are designed to impose costs that exceed the costs of reducing the CI of fuels to the extent that is feasible and cost-effective.

- The LCFS program also must “minimize the administrative burden of implementing and complying . . .” § 38562(b)(7). Instead of minimizing the administrative burden of compliance, ARB’s CCP patches would only increase the costs of compliance with the LCFS. If every AB 32 program were designed like this, ARB could arbitrarily allocate millions of tons of GHG reductions to all industries and collect millions in penalties or fees annually despite the absence of feasible and cost-effective technology. There would be no need for ARB to evaluate, certify or monitor different fuels pathways at all. The penalties or fees would displace the technologies altogether.
- If there are willing sellers and buyers of LCFS credits in the free market, there is no need for ARB to introduce a “Credit Clearance” option. A “Credit Window” option which merely perpetuates an infeasible mandate by forcing fuel suppliers to purchase waiver credits, which are not linked to actual carbon intensity reductions, is unacceptable. We continue to object to being penalized directly or indirectly for the lack of availability of advanced cellulosic fuel blend stocks in the marketplace. Regardless of how the payments are described or classified, penalties for non-compliance with an infeasible regulation are unacceptable.

- WSPA also does not support the concept of Price floors and Price caps mentioned during the workshop, since it totally distorts a free market, and is inconsistent with the intent of the enabling statute.

- Specific comments/questions on the Credit Clearance Option:
 - a. When will ARB make the determination during the year that not enough credits are available and announce a credit clearance period?
 - b. Does the credit clearance period occur at the end of the calendar year or at the end of a compliance reporting cycle, like April of the following year before the annual report is due?
 - c. Is ARB going to set the price? How does ARB rationalize that anyone would sell credits at less than the price set? Won’t ARB setting a price for the credits drive the broader market to that price?
 - d. The Credit Clearance option preferred by ARB does nothing to close the gap on the lack of supply of low-CI fuels and will only serve to put a spotlight on the infeasibility of the program as deficit balances grow once the supply of low-CI options is exhausted.
 - e. Charging “interest” on deficit balances unfairly penalizes regulated parties for the fact that compliance targets have been set at an unreasonable level and will exacerbate the infeasibility of the program by further inflating the deficits.
 - f. Deficits cannot be carried forward in perpetuity. There has to be a fair and equitable mechanism to retire the “carryover deficits” should there be no improvement in the market landscape (i.e., availability of low CI fuels).
 - g. What if there are not enough credits in absolute terms to cover the deficits because there are not enough alternative fuels available to generate credits, how does this proposal fix anything when the deficits will be carried over to a subsequent year (with interest) where the reduction obligation grows exponentially and the biofuels are still not going to be in adequate supply. This proposal does not fix the underlying alternative fuel supply problem, it just allows obligated parties to carry over deficits, compounding the problems in future years.

- WSPA has several key legal and technical questions that need to be answered under the CCP proposal:
 - o Does ARB anticipate that the CCP would produce GHG reductions? How? How much? When? Where?
 - o Would the CCP produce more than a small fraction of the GHG reductions resulting from the revised LCFS rule during any year? What fraction during what compliance year of the LCFS program?
 - o How does a particular CCP promote fuel innovation?
 - o If ARB anticipates that a significant fraction of the GHG reductions from the LCFS rule will result from a CCP, wouldn't the revised LCFS require new legislative authorization? For example, wouldn't such a CCP require legislative authorization, such as for raising or spending revenue?
 - o If the CCP would raise revenue, how much and when? How would the revenues be spent? By whom? When? Staff suggests that some CCP revenues would be allocated to the "Air Pollution Control Fund." If so, how will these funds be spent? Who will decide?

How does collection of these payments advance the statutory goal of feasible and cost-effective reduction in greenhouse gases?

- o Under many of the currently proposed CCPs, ARB will become an active participant in the credit program. Does ARB require additional legislative authority for this provision? Wouldn't this state market participation further constrict and distort the market components of the LCFS program?
- o What are the administrative costs of the CCP? Who pays them?
- o How would ARB account for expenditures of revenues and GHG reductions resulting from the CCP?
- o What happens if the cost per ton from CCP reductions exceeds the current cost of LCFS credits or the cost of GHG allowances under the cap & trade program?
- o What happens to the CCP and the revenues raised if there is a breakthrough and it becomes feasible to reduce GHGs by new technologies that actually reduce GHGs?
- o The state board is required to evaluate the total potential costs of its plan on California's economy. How will ARB evaluate the effect of a CCP on California's economy and its fuel users?
- o What provisions would ARB include to prevent waste and fraud in the expenditure of CCP revenues?
- o While California has a legitimate interest in protecting its citizens against the effects of global warming, it may not do so in a manner that places an excessive burden on interstate commerce. How does ARB anticipate the CCP will affect interstate commerce?
- o What will happen under the CCP if the supply of low CI fuel is depressed even further, pursuant to unforeseen economic, agricultural or other forces?