



**Western States Petroleum Association**  
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Executive Vice President and COO

November 19, 2008

Mr. Bob Fletcher, Division Chief  
Stationary Source Division  
California Air Resources Board  
P.O. Box 2815  
Sacramento, CA 95812  
Via e-mail to [rfletche@arb.ca.gov](mailto:rfletche@arb.ca.gov)

Subject: **Western States Petroleum Association Comments on ARB's Draft CA LCFS  
Regulatory Package**

Dear Mr. Fletcher:

Attached are the Western States Petroleum Association's (WSPA) comments on the draft California LCFS Regulation and Supporting Documentation. WSPA is a non-profit trade organization representing twenty-seven companies that explore for, produce, refine, distribute and market petroleum, petroleum products, natural gas and other energy products in California and five other western states.

Our comments have been structured to include both general comments as well as specific. Several components of the regulatory package are still being discussed by our membership and we will provide additional comments in the future on those issues.

WSPA has several main concerns with the draft regulatory package. Those concerns include:

- A lack of explanation of how the ARB anticipates addressing the LCFS, transportation fuels under a cap and trade program, and the federal EISA requirements. There is a significant risk these three programs will not be coordinated or harmonized.
- A lack of explanation of how ARB will deal with credit treatment under the LCFS, Pavley and AB32 Programs
- Apparent inconsistent treatment of different fuels – especially additional credits for and favorable treatment of electricity, and penalties for diesel.
- A need to incorporate commitments in the regulatory language for periodic reviews of the program – for example every three years.
- A lack of cost-effectiveness and feasibility analyses. In particular, there is no supporting evidence the ARB has realistically projected the future timing and volumes of innovative fuels/technologies. The scenarios are overly optimistic.

Overall, our industry believes the current draft program would benefit from a significant simplification in the early years until experience is gained with this entirely new approach to regulating fuels. This is one of the reasons we continue to recommend the program start with a gasoline-only focus.

Since the LCFS includes very new compliance and enforcement concepts, the state needs to be more aware of the complications that will likely arise in the implementation of the program, and the risks inherent in imposing such significant changes on the state's transportation fuel system.

Only four months remain until the adoption hearing, and there are many other states and areas of the world watching California's actions. WSPA is very concerned and questions whether sufficient time, thought and good science can be dedicated to develop the LCFS by that time.

We will continue to work with ARB and request that our comments be taken into consideration.

If you have any questions regarding our comments, please contact me or Gina Grey (480-595-7121).

Sincerely,



c.c. Linda Adams, CALEPA  
Cindy Tuck, CALEPA  
Dan Pellissier, CALEPA  
CARB Board Members  
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## **Western States Petroleum Association's Comments on the California Low Carbon Fuel Standard Regulation – Draft October 2008**

### **General Comments**

#### **GHG Program Integration**

ARB needs to explain in the LCFS regulation how it anticipates handling the LCFS program and the Transportation Fuels under a Cap & Trade program that has been imported into the Scoping Plan from the WCI. Does the state expect to have separate LCFS and cap and trade components for transportation fuels? How are both these programs going to relate to the federal EISA or RFS2 requirements?

Obviously, the answers to such questions could have a significant impact on the ability of WSPA member companies to comply with multiple programs. It is only through clear discussion of these questions that stakeholders can effectively respond to the draft LCFS regulations in an all-encompassing fashion.

Crediting AB 32 cap and trade refinery GHG reductions to the LCFS is an issue requiring further discussion. Will AB 32 GHG emission reductions be allowed to be used to comply with future LCFS requirements? Will AB 32 reductions be reflected in future default carbon intensity values for gasoline and diesel? Does ARB foresee changing any limitation on the use of excess LCFS credits in complying with the AB 32 requirements?

ARB has said an adjustment will need to be made to the AB32 Scoping Plan due to the double crediting of electricity GHG reductions for the AB 1493 Pavley regulations. ARB needs to clearly describe how those adjustments will be made and how they intend to make consistent changes for any double-crediting between the LCFS, Pavley and AB32 programs for other fuels as well.

One of the goals of the AB 32 and LCFS programs is to reduce petroleum use significantly by 2020. Estimates in the document are the programs will result in a 25% gasoline reduction and more than 15% diesel reduction. If true -- will the associated refinery GHG reductions from cutting back production be credited to the cap/trade program?

ARB and the CEC are implementing plans to spend approximately \$200MM/year for several years to help reduce GHG emissions under AB118. Since AB 118 funds are not to be spent to help parties comply with existing laws, regulations, etc, how will the resulting surplus GHG emissions be accounted for under the Scoping Plan and the LCFS?

#### **Periodic Review**

The introduction to the draft regulation indicates that "...the Executive officer will "...conduct a periodic review...". WSPA notes there is nothing in the draft regulation that requires or addresses a periodic review. ARB staff has indicated orally they will be conducting "3-year reviews;" however, this commitment is not included in the actual regulation nor is the

requirement that the review needs to include a “public review process” in consultation with the CEC. WSPA requests this language be incorporated in the regulation.

### **Cost-Effectiveness – ARB Focus on “Out Years”**

WSPA has frequently stated the need for a thorough cost effectiveness and feasibility review of the LCFS program. ARB is required to provide these analyses under AB32 for any Early Action measures.

ARB’s current analysis of fiscal impacts seems to be focused on the out years of the program (i.e., towards 2020). Given this is the most speculative timeframe in terms of the nature and availability of the required technology, it is relatively easy for staff to postulate on successful scenarios for complying with the LCFS.

ARB should make different forecasts for the early years (nominally 2010-2015) than for the later years (nominally 2015-2020). The difference between the two would be the planned program reviews: in the early years (i.e., before the program reviews have an opportunity to have much of an impact) ARB needs to demonstrate that sufficient quantities of required low CI fuels *using currently available technology* will be available to meet the proposed goals. In the later years, the regulations need to reflect the greatest possible commitment (through the program reviews) to updating the feasibility analyses based on what actually transpires between now and then.

### **Specific Comments**

#### **95420. Applicability of the LCFS**

- WSPA continues to strongly encourage ARB to revise the draft program design to focus on a gasoline-only program in the early years, with the potential to expand as the ability to comply is assessed during ARB’s periodic reviews. As indicated later in our comments, ARB has not been able to demonstrate there will be sufficient volumes of low carbon intensity fuels for the diesel pathway, for example. During the regulatory process we often find ARB stating that no alternative options were presented so they indicate this is justification for moving forward with their singular approach. We would ask that ARB at least analyze the “gasoline-only” program as an option and provide the details of the analysis.
- If ARB insists on moving forward with a flawed approach that includes more than gasoline during the program’s initiation, this section of the draft regulation still does not adequately define exactly what fuels fall under the LCFS, but just lists several transportation fuels (e.g. electricity is not among those listed). WSPA suggests verbiage as follows, which is copied from ARB’s Supporting Documentation (3rd and 4th paragraphs on page 4).

*For the LCFS, transportation fuel means any fuel used or intended for use as a motor vehicle fuel, other than racing fuel. In addition, transportation fuel includes diesel fuel used or intended for use in nonvehicular sources other than interstate locomotives, aircraft, and marine vessels (except harborcraft). .....*

The definition of transportation fuels essentially covers the types of use that are subject to ARB's current standards for gasoline and alternative fuels. In California, "motor vehicle" is defined broadly to include off-road construction and farm vehicles. In addition, "transportation fuel" includes diesel fuel used in non-vehicular sources that are currently covered by ARB's standards for ultra-low sulfur diesel fuel (ULSD). This includes all applications other than locomotives that are not subject to ARB's diesel fuel standards for intrastate locomotives, and marine vessels that are not subject to ARB's diesel fuel standards for harborcraft. Since this broader pool of diesel fuel is all currently subject to the same ARB ULSD standards, there has been no need to segregate different batches being used for vehicular versus covered non-vehicular applications.

- Consistent with the above, we believe that CARB ULSD which complies with the LCFS for use in LDDVs needs to be treated the same way electricity or natural gas is treated. Specifically, diesel's inherent fuel efficiency needs to be credited the same way electricity is proposed to be treated.
- Regarding the exemptions found in 95420(b)(1), we don't fully understand this concept (ARB should provide examples of what "non-biofuels" are subject to this exemption (LNG, CNG, electricity, hydrogen, etc?).

## **95421. Standards**

### Baseline

- Under the standards section (95421(a)(1) Table 1)) ARB needs to explain their selection of an E10 baseline produced from corn ethanol composed of a 80(dry mill)/20 (wet mill) mix.

### Compliance Schedule

- WSPA generally supports the backend loaded compliance curve proposed by ARB. However, we are concerned about the feasibility of meeting the 2015 to 2020 interim targets because these are based on projections of new technology development needed to meet the target. We recommend ARB include some comparative analysis showing ARB's compliance schedule in comparison with the federal EISA schedule.
- Because of the difficulty in predicting advances in technology we believe triennial reviews of the program must be carried out and the interim target feasibility be assessed. As stated earlier, these reviews should be made a requirement in the LCFS regulation.
- In supporting its draft regulation for the California low carbon fuel program, ARB lays out compliance scenarios that contemplate the availability of over 2.24 billion gallons of advanced renewable fuels and over 560,000 advanced vehicles (battery, plug-in hybrid, and fuels cell) in California in 2020. These expectations are unrealistic.

ARB's projection that 560,000 advanced vehicles will be available for sale in California in 2020 appears unsupported and, in fact, contrary to the Energy Information Agency's forecast. National growth trends do not appear to support 560,000 advanced vehicles in California by 2020.

Table 1, below, reflects the Energy Information Agency's 2008 Annual Energy Outlook (2008 AEO) forecast of sales in the Pacific Region of unconventional light-duty vehicles in 2020. This forecast is based on the latest data and national economic model and factors in the effects of the 2007 EISA updates to the federal renewable fuel standard (RFS) and the corporate average fuel economy (CAFÉ) standard.

As shown in Table 1, the 2008 AEO projects the sales of electric hybrids, fuel cell, and gaseous and electric light-duty vehicles in the Pacific Region to grow from a total of about 50 thousand to around 380 thousand between 2006 and 2020. That growth trend will not support sales anywhere near 560,000 advanced vehicles in California in 2020.

**Table 1. Sales of Unconventional Light-Duty Vehicles by Fuel Type 2006-2020, Pacific Region**

	<b>2006</b>	<b>2020</b>
<b>Total</b>	52,400	380,200
<b>Electric hybrid</b>	50,500	375,300
<b>Gaseous technology</b>	1,900	1,600
<b>Fuel cell and electric</b>	0	3,300

Source: Department of Energy, Energy Information Agency, 2008 Annual Energy Outlook, Supplemental Data, Table 46, June 2008.

ARB says the 560,000 advanced vehicle projection is consistent with the penetration schedule used to develop their 2008 ZEV regulation. ARB's ZEV program, first adopted in 1990, has as its first objective the promotion of electric vehicle technology. While major technology advances have occurred, the program has been amended four or five times over the past 18 years because the vehicles have not shown up in the marketplace. ARB has consistently overestimated the availability of electric vehicles and the state of technology and underestimated the cost.

ARB's projection that 2.24 billion gallons of advanced renewable fuel will be available for sale in California in 2020 appears unsupported and contrary to current figures. That amount significantly exceeds California's historical share of the national transportation fuels market.

The federal Energy Independence and Security Act of 2007 (2007 EISA) aggressively expands the federal Renewable Fuels Standard and provides a list of financial and other incentives for the production and use of these fuels. It mandates aggressive sales volumes of renewable fuels, advanced biofuels, and cellulosic biofuels.

The 2007 EISA mandates the sale in 2020 of at least 15 billion gallons of advanced biofuels, of which at least 10.5 billion gallons must be cellulosic biofuel. California typically uses 10 or 11 percent of the nation's transportation fuels. Consequently, it is difficult to see how California would be able to attract 2.24 billion gallons in 2020, since that would be about 15 percent of the national requirement.

## Compliance Scenarios

- Most compliance scenarios string together a series of assumptions and assertions without any apparent technological validity. Staff seems overly optimistic that the “right” fuels and vehicles will be available in the timeframes considered. We recommend ARB clearly outline all of the assumptions and assertions used in their analysis along with an assessment of how the compliance schedule could change if different scenarios are chosen.
- “Conventional” corn ethanol is assumed to be phased out between 2010 and 2015/2017 in favor of corn ethanol at 10% and 20% below CARBOB in carbon intensity. At the same time, federal requirements for corn ethanol are ramping up.

Given the bulk, if not all, of the corn ethanol under the federal RFS2 will be grandfathered into that program without regard for carbon intensity, it’s difficult to see how ARB’s assumptions will come to fruition without massive “shuffling” of any volume of low-CI corn ethanol that is available into California. Even in that case, ARB needs to provide some substantiation that sufficient volumes of such low-CI corn ethanol will exist to enable compliance.

- All gasoline scenarios rely on a fairly significant influx of “advanced technology” vehicles using hydrogen and electricity as fuel. Scenarios 1 and 2 assumed 560,000 by 2020; larger numbers are assumed for Scenario 3 (1 million) and Scenario 4 (2 million). The 560,000 is presumably based on the 2008 ZEV regulation.

Given the ZEV regulation has been constantly altered since it was first adopted in 1990 to scale back the requirements in the absence of battery technology breakthroughs, how can CARB staff be certain that these vehicles will materialize? How can Scenarios 3 and 4 even remotely be considered technologically or economically feasible? This further supports the need for reviews every three years that take into account the reality of the situation at future points in time.

- Scenarios 1 and 2 assume 15.8 million gge of hydrogen in 2020; Scenario 3 assumes 24.8 million gge, and Scenario 4 assumes 49.6 million gge. What is the basis for these assumptions in terms of demand and the required infrastructure? What is the basis for the technological feasibility of these implementation rates? What is the cost-effectiveness of this approach to carbon control?
- The Diesel scenarios (5, 6, and 7) rely on significant volumes of advanced renewable diesel to meet the 2020 requirements. It is assumed that this fuel is derived from waste and has a carbon intensity of 20 g CO<sub>2e</sub>/MJ. What is this based on and what technology is envisioned to produce this fuel?
- Diesel Scenario 7 assumes introduction of plug-in hybrids to the heavy-duty fleet. What is the technological and economic feasibility of this approach? Again, the LCFS compliance pathway is dependent on technology innovation so it is essential ARB conduct progress and forecast reviews every three years.

## 95422. Applicable Standards for Alternative Fuels

- WSPA is concerned about the assignment of responsibility to the fuel provider to somehow be knowledgeable about a fuel's end use so as to make the choice of applicable standard (gasoline or diesel) clear to ARB. WSPA recommends ARB (including Enforcement Division personnel) hold further discussion with the industry on this point.
- On page 5 WSPA agrees it makes sense to have alternative fuels comply with the standard (gasoline/diesel) that the fuel will essentially replace (e.g., LDV/MDVs get gasoline; HDVs get diesel). However, will there be guidance in the regulation on how to allocate fuels that could go into both applications (e.g., natural gas)?
- WSPA reiterates our position that any fuel used to comply with the LCFS must meet all applicable local, state and federal standards for that fuel. If such standards do not exist they should be developed to ensure there are no issues with emissions, vehicle driveability, or materials compatibility.
- ARB's document does not address one of the critical issues that has not yet been resolved for biofuels and for future fuels – which is the lack of UL certification at the retail and possibly terminal levels.

## 95423. Compliance

### Regulated Parties/Point of Regulation

- WSPA needs to clarify with ARB that custody is not what is meant here (per discussion at workshop).
- Refiners use very efficient processes to produce electricity in their refineries. Often some of this electricity is provided to the grid and will likely be used future ZEV's or plug-in hybrids. Is it possible for a refinery to be considered the fuel provider for part of their electricity if they meet the applicable LCFS requirements for other electricity providers?
- The point of compliance for natural gas and electricity lies with the person responsible for the quality of the fuel. Within the liquid fuel market everyone shares in the responsibility for the quality of the fuel as it is moved downstream of the production or import facility. As such it is unclear where ARB intends to enforce the LCFS on such natural gas and electric fuel providers. We'd ask ARB to be more specific on where exactly ARB would intend to enforce the LCFS on such fuel providers.

### Reporting and Recordkeeping

- WSPA members are concerned with the proposed requirement for quarterly reports as required by section 95423(c)(1). Quarterly reports could be onerous and may be unnecessary. ARB needs to provide further reasons for why such reports are necessary and why annual reports are not sufficient.

- Clarification requested – are there implications in section 95423(c)(1.) “Annual Compliance Reports” if third parties (such as brokers that do not hold title to credits) are involved in credit transactions and would they potentially have reporting requirements?
- Table 4 – Recommend deletion of unnecessary data reporting requirements (component blend data in particular). Also need to clarify how and if data can be kept business confidential.
- ARB should drop the requirement for batch number.
- Need to specify fuels for Table 4 - It appears that under ARB’s definition of blendstock, a refiner would be obligated to report the blend components in CARBOB. We have suggested the LCFS be consistent as possible with current CBG reporting requirements. Since the CI of CARBOB is based on an industry average we question the need for reporting such requirements. We therefore don’t believe this is necessary and the definition of blendstock, for Table 4 only, should be adjusted to delete this requirement. ARB should specify that for Table 4, the blendstocks that make up CARBOB, CARB and CARB diesel need not be reported.
- Also for Table 4 – ARB needs to explain what is meant by “documentation of ethanol’s physical pathway.”

#### Determination of Compliance

- Violations and Penalties- WSPA supports a tiered structure but opposes the term non-compliance. This non-compliance provision is essentially a deficit carryover and should be defined as such, not as non-compliance.
- Several issues concerning enforcement have been discussed briefly by ARB but not resolved. For example, what level of accuracy will ARB need in order to enforce the LCFS standards, including the % reduction in CI as it relates to all the various fuels that will be subject to the LCFS. This needs to be part of the discussion before the LCFS rules are adopted not afterward. As such we encourage that future workshops deal with such enforcement issues specifically. WSPA has several issues concerning how ARB is enforcing its current rules that need to be included in this discussion.

#### **95424. LCFS Credits, Deficits, and Incremental Obligation**

- Section 95424 (b) Credit Generation Frequency proposes that beginning in 2010 a regulated party or exempted party may generate credits quarterly. Subsection (c) proposes to:
  1. Allow banking of credits without expiration;
  2. Capping the amount of credits allowed in the early years of the program;
  3. Allow a regulated party to purchase or sell LCFS credits;

4. Not allow an external 3<sup>rd</sup> party to purchase, sell or trade LCFS credits;
5. Allow LCFS credits to be exported for compliance with other GHG reduction initiatives subject to the requirements of those programs;
6. Not allow GHG credits generated from outside the LCFS program including but not limited to the AB 32 program to be used in the LCFS;
7. Not allow borrowing, and,
8. Not allow offsets from transportation fuels not regulated by the LCFS such as aviation or non-regulated marine fuels.

Most of the above provisions we support. We do have a few comments and questions on a few of the proposals:

- **Early credit generation.**

ARB staff has indicated regulated and exempted parties cannot generate LCFS credits from voluntary actions prior to 2010. It is assumed that encouraging early and real GHG emission reductions prior to 2010 is an admirable goal and we hope ARB would support such actions if a viable and enforceable means could be developed to regulate it. For illustrative purposes, some possible actions that a regulated or exempted party could take to create early credits might include:

- Contract for the delivery of sugar-cane ethanol instead of corn-based ethanol.
- Blending of biodiesel or renewable diesel in CARB ULSD.
- Increasing the amount of ethanol in gasoline where the ethanol has a lower CI than what had been used.

WSPA would like an opportunity to discuss possible early credit compliance processes.

- **Capping of Early Credits.**

WSPA believes it is very important that ARB does not limit the amount of credits that any one party can generate and bank for future sales or use.

In addition, CARB should not, as has been proposed, require regulated parties to publicly divulge detailed information regarding how many credits they have. Making such information public will likely have significant adverse impacts on parties seeking to buy and sell credits. For example, if a regulated party is substantially short credits and this were made public, this could result in the regulated party having to pay a much higher price for credits driving up the cost of compliance, and potentially the price of fuel to consumers.

Likewise, there should be no discounting in the value of early credits.

- **Use of GHG Credits from Outside of the LCFS.**

As worded in the draft regulation, it appears that actions taken to comply with any federal program including the Renewable Fuels Standards might not be allowed to be used to help the party comply with the LCFS. We hope this is not ARB's intention, and recommend the wording be clarified.

For example, if a LCFS regulated party generates RINs under the RFS program for actions taken in California would those actions be allowed to be credited toward LCFS compliance? What if the party created excess RINs compared to the RFS requirements – can those credits be used for LCFS compliance?

- **Not Allowing Offsets from Non-regulated Fuels.**

ARB is proposing that LCFS credits cannot be generated from fuels not subject to the LCFS (e.g. aviation fuels, certain marine fuels). We believe this is not a good policy decision. Fuel providers should be encouraged to look for voluntary actions outside of the regulated scope of the LCFS to generate GHG credits. We recommend ARB allow regulated parties to enter into agreements or protocols with ARB that would encourage technology development through the generation of LCFS credits. For example, this might include a refiner agreeing to use a renewable fuel blend in the ocean going vessels that operate in and out of California, or providing an aviation fuel that uses a renewable feedstock. ARB could use a process similar to the one above for generating early credits or allow for a Memorandum of Understanding under the proposed rules.

- **Disclosure of Credit Balances**

We would be concerned if ARB required LCFS credit balances be made public as this could distort LCFS credit market issues.

- **Double Regulation**

Clarification is needed concerning how refinery improvements that are made under AB-32 are reflected in carbon intensity of gasoline and diesel. As with other fuels' improvement in fuel production, efficiency should be recognized in the LCFS.

- **Electricity Provider Credits**

ARB proposes to give electricity providers a significant LCFS credit if they can show they provided electricity to motor vehicles due to the high efficiency of electric motors.

We support several of ARB's proposed provisions as they apply to electricity.

- We support the proposal that electricity providers cannot estimate the electricity they provide but must provide some way to measure the electricity used in a motor vehicle.
- We support the diversification of fuel sources used in California.

WSPA has some questions and concerns as well:

- We understand electricity providers are required by law to provide the necessary electricity to meet their customers' needs. If so, why do they get any credit for providing something they are mandated to provide anyway? They are also required to meet the Renewable Portfolio Standards. AB 32 proposes they meet a 33% requirement by 2020.

- Why does providing a metering device allow utilities to get LCFS credits? ARB has argued that since they have to provide some type of metering devices it is appropriate to provide them the LCFS credit. Essentially all fuel suppliers provide some type of metering devices when refueling.

If additional vehicles come on line that use diesel, gasoline, LPG, CNG or hydrogen – the fuel providers will all have to provide some type of additional metering devices at their own expense – and they are not assured that they will get any return on the money they invest in the infrastructure as will the utilities. We don't believe the utilities take much financial risk in providing such devices compared to private industry.

- Will the LCFS credit be adjusted downward to compensate for the RPS that utilities are required to meet? Will they only get credit if they exceed the RPS?
- In turn, will the LCFS credits they generate by providing electricity to vehicles be allowed to be used to comply with their RPS requirements as well?
- Many oil companies provide electricity to the grid. If oil/energy companies provide “metering devices” for electricity can they get credit too – up to the amount of electricity they provide to the grid?
- In addition, auto companies are mandated to meet the Pavley GHG regulations. The GHG emission reductions from the use of ZEV's are captured under the Pavley rules. ARB has said they will have to adjust the AB 32 emission inventory to compensate for this double counting. No details on how that adjustment is planned have been provided. Can ARB provide us those details and the assumptions they made when making the estimate? In particular, what was the CI of the electricity used in refueling the vehicles, and, did ARB use the same CI in the Pavley Rules as it did for the LCFS?
- Finally, did ARB use the same CI for electricity when estimating the CI for other fuels that will be required to use incremental amounts of electricity under the LCFS?

## **95425. Determination of Carbon Intensity Values**

### **Land Use Change**

- It is paramount that ARB work with EPA to align on a methodology across state and national programs that is based on sound science rather than propose one approach versus another. It is possible that ultimately this issue needs to be resolved on a global basis to ensure a globally consistent and harmonized approach, to avoid unnecessary and nonproductive shuffling of biofuels.
- Regarding the Land Use Analysis chart (ARB staff presentation on 10/16- slides 21, 22) – a) did ARB consider cumulative impacts of any of these potential changes (it appears just high and low for each, holding others constant)?, and b) what analysis was done to determine the ranges chosen for the input variables?, and c) ARB's averaging approach assumes each scenario is equally probable - is this realistic?
- WSPA requests more details on the LUC numbers. How many acres of what type of land were converted for CBE (acres/100 gallons ethanol)? What are the effects of intensification on the efficiency of corn production and N2O conversion? Can ARB show these details in their backup document?

## **Non-Conventional Crude Oil**

- WSPA continues to support the concept that all crude oil should be given the same value. If ARB differentiates between crude it will only result in shuffling the crude oils around to comply and will certainly result in additional GHG emissions. As such, we reiterate our recommendation that ALL crudes be given the same CI value.
- WSPA notes that ARB proposes a different treatment for non-conventional crudes. Since the default value for non-conventional crude oil has yet to be published by ARB it is premature to give more specific comments. We recommend ARB consider other GHG reduction programs in arriving at a default value. Non-conventional crudes can be produced by multiple pathways (e.g., surface mining and in-situ processes), therefore these pathways should be further reviewed for appropriate treatment.
- ARB needs to clarify in the documentation whether or not its “10% comparison” regarding non-conventional crudes is relative to the entire LCA (which we understand it is) or if it applies solely to the “production piece” of the LCA. WSPA understands this to be on a wells-to-wheels comparison which is the most appropriate means given the focus of the program. In addition, penalizing non-conventional crudes in the California LCFS would promote emissions shuffling.

## **Method 2**

- WSPA is currently evaluating the ARB proposed Method 2 and what it means for our industry. We intend to submit supplemental comments in the future.
- Staff has suggested that Method 2 would be used for novel fuels; however, the regulatory text explicitly refers to modification of existing values from the lookup table and requires a 10% reduction from the pathway values produced using the lookup table. These requirements cannot be met by a fuel pathway that does not exist in the lookup table for the entire LCA.

More troubling, the obstacles built into Method 2 would serve to discourage innovation if applied to novel fuels. The provisions of Method 2 are based on the fear that regulated parties will attempt to game the system by generating custom values that in reality are contained within the range of values represented in the lookup table. For truly novel fuel pathways, the goals of the LCFS are best served by encouraging innovation; therefore CARB should provide a third mechanism that is designed to ease the burden for those who innovate.

## **New Method 3**

- Methods 1 and 2 in the draft regulation are meant to address known fuel pathways. However, a Method 3 should be added to incorporate fuel pathways that do not currently exist in the lookup table. Method 3 should be designed to encourage innovation to produce lower carbon intensity fuels. It should ease the burden on applicants to the extent possible, while providing the ARB with the assurance that accurate values are being generated.
- Pg 26 – First paragraph- references Appendix A, which is the EERs. This is likely a typographical error, but we would like to ask for clarification as to whether there will or won't be an opportunity for regulated parties to develop their own EERs.

- pg 27 – GREET contains forecasts of efficiency improvements for certain pathways, which implies that the carbon intensity changes over time. Will the baseline CARBOB intensity change with calendar year, or will it be static? How about the CI lookup table? Will those estimates be a function of calendar year or will they be static?
- Staff believes that GREET input values for industry average practices should be assumed for data that are difficult to obtain and report. Who decides what constitutes “difficult to obtain and report”? Who decides what goes into the “invariant data” list? ARB needs to explain the reasoning behind the concept of the invariant list since we do not support it at this time.
- Pg 29 & 30 – Unrestricted public use of data submitted under Method 2 seems excessive and could potentially result in the disclosure of trade secrets or other competitively sensitive information. There should be a provision to keep competitively sensitive data confidential.
- Request ARB provide us with the same detailed analysis and assumptions on the base CI numbers for 2010 gasoline (96.7 gCO<sub>2</sub>/MJ) and diesel (95.8gCO<sub>2</sub>/MJ) as was provided for other fuels.

#### **95426. Requirements for Multimedia Evaluation**

ARB should provide its legal analysis of the applicability of H&S section 43830.8 to ARB’s adoption of the LCFS regulation. This could avoid the question of how staff’s proposed “functionally equivalent” LCFS multimedia assessment would work.

For example, will ARB be submitting it to the California Environmental Policy Council for their review? Why perform “real” multimedia assessments later if ARB is going to perform a “functionally equivalent” multimedia assessment upfront now?

In ARB’s “functionally equivalent” LCFS multimedia assessment:

- a) How will ARB address emissions of all air pollutants, including ozone forming compounds, particulate matter, and toxic air contaminants as well as emissions of greenhouse gases resulting from each pathway?
- b) How will ARB address potential contamination of surface water, groundwater, and soil resulting from each pathway?
- c) How will ARB address disposal or use of the byproducts and waste materials from the production of the fuel resulting from each pathway?

Why not address these multimedia issues as much as possible up front to facilitate the implementation of the LCFS, lower its cost and avoid mistakes?

## 95427. Definitions

- ARB is inappropriately using ASTM D6751 and D4608 in reference to B100 and E100 as finished fuels in the opening paragraph. Both of these specifications are for the use of each respective material as a blendstock to be added to a petroleum base, e.g. B5 and E10. They are totally inadequate as a finished fuel specification for either B100 or E100.
- ARB needs to revise the use of “blendstock” for Table 4. We understand the intent but ARB should use a term such as “base fuel” instead of blendstock. This is important because, as written, producers would have to report volumes, carbon intensities, etc. of commodities (i.e. alkylate, reformate, butane, etc.) that are blended to make base fuels that may be subsequently blended with alternative fuels. We recommend ARB use the term base fuel in Table 4 or state for Table 4 that blendstocks reported are not blendstocks that go into CARB, CARBOB, or CARB Diesel unless these blendstocks are actually added at the rack. For example, a regulated party would just report volumes of CARB, CARBOB, Ethanol and other renewable fuels, volumes of CARB diesel, E100, E85.
- Under ARB’s definition of “crude oil”, it includes GTL and CTL as “non-conventional” crudes. Our industry would consider these as products or blendstocks and not define them as “non-conventional” crude oils.

## APPENDIX A. Calculations of Energy Economy Ratios (EER)

- On page 39 there is a table where ARB calculates the EER for E85. We question what is the 1.02 Adjustment factor that ARB applies? Where does it come from? As used by ARB, an EER of 1.02 indicates that E85 has 2% less GHG emissions per unit of energy, implying slightly higher fuel efficiency than gasoline. It is debateable whether the limited available data supports such an adjustment since it is very difficult to measure with statistical certainty such a small fuel economy effect.
- We also suggest ARB use the energy density factors in Table 6, which are already in the LCFS, rather than bringing in LHV's from GREET, not a readily available source to make the calculation.
- WSPA has commissioned an analysis of ARB's EER section which should be completed in December.

## APPENDIX B. Sample Carbon Intensity Look-up Table

- WSPA is concerned that changes made by ARB to their GREET model could result in a subsequent modification of their rules/regulations/standards without going through the public process which would appear to be a violation of the California Administrative Procedures Act.

## APPENDIX E. Example Credit/Deficit Calculations

- Cost Effectiveness – Where is ARB's analysis on this? We believe the goal of the LCFS should be to bring cost effective, low carbon fuels to production via technological innovations. California can reduce its GHG production but if we do not do it with technology that makes sense for the rest of the world, we will only succeed in disadvantaging the state's businesses in the global economy.