

November 14, 2008

Mr. Simeroth, Curtis, and Ms Zhang-Tillman  
California Air Resources Board  
1001 "I" Street,  
Sacramento, CA 95812

RE: Draft Regulation of the LCFS

Dear Mr. Simeroth, Mr. Curtis and Ms Zhang-Tillman,

Energy Independence Now (EIN) would like to thank you for the opportunity to comment on the Oct 16<sup>th</sup> Draft Regulation of the California Low Carbon Fuel Standard. EIN commends ARB staff on its continued efforts to draft this ground-breaking regulation, recognizing the challenge which this implies. We support your continued forward momentum on development and implementation of the LCFS, and offer the following feedback for your consideration.

### **General Feedback**

1. Life-cycle analysis / Indirect Land Use. We commend ARB's work to date and the transparency of its process in incorporating full lifecycle analysis of fuels for the LCFS, including the difficult but important issue of indirect land use (iLUC) impacts. In supporting inclusion of indirect land use estimates, we recognize two key issues:
  - 1) The uncertainty of the values for iLUC do not warrant choosing zero as a default,
  - 2) There is danger both in underestimating the value of iLUC (thereby worsening our impact on climate change), as well as overestimating the iLUC value, which would undercut one important pathway toward second generation biofuels. Given that biofuels are not the only alternative to gasoline, however, we do not think the risk of underestimating and of overestimating are necessarily equivalent.
2. Sustainability. We recognize the challenges ARB faces in instituting sustainability standards, and respect its assessment that reliable metrics are not yet available for this initial regulation. However we urge CARB to establish a clear regulatory placeholder for such measures, by describing a process for review and possible future inclusion of sustainability metrics. Industry and investors needs to know that sustainability is a real concern, and that their due diligence on fuel investments should include assessing sustainability-related risks.
3. Feedstock/location reporting. We strongly urge CARB to require that all fuels report feedstock, location and process information for their fuels, regardless of the whether the regulated entity receives a default value (Method 1) or requests custom values (Method 2) for their fuel. We believe this reporting is a critical element in gathering the data necessary for further research on the LCA of alternative fuels, including indirect land use and sustainability metrics. This reporting, made for informational purposes, should be distinguished from the high level of accuracy and verifiability which CARB will seek for entities seeking custom values through Method 2.
4. Future-proofing. Given the evolving understanding on the quantification of indirect land-use, and the need to incorporate sustainability metrics in the future, we also urge ARB to explain how the LCFS will adapt to changes in those areas. This should include both its plans for monitoring the evolving science and global standards, and what the process for revisions to APCI figures

will be. To minimize regulatory uncertainty, ARB must be explicit about how it will treat existing fuel facilities if the science later proves that they are either “better” or “worse” than was previously assessed. This would include revisions to the baseline AFCI of crude oil (both from an increasing use of heavy crudes and any new understanding of its indirect land use impacts), and how the baseline, the compliance schedule, and the value of banked credits would be modified for any fuel if significant new information were obtained.

- Long-term target. We re-iterate our previous input that ARB should send an appropriate long-term market signal, by stating that California is likely to need a second phase of the LCFS, to take the State from the 2020 target to the 2050 goals. Since CARB has abandoned the idea of an ultra-low carbon “carve-out”, such a long term target is essential to send an appropriate market signal to investors that revolutionary, ultra-low carbon technologies will be required in that second period. The development of these is needed now to ensure sufficient penetration by 2050, and this requires a strong investment signal that is currently absent in the LCFS.

### **Specific feedback on small scale & hydrogen-specific concerns.**

EIN recognizes that the LCFS must at a minimum provide an incentive and pragmatic mechanism for incumbent fuel providers to lower the carbon intensity of gasoline and diesel.

However we strongly believe that an equally important objective of the LCFS is to promote the development of and investment in new, disruptive technologies from beyond the ranks of the existing fuel providers. We therefore examine the LCFS from the perspective of a small company entering the alternative fuels market with new or innovative technology to see if the regulations accommodate such a company and can provide a timely stream of revenue to support their investments. Given our prior work with the hydrogen sector, we also focus our comments on hydrogen-specific issues in the LCFS.

From that perspective, there are three areas of potential concern that we believe warrant closer attention.

#### **1. The “10-10 substantiality” requirement**

##### **New pathways should be exempt from the 10-10 substantiality requirement.**

While we understand the practical rationale for limiting carbon intensity ‘custom values’ to those that propose a significant CI reduction and volume, we urge that ARB specify that these thresholds only apply to fuels seeking a modification of an *existing* lookup figure. If a default lookup value does not yet exist for a given fuel pathway, ARB should create it regardless of the 10-10 requirement.

For example, if a waste facility was considering a new technology to create hydrogen from wastewater, and a lookup table had not yet been created, ARB would work with this company to create default values for that specific pathway, without stipulating any substantiality requirement. New alternative fuel technologies, especially those tied to unique waste streams, are generally smaller and more decentralized than traditional fuel production facilities. We note that several current technologies that are producing fuels from such sources as cheese whey, potato waste and waste beer are all under the 10 million gallon limit. The LCFS needs to provide these and other operations like them with the financial incentive of LCFS credits, as well as public recognition and dissemination of information on such pathways.

## 2. Sales Tracking

EIN has previously commented on the complications created by the proposal to track and distinguish sales of alternative fuels to heavy duty and light duty vehicles. We continue to believe that:

- **Sales tracking is a burden with limited value from a producer standpoint.**
  - The sales tracking provides little value to the fuel dispenser, as it is not intended to reward or discourage sales to heavy versus light duty vehicles.
  - Given that this tracking requirement applies only to alternative fuels, it appears to be an unfair regulatory barrier on these emerging operations, compared to the incumbent fuels, and could disincentivize independent station owners from installing alternative fuel pumps.
  - The burden of tracking may have unintended consequences, such as limiting the availability of alternative fuels across vehicle classes if fuel providers opt to design stations or pumps with tracking in mind, rather than focusing on general-purpose equipment.
- **Better methods may exist to achieve the accounting objective.**
  - CARB should assess if an estimate based on DMV records could generate an adequate estimated fuel displacement factor, rather than physical tracking of sales. A study is needed to see how significant the margin of error of using such a method would be.
  - Other estimates will presumably be needed to track drivetrain differences. Though we did not see mention of this in the regulation, we assume that the different EERs between hydrogen vehicles using internal combustion engines and those using fuel cells will be accounted for separately, though they cannot reasonably be tracked at the sales point. As such, an estimate-based displacement factor may be needed anyway.
- **Simplifying the LCFS administration makes it more replicable.**
  - While it may be possible for CARB to achieve the tracking it proposes in the California context, all efforts should be made to make the LCFS easy to administer to facilitate its adoption by as many states or nations as possible.

## 3. Compliance for Alternative Fuels

Whereas the compliance obligation for gasoline and diesel is automatically passed down the chain of custody along with the physical fuel (unless otherwise contracted), the default treatment of hydrogen under the proposed LCFS is the opposite. Section 95423(a)(6)(B) states that “For hydrogen delivered to refueling stations, the regulated party is the hydrogen producer.” We would like to discuss this with staff further, as it may present some problems:

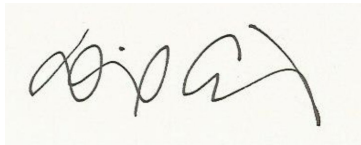
- **The regulate entity vs. the sales tracking entity.** If tracking of hydrogen sales is indeed required to distinguish between sales to light duty and heavy duty vehicles, only a hydrogen fueling station would presumably be able to gather this data, while the central producer of hydrogen would remain the obligated party. This could mean that either ARB has to regulate two entities for every hydrogen sale (with the challenge of matching the datasets), or that the regulated entity (hydrogen producer) has to coerce the fuelling station to provide it with sales tracking data.
- **LCA of distribution.** As EIN has previously commented, the distribution method of hydrogen is a significant element in its lifecycle impact. We urge CARB to analyze the impact of the chosen distribution method on the LCA of hydrogen pathways, and specify if a

producer will be required to distinguish the portions of its transportation-oriented sales that goes via pipelines, liquefied trucks, compressed trucks, or is sold onsite.

- **Consistency across fuels.** Wherever possible, we urge CARB to establish a consistent methodology across fuel types. One example is in the treatment of natural gas and hydrogen. Whereas currently, the producers, distributors and consumers of these gases are different, there are compelling reasons for increased overlap of these fuels, given the infrastructure they may be able to share. There is also the possibility of natural gas and hydrogen blends. The development of both these sectors would be best encouraged by regulation that is consistent in terms of the regulated entity, the contractual defaults, and the tracking and compliance requirement.

We hope that the above comments and suggestions are helpful to you and your staff as you continue to develop the LCFS regulation, and look forward to further engagement with your team to follow up or explore these proposals in greater depth.

Sincerely,

A handwritten signature in black ink on a light-colored background, appearing to read "Daniel Emmett".

Daniel Emmett  
Executive Director

A handwritten signature in black ink, appearing to read "Remy Garderet".

Remy Garderet  
Clean Transportation Program