November 6, 2009

Matt Solomon
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Sent via e-mail: lcfs@nescaum.org

Re: <u>Clean Energy's Comments on the Proposed Mid-Altantic/Northeast Low Carbon Fuel Standard - SUPPORT</u>.

Dear Mr. Solomon and Mid-Atlantic/Northeast Stakeholders,

Clean Energy would like to thank the Mid-Atlantic and Northeast States for allowing us to comment on the proposed Low Carbon Fuel Standard (LCFS) under consideration. We would also like to thank the Northeast States for Coordinated Air Use Management (NESCAUM) for their efforts in facilitating this important process to the Mid-Atlantic and Northeastern regions. Clean Energy strongly supports the adoption of a Low Carbon Fuel Standard for the Mid-Atlantic and Northeastern regions. The adoption of this measure by these two regions will add a critical tool to combating climate change and reducing greenhouse gas emissions from the transportation sector by lowering the carbon intensity of transportation fuels. Reducing the carbon intensity of transportation fuels used in the Mid-Atlantic and Northeastern regions is vital as the national focus has largely been on increasing vehicle efficiencies for passenger cars and implementing a renewable fuel standard that focuses more on energy independence issues. As we will argue in our ensuing comments, the national effort will fall short of the goals our country needs to achieve by 2050. The adoption of a Mid-Atlantic/Northeast LCFS will both reinforce the combined regions commitment to reduce greenhouse gas emissions for the transportation sector and it will provide additional momentum for the efforts to regulate the carbon intensity of fuels in California and much-needed support for efforts to adopt a national LCFS.

A Low Carbon Fuel Standard in the Mid-Atlantic and Northeast regions is Needed.

1. *The federal "Renewable Fuel Standard Phase II" falls short of LCFS goal.*

If the Mid-Atlantic and Northeast regions hope to achieve a 10 percent reduction in carbon intensity by 2020 from the transportation sector (a key milestone that should be reached to be on track with an 83 percent reduction by 2050), it is clear that the full implementation of the federal Renewable Fuel Standard Phase II (RFS2) alone will fall far short of this goal. Specifically, even if the RFS2 attains its full potential, analysis performed by the Northeast States Center for a Clean Air Future (NESCCAF) expect that

this action will only produce a 3 percent reduction in carbon intensity. Furthermore, the 3 percent assumes that the renewable fuels produced are equally distributed throughout the country as opposed to regulated parties concentrating these new fuel supplies and expending them in concentrated markets to maximize their returns. Essentially, the analysis shows that if the Mid-Atlantic and Northeastern states want to assure that they receive low to ultra low carbon fuels, they must adopt policies that ensure that the fuels used in the region meet an additional 7 percent reduction.

2. *The federal National Program falls short to advance low to low ultra carbon fuels.*

Sadly, the proposed federal National Program also falls short in driving low and ultra low carbon transportation fuels over the next decade and beyond as the proposed rule exclusively focuses on the efficiency of light-duty vehicles. In other words, the draft National Program only strives to improve the miles per gallon (MPG) targets for passenger cars and light-duty trucks and equate grams per mile estimates at the tailpipe to quantify greenhouse gas benefits for the rule. Not only does this approach fail to set a true "performance based" standard for light-duty vehicles or take into account the full emissions lifecycle for a vehicle and fuel type, the rule's exclusive focus on light-duty vehicles excludes medium- and heavy-duty trucks that are significant contributors to greenhouse gas emissions within the transportation sector.

In fact, the failure of the proposed National Program to even consider upstream emissions and focus entirely on the tailpipe actually harms the development of ultra and low carbon fuels. For example, according to the California Air Resources Board, biomethane generated from landfills can provide up to an 88.1 percent carbon intensity reduction because of the inherent upstream advantages that this fuel possesses. If a rule fails to account for upstream benefits of a fuel, suddenly perhaps the best ultra low carbon fuel available to the transportation sector today will only carry the carbon benefits of fossil-based natural gas over gasoline or diesel captured in a tank-to-wheels analysis. It is critical that fuels are evaluated on a well-to-wheels basis to ensure a market for the very fuels we need developed for 2050 and beyond. This is why it is so critical for the Mid-Atlantic and Northeastern states to join California in adopting a LCFS and promote low and ultra-low carbon fuels that will be needed to offset otherwise harmful carbon emissions that foster climate change.

3. *Zero Emission Vehicle Programs will not solve carbon intensity goals independently.*

Some of the stakeholders present at the October 22nd workshop expressed pessimism at the projected numbers of electric vehicles (EVs) and plug-in hybrid vehicles (PHEVs) that will be produced between now and 2020 in Table 3-4 by NESCCAF. Whether or not the projections are accurate, the table makes it clear that even if you assume that 1,600,000 EVs and 1,600,000 PHEVs are on the road by 2020, the LCFS is still needed to achieve a 10 percent reduction of carbon intensity in transportation fuels by 2020.

Conclusion: The adoption of a LCFS by the Mid-Atlantic and Northeast states is key to tackling the transportation sector in terms of greenhouse gas emissions. Even when you combine all three existing federal and state strategies mentioned above, they fall short of achieving the first milestone of carbon intensity reduction needed for 2020. Such a conclusion is supported by NESCCAF's own analysis provided in their July 2009 report. This is why the Mid-Atlantic and Northeast states must seriously consider and adopt an LCFS that will empower the region to achieve much needed carbon reduction goals for the transportation sector and demonstrate regional leadership for the rest of the nation.

LCFS Considerations for the Mid-Atlantic and Northeast States

1. Indirect Land Use is a Critical Component of an LCFS

Some stakeholders at the October 22 Workshop urged the Mid-Atlantic and Northeast states not to incorporate "indirect land use change" (ILUC) considerations as California and the US Environmental Protection Agency opted to do in the California LCFS and the RFS2, respectively. In fact, some opponents of ILUC also opposed the adoption of a LCFS for fear that such a policy would have to include ILUC. To remove ILUC considerations under an LCFS would be a significant misstep that would almost certainly lead to an unintended increase in greenhouse gas emissions rather as opposed to a reduction. The reason for this simply would be that fuels derived from traditional food crops would create scarcity for an existing market that depended on that source of food to be made available. Shifting a significant portion of crops from food to fuel markets will have a market impact and cause shortfalls in the system to be made up in other parts of the world. Specifically, this could lead to deforestation and other negative outcomes that could diminish any greenhouse gas gains sought out by growing food crops for fuels. Some estimates presented showed scenarios where it could take 50 to 100 years before a crop would show day one of greenhouse gas benefit. Surely, such crops do not support the immediate call for greenhouse gas emissions to combat climate change and should not be encouraged via a LCFS.

Those opposed to the use of ILUC factors have also made the claim that ILUC factors exclusively target agricultural-based industries. Of course, Clean Energy supports the application of ILUC factors for all fuels, not just one sector of the industry, and the California Air Resources Board analysis of the carbon intensity of fuels considers all ILUC factors for all fuel types including gasoline and diesel. This is essentially a fairness issue and should be supported. It should be noted that the California Air Resources Board work (as well as the work of numerous other stakeholders specializing in ILUC efforts) have been further supported by the National Academy of Sciences in their recent study looking at the ILUC factors for most fuels expected to play a role in transportation from 2005 to 2030. See: *The Hidden Costs of Energy: Unpriced Costs of Energy Production and Use.*

2. Energy Efficiency Ratios

Energy efficiency ratios (EER) are critical in partially determining what fuels and technologies will be developed under a low carbon fuel market. That is why it is critical for the Mid-Atlantic and Northeastern States to get the EER for natural gas vehicles correct at the start of the regulation. CARB opted to penalize heavy-duty natural gas vehicles under the proposed LCFS based on the argument that California possessed legacy fleets across the state that were not as efficient as modern diesels. This logic is flawed based on the following reasons: (1) high mileage fleets are typically turned over or overhauled within 7 years of service to avoid high maintenance costs; (2) CARB failed to account for legacy gasoline or diesel fleets that do not reflect the efficiencies of current engine model years; (3) our Industry has presented engine profile data that shows that high pressure direct injection (HPDI) systems achieve the same level of efficiency as a comparable diesel engine and spark-ignited engines achieve a 93% efficiency ratio when compared to comparable diesel engines. Despite these arguments, CARB has decided to saddle our technologies with a 90% EER that fails to capture any of our engine strategies. We would either argue for an average between HPDI and spark-ignited NG heavy-duty strategies or apply two EERs for each respective technology.

3. Swaps

Clean Energy understands the desire for a region or state to generate low and ultra low carbon fuels within their borders. California has pursued the goal, through regulation and incentives, of creating a green economy within the state. While we believe there will be a number of opportunities to generate biomethane in the Mid-Atlantic and Northeastern region and we support and encourage green development within the combined regions, we do hope that the Mid-Atlantic and Northeastern states reject the adoption of policies that place unnecessary burdens on low and ultra low carbon fuel producers in a misguided effort to promote renewable fuel projects in specific geographic areas.

Specifically, CARB, in an effort to encourage low or ultra low carbon fuels to be developed in California, will not allow parties to swap or trade a green gas commodity for a conventional natural gas commodity with a transfer of environmental attributes of the green gas to the buyer who provides conventional gas in return. This forces out-of-state biomethane producers to locate their projects on interstate pipelines that flow into the State of California if they wish to import their fuel to California as a low-carbon fuel, and thereby prevents virtually all of the currently economically viable biomethane production assets from accessing the California low-carbon fuels market. Even for those projects that may be conveniently located on or near an interstate pipeline, by requiring the ultra low carbon fuel provider to pay for the transfer of biomethane through a pipeline system CARB implements a practice that actually hurts the fuel producer and benefits only the middleman agent of a pipeline system. The system essentially undercuts the profits of the ultra low carbon fuel provider and rewards the status quo stunting the growth of the very industry CARB allegedly wishes to flourish.

We would strongly urge the Mid-Atlantic and Northeastern states to deviate from such a self-serving practice and encourage the development of ultra low carbon fuels no matter where they are generated, and allow the transfer of green gas through gas swaps from one

pipeline system to another (without the need to contract for transportation between the systems) so that the LCFS market receives the fuels it requires to meet its targets and so that cost-effective projects can demonstrate a clear pathway to the market. This is especially important given that ILUC factors are already considered. Further penalizing such projects or saddling them with mandated costs to be paid to middlemen gas transportation companies would be counter-productive.

4. Regulated Parties

Regulated parties under an LCFS naturally should be those parties who manufacture a fuel worthy of transportation use. For natural gas, this would be the entity that either compresses the fuel at the station (i.e., without the compression of natural gas, it cannot be used as a transportation fuel in a compressed NGV) or the entity that delivers natural gas in liquefied form to market (i.e., liquefied natural gas (LNG) can be used in many applications but it can only be used in transportation if it is transported to a LNG station). Some parties may argue that natural gas credit generation should be shared between parties that are along different stages of fuel development. By the same token that crude oil does not become diesel or gasoline until it is refined, natural gas cannot be used in the transportation sector unless it is compressed or delivered as liquid at a station. Those entities that perform those tasks should be considered the regulated parties as without their action, no fuel would be available in the form that is required.

Conclusions

Clean Energy would like to thank the Mid-Atlantic and Northeastern states for allowing us to provide our input on this very important public process. We fully support the Mid-Atlantic and Northeastern states adoption of an MOU to adopt an LCFS this December 2009 and pledge to play an active role throughout the rule development process in the ensuing year. Please consider our company and our industry as a resource. If you should have any questions or would like additional information, please do not hesitate to contact me at (562) 546-0338 or e-mail me at tcampbell@cleanenergyfuels.com.

Sincerely,

Todd R. Campbell