

May 7, 2010

Arthur Marin
Executive Director
NESCAUM
89 South Street, Suite 602
Boston, MA 02111

Dear Mr. Marin:

The Renewable Fuels Association (RFA) respectfully submits these written comments in response to the Northeast States for Coordinated Air Use Management's (NESCAUM) request for stakeholder input on its draft economic analysis of the Northeast/Mid-Atlantic Low Carbon Fuels Standard (NE/M-A LCFS).

As the national trade association for the U.S. ethanol industry, the RFA promotes policies, regulations and research and development initiatives that will lead to the increased production and use of fuel ethanol. RFA membership includes a broad cross-section of businesses, individuals and organizations dedicated to the expansion of the U.S. fuel ethanol industry.

Our comments today focus on four major areas: the carbon intensity assumptions used in the economic analysis; the reference case(s) used for the economic analysis; the participating Governors' commitment to using the best available science; and the NE/M-A LCFS rule development process. We would greatly appreciate responses to the many questions raised herein.

I. Interaction of Carbon Intensity (CI) Values and Economic Analysis

Lifecycle CI values are the cornerstone of any LCFS program. CI scoring ultimately determines what transportation fuels will be most attractive for LCFS compliance and what fuels will be infeasible for use by regulated parties. Because CI values serve as the engine that drives an LCFS program, they are also crucial in determining the economic impacts of the policy. That is, the economic impacts of the LCFS cannot be properly estimated until it is reasonably well understood what types and volumes of fuels would be used under the policy, and the types and volumes of fuels used is largely a function of CI scores. Therefore, we are confused as to how NESCAUM can conduct an economic analysis of the proposed LCFS when the CI values have apparently not been finalized and appear provisional. Slide 58 of the economic analysis presentation shows extremely wide ranges for the "proposed CI values" for biofuels. Further, the slide shows that CI values for electricity and natural gas from Marcellus shale are yet to be determined. How can various economic analysis scenarios regarding fuel types and volumes be constructed without any CI values for electricity and without more precise CI value for biofuels? Varying the CI values of fuels

regulated under the LCFS even slightly not only changes the aggregate GHG reduction impacts, but also greatly changes the regional economic impacts.

Until these CI value ranges are narrowed or central values are chosen, the economic analysis will be highly questionable and cannot be viewed as being useful or instructive in estimating the relative magnitude of potential costs and benefits resulting from LCFS implementation. Is NESCAUM planning to do economic scenario modeling based on CI values at both ends of the range? If so, which scenario would be the primary case? Or will mid-point CI values be chosen? Or will NESCAUM conduct economic analysis based on CI scores for individual production pathways for specific fuel types in a manner similar to the U.S. Environmental Protection Agency's (EPA) RFS2 and California Air Resources Board's (CARB) LCFS? (e.g., CARB modeled 11 unique pathways for corn ethanol, while EPA analyzed 51 corn ethanol pathways and four distinct cellulosic ethanol pathways).

A. Corn Ethanol CI Values

We note that the range for corn ethanol CI values on slide 58 is 48-99 gCO₂e/MJ. It is unclear exactly what this range represents or how it will be used in the economic analysis. Further, the use of EPA values for the low end of the range and CARB values for the high end raises the question of whether NESCAUM is planning to consider incremental ethanol technology improvements (as assumed by EPA) through the life of the policy, or if it will assume technology is static (as assumed by CARB for the CA LCFS). It also appears that indirect emissions may not be considered for the low-end values, but are considered for the high end. Is this correct?

The CI values of "baseline fuels" presented on slide 22 add to the confusion over the purpose and use of the CI value ranges on slide 58. Slide 22 shows that a CI value of 96 gCO₂e/MJ is assumed for baseline ethanol. No explanation or data is presented to support the use of this value. We are left to assume that NESCAUM selected this CI value for "baseline ethanol" based on CARB's CI values for corn ethanol, which include a 30 gCO₂e/MJ penalty for indirect emissions (CARB's CI value for Midwest "average" corn ethanol, including the ILUC penalty, is 99.4 gCO₂e/MJ).

We are greatly concerned by the fact that NESCAUM is apparently planning to adopt the CARB LCFS values for corn ethanol (including indirect emissions) for use in the baseline and/or in the look-up table. As you know, the CARB CI values include asymmetrical penalties for indirect emissions based on outdated and highly uncertain modeling results. The assessment of these penalties against crop-based biofuels has been the subject of intense scientific and political debate. Further, the indirect CI values adopted by CARB in April 2009 are being intensely scrutinized by an expert work group and may change prior to full implementation of the program in January 2011. Why would NESCAUM adopt CI values that it knows are subject to revision in the near term? Further, we have seen no evidence that NESCAUM has attempted to quantify the indirect emissions of other fuels, including baseline petroleum. Indeed, the CI values for baseline gasoline and diesel

presented on slide 22 imply that no indirect emissions are being assessed against those fuels. Is NESCAUM planning to quantify the indirect emissions associated with fuels other than biofuels?

II. Governors' Commitment to Using the Best Available Science

If NESCAUM is intending to penalize crop-based biofuels for possible indirect emissions (as appears imminent), it should at least base those penalties on the best available science. In fact, the December 2009 Memorandum of Understanding signed by the governors of the 11 states involved in the NE/MA LCFS *commits* them to “determine the lifecycle carbon intensity of fuels based on the best available science and analyses (emphasis added)...”¹

There is new evidence that CARB significantly overestimated corn ethanol ILUC emissions. New research conducted and published by Purdue University using the Global Trade Analysis Project model (GTAP) concludes that land use change emissions potentially associated with corn ethanol expansion are likely *less than half* of the level estimated by CARB staff for the LCFS.² This new research is being broadly received by the scientific community as the “best available science.” While we continue to have grave concerns about including highly uncertain and prescriptive indirect emissions penalties for some fuels but not others in the LCFS, we believe NESCAUM and the Governors have committed to consider and respond to critical developments like these.

The new Purdue University research, which was funded in part by the U.S. Department of Energy (DOE), clearly shows that CARB significantly overestimated corn ethanol indirect land use change emissions under the LCFS. In simulations where the most recent available global economic database (2006) was employed and future crop yield increases and population growth were considered, Purdue economists estimated average corn ethanol land use emissions at 13.9 grams CO₂-equivalent per mega joule (g/MJ). These results are less than half of the ILUC value of 30 g/MJ adopted by CARB for the LCFS and equivalent to 13% of the outlandish first estimate of ILUC conceived by Searchinger et al.

The new results obtained by Purdue can be compared in an apples-to-apples manner to the CARB LCFS results because in both cases: 1.) the exact same economic model (Purdue's GTAP) was used; 2.) the same corn ethanol production scenario (15 billion gallons by 2015) was examined; and 3.) the same department at the same university conducted the simulations and many of the same researchers were involved. To be clear, the differences between the new Purdue results and CARB's LCFS results stem from the many major improvements that Purdue has made to the GTAP model, not from any discrepancies in the analytical objectives or underlying scenarios.³ Many of these

¹ Memorandum of Understanding. <http://www.nescaum.org/documents/lcfs-mou-govs-final.pdf/>

² The new Purdue University paper is available at <http://www.transportation.anl.gov/pdfs/MC/625.PDF>.

³ Key improvements to the model are discussed in more detail in a letter from RFA President Bob Dinneen to CARB Chair Mary Nichols, available at <http://ethanolrfa.org/page/-/RFA%20Letter%20to%20ARB.pdf?nocdn=1>

enhancements were made in response to comments and questions submitted to CARB and Purdue in recent years by stakeholders and other users of the GTAP model.

If NESCAUM insists on the selective inclusion of indirect emissions penalties for biofuels in the LCFS, it is *obligated* by the MOU to base those penalties on the best available science. While still highly uncertain, the new Purdue results represent the state-of-the-art in terms of land use change modeling. While the Purdue authors acknowledge that “...modeling land use change is quite uncertain...” and that their analysis is “...limited by data availability, validity of parameters, and other modeling constraints...”, the new Purdue study undoubtedly represents the cutting edge and best available science on the issue of land use change and biofuels. Without question, the new Purdue results are superior to the results obtained by ARB in terms of robustness, data currency, and detail.

III. Reference Cases

NESCAUM is apparently planning to use two reference cases for the economic analysis: Reference Case A adopts the EIA AEO 2010 reference case, while Reference Case B adopts the EIA AEO 2010 high energy price case (for which data was unavailable at the time of the NESCAUM publication). We are confused as to how an economic analysis can adopt two distinct reference cases based on widely variable projections about energy prices, energy demand, fuel volumes, economic growth and other factors. Which reference case will be the *true* reference case for the LCFS economic analysis? Is Reference Case B more aptly described as the basis for a sensitivity case? Or will the ultimate reference case mix elements of both Reference Case A and Reference Case B? Or will the economic analysis results be presented as ranges based on results from the two cases? This was not adequately explained on the April 20 conference call with biofuel stakeholders.

IV. NE/M-A LCFS Rule Development Process

We continue to have a number of questions regarding the NE/M-A LCFS rule development process and interaction with the public. Because NESCAUM is not a public agency and is organized as a 501(c)(3) non-profit, it is not bound by public laws requiring openness, transparency, and the opportunity for public participation in rulemaking processes. Therefore, we believe NESCAUM should provide to the public a detailed description of how it intends to ensure openness, transparency and public participation in the process. A timeline with key milestones and future opportunities for public interaction (e.g., stakeholder meetings, conference calls/webinars, public comment periods) should be provided. To date, opportunities for public participation have been haphazard and without significant advance public notice. It is also unclear whether NESCAUM intends to respond in writing to written comments received from the public. To date, the organization has not responded to written comments submitted by RFA.

It is also unclear how or whether regulatory officials from individual participating states are receiving and reviewing written comments submitted by public stakeholders. Will individual states

respond to public stakeholder comments? Further, will comments from state officials regarding NESCAUM's economic analysis and other draft analyses be made available to the public?

Additionally, in other rulemaking processes, all analytical models, modeling inputs, outputs, and assumptions are provided to stakeholders in full. Does NESCAUM intend to make the NE-GREET and NE-VISION models available to the public, along with all inputs, outputs, and other related assumptions and data?

V. Conclusion

In conclusion, we believe a useful and instructive NE/M-A LCFS economic impact analysis cannot be completed until important decisions are made about what CI values will be used for the fuels regulated under the policy. Further, if NESCAUM remains intent on penalizing only crop-based biofuels for potential indirect emissions, it is obligated by the MOU to consider the new information and estimates generated by Purdue University. Finally, we are requesting a detailed rule development timeline and description of how NESCAUM will ensure the process is open and transparent. We appreciate the opportunity to provide comment on the proposed NE/M-A LCFS. It would be our pleasure to discuss in more detail any of the issues described in this letter. Please don't hesitate to contact us with questions or comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Bob Dinneen", with a stylized flourish at the end.

Bob Dinneen
President & CEO