BEFORE THE
CLEAN AIR ASSOCIATION OF THE NORTHEAST STATES

Proposed Analysis to Implement the Low Carbon Fuel Standard

Comments of Biotechnology Industry Organization
for Public Comment, May 7, 2010

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The Biotechnology Industry Organization ("BIO") is pleased to comment on the Clean Air Association of the Northeast States ("NESCAUM") draft preliminary economic analysis for the Northeast Low Carbon Fuel Standard ("LCFS"). BIO is the world's largest biotechnology organization, with more than 1,200 member companies worldwide. BIO represents leading technology companies in the production of conventional and advanced biofuels and other sustainable solutions to energy and climate change. BIO also represents the leaders in developing new crop technologies for food, feed, fiber, and fuel.

BIO supports NESCAUM's efforts to reduce the carbon intensity of transportation fuels, and believes that biofuels can and must contribute significantly to this important objective. BIO's comments, therefore, focus on the role of biofuels in an LCFS. For clarification purposes, we have also addressed the consistent treatment of biomass, determination of carbon intensity values, and the calculation of LCFS costs. BIO looks forward to working with you as you develop a low carbon future for the Northeast States.

Calculating LCFS Costs using low and high-end ranges

In determining how to assess and calculate the costs of an LCFS, NESCAUM references the use of low and high-end ranges (United States Environmental Protection Agency ("EPA") and the California Air and Resource Board ("CARB") respectively). How will NESCAUM determine whose calculations have the best fit with a Northeast LCFS? NESCAUM is currently using EPA estimates as the low-end case for ethanol production costs, but in fact, these EPA numbers represent averages. NESCAUM should recognize that all of those averages (for corn, cellulosic, and imported ethanol) include a low end that will favor local production from local feedstocks. For example, cellulosic ethanol from local MSW (assuming a zero net cost after appropriate sorting, delivery, etc.) would cost well under $1/gal using technologies being commercialized by BIO members. Thus, the low case should be lowered. The in-region production of biofuels from local feedstocks has the potential to provide a cost-effective way to meet the LCFS. Concurrently, LCFS goals may also be met by highly efficient renewable fuel production in other areas of the U.S.

Carbon Intensity ("CI") Values

NESCAUM has previously stated that they will not propose any new calculations to determine the carbon intensity of LCFS fuels. NESCAUM has also iterated that they would defer to calculations already given by CARB or EPA. BIO believes that NESCAUM would benefit from the solicitation of input from all stakeholders and from the scientific community on appropriate LCA modeling methodology and reliable data sources in the determination of carbon intensity values, particularly with respect to estimates of possible indirect land use change emissions. However, if NESCAUM continues to pursue its current approach, BIO urges that

NESCAUM use the range of carbon intensity numbers published by the EPA in its 2010 final rule for the revised federal Renewable Fuels Standard ("RFS2"). The carbon intensity values published in the RFS2 rule are the most scientifically rigorous, up to date, complete and reliable values available today. The results presented by EPA include carefully analyzed error ranges and new results from the scientific literature not considered by CARB. Moreover, CARB has yet to provide an estimate for the carbon intensity of cellulosic ethanol, algae-based fuels, or other next generation fuels, leaving these developers in a highly uncertain position as they seek financing for their first commercial facilities. While BIO supports use of the EPA values, there is still a need for continuous update of values used as new model data becomes available. For example, Mueller recently published a study on energy efficiency of corn ethanol plants that indicates significantly lower carbon intensity. A recent revision to the GTAP model by Tyner et al[i] also produced significantly lower CI values.

Furthermore, the carbon intensity scores for gasoline, as listed in reference case A of the NESCAUM draft preliminary economic analysis for the Northeast LCFS, are too low. NESCAUM uses a base year of 2006 without any price-stimulated adjustment to CI. Reference case A assumes EIA base case oil prices, which average over $100/bbl over the next 20 years. It is optimistic that the 2006 CI for gasoline will remain constant in a rising oil price environment.

Regional economic growth under an LCFS

BIO firmly believes that low carbon biofuels can have an enormous impact on economic growth in the United States, and specifically on regional economic growth in the Northeast. Nationally, direct economic output from the advanced biofuels industry, including capital investment, research and development, technology royalties, processing operations, feedstock production and biofuels distribution, is estimated to rise to $5.5 billion USD in 2012, reaching $17.4 billion in 2016, and $37 billion by 2022.[ii] Regionally, BIO has more than 15 member companies working on biofuels research, development, or production in the Northeast, which will add substantially to the region's economic output. (Please see addendum A, which adds several BIO member companies to the research and development and production tables listed on pages 45 and 46 of the draft preliminary economic analysis for the Northeast LCFS.)

At the local level even one company can make a substantial economic impact. Take Solazyme, a BIO member company working on the production of fuels from algae. Solazyme has recently retrofitted a former Merck plant in Danville, PA for use as an algae fuel demonstration plant. This plant alone will create 80 direct and 250 indirect jobs in a county where unemployment approached 10 percent in 2009.

The potential job growth in the research, development, and production sectors should not be the only factors considered when evaluating the benefits of low carbon fuels. BIO would also suggest estimating the economic benefits of reduced petroleum imports. Indeed, according to a recent study by Bio-Era associates, the cumulative dollar equivalent total of avoided petroleum imports over the period 2010-2022 would exceed $350 billion.[iii]

Applying consistent treatment of biomass

BIO believes that within any regulatory regime, biomass used for the production of biofuels should be treated on the same basis as biomass combusted in stationary sources (i.e.

electricity). Differing treatment of biomass does not help achieve the objective of lowering the carbon intensity of the fuel supply, and will only discourage investment in biomass technologies. Therefore, if NESCAUM attributes land use change emissions to biofuels under the LCFS, the same should be done for biofuel based electricity.

Definition clarification

In reference case A, NESCAUM lists modeling numbers for "advanced ethanol". How does NESCAUM define "advanced ethanol"? Is there also accounting which includes scenarios for "advanced biofuels"?

To conclude, BIO appreciates the efforts of NESCAUM, on behalf of the Northeast States, to establish a low carbon fuel standard in the Northeast. BIO believes that NESCAUM's adoption of the above measures will allow it to implement the LCFS and to secure substantial carbon intensity savings from the use of transportation fuels.

We thank you for your consideration of these comments.

Sincerely,

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[i] http://web.ics.purdue.edu/~qzhuang/Dr_%20Qianlai%20Zhuang_files/Argonne-GTAP_2010_With%20Appendices%20and%20exec%20sum4.pdf

[ii] Bio-Era (2009). U.S. Economic Impact of Advanced Biofuel Production: Perspectives to 2030.

[iii] Bio-Era (2009). U.S. Economic Impact of Advanced Biofuel Production: Perspectives to 2030.