Comments on NESCAUM LCFS

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Low Carbon Fuel Standard – Overview

• Congress has already acted and expressed its preference with respect to setting fuel standards, including a renewable fuels standard (RFS) that will accomplish significant GHG reductions, through the Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007 (EISA)

• We are opposed to the imposition of a low carbon fuel standard (LCFS) in addition to the existing RFS. EPA and states should avoid the duplicative requirements of overlaying a LCFS on top of the existing Clean Air Act RFS2

• A state LCFS is unnecessary as the RFS2 that was mandated by EISA already has a component that requires the use of fuels with specific low greenhouse gas emissions levels
  – The RFS2 is technology forcing and a state LCFS will not result in any more advanced biofuels than the very aggressive mandates in the RFS

• A LCFS would likely conflict with and complicate the regulatory requirements under the RFS
Implications of LCFS

• Intended, initially, to replace a portion of the hydrocarbon fuels with biofuels (this is already accomplished by RFS2)

• Goes significantly beyond the RFS2 by requiring the replacement of a portion of the liquid transportation fuel market with alternative fuels (not biofuels) including electricity

  – For the CARB LCFS, beyond first-generation biofuels usage in initial years and increased imports of sugar cane ethanol, oil industry may be required to buy credits from electric utility or automaker industries and rely on technology breakthroughs in low carbon intensity biofuels in order to comply in later years
Low Carbon Fuel Standard – State Programs

API believes that state LCFS programs are unnecessary, BUT if states proceed, the state LCFS should be designed carefully

- Avoid placing obligations on fuel suppliers for technology changes over which they have no control (electric vehicles, flexible fuel vehicles, second generation biofuel commercialization, etc.)

- Any LCFS (or GHG) program should be accompanied by periodic technology/feasibility reviews that would allow for appropriate regulatory adjustments

- There should be adequate lead time for compliance. The program should be in place at least five (5) years before implementation of the standard or of any revised standard that might increase the standard. Policies involving unrealistic near-term targets and timetables would likely needlessly damage the economy

- A clearly drawn provision for a waiver of the standard should be included, in the event that supplies of the necessary fuels to meet the criteria are not available

- Regulations should be consistent, to the extent possible, with RFS regulations
“Quotes” from NESCCAF Report

• A number of important issues related to low carbon fuels are not addressed in this report:
  – land-use changes
  – potential impacts to water, air quality or biodiversity

• Did not study the technical feasibility or market readiness of advanced or emerging biofuel technologies

• The scenarios presented in this report should not be interpreted as recommendations or even plausible projections

• The likelihood of achieving substantial CI reductions from either [gasoline or diesel] baseline by 2020 remains highly speculative

• Considering the pre-commercial status of these advanced biofuel technologies, the volumes envisioned in the compliance scenarios (and perhaps even the volumes called for under RFS2) are highly optimistic
Electric Vehicles

- NESCCAF scenarios assume 3 to 6 million EVs and PHEVs in use in the NESCAUM states by 2020, representing 9 to 17 percent of the total light-duty vehicle fleet
  - “Scenarios assume penetration rated for both EVs and PHEVs that match or far exceed Toyota’s hybrid sales trajectory for the entire fleet (all manufacturers) by 2020”
  - “Achieving these fleet penetration levels could require annual sales on the order of 12 to 36 percent of the total market by 2020”
  - “Given that no grid-connected electric-drive vehicles are currently for sale in significant numbers, these market penetration rates are very optimistic”
  - “Because the attractiveness of EV/PHEV technology as a LCFS compliance option depends heavily on technologies that have not matured commercially, and on consumer attitudes and behaviors that have not yet been tested, the results presented here are highly uncertain”
- A July 2009 report from “clean technology” market intelligence firm Pike Research forecasts that by 2015 the U.S. will be the leading market for plug-in hybrid electric vehicles (PHEVs) in the world, with more than 610,000
- The Obama Administration is targeting 1 million PHEVs in the U.S. by 2015
- Hybrids currently comprise <1% of the vehicle fleet after 10 years of sales
Questions?

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Biomass-based Diesel:
- Biodiesel-ester
- Standalone Renewable Diesel

Non-cellulosic Advanced:
- Sugar Ethanol
- Co-processed Renewable Diesel

Advanced Cellulosic Biofuel

Non-advanced Renewable Fuel:
- Conventional Corn-starch Ethanol

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<th>Year</th>
<th>Biomass-based Diesel</th>
<th>Non-cellulosic Advanced</th>
<th>Advanced Cellulosic Biofuel</th>
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50% GHG  50% GHG  60% GHG  20% GHG*

*For new construction only. Existing corn-based ethanol facilities have no reduction Requirement.
EISA RFS Lifecycle GHG Reduction Categories

- Establishes lifecycle GHG reduction requirements for each renewable:
  - Existing corn-based ethanol facilities have no reduction requirement
  - At least 20% for new corn-based fuel production
  - At least 50% for “advanced biofuel”
  - At least 60% for “cellulosic biofuel”
  - At least 50% for “bio-based diesel”

- EPA has limited authority to reduce lifecycle reduction requirements
  - Can reduce each standard up to 10%
    - Proposed to reduce advanced biofuels standard to 40 or 44%

- Lifecycle GHG emission baseline is 2005

- EISA requires that “significant emissions from land use changes” be included in lifecycle GHG emission estimates
Transportation Emissions are Being Reduced Through Federal Programs

- Both CARB and NESCCAF have estimated that RFS2 reduces the average fuel carbon intensity (AFCI) of the gas fuel pool by 3%. API’s agrees with these estimates.
- DOT and EPA have proposed new CAFE standards for 2012-2016 which they estimate will reduce emissions by 656 million metric tons CO$_2$ equivalent over the lifetime of the cars and trucks.
- API estimates that, taken together, these programs could result in emissions reductions from the transportation sector of nearly 900 million metric tons CO$_2$ equivalent between 2010 and 2020. Emissions in 2020 alone would be about 9% lower than the AEO2009 projection.

1. RFS2 compliance with LCA values at a 30-year horizon and 0% discount rate.