



BP America, Inc

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Via Email

Sam Wade
California Air Resources Board
1001 I Street, Sacramento, CA

Re: BP Comments on CARB's April 17, 2017 LCFS Workshop on Fossil and Renewable Natural Gas in the LCFS

Dear Sam:

BP has been active in marketing biomethane in the state of California to compressed natural gas (CNG) and Liquefied Natural Gas (LNG) transportation fuel consumers - in support of the objectives of the LCFS program. Given our visibility with many fossil gas customers, we believe BP is well positioned to contribute to this dialogue, and we appreciate CARB's willingness to consider our input.

Livestock Biomethane Pathways

As the discussion paper says, the reduction of methane emissions from dairy and livestock manure can contribute to the achievement of California's greenhouse gas emissions reduction goals. Allowing projects that avoid methane emissions through the use of anaerobic digestion with subsequent consumption of the gas in a LCFS eligible end use, allows accounting for the total GHG savings associated with these projects in the carbon intensity score – and is an important step to incentivize further investment in this sector.

Summary of LCFS Application Steps

BP supports CARB's intent to harness the existing framework provided by the livestock manure protocol under the Cap and Trade program to ensure that projects properly account for the avoided methane emissions in livestock biomethane LCFS pathways. While the LCFS requirements and Cap and Trade protocol are very closely aligned, there are a few areas of divergence identified in the discussion paper. BP proposes that for simplicity CARB should not amend the existing offset protocol or create an additional offset protocol but rather create an addendum to the existing Cap and Trade protocol outlining exactly the adjustments which must be made after issuance of ROCs when converting to LCFS credits rather than ARBOCs. The use of an addendum will ensure that a clear, transparent path for converting ROCs to LCFS credits is available for all livestock biomethane projects. The use of a single ROC protocol will also minimize the risk of duplication as it will provide

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one record for the total volume of ROCs generated from a single project, rather than having to create a new project listing when switching a project from offset generation to LCFS generation.

Timing of Credit Generation

Whereas other LCFS projects generate LCFS on a quarterly basis, under staff's proposal, dairy and livestock manure projects would be required to follow the Livestock Protocol which grants offset credits in arrears after each 12 month reporting period. One of the primary challenges that LCFS eligible projects continue to face is securing financing and the ability to show reliable, timely cash flows. BP strongly opposes staff's consideration of a regulatory amendment to delay credit generation until after the operational carbon intensity (CI) is verified each year. Generating LCFS credits on only an annual basis would be a difficult and potentially even insurmountable hurdle for both project developers and financiers when evaluating investment in a new project.

Instead, BP proposes that the simplest and most efficient solution for balancing the time to issuance and variability between the provisional and operational CI is to allow credit generators to true up credit volumes once the operational CI is confirmed. When the annual verification determines that the operational CI is higher than the provisional CI, CARB removes the over-generated credits from the party's account. If CARB simply allowed for additional credits to be generated when the operational CI is lower than the provisional CI, credit generators would be in the best position to balance their need for quarterly cash flow from credit generation with the reassurance that the ability to generate credits on the actual operational CI remains intact. In order to implement this provision, staff must develop a regulatory amendment which would allow for credits to be awarded beyond the quarterly reporting deadline only in cases where the operational CI is verified as lower than the provisional CI.

Additionally BP proposes that should a mandatory regulation be put in place for livestock manure management, CARB follow the same guidance for issuing LCFS credits as is currently in place for ARBOCs. If a mandatory regulation is introduced after a project is listed, that project should be allowed to continue issuing credits until the end of the crediting period, which is currently 10 years for livestock protocols. This provision serves to provide the stability needed to incentivize investment now even if there is potential for regulation in the future.

Allocation of Methane Emissions to the LCFS Transportation Fuel Pathway

The proposal directs that one of the eligible end uses for renewable natural gas (RNG) from livestock digester projects is to provide the RNG "directly to a facility that produces transportation fuel". If the intent by stating "directly" is to limit this end use to molecular-level delivery in a dedicated line, as opposed to delivery via displacement, then the ability to utilize this pathway will be severely limited. Due to the fungible and compressed nature of the natural gas delivery system, molecular-level delivery from a project to a facility that produces transportation fuel would require separate and dedicated pipeline infrastructure. Dedicated infrastructure would quickly raise the cost of a project to the point that it would no longer be economic. BP requests clarity as to the intent of the phrase "provided directly", and suggests that if delivery via displacement is acceptable for RNG into natural gas vehicles, then that same concept should apply for this end use.

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Additionally, if only a portion of a project's RNG production is eligible for LCFS credit generation and the remaining portion is eligible for ARBOC generation (but outside the LCFS system boundary), then both LCFS and ARBOC generation should be allowed in the proportions associated with each qualifying end use. This flexibility will allow a project to access the full potential revenue stream of all RNG produced and increase the likelihood of more projects meeting the minimum economic returns for investment resulting in greater quantities of methane emissions avoided over the long term. Stringent verification requirements would have to be implemented in order to ensure that no double counting occurs, however this should be achievable by strictly limiting the total LCFS plus ARBOC generation never to exceed the total ROC issuance.

Updates to December 2, 2016 Working Meeting

Fuel Pathway Evaluation

Under the simplified CI calculator for an upgrading facility, staff presented that "biomethane sales gas entered into the form should include only the biogas-derived BTU of the pipeline-quality gas after upgrading, and prior to any blending with non-renewable fuel for injection into a pipeline" (slide 27). This is problematic because not all upgrading facilities blend AFTER upgrading, but instead some complete the blending first and then upgrade the gas to pipeline-quality. In these cases it is impossible from a process flow perspective to measure after upgrading but before blending. BP asks CARB staff to revise this statement to allow for both upgrade then blend, and blend then upgrade production processes.

Reporting Requirements

Staff's proposal to limit the period of time for energy balancing of renewable attributes to two quarters continues to be extremely concerning. As raised in BP's comments dated January 16, 2017 there are two scenarios where it is desirable to carryover renewable attributes; 1) when a CNG facility encounters planned/unplanned outages or, 2) where a pathway is awaiting registration approval from RFS or LCFS programs and is delayed only by the program administrator. While the two quarter proposal may cover the first scenario, the time period for pathway approvals has historically been up to one year. In these instances, environmental attributes would be lost and another significant element of uncertainty and risk would be introduced into the start-up phase for a project. BP sees no need to limit the carryover period for energy balancing of renewable attributes to mitigate the risk of double counting so long as the appropriate production pipeline statements are used to verify injected volumes against dispensed volumes.

As always, please feel free to contact me if you wish to discuss these comments in more detail.

Sincerely,

Ralph J. Moran
BP America, Inc