

### **California Air Resources Board (CARB) Response:**

CARB appreciates the comments and agrees with commenters that it is important to consider potential local air and water quality impacts from the production and use of alternative fuels, and that public disclosure of non-confidential operational information supporting the calculation of fuel pathway carbon intensity (CI) is appropriate.

In response to the commenter's assertion that the project should be denied because it will harm air and water quality, CARB notes that the LCFS pathway approval does not permit the project to operate. That decision is separate, and outside of CARB's control. Local permitting and air quality agencies are required to consider air quality controls, and could be expected to appropriately address any issues consistent with law.

Rather, the CARB pathway approval is an accounting of the life cycle carbon intensity (CI) of electricity for use in transportation that can be used for LCFS crediting based on the electricity's displacement of gasoline and diesel use in vehicles. This calculation is a narrow decision as to those issues, and so does not result in air quality impacts of any kind. Moreover, the project uses emissions control technology (selective catalytic reduction) and must be in compliance with air quality regulations.

Electrification is one of the leading strategies for reducing greenhouse gas (GHG) emissions and decreasing criteria air pollutant emissions from transportation. Through the crediting of low carbon intensity electricity used to power light- and heavy-duty electric vehicles, ocean-going vessels at berth, and cargo handling equipment, the LCFS promotes increased electrification within the transportation sector. The alternative fuels and vehicles promoted under the LCFS have and will continue to result in net benefits for air quality statewide, as demonstrated in the air quality and health analyses conducted as part of the 2018 LCFS rulemaking.<sup>1</sup> CARB's emission analysis shows that, across the full fuel life cycle of dairy biogas to electricity pathways, there is an overall net reduction in NO<sub>x</sub> and PM, relative to the use of diesel fuel.<sup>2</sup> Moreover, the LCFS CI determination methodology for dairy biogas-electricity pathways<sup>3</sup> rewards efficiency improvements, which is driving the adoption and use of more efficient generation technologies including biogas fuel cells, which produce very low NO<sub>x</sub> emissions.<sup>4</sup>

The potential for local increases in criteria pollution associated with some fuel production processes and related activities was acknowledged and discussed as part of the Final Environmental Analysis for Amendments to the Low Carbon Fuel Standard in

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<sup>1</sup> Staff Report: [Initial Statement of Reasons for the Proposed Regulatory Amendments to the Low Carbon Fuel Standard](#), March 6, 2018. See Chapter V.

<sup>2</sup> California Air Resources Board. [Dairy Digester Emissions Matrix Presentation](#). May 2018.

<sup>3</sup> Low Carbon Fuel Standard (LCFS) Guidance 19-06. [Determining Carbon Intensity of Dairy and Swine Manure Biogas to Electricity Pathways](#).

<sup>4</sup> California Air Resources Board. Executive Order DG-043. [Distributed Generation Certification of Bloom Energy Corporation ES-5710 Fuel Cell Power Generation System](#), April 2018.

2018.<sup>5</sup> That consideration also recognized the fact that increased availability of low carbon electricity provides an alternative to the use of diesel fuel thus resulting in lower diesel PM emissions throughout the state and particularly the valley where diesel trucks are one of the largest contributors to the diesel particulate matter. And, with the state's incentive and regulatory programs the opportunity to transition away from burning petroleum-based fuels, such as diesel, to non-combustion options (e.g., zero emission trucks) is unprecedented. Thus, pathways that support lower CI electricity are expected to facilitate the transition to zero emission transportation and therefore contribute to reductions in NOx emissions as well as emissions of diesel particulate and other toxic pollutants. In approving the LCFS amendments, the Board found that despite the conservatively assessed potential for adverse environmental impacts associated with certain pathways, other benefits of the regulatory action, such as those described above, were determined to be overriding considerations that warranted approval of the proposed regulation.<sup>6</sup>

In response to comments regarding transparency of information in the posted application materials, the applicant has disclosed additional information in the applicant's response letter. This includes information about dairy population, lagoon size, biogas cleanup, electrical generator specification as well as the facility process diagram. The utility's invoices, electricity bills, and monthly data and calculation for GREET input values continue to be claimed as confidential business information by the applicant. CARB encourages stakeholders to review the added material and notify CARB of any potential factual or methodological errors based on the supplemental information. Stakeholders can submit additional comments to Anil Prabhu, Manager, Fuels Evaluation Section at [Anil.Prabhu@arb.ca.gov](mailto:Anil.Prabhu@arb.ca.gov).

Pursuant to section 95488.7(d)(5) of the LCFS regulation, CARB has determined that applicant's responses are adequate and certified this pathway.

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<sup>5</sup> [Final Environmental Analysis for Amendments to the Low Carbon Fuel Standard and the Alternative Diesel Fuels Regulation](#), September 17, 2018.

<sup>6</sup> California Air Resources Board. [Resolution 18-34 Attachment E Findings and Statement of Overriding Considerations](#), September 27, 2018.