

**Iwatani**

Iwatani Corporation of America

January 28, 2022

Kamal Ahuja  
California Air Resources Board  
P.O Box 2815  
Sacramento, CA 95812

**RE: Response to Public Comment Received on Application Nos. B028001, B028002, B028005, and B028006 (Tier 2 Pathways - Liquefied/Gaseous Hydrogen Fuel Biomethane Derived from Swine Manure)**

Dear Kamal,

Public comments were received during the 10-day public comment period on the Tier 2 LCFS Pathway Applications for Liquid/Gaseous Hydrogen Fuel Using Biomethane Derived from Swine Manure submitted by Iwatani Corporation of America (“Applicant”). Fuel Pathway Applications B028001, B028002, B028005 and B028006 (the “Applications”) are proposed pathways co-managed by Element Markets Renewable Energy, LLC (“Joint Applicant”). According to §95488.7(d)(5)(A)(2), this letter sets forth Applicant’s position that revisions to the Applications are not necessary or required and includes Applicant’s responses to the public comments received.

Pursuant to §95488.7(d)(5)(A), “only comments related to potential factual or methodological errors will require responses from the fuel pathway applicant”. The public comments received on the Applications (the “Comments”) are not related to factual or methodological errors and incorrectly claim adverse environmental damage results from the swine manure project. To the contrary, the swine manure project results in long-term air quality improvements and greenhouse gas emission reduction.

We thank you for the opportunity to respond to the Comments and we respectfully request that the Executive Officer certify the Applications pursuant to §95488.7(d)(5)(B).

Sincerely,



Hossein Tabatabaie  
Director, Product Management and Analysis  
Iwatani Corporation of America

**Applicant Response to Public Comments on the Applications**

Each of the public comments received with respect to the Applications concern the portion of the Applications managed by the Joint Applicant. Joint Applicant respectfully notes that the biomethane LCFS fuel pathways used by Joint Applicant for book-and-claim accounting were previously verified by an independent third-party verification body approved by California Air Resources Board (CARB) and certified by CARB staff.<sup>1</sup>

Comment No.1:

*“Were CARB to certify this pathway, it would be knowingly violating the LCFS regulation and corrupting the integrity of the LCFS program by failing to apply a “well-to-wheels” life cycle analysis. This would result in inflated and unsupported Carbon Intensity values, which would in turn allow transportation fuel providers to pollute more without actually offsetting those emissions”.*

Applicant Response to Comment No.1:

The approved calculator provided by CARB calculates the Carbon Intensity of projects for the life cycle GHG emissions associated with the manure management practices of the livestock farm and the biogas production, collection, and pipeline injection. Documentation required to be provided with the Applications includes comprehensive livestock farm and project information and data including, but not limited to, the number of livestock on the farm, its manure management practices and parameters, detail regarding any local environmental conditions, and metered project operational records. This documentation is used to calibrate the CARB-approved CA-GREET3.0 Model (“GREET Model”)<sup>2</sup> for Anaerobic Digestion of Dairy and Swine Manure (August 2018).

The methodology used by Joint Applicant to calibrate the GREET Model complies with the project boundary defined in CARB’s Compliance Offset Protocol for Livestock Projects (the “Protocol”).<sup>3</sup> The Protocol accounts for emissions that would have occurred in the absence of the project and emissions generated through the operation of the swine project. Any calculations in the Applications were made in accordance with the Protocol and the GREET Model (taking into account CARB guidance issued with respect to calibrating the certified GREET Model).

As required by sections 95488.7 and 95488.8 of the LCFS regulation,<sup>4</sup> both the Applicant and Joint Applicant provided all documents and information necessary to certify a Tier 2 pathway with the Applications. The Joint Applicant submitted complete, unredacted fuel pathway applications and supporting materials previously provided to an approved third-party validator according to section 95500 of the LCFS regulation. Accordingly, the Staff Summary of the Applications states that “[s]taff has reviewed the Iwatani Corporation of America and joint applicant Element Markets Renewable Energy’s application for hydrogen pathways, and has replicated, using the GREET3.0 model, the carbon intensity calculations provided by the [A]pplicant. CARB has deemed that the initial validation of fuel pathway inputs by a Verification Body for fuel pathway certification is not required”.

Comment No.2:

*“Certifying these pathways would perversely reward Smithfield Foods’ irresponsible and harmful practices, which generate vast amounts of pollution and make it one of the biggest polluters in the United States. The source gas for this project comes from two Smithfield-owned factory farms in northern Missouri that deploy rudimentary, unsustainable waste management practices – i.e., storing vast quantities of liquified manure and other waste in lagoons in anticipation of disposal via land application.”*

Applicant Response to Comment No. 2:

As Joint Applicant noted in connection with its previous swine manure fuel pathway applications approved and certified by CARB, the hog farming industry is strictly regulated nationwide (including in Missouri) by state and local agencies that enforce

<sup>1</sup> Please see the Staff Summary for pathway applications B021901 and B014301.

<sup>2</sup> [Tier 1 Simplified CI Calculator for Biomethane from Anaerobic Digestion of Dairy and Swine Manure](#)

<sup>3</sup> [Compliance Offset Protocol Livestock Projects](#)

<sup>4</sup> [https://ww2.arb.ca.gov/sites/default/files/2020-07/2020\\_lcfs\\_fro\\_oal-approved\\_unofficial\\_06302020.pdf](https://ww2.arb.ca.gov/sites/default/files/2020-07/2020_lcfs_fro_oal-approved_unofficial_06302020.pdf)

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regulatory requirements and policies that proactively address unintended negative impact to the environment and communities surrounding hog farms. The benefits realized from digestion and digesters in manure management, and the science surrounding the benefits of increased volatile solids destruction and pathogen reduction, are well-documented and clear. The U.S. EPA, USDA, DOE, and other agencies continue to encourage the use of digesters as a means of enhanced manure management on farms.

Operation of swine manure-derived biogas projects make hog farming even more sustainable by leveraging existing farming operations to create clean energy from fugitive methane emissions that would otherwise be emitted into the atmosphere. Methane (CH<sub>4</sub>) is a short-lived climate pollutant that is 25 times more harmful and potent than carbon dioxide per the GREET Model. Swine manure-derived biogas projects reduce methane and other GHG emissions by capturing biogas produced by what would otherwise be uncovered lagoons. The LCFS program incentivizes these measures by rewarding project owners who proactively mitigate methane venting, reduce flaring, or improve manure management practices and reduce the overall energy demand of the project.

The livestock biomethane projects detailed in Joint Applicant's portion of the Applications only accept manure from swine, and the manure management system includes a scrape/gravity feed system designed to reduce the need for additional flush water. In the event of overflow, the liquids from the covered lagoons are pumped to an on-site effluent treatment system prior to land application in accordance with applicable permits. These project features allow the farms to manage wastewater more effectively as compared to other manure management practices.

### Comment No.3:

*"As this application highlights, CARB's unlawful administration of the LCFS program is causing environmental and public health harms not just in California, but to communities and ecosystems across the United States – in this case Missouri – by incentivizing and rewarding some of the worst factory farm practices".*

### Applicant Response to Comment No. 3:

The LCFS program requires certified fuel pathways to operate within the boundaries of any applicable permits. The projects detailed in the Applications are required to comply and remain in compliance with applicable regulations and permits. Additionally, the associated projects will also adhere to the reporting and recordkeeping obligations imposed by the LCFS regulation. As part of the Applications, Joint Applicant provided CARB with an unredacted copy of the Air Quality Permit issued to Murphy Brown LLC dba Smithfield Foods, Inc. by the State of Missouri Department of Natural Resources governing biomethane project operations.

In the Staff Summary of the Applications, CARB imposes stringent operating conditions on the swine manure-derived biogas projects to ensure methane is accurately monitored and fugitive methane emissions are avoided.<sup>5</sup> The GREET Model submitted by the Joint Applicant accounts for environmental impact of any methane leakage from the projects and does not provide any facility crediting for vented or fugitive methane.

The capture of methane by the swine manure biogas projects directly reduces air pollution through the capture of methane that would have been otherwise emitted or vented into the atmosphere. The use of biomethane also improves air quality, since the biomethane is utilized as a substitute for conventional fossil fuel. The presence and operation of the covered lagoons poses no new water quality issues and complies with applicable water quality regulations.

There are a few small biogas blowers transferring the raw digester gas associated with the Joint Applicant pathways to the upgrading facility via a closed network of pipelines that do not pose a risk of environmental effects or methane blowouts involving gas infrastructure. These facilities have safety protocols in place to protect its employees involved in operations.

### Comment No.4

*"Petition for Rulemaking to Exclude All Fuels Derived from Biomethane from Dairy and Swine Manure from the Low Carbon*

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<sup>5</sup> "Any quantity of biomethane metered as captured that cannot be demonstrated by meter records to have been destroyed must be included in the project's energy balance and accounted for as a fugitive methane emission in the project CI calculation if the quantity exceeds the default 2% fugitive emission value [in the GREET Model]."

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*Fuel Standard Program”*

Applicant Response to Comment No. 4:

The remaining items issued in the public comments to the Applications are not objections about methane capture and upgrading. The petition referenced in Comment No. 4 was submitted and addressed to CARB separately and as such, it is outside of the scope of the Applications.