

October 5, 2017

Mr. Sam Wade, Branch Chief
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Comments on Proposed Changes to LCFS Regulations

Dear Mr. Wade:

Maas Energy Works, Inc. would first like to thank you and your team at the ARB for your tireless and excellent work in promoting renewable energy and its benefits in CA. You are effectively setting up a state-wide ecosystem where innovation can thrive for ground-breaking technologies; this is no small feat. We are a local California dairy biogas producer and we are starting the fuel pathway certification process for our dairy digester cluster in the San Joaquin Valley. We will be ready to provide biogas for transportation use by early 2018. This would not have been possible, without the efforts of you and your team.

In this letter, we outline one area where we would like to offer an idea on a potential solution to the proposed changes to the LCFS program, that might serve the market better. And in a second area, we prefer the LCFS regulation as it stands and would recommend keeping it as is to protect ongoing innovative efforts to supply low carbon fuels.

1. First, we propose a feedstock-specific breakdown of the default CI values for biomethane CNG that are applied during the LCFS pathway certification timeline. The default values are especially important in times of long LCFS pathway review timelines. ARB has already recognized the difference in the carbon intensity of feedstocks in its assignment of default CI values. For example, the proposed default CI for ethanol is drastically different based on whether the ethanol is made from corn, sorghum, sugar, or cellulosic. The proposed default pathways for Biomass-based Diesel follow a similar pattern, with different CIs based on FOG, oils, and other feedstocks.

Just like ethanol or biomass-based diesel, biomethane CNG CI is dependent on the feedstock used. Even more so, dairy biomethane CNG CI varies greatly when avoided methane emissions are included in the calculation. The market has responded to these variations in LCFS values, but the proposed single biomethane CNG default CI value destroys the very market incentives that the rest of the LCFS program creates. We propose the following feedstock based default CI values for Biomethane CNG:

- a. -254 gCO₂e/MJ for biogas from Animal Waste including avoided methane emissions
 - i. Calculated from the most conservative of the current certified pathways (-254 AmpCNG 2017 and CalBio at -276 which has been certified since 2016)



- b. -22 gCO₂e/MJ for Biogas from Food Waste (From HSAD Food and Green Waste)
- c. 60 gCO₂e/MJ for Landfill Gas (We agree with this change as proposed Table 8)

Table 8. Temporary FPCs p.112

Fuel	Feedstock	Process Energy	FPC	CI (gCO ₂ e/MJ)
Ethanol	Corn	Grid electricity, natural gas, and/or renewables	ETH400T	<u>75.97-85</u>
	Sorghum	Grid electricity, natural gas, and/or renewables	ETH401T	<u>83.49-90</u>
	Any Sugar Cane and molasses Feedstock	Bagasse and straw only; no grid electricity	ETH402T	<u>56.66-60</u>
	Any starch or sugar feedstock	Any other	ETH403T	<u>98.47</u>
	Corn Stover Any Cellulosic Biomass	As specified in CA-GREET 2.0 Grid electricity, natural gas, and/or renewables	ETH404T	<u>41.05-50</u>
Biodiesel-Biomass-based Diesel	Any feedstock derived from animal fats-Fats/Oils/Grease Residues	Grid electricity, natural gas, and/or renewables	BIOD200T	<u>37.54-65</u>
	Any feedstock derived from plant oils, excluding palm oil	Grid electricity, natural gas, and/or renewables	BIOD201T	<u>56.95-80</u>
	Any other feedstock	Any other Grid electricity, natural gas, and/or renewables	BIOD202T	<u>102.01-103</u>
Renewable-Diesel (UOP process)	Any feedstock derived from animal fats	Grid electricity, natural gas, and/or renewables	RNWD300T	<u>32.26</u>
	Any feedstock derived from plant oils	Grid electricity, natural gas, and/or renewables	RNWD301T	<u>53.21</u>
	Any feedstock	Any other	RNWD302T	<u>102.01</u>
Fossil CNG	Petroleum Natural Gas	N/A	CNG400T	<u>78.37</u>
Fossil LNG	Petroleum Natural Gas	N/A	LNG401T	<u>94.42-100</u>
Fossil L-CNG	Petroleum Natural Gas	N/A	LCNG402T	<u>97.33-100</u>
Biomethane CNG	Landfill or digester gas	Grid electricity, natural gas, and/or parasitic load	CNG500T	<u>46.42-60</u>

2. Second, and of great importance to the industry’s development, we propose keeping the Retroactive Credit Generation Claim active, instead of striking the entire paragraph as proposed. Specifically, we propose to keep the line-item regarding a fuel supplier’s ability to retroactively claim credits generated during the LCFS pathway certification process. This too, is especially important in times of longer certification processes as the number of applications for pathways potentially increases. If the industry is to innovate and invest to create new pathways, the LCFS program should not simultaneously create a lost credits penalty for shifting to new pathways. Having the retroactive credit generation claim in place for the LCFS pathway certification period helps biogas suppliers, like us, to minimize risk on the significant investments we have made in technology and process. As the LCFS program changes, the industry is faced with uncertainty as to the timing of new pathway approvals. This risk is manageable, but only if the credits can ultimately be claimed by the biogas supplier. If the retroactive credits are wholly lost, then the LCFS is creating a prohibitive risk on new pathways and new fuel production facilities. Not only that, even an existing facility that gradually increases its renewable fuel consumption will face the loss of retroactive credits as it transitions from one pathway to another. The existing language protects biogas (and other alternative fuels) suppliers, and should be retained in effect.

See paragraph 2 on page 67 of the proposed LCFS changes, we request that second part of the “Retroactive Credit Generation Claim”, from the current regulation would be kept in the amended regulation.

- 2) ~~*No Retroactive Credit Generation Claim.* Unless expressly provided elsewhere in this subarticle, no credit generator may claim credits may be generated or claimed retroactively based on section 95489 and 95490 provisions, supplying electricity for transportation, or any transaction or activity net transactions or activities regarding a transportation fuel for any act occurring in a quarter for which the quarterly reporting deadline has passed. Similarly, no deficit generator may eliminate deficits retroactively for any act occurring in a quarter for which the quarterly reporting deadline has passed. Notwithstanding this section, the Executive Officer may remove a credit’s provisional status at any time, pursuant to section 95488 (d) and (e). Where an application or demonstration pursuant to sections 95488 or 95489 has been completed but not yet approved, the applicant may report transactions in the LRT CBTS. When the Executive Officer approves the section 95488, or 95489 application or demonstration, the Executive Officer will recognize any credits generated during the quarter in which the approval takes place, and one previous quarter, provided that the application was complete during that previous quarter.~~

Recommend
to keep

Again, thank you for including biogas from dairies in the LCFS program, as we believe we provide clean fuel for communities, especially in the disadvantaged communities surrounding the dairies and we are proud to be a part of the solution for LCFS, SLCP and Air Quality Programs. We are thankful for the Air Board’s *Short-Lived Climate Pollutant Reduction*

Strategy. We strongly support your conclusion that to reduce methane emissions from diverted organic waste and dairy waste will require putting that organic waste to beneficial use, including as a transportation fuel.¹ And that biomethane usage as a transportation fuel will not only serve to improve regional air and water quality, and but also support economic growth in agricultural and other communities throughout the State.²

Sincerely,



Daryl Maas
CEO

Maas Energy Works, Inc.
RENEWABLE ENERGY THAT WORKS

¹ *Short-Lived Climate Pollutant Reduction Strategy*, adopted March 2017, at page 3.

² SLCP Strategy at page 28.