

Transmitted by Email to LCFSworkshop@arb.ca.gov

December 13<sup>th</sup>, 2017

Transportation Fuels Branch  
Industrial Strategies Division  
California Air Resources Board

Re: Comments on 2018 LCFS Preliminary Draft Regulatory Amendment Text, Sep 22/17 meeting

---

## INTRODUCTION

Iogen submitted a comment on October 6<sup>th</sup>, 2017 in respect of the 2018 LCFS Preliminary Draft Regulatory Amendment Text, in particular relating to the Renewable Hydrogen (RH) Credit Pilot Program.

We have recently identified another issue with the regulations that can be a barrier to initial adoption of RH for generation of LCFS credits.

Our additional comment relates to the provisions of §94589(g) as follows.

- 1) We believe CARB should remove the requirement in §95489(g)(1)(B) that renewable hydrogen must annually replace a minimum of one percent of all fossil hydrogen in the production of CARBOB or diesel fuel.**

Within Section §95489(g)(1)(B) “Renewable Hydrogen Credit Pilot Program” it is stated that “In order to receive a renewable hydrogen refinery credit, a refiner must produce CARBOB or diesel fuel that is partially or wholly derived from renewable hydrogen. The renewable hydrogen must annually replace a minimum of one percent of all fossil hydrogen in the production of CARBOB or diesel fuel.”

We would recommend removing the last sentence.

### **The reason for this recommendation is that the one percent minimum threshold limits the development of opportunities.**

Iogen has been engaging with refiners who are interested in participating in the Renewable Hydrogen Credit Pilot program. Iogen and the refiners have examined hydrogen usage at the refineries, and are evaluating potential renewable natural gas (RNG) sources for the production of RH. When used as CNG/LNG in vehicles, RNG can obtain both LCFS credits and Renewable Identification Numbers (RINs). When used to produce RH, currently RNG can only obtain LCFS credits. As RNG can obtain higher revenues from use in CNG/LNG vehicles, conventional sources of RNG have been difficult to secure for refinery RH.

Iogen and refiners are currently working on securing biogas sources for RH for which RIN generation is currently not economical - likely smaller sources of RNG that are local to the refineries. Some of these smaller sources of RNG may be below the current one percent threshold that is currently part of the regulation. We believe that the one percent limit may prevent these projects from proceeding, and are requesting that the one percent limit be removed.

Iogen believes that removing this one percent limit will allow for an initial implementation of RH in California. This initial implementation will serve as a model that may help secure EPA's pathway approval of RH as a cellulosic biofuel, therefore enabling RIN generation for RH. Once EPA pathway approval is obtained, we expect volumes of RH in California to increase significantly due to the increased revenue potential.

As noted in previous commentaries, Iogen estimates that the potential GHG reduction to be achieved using biogas or RNG for refinery incorporation of renewable hydrogen in fuels is about 4.5 million tonnes of CO<sub>2</sub> per year.

**We are seeking CARB's support by acting on this request.** We thank CARB for the opportunity to provide comments on this regulation.

Should CARB have any questions, require any information, or be interested in assistance in understanding our analyses or positions, we welcome further discussion and review.

Sincerely,



Patrick J. Foody  
Executive Vice President and Chief Operating Officer  
Iogen Biogas Corporation