

DOCKETED	
Docket Number:	21-IEPR-05
Project Title:	Natural Gas Outlook and Assessments
TN #:	239404
Document Title:	Rebecca BoudreauxOberon Fuels Comments - Comments on Hydrogen Roadmap & 2021 IEPR
Description:	N/A
Filer:	System
Organization:	Rebecca Boudreaux/Oberon Fuels
Submitter Role:	Public
Submission Date:	8/20/2021 2:00:18 PM
Docketed Date:	8/20/2021

*Comment Received From: Rebecca Boudreaux/Oberon Fuels
Submitted On: 8/20/2021
Docket Number: 21-IEPR-05*

Comments on Hydrogen Roadmap & 2021 IEPR

Introduction

Oberon Fuels (Oberon) appreciates the opportunity to comment on the CEC's H2 Roadmap presentation during the IEPR update workshop of July 28. Oberon supports the CEC's ongoing work on the 2021 IEPR update and the urgency of increasing the supply of renewable hydrogen.

Oberon is a California-based company that produces innovative, low-carbon renewable dimethyl ether (rDME), which can be used directly as a feedstock for renewable hydrogen. Oberon recognizes California's greenhouse gas (GHG) reductions are critical to the state achieving its carbon reduction targets.

rDME's Relevance to H2

We believe renewable DME (rDME) has a key role to play in the CEC's fuel and vehicle GHG and criteria emission policies, particularly the 2021 IEPR update and the CEC's H2 Roadmap. Renewable DME is an excellent hydrogen carrier as it can be produced from a variety of waste streams and renewable feedstocks. rDME provides an economical pathway to the goal of zero-emission mobility and carbon neutrality.

As described below, we are committed to accelerating the global carbon-reduction effort by adding carbon-negative hydrogen to California's suite of solutions. Oberon provides these remarks to demonstrate our commitment to accelerating California's carbon-reduction effort by adding innovative, first-of-their kind fuels technology to the mission.

Background

Oberon is currently leading a project funded in part by the California Energy Commission to demonstrate production of rDME from renewable feedstocks at its plant in Imperial County, Calif.

An example of rDME's carbon-reduction capabilities is its blend effect on propane (LPG). As calculated by CARB, the current carbon intensity (CI) score of propane is 83 gCO₂e/MJ (ultra-low-sulfur diesel has a CI near 100 gCO₂e/MJ). CARB has calculated that when renewable DME (rDME) is made from dairy biogas (which itself has a CI of -150) rDME has a CI value of -278. With only a 20 wt.% blend, the CI value of propane drops to 35, comparable to renewable propane. As another example, renewable propane's CI decreases from 35 to -11 with a 20 wt.% blend of dairy-based rDME, allowing the fuel to approach carbon neutrality in an economic manner using the existing vehicles and fueling infrastructure.

DME is a gas under ambient conditions. Because it can be stored as a liquid under moderate pressure, similar to LPG, it eliminates the need for the high-pressure

containers used for CNG or cryogenics, as in the case of LNG. DME's easy handling properties make fueling and infrastructure relatively simple and inexpensive.

DME is approved as a renewable fuel under the U.S. EPA's Renewable Fuels Standard, making it eligible for D-3 and D-5 RINs credits when made from biogas with the Oberon process. The EPA estimated that biogas-based DME offers a 68% reduction in greenhouse gases. DME has also been issued specifications by ASTM International and the International Organization for Standardization (ISO) to ensure that as DME is rolled out as a fuel the right standards and regulations are in place to ensure a robust supply chain.

Comments

Our comments are offered as a technology update and to encourage the CEC to include rH₂-from-rDME in the CEC's 2021 IEPR update and its H₂ Roadmap "Green H₂ Generation," category:

The production of rDME and its use as a feedstock for renewable hydrogen is a significant technology development that should be included in the CEC's body of knowledge. Per the CEC's Aug. 12, 2021, Notice of Request for Public Comments on the Draft Scoping Order for the 2021 Integrated Energy Policy Report, the CEC is to: "Explore the role of renewable gas, hydrogen, and other zero-carbon alternatives such as engineered carbon removal (ECR) in a low carbon future, to replace and/or complement the use of fossil gas with focus on: identification of the most suitable applications; availability and pricing; and opportunities to repurpose existing infrastructure to integrate the usage of renewable gas, hydrogen, and ECR."

Conclusion

Oberon Fuels has demonstrated the viability of rDME and, by extension, rH₂, as part of its CEC grant and operates a small-scale production process that could avoid the high costs of pipeline connection and/or provide an option for dairies that are not located near a natural gas pipeline. We respectfully request inclusion of rDME-to-rH₂ in the 2021 IEPR and the EPIC H₂ Roadmap.

Thank you for your consideration.

Very truly yours,

Rebecca Boudreaux
President and CEO
Oberon Fuels