

DOCKETED

Docket Number:	17-IEPR-10
Project Title:	Renewable Gas
TN #:	218846
Document Title:	Hydrogen is a renewable gas
Description:	N/A
Filer:	System
Organization:	ITM Power
Submitter Role:	Public
Submission Date:	6/15/2017 1:09:01 PM
Docketed Date:	6/15/2017

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Submitted On: 6/15/2017

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Hydrogen is a renewable gas

See document attached

Additional submitted attachment is included below.

June 15, 2017

Dear CEC,

ITM Power would like to bring the following information to the attention of all parties involved and interested in this topic.

In Europe there have been a couple of very pertinent publications which very clearly represent the benefits of hydrogen energy storage (HES) and Power to Gas (P2G) technology. ITM Power and the wider membership of the California Hydrogen business Council (CHBC) feel very strongly that California needs to start to implementing the inclusion of this technology in order to be ready for the fast approaching needs of large scale energy storage in California.

It is clear that if California wishes to decarbonize its gas network to any significant degree a variety of technologies will be needed. There is not enough capacity for landfill gas, dairy gas or digester gas to provide a total solution. Hydrogen produced from excess electrical energy needs to be part of the mix.

- 1) http://ease-storage.eu/wp-content/uploads/2017/05/2017.05.15_EASE-Recommendations-PtG-PtL_final.pdf

This document concludes that hydrogen energy storage and power to gas/power to liquids is an essential technology to help reach future renewable goals for the energy and fuel sectors.

A few key statements from the document:

“It is the **only** energy storage option available to store large amounts of energy seasonally and provide it on-demand to different sectors and applications”

“Green Hydrogen has a 91% lower carbon footprint compared to hydrogen from steam methane reforming (SMR) of natural gas”

“Sector specific market and regulatory frameworks need to be further developed and barriers need to be overcome where they exist in order to tap the full potential of these technologies.”

“Promoting sectoral integration by reducing the barriers between the different energy and economic systems”

- 2) <http://www.cedec.com/files/default/2017-06-13-joint-statement-renewable-gas-in-the-recast-of-the-renewable-energy-directive.pdf>

This document is written by a group of gas sector stakeholders in Europe. It concludes renewable gas should encompass a wide range of sources and not be restricted – we need them all if we are going to reach our climate and air quality goals.

Europe gets the benefits – why are we struggling to accept the same in CA?

A few key sentences:

“Renewable gas comes in the form of biogas, biomethane, green hydrogen, and synthetic methane (syngas)”

“renewable gases from many technologies and sources are in constant evolution, and **the definition should remain updated, and adequately open in view of future advances.**”

“There is also a need to **acknowledge the integrating nature of renewable gas, through ‘sectoral integration’**. Silo thinking needs to be avoided in energy system planning, and defining integration in this respect would be helpful. Sectoral integration lies in a holistic system approach which strives to link infrastructures and services in the electricity, gas, heating & cooling and transport sectors, where the use and conversion of all energy carriers plays a key role.”

Kind regards,



Steve Jones

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