

## DOCKETED

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*Comment Received From: Lorraine Paskett*

*Submitted On: 2/26/2017*

*Docket Number: 17-IEPR-01*

**Docket No. 17-IEPR-01 RE IEPR Scope Issues and Response to SoCalGas  
Comments submitted on Scope**

Comment letter attached to this submission via PDF. Please allow Aquahydrex comments to be submitted after the comment period for the Draft Scoping Order. New information was obtained on February 23, 2017 indicating the need to submit comments requesting a change in the Draft Scoping Order and to respond to comments submitted by SoCalGas. Thank you.

*Additional submitted attachment is included below.*



February 26, 2017

*Ivo Steklac, CEO  
AquaHydrex*

**SUBMITTED ELECTRONICALLY TO DOCKET 17-IEPR-01  
And SUBMITTED VIA E-MAIL**

California Energy Commission Dockets Office, MS-4  
Re: Docket No. 17-IEPR-01  
1516 Ninth Street Sacramento,  
CA 95814-5512

**Re: 2017 Integrated Energy Policy Report (IEPR) - Comments of AquaHydrex Regarding the IEPR Scope Issues & Response to So CA Gas Comments on Scope**

AquaHydrex appreciates the opportunity to comment on the California Energy Commission's (CEC) Draft Scoping Order for the 2017 IEPR ("Draft Order"). AquaHydrex will address the aspects of Section 4 of the Draft Order, SB 1383 (Lara – Statutes of 2016, Chapter 395) implementation and provide comments to SoCalGas comments recently submitted in this docket. It has come to our attention as late as last week that the CEC in its IEPR process intends to exclude any renewable gas analysis in the SB 1383 recommendations unless it is *renewable natural gas, i.e., biogas and biomethane*, despite comments timely submitted by So CA Gas requesting a broader review to include hydrogen.

**Section 4**

- I. **The IEPR 2017 Scoping Order Section 4 Title should state "Develop Recommendations on Renewable Gas." It Erroneously Limits the Scope to Recommendations to "Renewable Natural Gas."**

AquaHydrex respectfully requests that the CEC amend the Draft Order to reflect the actual language in SB 1383 more accurately, as well as the legislative intent behind such carefully crafted language.

It is our understanding that the intent of the IEPR Draft Order is to restate and track the text in SB 1383 to the extent it covers implementation of this new law. However, the current Draft Order does not track the SB 1383 text and in fact inadvertently makes a fundamental change to the SB 1383 language by adding the word "natural" to the description of "renewable gas," in Section 4. This inadvertent change significantly impacts the scope of the CEC review process by limiting that process to a biogas/biomethane-only review. Such a result would clearly contravene the intent of the Governor's office and the Legislature when it added the renewable gas section to the short-lived climate pollutant (SLCP) bill, SB 1383. It is our opinion, having participated in the legislative process for SB 1383, that the CEC is expected to conduct a broader review of and prepare a set of recommendations for renewable gases, considering several state policies, including the RPS, LCFS and strategies to reduce SLCPs. The CEC IEPR review was not intended to be limited to biogas and biomethane. In 2016, when SB 1383 was considered and advanced, the Legislature considered and failed to advance *biogas-only* legislation (SB 1043 - Allen) that attempted to narrow the CEC's review of renewable gases to biogas. In fact, after SB 1043 was amended remove the broader term "renewable gas" and removed references to hydrogen technologies and gas resources other than biogases, it died in Senate Appropriations Committee. Following the defeat of SB 1043, the Governor's office began meetings with stakeholders, including AquaHydrex to discuss how to craft language in SB 1383 that would advance the goal of increasing the use of renewable gases. The Governor's and Legislator's staff made very clear that they considered green hydrogen a renewable gas that could be addressed under the bill. Based on those representations and the language that was written, the hydrogen industry agreed to support SB 1383.



What was ultimately passed and signed by the governor was broader legislation on short-lived climate pollutants that addressed several key areas: 1) set new organic waste diversion goals, 2) clarify dairy regulation and dairy project investments (to address a major SLCP source) and 3) add a new renewable gas policy to the set of energy policies and direct the California energy agencies to develop policies to significantly increase end uses for renewable gases. SB 1383 directed, and delegated the important review of renewable gases, in this broader SLCP, RPS, LCFS and air quality context to the CEC. While it included bio gas and bio methane as part of the review because it is a SLCP priority to control these emissions, SB 1383 certainly does not limit CEC's renewable gas in-state development market expansion and technology review to just biogas or biomethane.

Specifically, SB 1383 states:

“This bill would require the state board, no later than January 1, 2018, to approve and begin implementing that comprehensive strategy to reduce emissions of short-lived climate pollutants to achieve a reduction in methane by 40%...”

This bill would require the state board, the Public Utilities Commission, and the State Energy Resources Conservation and Development Commission to undertake various actions related to reducing short-lived climate pollutants in the state. The bill would require state agencies to consider and, as appropriate, adopt policies and incentives to ***significantly increase the sustainable production and use of renewable gas. [emphasis added]***

**39730.5 (3)** Evaluate the best-available scientific, technological, and economic information to ensure that the strategy is cost effective and technologically feasible

**39730.8.**

(b) The energy commission, in consultation with the state board and the commission, shall develop recommendations for the development and use of renewable gas, including biomethane and biogas, as a part of its 2017 Integrated Energy Policy Report prepared pursuant to Section 25302 of the Public Resources Code. In developing the recommendations, the energy commission shall identify cost-effective strategies that are consistent with existing state policies and climate change goals by ***considering priority end uses of renewable gas, including biomethane and biogas, and their interactions with state policies . . . [emphasis added]*** and all of the following”

- (1) The Renewables Portfolio Standard program (Article 16 (commencing with Section 399.11) of Chapter 2.3 of Part 1 of Division 1 of the Public Utilities Code).
- (2) The Low-Carbon Fuel Standard regulations (Subarticle 7 (commencing with Section 95480) of Title 17 of the California Code of Regulations).
- (3) Waste diversion goals established pursuant to Division 30 (commencing with Section 40000) of the Public Resources Code.
- (4) The market-based compliance mechanism developed pursuant to Part 5 (commencing with Section 38570) of Division 25.5.
- (5) The strategy.

(c) Based on the recommendations developed pursuant to subdivision (b), and to meet the state's climate change, renewable energy, low-carbon fuel, and short-lived climate pollutants goals, including black carbon, landfill diversion, and dairy methane targets identified in the strategy, state agencies shall consider and, as appropriate, ***adopt policies and incentives to significantly increase the sustainable production and use of renewable gas, including biomethane and biogas.***



Inserting the word “natural” in the description of “renewable gas”, as the Draft Order does, upends the intent and contradicts the plain wording of the statute because the term renewable **natural** gas denotes a discrete type of gas.

*Renewable **natural** gas, also known as sustainable natural gas, is a biogas which has been upgraded to a quality similar to fossil natural gas. ... Wikipedia*

In addition, by limiting the CEC review to biogas and biomethane, the order would contravene the intent of the legislature to include all renewable gases, including but not limited to biogas and biomethane in the CEC review.

## **II. AquaHydrex Supports SoCalGas Comments on the Scope of the 2017 IEPR Review**

AquaHydrex supports comments submitted by SoCalGas that the scope of the review of Section 4 shall include review of technologies beyond biogas, specifically including electrolysis that produces low or zero carbon hydrogen. This hydrogen is produced by splitting water using excess grid electricity or on-site renewable electricity. It can be used in multiple sectors to: 1) reduce SLCPs; 2) increase renewable electricity integration into the electric grid; 3) provide cost-effective, longer-term seasonal energy storage; 4) for fuel cell vehicles; and 5) in industrial sectors (e.g. refineries) to replace fossil-based hydrogen used for processing. Few technologies exist that can cross multiple energy sectors and support nearly all the statewide climate and energy policies. To exclude a review of green hydrogen in the 2017 IEPR would be a glaring mistake.

Specifically, SoCalGas states:

“... SoCalGas looks forward to working with the CEC to help develop recommendations for renewable gas in the transportation sector, the industrial sector and other potential applications. As part of this work SoCalGas recommends that the CEC include an evaluation of renewable gas from electrolysis, known as Power-to-Gas (P2G). P2G technology has the potential to provide a large-scale, cost-effective solution for storing excess energy produced from renewable sources. In the P2G process, excess renewable energy is run through water to produce hydrogen gas. This hydrogen can be used in transportation via fuel cells, or methanated and injected into the pipeline for traditional uses. SoCalGas is currently demonstrating P2G projects at the National Renewable Energy (NREL) Laboratory in Golden, Colorado, and at the University of California, Irvine (UCI). These demonstrations will assess the feasibility and potential benefits of using the natural gas pipeline system to store photovoltaic and wind-produced energy.

In the European Union, more than 35 P2G facilities are being planned, constructed, or operated. These are referred to collectively as a “system solution” because of the added benefits of helping balance the [electric] grid and providing substantial energy storage capacity. Decarbonized gas in the form of P2G can play an important role in integrating variable renewable generation by producing gas, and then storing it in the existing infrastructure for when it is needed to serve residential and commercial customers, or for electricity generation.

As California is faced with an increasingly urgent need to deploy utility-scale energy storage solutions to support intermittent renewable power generation, P2G should be evaluated rigorously by the CEC for its potential as a large-scale storage option. In addition, SoCalGas encourages the CEC to consider near-zero natural gas engines powered by renewable natural gas, to reduce transportation sector GHG emissions.”

## **III. CEC is required under SB 1383 to Consider Cost-effective Strategies that are Consistent with State Policies and Climate Change Goals**

SB 1383 directs the CEC in its review of renewable gas under the IEPR to look at cost-effectiveness and consider state policies and climate goals. By excluding all other gases except biofuels and biomethane, the CEC limits its recommendations for the in-state development of a variety of renewable gas options for zero or low-carbon gases that can promote multiple state policies and enable higher reductions in greenhouse gas emissions. By limiting the renewable gas markets to biofuels and biomethane in its 2017 IEPR analysis, and limiting recommendations to



Air Resources Board and California Public Utilities Commission for renewable gas end uses, the renewable gas options and solutions are also thereby limited. An unreasonably narrow technology and solutions review will result in constrained future statewide renewable gas markets, limiting the potential for multiple energy sector GHG emission reductions, and increasing potential consumer costs across those sectors. By limiting your recommendations to biomethane and biogas, the CEC reduces energy strategies and options available to achieve the 2020 and 2030 statewide climate change policy goals.

Not considering green hydrogen or the power to gas option as a potential solution for deeper multi-energy-sector (electricity, fuels, transportation and industrial) decarbonization through:

- dramatically increasing the use of wind and solar electricity (rather than regulating or curtailing down production),
- increasing availability of green hydrogen energy to replace natural gas,
- increasing zero or low-carbon hydrogen to fuel light, medium and heavy-duty vehicles; and
- replacing natural gas-based hydrogen for industrial processes

is a missed opportunity and not the spirit or intent of SB 1383.

Picking renewable gas technology winners and losers, up front in the 2017 IEPR Scoping document by unduly limiting the scope to renewable “natural” gas (and thereby only biomethane and biogas) does not further SB 1383 goals to significantly increase production and end uses for renewable gases, and to pursue cost-effective strategies to promote existing state policies, like the RPS, LCFS, SLCP and AB/SB 32.

#### **Conclusion**

For the reasons stated above, AquaHydrex respectfully requests the CEC change the Draft Scoping Order Section 4 to make recommendations for “Renewable Gas” and that your review and recommendations for the use of Renewable Gas in the 2017 IEPR process go beyond biogas or biomethane to include other gases, like hydrogen, as the Legislature intended.

Thank you for your consideration,

Sincerely,

A handwritten signature in blue ink, appearing to read "Ivo Steklac", is written over a horizontal red line.

Ivo Steklac  
CEO  
AquaHydrex

Cc: Senator Ricardo Lara  
Assembly Natural Resources Committee  
Senate President Pro Tempore  
Governor’s Office  
Lorraine Paskett, Cambridge LCF Group  
Tim Carmichael, SoCAGas  
Jeff Serfass, CA Hydrogen Business Council