

## DOCKETED

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*Comment Received From: Emanuel Wagner*

*Submitted On: 2/27/2017*

*Docket Number: 17-IEPR-01*

## **Comments of the CHBC to CEC's Draft Scoping Order for 2017 IEPR**

The CHBC is filing comments at this date as we were only made aware of an issue last week, when we learned that the comments submitted last month by SoCalGas, which asked for an inclusion of the consideration of hydrogen in the scope, were apparently ignored by CEC staff. We hereby request inclusion of our public comments by the CHBC.

Thank you!

*Additional submitted attachment is included below.*



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

**Re: Comments of California Hydrogen Business Council Regarding the 2017 Integrated Energy Policy Report (IEPR) & Scope Issues**

The California Hydrogen Business Council (CHBC) is gravely concerned about the California Energy Commission’s Draft Scoping Order (DSO) for the 2017 IEPR. As a party consulted in the development of Senator Lara’s Bill SB 1383, the CHBC hereby takes the opportunity to provide comments on the CEC’s incorrect interpretation of the intent of aforementioned bill in its 2017 IEPR DSO recommendation development.

The CHBC is a California industry trade association with a mission to advance the commercialization of hydrogen in transportation and stationary sources to reduce greenhouse gas, criteria pollutant emissions and dependence on oil.<sup>i</sup>

Last week, it came to the attention of the CHBC that in Section 4 of the CEC’s DSO, which deals with SB 1383’s implementation, the CEC mistakenly narrowed the scope of the original intent of the bill, excluding a broader renewable gas analysis, and rather exclusively focus on renewable **natural** gas. While for the layperson that change may not seem consequential, the CHBC and its members worked hard with the legislature last year to specifically use the broad definition of renewable gas, which includes hydrogen produced from renewable energy resources, and is not limited to renewable natural gas.

To clarify: A bill that the CHBC opposed last year, SB 1043 (Allen), did not move out of committee because of the narrow definition and a letter from the CHBC opposing this narrow definition (See CHBC Letter from May 10, 2016, Attachment A).

The CHBC supported Senator Lara’s Bill, SB 1383, which was purposefully designed to include a broader definition than the one used in SB 1043, which our Letter of Support from August 29, 2016 clearly reflects (Attachment B).

The CHBC hereby strongly suggests the CEC correct the error made in the DSO by using the actual language from SB 1383, which at no point mentions natural gas, but only “renewable gas, including biomethane and biogas”.

While biomethane and biogas are specifically named, renewable gas is an umbrella term, and is not limited to an organic pathway, but includes other forms of renewable gas production, including electrolysis of renewable electricity.

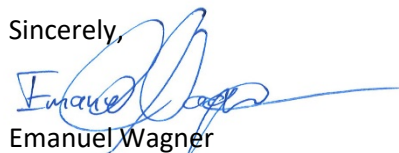
Since the CHBC is aware that these technology options are not widely known, the CHBC and select members would also be very open to educate CEC staff on renewable gas production via electrolysis.<sup>ii</sup> This option is a very powerful and promising multi-sector, multi-use technology approach, and allows addressing electricity, transportation and thermal energy needs in line with California's ambitious GHG reduction, carbon reduction and clean air goals. Revolutionary projects like UC Irvine's Power-to-Gas project and several dozen commercial and demonstration projects in Europe, specifically Germany, highlight the viability of this technology.<sup>iii,iv</sup>

Finally, SB 1383 requires consideration of cost-effective strategies consistent with California's Climate Change Goals and policies. The CEC in its review would limit itself if it takes a narrow focus approach to only analyzing biogas and renewable methane. With a limited scope and approach on the technologies under review, the CEC cannot truthfully determine which strategies are cost-effective in meeting the State's policies and goals, potentially leading to higher costs for consumers, lower emissions reduction strategies, and inadvertently hinder the market development of very promising zero-emission technology options.

In conclusion, the CHBC, for the reasons discussed above, respectfully urges the CEC to correct the DSO Section 4 and develop recommendations for "Renewable Gas" consistent with SB 1383 in the 2017 IEPR, by including other gases beyond renewable methane and biogas, including hydrogen, as intended by the legislature.

Thank you for your consideration!

Sincerely,



Emanuel Wagner  
Assistant Director  
California Hydrogen Business Council

Cc: Senator Ricardo Lara  
Kevin de León, Senate President Pro Tempore  
Governor's Office  
Kevin Barker, Heather Raitt, Rob Oglesby, Robert Weisenmiller, CEC

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<sup>i</sup> The views expressed in these comments are those of the CHBC, and do not necessarily reflect the views of all of the individual CHBC member companies. Members of the CHBC include AC Transit, Air Liquide Advanced Technologies U.S. LLC., American Honda Motor Co., Inc., Ballard Power Systems, Bay Area Air Quality Management District, Beijing SinoHytec, Bethlehem Hydrogen Inc, BMW of North America LLC, California Air Resources Board, California Fuel Cell Partnership, California Performance Engineering Inc., CALSTART, Cambridge LCF Group, Center for Transportation and the Environment, China Hydrogen Fuel Cell Corporation, Coalition for Clean Air, Community Environmental Services, E4 Strategic Solutions, ElDorado National – California, Energy Independence Now, Engineering, Procurement and Construction, LLC, First Element Fuel Inc, FuelCell Energy, Inc., General Motors Corporation, Giner, Inc., Gladstein, Neandross & Associates, Greenlight Innovation, GTA, Inc., GTM Technologies Inc., H2B2, H2Safe, LLC, H2SG Energy Pte Ltd, H2Tech Systems, Horizon Fuel Cells Americas, Inc., Hydrogen in Motion, Hydrogenics Corporation, Hydrogenious Technologies, HydrogenXT, Hyundai Motor Company & Kia Motors

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Corp, i-2-m, Idaho National Laboratory, Intelligent Energy, IRD Fuel Cells LLC, ITM Power Inc, Ivys Inc., Johnson Matthey Fuel Cells, Linde North America Inc, Loop Energy Inc, McPhy Energy, MPL Consulting, Inc., National Renewable Energy Laboratory, Nel Hydrogen, New Flyer of America Inc, Next Hydrogen Corporation, Noyes Law Corporation, Nuvera Fuel Cells LLC, Pacific Gas and Electric Company, Paramount Energy West LLC, PDC Machines, Inc., Plug Power, Inc., Port of Long Beach, PowerHouse Energy Americas, Powertech Labs, Inc., Proton OnSite, Ramco Consulting Company Inc, Rio Hondo College, RIX Industries, Sacramento Municipal Utility District, SAFCell Inc, Schatz Energy Research Center, Solar Hydrogen System, South Coast Air Quality Management District, Southern California Gas Company, Sumitomo Corporation of Americas, SunLine Transit Agency, Terrella Energy Systems Ltd, Toyota Motor North America Inc., Advanced Power and Energy Program - UC Irvine, United Hydrogen Group Inc, US Hybrid Corporation, WireTough Cylinders, LLC, Zero Carbon Energy Solutions, Ztek Corporation.

<sup>ii</sup> An easy-to-use infographic was recently released by the Department of Energy outlining sources, conversion pathways and end uses of hydrogen. See <https://energy.gov/eere/articles/hydrogen-clean-flexible-energy-carrier>

<sup>iii</sup> For more details, see CHBC's Power-to-Gas White Paper at <https://californiahydrogen.org/sites/default/files/CHBC%20Hydrogen%20Energy%20Storage%20White%20Paper%20FINAL.pdf>

<sup>iv</sup> An extremely useful resource is also the German Study on Power-to-Gas from 2015, available here: [http://www.powertogas.info/fileadmin/content/Downloads/Brosch%C3%BCren/dena\\_PowertoGas\\_2015\\_engl.pdf](http://www.powertogas.info/fileadmin/content/Downloads/Brosch%C3%BCren/dena_PowertoGas_2015_engl.pdf)

# APPENDIX A



## CALIFORNIA HYDROGEN BUSINESS COUNCIL

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May 10, 2016

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Executive Director  
**Emanuel Wagner**  
Assistant Director  
**Cory Shumaker**  
Project Coordinator

Senator Ricardo Lara  
Chair, Senate Appropriations Committee  
State Capitol  
Sacramento, CA 95240

### RE: SB 1043 (Allen) OPPOSE UNLESS AMENDED

Dear Senator Lara:

The California Hydrogen Business Council (CHBC) opposes Senate Bill 1043 (Allen) as amended April 25, 2016. As part of the statewide greenhouse gas emissions reduction policy, and specifically the short lived climate pollutant policy, the current version of SB 1043 directs the California Air Resources Board to study and develop recommendations to promote the expanded use of *biogas* and explicitly excludes all other sources of renewable natural gases, including those using renewable electricity as the primary feedstock and potential future pathways employing direct conversion of solar energy to gaseous fuel. While biogas has an important role to play in fulfilling California's ambitious clean energy and climate goals, it should not be supported by this provision at the exclusion of a spectrum of other useful renewable gases, including renewable hydrogen.

The California Hydrogen Business Council is an industry association comprised of organizations and individuals involved in the business of hydrogen. Its mission is to advance the commercialization of hydrogen in transportation and stationary sources to reduce emissions and dependence on oil.<sup>1</sup>

For the past several years, the CHBC and its members have been working with various government agencies and other renewable gas market participants to expand market opportunities for existing and developing technologies for renewable gas, including renewable hydrogen. Much of the work in California is supported by statewide greenhouse gas emission reduction and short lived climate pollutant statutes and regulations.

California is one of the large energy markets world-wide and an international green technology leader. The suite of renewable energy and climate change policies in the state attract renewable energy investments and promote new technology developments.

SB 1043 (Allen) in its current form directs the California agencies to limit their renewable gas market studies to biological -based renewable gases (“biogas”), thereby restricting the market for all other renewable gas technologies that exist or are under development.

SB 1043 (Allen) sends a negative signal to investors, regulators, researchers and all those working toward developing renewable gas alternatives that will reduce greenhouse gas emissions. This bill, as amended April 25, 2016, has a chilling effect on many potential solutions for the renewable gas market. It conveys withdrawal of support to emerging green technology and renewable gas sectors in California employing pathways other than those satisfying the unnecessarily narrowed amended definition, many of whom have raised millions of dollars to develop renewable gas technology and created new companies to foster renewable gas deployment in the transportation, electric and natural gas sectors.

Further and more troubling is that SB 1043 gives one renewable gas subsector – the biogas sector – a competitive advantage over other renewable gas types, above and beyond the current market set-asides that already exist for biogas. Over the past several years, the legislature passed new laws to support the biogas sector, like the electric sales set-aside for more than double the current market price for conventional renewable energy (SB 1122 biogas feed in tariff). Additional support exists for biogas, including dedicated funding and programs for biomass under the Governor’s executive order, CPUC rules and ARB’s short lived climate pollutant policies.

We urge the Legislature to hold SB 1043 in Senate Appropriations or request amendments to the bill, so that it does not disadvantage and / or eliminate renewable hydrogen and other renewable gases as viable alternatives. All energy market participants, including transportation fuel purchasers, electricity purchasers, natural gas wholesale purchases, and California’s regulators, must be able to consider all renewable gas products in future market transactions. And all renewable gas technologies which reduce greenhouse gas emissions, particularly in the methane sector, should be allowed to develop. Long-term, a broader market for renewable gas will benefit consumers and set the stage for a more successful statewide greenhouse gas reduction program.

In conclusion, the CHBC supports the expansion of all renewable natural gas, including biogas. However, we cannot support SB 1043 as currently amended, as it directs the state agencies to

create an artificial market by picking renewable gas winners and losers, and it also undercuts the progress made to date to develop renewable hydrogen in California. We would support the bill with appropriate changes to the definition of qualifying resources.

Thank you for taking the time to consider our comments. Please feel free to contact me at 310-455-6095 to discuss further.

Sincerely,



Emanuel Wagner, Assistant Director  
California Hydrogen Business Council

Cc: Honorable Jerry Brown  
Honorable Kevin De Leon  
Members, Senate Appropriations Committee  
Honorable Ben Allen

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<sup>i</sup> The views expressed in these comments are those of the CHBC, and do not necessarily reflect the views of all of the individual CHBC member companies. Organizational members of the CHBC include AC Transit, ACE Cogeneration Company, Air Liquide Advanced Technologies U.S. LLC., American Honda Motor Co., Inc., Ballard Power Systems, Bay Area Air Quality Management District, Bethlehem Hydrogen, BMW North America, California Air Resources Board, Cambridge LCF Group, Center for Transportation and the Environment (CTE), Clean Energy Fuels, Community Environmental Services, E4 Strategic Solutions, El Dorado National – California, Electro Power Systems, FuelCell Energy, General Motors, Giner, Gladstein, Neandross & Associates (GNA), Golden State EPC, GTA ,GTM Technologies Inc., H2 Logic, H2Safe, LLC, Hydrogen in Motion, Hydrogenics Corporation, Hydrogenious Technologies, HySa Systems, Hyundai Amercia Technical Center, Idaho National Laboratory, Intelligent Energy, IRD Fuel Cells LLC, ITM Power, Ivys Inc., Johnson Matthey Fuel Cells, Keyes, Fox & Wiedman LLP, Linde Group, Longitude 122 West, Inc., Loop Energy, McPhy North America, National Renewable Energy Laboratory (NREL), Next Hydrogen Corporation, Nuvera Fuel Cells, Pacific Gas & Electric, Paramount Energy West LLC, PDC Machines, Plug Power, Inc., Port of Long Beach, PowerHouse Energy Americas, Powertech Labs, Inc., Proton Onsite, Rio Hondo College, Rose Communications, Sacramento Municipal Utility District, SAFCell Inc, Schatz Energy Research Center - Humboldt State, Solar Hydrogen, South Coast Air Quality Management District, Southern California Gas Company, SunLine Transit, Swagelok Los Angeles, Terrella Energy Systems, Total Transportation Services, Inc. (TTSI), Toyota Motor Sales, USA, Inc., United Hydrogen Group LLC, US Hybrid, Zero Carbon Energy Solutions, Ztek Corporation.



# APPENDIX B



## CALIFORNIA HYDROGEN BUSINESS COUNCIL

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**Emanuel Wagner**  
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**Cory Shumaker**  
Project Coordinator

The Honorable Das Williams  
Chair, Assembly Committee on Natural Resources  
State Capitol, Rm 4005  
Sacramento, CA 95814

August 29, 2016

### RE: SB 1383 (Lara) SUPPORT

Dear Chairman Williams:

The California Hydrogen Business Council (CHBC) writes to reiterate our support of Senate Bill 1383. This bill will enable the state to take urgently needed action to control short-lived climate pollutants, which will not only help mitigate climate change, but also reduce air pollution and improve public health.

We also understand that the Assembly Committee on Natural Resources is considering the attached amendments (see Attachment A), which we additionally support. We thank the Members for taking this broader approach to the provision. If possible to make further changes, we recommend that the words "renewable gas" replace the word "biogas" at the end of paragraph 1) a). This will enable a more holistic approach to developing a renewable gas market that can fulfill the bill's aim of reducing short term climate pollutants.

SB 1383 is in line with the priorities of CHBC, an industry association with a mission to advance the commercialization of hydrogen in transportation and stationary sources to reduce greenhouse gas, criteria pollutant emissions and dependence on oil. For the past several years, the CHBC and its members have been working with various government agencies and other renewable gas market participants to expand market opportunities for existing and developing technologies for renewable gas, including renewable hydrogen. Much of our work is aligned with existing California greenhouse gas emission reduction and short-lived climate pollutant statutes and regulations.

CHBC views SB 1383 as an important addition to California's global leadership on protecting our environment, and we appreciate and support your effort.

Regards,

Emanuel Wagner

Cc: The Honorable Jerry Brown  
The Honorable Anthony Rendon  
The Honorable Kevin de León  
Chair, Members, Chief Consultant Assembly Natural Resources Committee

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