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Additional submitted attachment is included below.

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January 28, 2022

The Honorable J. Andrew McAllister, Commissioner
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Re: 2021 IEPR, Volume III – Renewable Gas and Hydrogen (Docket 21-IEPR-01)

Dear Commissioner McAllister:

Clean Energy (CE) submits these comments on Volume III of the *Draft 2021 Integrated Energy Policy Report*, focused on the gas sector. CE is concerned about the accuracy and appropriateness of three definitions in Chapter 4 of Volume III as well as key omissions related to renewable gas and renewable gas policy. CE urges the CEC to:

- Adopt the State's Definition of Renewable Gas;
- Adopt the PUC's Definition of Biomethane;
- Discuss the Cost-Effectiveness of Renewable Gas Carbon Reductions;
- Provide a Complete Description of Senate Bill 1383;
- Discuss the Benefits of Renewable Natural Gas (RNG) in the Transportation Sector;
- Refrain from Defining the Term "Green Hydrogen."

Clean Energy is North America's largest provider of renewable natural gas (RNG) transportation fuel with over 560 refueling stations, with over 200 in California. This includes a growing number of hydrogen stations. Additionally, CE is a producer of RNG. We recently announced a project with one of the largest dairy farms in the United States that could produce up to 5 million gasoline gallon equivalents of RNG annually.

Recommendations

The Commission Should Adopt the State's Definition of "Renewable Gas"

Chapter 4 incorrectly states, "Renewable gas, also known as biomethane, is biogas that has been upgraded to pipeline quality standards."[1] "Renewable gas" is much broader than just biomethane and includes biogas under the state definition. Furthermore, the state does not require all renewable gas to be pipeline quality.

CE urges the Commission to adopt the following definition:

> "Renewable gas is gas that is generated from a renewable (RPS eligible) feedstock, including biogas, biomethane, and renewable hydrogen."

The Commission Should Adopt the PUC's Definition of Biomethane

The definition of biomethane used in Chapter 4, like the definition of renewable gas, is too narrow in scope and therefore, inconsistent with state law. It excludes gas from anaerobic digestion and the gas from noncombustion thermal conversion of organic waste. Public Utilities Code (PUC) section 650 defines biomethane as follows:

(a) The methane is produced from the anaerobic decomposition of organic material, including codigestion.

(b) The methane is produced from the noncombustion thermal conversion of any of the following materials, when separated from other waste:

(1) Agricultural crop residues.
(2) Bark, lawn, yard, and garden clippings.
(3) Leaves, silvicultural residue, and tree and brush prunings.
(4) Wood, wood chips, and wood waste.
(5) Nonrecyclable pulp or nonrecyclable paper materials.
(6) Livestock waste.
(7) Municipal sewage sludge or biosolids.

The PUC definition should be adopted by the Commission and Chapter 4 should also include a discussion of the potential to convert biomass resources to biomethane, biogas, and hydrogen. Roughly 80 percent of California's potential biomass production is estimated to come from biomass resources which will be critical to achieving the state's climate goals.

[1] Draft 2021 IEPR, Volume III, page 58.

The Cost-Effectiveness of Carbon Reductions from Renewable Gas Should be Discussed

The report ignores the true cost-benefit analysis of renewable gas by focusing on the commodity cost without presenting its cost-effectiveness in relation to carbon reductions. The Commission should include data which illustrates the low-cost carbon reductions provided by renewable gas. The California Air Resources Board 2021 report to the Legislature on state climate investments reveals that renewable gas is the most cost-effective at $9 to $10 dollars per ton of carbon reduced[2].

The Description of Senate Bill 1383 is Incomplete

The report omits that Senate Bill 1383 (Lara, 2016) establishes black carbon reduction requirements in addition to the methane reduction and landfill diversion requirements mentioned. The description in the report also incorrectly describes the requirements as "targets". It is important to note that Senate Bill 1383 also requires incentives to reduce dairy methane emissions and for renewable gas production and use.

The Report Should Discuss Renewable Gas's Benefits to the Transportation Sector

Chapter 4 fails to mention the current benefits renewable gas is providing to the transportation sector as well as its ability to significantly displace t diesel used in the heavy-duty vehicle sector. In 2020 CARB certified RNG, under the state's Low Carbon Fuel Standard, as the only carbon negative fuel based on its weighted average[3]. Clean Energy provides RNG to the trucking, mass transit, and refuse sectors at its more than 200 refueling stations throughout California. We refuel over 2,000 buses for LA Metro, and Amazon, another core customer, recently announced the deployment of its 1,000th RNG powered truck. Heavy-duty vehicles, powered by carbon negative RNG, are being deployed by major fleets on a wide-scale and yet there is not a single mention of renewable gas as a significant climate change solution for the transportation sector.

The Report Incorrectly Defines the Term Green Hydrogen

In Chapter 4, the report uses the state's definition of "green electrolytic hydrogen" to define the term "green hydrogen", a much broader term. In addition to electrolysis, green hydrogen can also be derived from biogas and biomass. The Commission should avoid adopting a definition altogether because the Legislature has not provided guidance. Additionally, categories of hydrogen should be based on carbon intensity metrics and not a color wheel based on the method of production. However, if the Commission does move forward with a definition, the term "green hydrogen" should include all hydrogen made from renewable sources. To narrow the

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[2] California Air Resources Board, *California Climate Investments – Annual Report to the Legislature,"* issued April 2021. Available at: https://ww2.arb.ca.gov/sites/default/files/classic//cc/capandtrade/auctionproceeds/2021_cci_annual_report.pdf

[3] https://www.reuters.com/business/autos-transportation/californias-renewable-natural-gas-vehicles-turn-carbon-negative-2020-2021-06-02/

term to simply hydrogen created by electrolysis is not only incorrect but would also threaten the growth of the hydrogen industry at a key point in its development.

CONCLUSION

Clean Energy appreciates this opportunity to submit comments on the 2021 IEPR, Volume III. Adherence to state definitions and a more complete discussion of renewable gas will greatly improve this report. We look forward to the ongoing discussion and the final product.

Sincerely,

Brett Barry
Senior Policy Advisor
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