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## RNG Coalition Comments on 2021 IEPR Draft Volume III

*Additional submitted attachment is included below.*

January 28, 2022

Commissioner J. Andrew McAllister
California Energy Commission
715 P Street
Sacramento, CA 95814

**Re: Draft 2021 Integrated Energy Policy Report, Volume III: Decarbonizing the State's Gas System**

Dear Commissioner McAllister,

The Coalition for Renewable Natural Gas (RNG Coalition)[1] offers the following comments in response to the California Energy Commission's (CEC) recent Draft 2021 Integrated Energy Policy Report (IEPR), Volume III (Draft Volume) entitled *Decarbonizing the State's Gas System*.[2,3] As the organization which represents the RNG industry in North America, our goal is to ensure the sustainable development and utilization of RNG so that the benefits of waste-derived renewable gaseous fuels can be fully realized in California, and elsewhere. We appreciate that the Draft Volume articulates a bold vision for gas system decarbonization, and that it includes a strong role for both biomethane and renewable hydrogen.

Overall, we welcome the Draft Volume's analysis of renewable gas issues. However, to maximize the benefits of converting organic waste into decarbonization products, CEC should broaden the lens it uses. The Draft Volume omits several important opportunities and barriers to the deployment of renewable gases that, if addressed in the Final Volume, would improve the chances of California reaching net-zero GHG emissions by no later than 2045.

**About the RNG Coalition and the RNG Industry**

The RNG Coalition is the trade association for the RNG industry in the United States and Canada. Our diverse membership of over 350 organizations is comprised of leading companies across the RNG supply chain, including recycling and waste management companies, renewable energy project developers, engineers, financiers, investors, organized labor, manufacturers, technology and service providers, gas and power marketers, gas and power transporters, transportation fleets, fueling stations, law firms, environmental advocates, research organizations, municipalities, universities, and utilities. Together we advocate for the sustainable development, deployment, and utilization of RNG, so that present and future generations have access to domestic, renewable, clean fuel and energy in California and across North America.

The RNG industry is nascent relative to other renewables industries but has shown extraordinary growth in recent years, driven by policies designed to promote environmental and economic goals—including but not limited to clean air, improved waste management, increased job development, energy independence, and resource diversity.

[1] http://www.rngcoalition.com/

[2] Notice and request for comments: https://efiling.energy.ca.gov/GetDocument.aspx?tn=241205

[3] Draft Volume: https://efiling.energy.ca.gov/GetDocument.aspx?tn=241156

Our industry is primarily focused on RNG derived from biologic wastes (sometimes called biomethane or biogas that has been upgraded to meet pipeline specifications). RNG is a direct substitute for conventional natural gas that can be introduced to the gas system in significant volumes safely and quickly. This type of renewable gas deserves significant near-term attention because the primary method of generating biomethane today—anerobic digestion (AD)—is a well-proven cost-effective technology available at commercial scale.

There are currently over 200 operational RNG production facilities in North America with over 250 under construction or in substantial development. [4] Our industry is responsible for significant reductions in GHG emissions under various transportation decarbonization programs, including the Unites States Environmental Protection Agency's Renewable Fuel Standard Program[5] and California, Oregon, and British Columbia's Clean Fuel/Low Carbon Fuel Standards (CFS/LCFS). The successful employment of strong tools to quantify the greenhouse gas benefits of RNG production and use (including lifecycle carbon intensity scoring[6]) has been a critical part of these successful policies.

RNG is increasingly being used to decarbonize natural gas end-use applications in stationary sectors, marked by the emergence of new gas utility decarbonization programs such as California's SB 1440,[7] Minnesota's Natural Gas Innovation Act,[8] Oregon's SB 98,[9] regulations in the Canadian provinces of British Columbia[10] and Québec.[11] Voluntary markets are also growing using new certification programs such as Green-E® Renewable Fuels.[12]

**The IEPR Correctly Recognizes the Importance of Renewable Gases as One Component of a Broad Gas Decarbonization Strategy**

RNG Coalition welcomes the Draft Volume's recognition of the role renewable gas can play in decarbonization of the gas system and the general recommendation to encourage the use of renewable gases to achieve a variety of important environmental benefits. The RNG industry does not claim to be able to solve the daunting challenge of fully decarbonizing all gas consuming sectors alone, but we know

[4] According to RNG Coalition's RNG Facilities Database as of January 24, 2021: https://docs.google.com/spreadsheets/d/1CpLTd1Yya4qQzUpWYtKMUGW1BlMmn-Jrj3uErd8lJ7A/edit#gid=0

[5] https://www.epa.gov/renewable-fuel-standard-program/renewable-fuel-annual-standards

[6] The use of lifecycle accounting tools could still be better harmonized across all state decarbonization programs to allow for comparisons of relative incentives.

[7] https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB1440

[8] https://www.revisor.mn.gov/bills/text.php?number=SF421&version=latest&session=ls92&session_year=2021&session_number=0

[9] https://olis.oregonlegislature.gov/liz/2019R1/Downloads/MeasureDocument/SB98/A-Engrossed

[10] https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/102_2012

[11] http://www.legisquebec.gouv.qc.ca/en/pdf/cr/R-6.01,%20R.%204.3.pdf

[12] https://www.green-e.org/renewable-fuels

that RNG can—and should—be a significant contributor to this effort. CEC has considered RNG issues in previous IEPRs[13] and the key facts have not changed since those prior cycles:

- Society's waste streams create significant methane (a critical short-lived climate pollutant) that must be dealt with quickly.
- Using this methane from organic wastes productively, rather than flaring it, both reduces direct emissions of methane from the waste sector and also displaces fossil fuel carbon dioxide emissions in other end use sectors.

**We Support the Recommendation to Consider how Existing Tools Like the LCFS can Motivate RNG Use in EITE Industry**

We are intrigued by the Draft Volume's recommendation to consider the expansion of the Low Carbon Fuel Standard (LCFS) to other sectors, such as industry. The RNG Coalition supports the sustainable development, deployment, and utilization of renewable gases from all available waste feedstocks, indiscriminate of the competing, sustainable technologies used, and for all sustainable end-use applications. We see the LCFS as a clear and stable incentive framework that allows our members to finance, build, and operate RNG facilities.

Currently the LCFS rewards only projects serving the transportation fuel sector. However, as described in our prior submissions to CEC,[14] pipeline-interconnected RNG supply can be shifted to whichever end use needs it most. In the long-term and some of the projects constructed under LCFS incentives may conceivably be shifted to industrial applications—if heavy-duty electric vehicle electrification is as successful as currently predicted by some stakeholders.

The CEC has a key ability to provide coordination on these shifts so that other agencies (CARB, CPUC, CalRecycle, etc.) remain harmonized on how sustainable RNG growth can continue to be incentivized across all sectors and moved to the highest and best use, which may change over time. LCFS amendments that broaden the opportunity to use renewable gases beyond just vehicular applications would be helpful in increasing flexibility in this regard. We recommend that the Draft Volume's conceptual language be further fleshed out to focus on inclusion of LCFS crediting specifically for RNG used in Emissions Intensive and Trade Exposed (EITE)[15] sectors.

Customers in the EITE sectors likely need the LCFS crediting to help defray the cost of procuring renewable gases to alleviate competitiveness concerns and the potential for economic/emissions activity to shift out of the state (sometimes called emissions leakage). For sectors that do not have such

[13] For example, see the 2017 and 2019 IEPRs.

[14] See our September 14, 2021 Comments on the Renewable Natural Gas Workshop. https://efiling.energy.ca.gov/GetDocument.aspx?tn=239702&DocumentContentId=73118

[15] For an explanation of how CARB classifies EITE sectors see: https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2013/capandtrade13/capandtrade13isorappb.pdf

For a table of which sectors qualify, see Table 8-1 of CARB's Cap and Trade rule, CCR § 95870: https://ww2.arb.ca.gov/sites/default/files/2021-02/ct_reg_unofficial.pdf

an EITE designation, they should be required to cover their proportionate cost of RNG procurement directly, to provide a level playing field between utility and non-utility suppliers.[16]

In the SB 1440 CPUC discussions various parties have proposed non-bypassable charges—applicable to both utility and non-utility gas customers (customers of non-core gas suppliers and core transport agents)—associated with RNG procurement. Further, some EITE sectors may, in the future, be covered by sector-specific programs that use robust lifecycle accounting methods and that capture embedded emissions for imported product, thus eliminating EITE concerns (e.g., cement under Senate Bill 596).[17] We recommend not making RNG use in these sectors eligible for LCFS crediting. A summary of this possible conceptual framework is shown in Figure 1 below.

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| User Type | Primarily Utility or Non-Utility Customers? | Incentive Structure | Exempt from RNG Charge under SB 1440 Program? |
|---|---|---|---|
| Transportation fuel buyers (CNG and LNG) | Mixed | Mobile source use of RNG continues to generate LCFS Credits | Yes |
| Emissions Intensive and Trade Exposed Industry. (Identified as having a leakage risk per Table 8-1 of C&T rule, CCR § 95870) | Non-utility | Stationary RNG use in most EITE facilities can generate LCFS credits | Yes |
| Any EITE sector that has a dedicated LCA-based program (e.g., cement under Senate Bill (SB) 596) | Non-utility | Sector-specific dedicated program supersedes need for LCFS credits | Yes |
| Low-income residential customers Customers (CARE) | Utility | Optional opt-in to SB 1440 volumes. | Yes |
| All other gas users (excluding power gen) | Utility | Utility procures RNG for the customer under SB 1440 | No |

*Figure 1. Possible Policy Structure for Promoting RNG Use Across All CA Gas Users*

**The Long-term Role of Renewable Hydrogen Derived from Biomass Feedstocks Should Be Better Acknowledged**

The Draft Volume highlights the important role that renewable hydrogen will play in the future gas system. Unfortunately, the report primarily focuses on hydrogen produced through electrolysis and renewable electricity, which the report defines as "green hydrogen." RNG Coalition is concerned that the Draft Volume is ignoring issues related to hydrogen derived from biomass (and perhaps intentionally excluding it from the definition of green hydrogen), despite the hydrogen workshop on July 28, 2021 covering biomass-based pathways[18] and the recent EPIC program Investment Plan[19] for 2021-25 cycle

[16] See the R.13-02-008 Docket at the CPUC: https://apps.cpuc.ca.gov/apex/f?p=401:56:0::NO:RP,57,RIR:P5_PROCEEDING_SELECT:R1302008

[17] SB 596 (2021, Becker) requires CARB, by July 1, 2023, to develop a comprehensive strategy for the state's cement sector to achieve net-zero emissions of greenhouse gases associated with cement used within the state. https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220SB596

[18] Session 1 - IEPR Commissioner Workshop on Hydrogen to Support California's Clean Energy Transition. For example, see slide 7 of the first presentation: https://www.energy.ca.gov/event/workshop/2021-07/session-1-iepr-commissioner-workshop-hydrogen-support-californias-clean

[19] https://efiling.energy.ca.gov/GetDocument.aspx?tn=240609

identifying biomass conversion to hydrogen as an important technology pathway to develop in California.

We understand and support the development of electrolytic renewable hydrogen as a critical form of renewable gas. We even understand arguments related to the need for dedicated policy to promote cost reductions in electrolyzers and related equipment. However, this does not justify exclusion of the opportunity presented by biomass-derived hydrogen in the Draft Volume.

We recommend that the Draft Volume be revised to include biomass-to-hydrogen technologies. This will align well with efforts, such as the Department of Energy's Hydrogen Shot, which examine both electrolytic and non-electrolytic pathways holistically.[20]

In general, the RNG industry is happy to produce biomethane in the near term—while the gas system is primarily carrying methane—but we do not want to be excluded from producing hydrogen when that gas becomes a larger (and perhaps primary) energy carrier. Further, we do not want hydrogen produced from biological material to be incorrectly termed as "non-green" or "non-renewable".[21]

Methods of creating biomass-derived hydrogen can coexist with other methods of hydrogen production, including pathways that involve electrolysis of hydrogen using renewable power, and are likely to be an important enabling pathway toward achieving carbon neutrality and simultaneously reducing other significant environmental impacts in the forest and agricultural sectors.[22] The Commission should ensure that all methods of producing hydrogen that can contribute toward carbon neutrality are allowed to be considered through policies that recognize the full LCA benefits and disbenefits of hydrogen supply chains.

**Continued Work Should Be Done to Maximize the Sustainable Use of All Organic Waste Feedstocks**

This iteration of the IEPR presents an important opportunity to examine all feedstocks that can be converted into renewable gases in the long run, some of which have large co-benefits. We support the Draft Plan's recommendation to include all feedstocks in new renewable gas incentives.

The state has closely looked at how some organic wastes can be treated, through AD, to reduce methane, but that is not the full universe of potential bio-feedstock for renewable gas production. While continuing the successful deployment of AD, CEC should also develop a framework to promote the utilization of organic wastes and residues that are not well suited to AD. For example, the best long-run use of these materials may be to convert them to create either carbon- negative renewable hydrogen

[20] https://www.energy.gov/eere/fuelcells/hydrogen-shot-summit

[21] We believe that the strong environmental performance of hydrogen derived from biomass—in many, but not all, instances—can be demonstrated through proper lifecycle accounting (LCA) that fully captures greenhouse gas emissions (and other impacts) associated with gathering of feedstocks, production methods, end use, etc. of such hydrogen.

[22] LLNL, *Getting to Neutral: Options for Negative Carbon Emissions in California,* Baker et al., January, 2020, Lawrence Livermore National Laboratory (LLNL). https://www-gs.llnl.gov/content/assets/docs/energy/Getting_to_Neutral.pdf

(when coupled with carbon capture and sequestration) or bioliquids.[23] This process has the potential to facilitate several ancillary environmental benefits, including reducing wildfire risks and the negative impacts of openly burning agricultural waste.

A year-long, multi-stakeholder working group convened by the Joint Institute for Wood Products Innovation[24] (Joint Institute) is developing recommendations on how to expand a forest biofuels industry in service of California's forest resilience, climate, and air quality goals.[25] We recommend that the CEC take note of these recommendations and improve the Draft Volume based on the Joint Institute's report.

**RNG Should be Better Integrated into Core IEPR Analyses**

There is no substantive discussion of changes in RNG supply in the "Gas Production and Supply" section of Chapter 9, despite the fact that in state supply is currently increasing. It would be helpful to the RNG industry if CEC would undertake a long-term effort to study RNG supply (at a minimum for supply in California). We would be happy to assist CEC staff in initiating this work. Ideally, this analysis could be updated in each IEPR iteration, as is done for sources of conventional gas supply, to show how RNG is progressing in incrementally displacing conventional gas.

**Tools for Strategic Decommissioning Should be Inclusive of RNG and Provide Transparency as to how Changes to the Gas System Will Benefit from (and/or Impact) RNG Projects**

As the CEC develops tools for data-driven analysis of strategic gas decommissioning, we would request that any such tools fully consider RNG projects. RNG project developers need clear insight and guidance from the Commission as to where their projects should be constructed and interconnected. If a portion of the gas system is to be taken out of service (or planned capacity not built) at some point in the future, project developers need to be aware of this potential outcome, so that they do not plan to interconnect their project to that portion of the system.

**Conclusion**

Based on the large variability in RNG feedstocks, project location, uncertainties surrounding emerging technologies, and the benefits of a storable and dispatchable resource in various sectors, the highest and best use of the bioresources that can be converted to renewable gas is not yet known. However, the fact that we must plan to use these feedstocks constructively should no longer be in question. Given that the highest and best use of this resource, and perhaps the appropriate energy carrier to target (hydrogen vs. biomethane), will likely change over time with the evolution of our energy system, it remains important to continue to incentivize and develop well-coordinated programs to promote renewable gas use across all sectors.

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[23] Ibid.

[24] The Joint Institute is a state research and advisory institute that sits within the Board of Forestry and Fire Protection, and was established by Executive Order B-52-18 to address California's forest management and wildfire crisis.

[25] A Draft of the Joint Institute's full report can be found here: https://bof.fire.ca.gov/media/bnxdqral/full-13-d-a-joint-institute-forest-biofuels-draft-report-jan-10-2022_ada.pdf

This iteration of CEC's IEPR, in tandem with other ongoing efforts such as the development of CARB's Scoping Plan, and CPUC's Long-term Gas Planning Docket[26] reflects our most up-to-date understanding of the many technologies which will be necessary to decarbonize California's gas system. Our industry is excited about the Draft Volume's acknowledgement of the essential role of renewable gases in decarbonizing the state's gas system. A policy gap remains to recognize and take advantage of biologically-derived renewable hydrogen and CCS in the long term, and the various cross-sector interactions and benefits which organic waste conversion technologies are uniquely positioned to create should be fully recognized. We thank CEC for the opportunity to comment and for your important work in developing the latest iteration of this in-depth, world-leading report.

Sincerely,

/S/

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[26] R. 20-01-007