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June 3, 2021

J. Andrew McAllister, Lead Commissioner for the 2021 IEPR
Siva Gunda, Lead Commissioner for the Natural Gas Track
California Energy Commission
1516 Ninth Street
Sacramento, California 95814

Re: Docket no. 21-IEPR-05 – IEPR Commissioner Workshop on Natural Gas Infrastructure

Dear Commissioners McAllister and Gunda,

The Coalition for Renewable Natural Gas (RNG Coalition)[1] offers the following comments in response to the 2021 Integrated Energy Policy Report (IEPR) Commissioner Workshop on Natural Gas Infrastructure (Workshop) held by the California Energy Commission (CEC or Commission) on May 20, 2021.

Given the significant opportunity for renewable natural gas (RNG) to serve as a decarbonization strategy in California's waste and energy sectors, our industry looks forward to achieving additional greenhouse gas (GHG) reductions and other environmental benefits in pursuit of a decarbonized gas system in California.[2]

While the overall effort to adapt the gas system to achieve carbon neutrality is a broad one,[3] our comments herein are primarily focused on the aspects of the Workshop which either explicitly or implicitly pertain to the use of RNG in both the immediate and longer-term future.

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 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

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

[2] In line with the *Executive Order B-55-18 to Achieve Carbon Neutrality*: https://www.ca.gov/archive/gov39/wp-content/uploads/2018/09/9.10.18-Executive-Order.pdf

[3] The RNG Coalition has long emphasized that our goal is not to oppose other alternatives that may help to accomplish the changes needed to meet the State's ambitious climate goals—including electrification where appropriate. We believe that RNG and other decarbonization strategies must not dogmatically be pitted against each other and that, in fact, many strategies must work synergistically together to achieve carbon neutrality.

but not limited to clean air, improved waste management, increased job development, energy independence, and resource diversity.

Between 1982 and 2011, 30 RNG projects were developed—most of which were incentivized by various state's Renewable Portfolio Standard Programs (RPS) and underwritten by the monetization of Renewable Energy Credits (RECs) that RNG-sourced electricity generated under such programs. Expanding rapidly throughout the last decade, there are now 157 operational RNG production facilities in North America with 155 under construction or in substantial development.[4] Most of the RNG projects developed since 2011 have been incentivized by transportation decarbonization programs, including the Unites States Environmental Protection Agency's (EPA) Renewable Fuel Standard Program[5] and California, Oregon, and British Columbia's Clean Fuel/Low Carbon Fuel Standards (CFS/LCFS). RNG is increasingly being used to decarbonize natural gas end-use applications in stationary sectors, marked by the emergence of new utility procurement programs such as Oregon's nation leading RNG procurement requirement.[6]

Renewable gases have the potential to significantly contribute toward achieving California's climate change goals, provide a cost-effective opportunity to help decarbonize existing natural gas infrastructure, and drive economic development. It would be a fantastic outcome if, in this IEPR cycle, the CEC could develop a clear vision on how to deploy and use renewable gas in conjunction with other necessary decarbonization strategies that may reduce overall demand for gas.

Environmental Benefits and Long-Term Role of RNG in California

In planning the future of California's gas system, RNG derived from biologic wastes deserves significant near-term attention as a well-proven, cost-effective technology available at scale. All commercially available methods of producing RNG from waste feedstocks have excellent greenhouse gas performance, exemplified by carbon intensity (CI) modeling employed by California's LCFS program.[7] Moreover, some RNG projects capture and destroy a greater amount of GHG (as measured on a tons of carbon dioxide equivalency basis) than are emitted during the fuel's combustion, making it one of the few fuels available commercially today with a carbon-negative impact (i.e., better than carbon-neutral).

There remain thousands of landfills, wastewater treatment facilities, and livestock operations across North America—including many in California—where raw biogas (methane) is being flared, or worse, is uncollected and escaping fugitively into the atmosphere. Methane is a short-lived climate pollutant that—when assessed over a 20-year timeframe—is up to 84 times as potent as a greenhouse gas as

[4] https://www.rngcoalition.com/rng-production-facilities

[5] RNG has grown substantially thanks to the RFS program, making up over 95% of the lowest-GHG-emission cellulosic biofuel production category and generation of D3 RINs (given for fuels that create at least a 60% reduction in lifecycle greenhouse gases). For more information, see EPA's program summary: https://www.epa.gov/renewable-fuel-standard-program/renewable-fuel-annual-standards

[6] See Oregon Public Utilities Commission's adoption of RNG procurement rules under Oregon Senate Bill 98: https://apps.puc.state.or.us/orders/2020ords/20-227.pdf

[7] For example, see the lifecycle analyses conducted by California's Air Resources Board: https://ww3.arb.ca.gov/fuels/lcfs/fuelpathways/pathwaytable.htm

carbon dioxide.[8] Pursuing increased development and utilization of RNG will incentivize improved management of these waste streams while simultaneously providing a flexible, circular renewable energy resource.

Use of Renewable Gases is Necessary to Reach California's Climate Goals

RNG is both an important near-term decarbonization strategy for applications which currently utilize fossil-derived natural gas and, in the longer-term, will be necessary in applications that have certain reliability requirements, or which are not well suited to electrification.[9] We applaud the Commission for acknowledging the role of renewable gas at the Workshop.

Studies conducted by Energy and Environmental Economics (E3) for a number of jurisdictions—including California[10] and New York[11]—also show RNG to be a necessary decarbonization strategy, even in high-electrification scenarios. E3's analysis conducted for the California Air Resources Board in October of 2020 identified switching to low-carbon fuels as one of the four pillars of decarbonization that jurisdictions committed to carbon neutrality will rely on. E3's work for the Commission also show widespread RNG use across sectors and significant demand for natural gas remaining through 2050,[12] which should be decarbonized using renewable gaseous fuels wherever possible pursuant to the goal of carbon neutrality. The role of RNG as a decarbonization strategy was also recently examined by the World Resources Institute, who published a paper illustrating how RNG fills a unique niche as part of a broader low-carbon technology portfolio.[13]

RNG is Complementary to Methods to Reduce GHGs Through Gas Demand Reduction, Such as Efficiency and Electrification

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 that RNG can—and should—be a significant contributor to this effort. In understanding RNG's role, it is important to consider both the well proven technology readiness level of technologies that make RNG, such as Anerobic Digestion (AD), and the flexibility provided by RNG's full fungibility with all conventional gas applications. In the long run, RNG can be directed to the end-uses where it is most needed, serving in tandem with technologies that require time

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[8] Myhre, G. et al., *Anthropogenic and Natural Radiative Forcing*, 714. https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf

[9] Bataille et al., *A Review of Technology and Policy Deep Decarbonization Pathway Options for Making Energy-Intensive Industry Production Consistent with the Paris Agreement.* https://www.sciencedirect.com/science/article/abs/pii/S0959652618307686

[10] E3, *Achieving Carbon Neutrality in California.*

https://ww2.arb.ca.gov/sites/default/files/2020-10/e3_cn_final_report_oct2020_0.pdf

[11] E3, *Pathways to Deep Decarbonization in New York State.*

https://climate.ny.gov/-/media/CLCPA/Files/2020-06-24-NYS-Decarbonization-Pathways-Report.pdf

[12] For example, see pg. 35 of the CEC report entitled *The Challenge of Retail Gas in California's Low Carbon Future,* which finds that natural gas in California's residential, commercial, and industrial sectors is still ~1,000 tBtu in 2050 in the high-building-electrification case: https://ww2.energy.ca.gov/2019publications/CEC-500-2019-055/CEC-500-2019-055-F.pdf

[13] World Resources Institute, *Renewable Natural Gas as a Climate Strategy: Guidance for State Policymakers.*

https://www.wri.org/publication/renewable-natural-gas-guidance

to scale and achieve production cost reductions (e.g., electrolytic hydrogen) or that involve the turnover of long-lived capital stock (e.g., electrification).[14]

End-use electrification is likely also an important solution in achieving carbon neutrality, based on its ability to conceivably serve various applications (using 100% carbon neutral supply in the long term). We recognize that one outcome of the 2021 IEPR, as discussed in the Workshop, will likely be to facilitate increased electrification of natural gas and other fuel-served end-uses. However, these electrification goals do not preclude the use of RNG and renewable hydrogen as significant long-run energy sources.

The establishment of a long-term gas planning framework[15] in California presents the perfect opportunity to explore the best mix of RNG, efficiency, electrification and other technologies in order to maximize energy system reliability and the most efficient and responsible management of RNG resources in achieving carbon neutrality.

Gas Planning Design Considerations Pertaining to RNG

A Long-run Integrated Resource Plan for Gas is an Essential Step to Manage Decarbonization

California's efforts to explore the future of the gas system are not being conducted in isolation. Many other jurisdictions are wrestling with the same challenging questions and finding that an integrated planning process is needed—due to a dynamic landscape involving shifts in gas system load (and peak demand) caused by changing weather patterns driven by climate change, development of alternative strategies to supply low carbon heat, changes in the power sector, and technological evolution in supply methods and locations of both conventional geologic and renewable gases.

Although other jurisdictions are beginning to explore these issues in earnest,[16] we are not aware of a perfect model for natural gas infrastructure planning process to be patterned off of, which means that California is likely to provide important leadership on these issues. That said, some important studies conducted recently about gas planning in other jurisdictions do deserve attention,[17] and have applicable lessons for the California conversation.

[14] We strongly support the language in the Proposal as an appropriate and necessary starting point for planning this decarbonization process.

[15] We applaud efforts to facilitate open dialog around such a long-run framework. For example, RNG Coalition participated in the discussions conducted by Gridworks that lead to the publication of the report entitled *Gas Resource and Infrastructure Planning for California*, available here: https://gridworks.org/initiatives/cagas-system-transition/

[16] For example, see New York Public Service Commission Case 20-G-0131.

[17] For example, stakeholders in the European Union have conducted a multitude of studies on the issue. For a good summary see: Cătuţi et al., *The Future of Gas in Europe: Review of Recent Studies on the Future of Gas*, available from: https://www.ceps.eu/wp-content/uploads/2019/08/RR2019-03_Future-of-gas-in-Europe.pdf

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

The Workshop mentioned developing tools for data-driven analysis of strategic gas decommissioning. We would request that any such tools also 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 well aware of this potential outcome, so that they do not plan to interconnect their project to that portion of the system.

Incentives for Sourcing Renewable Gases Should Be Expanded Even as Gas Demand Decreases

If California wants to maximize the rate of decarbonization of residential, commercial, and industrial activities currently supplied by conventional gas, the adoption of a renewable gas procurement programs or standards (RGS) which utilize a form of renewable energy certificates should be prioritized. Such a program would operate in an analogous fashion to renewable portfolio standards (RPS) and Clean Energy Standards (CES) in the electricity sector. RGS policies could be structured around either volumetric percentage targets (like California's RPS) or, preferably, GHG performance targets (similar to California's LCFS).[18]

Given the fact that significant natural gas usage will remain through 2050—as evidenced by the aforementioned studies—it is important that the Commission's long-term planning process recognizes the value of pilot programs, voluntary offerings, and programs which will allow utilities to procure RNG on behalf of their customers in the near term.

Conclusion

RNG is a no regrets decarbonization strategy that is ready for broad deployment immediately. Moving swiftly to begin the use of RNG will allow alignment with the major studies outlining full decarbonization of California and create significant momentum toward reaching the state's goal of achieving 40% of 1990 levels economy-wide reduction in GHG emission by 2030 and carbon neutrality by 2045.

The RNG Coalition thanks the Commissions for its efforts in advancing these topics in this IEPR cycle and working toward adopting a framework for gas infrastructure which will enable California to achieve economy-wide carbon neutrality. We look forward to working with CEC and other stakeholders in the finalization and implementation of the 2021 IEPR.

[18] We prefer RGS policies based on GHG performance targets using full LCA, as discussed above. Full LCA has already been successfully included in multiple regulatory programs, including for transportation uses of RNG in the California Low Carbon Fuel Standard, British Columbia Low Carbon Fuel Standard and Oregon Clean Fuels Standard, and Oregon's and California's renewable gas standard procurement programs for gas utilities. Under these programs, projects with the lowest CI scores receive the greatest incentive.

Sincerely,

/S/

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