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RNG Coalition's Comments on Draft Report Natural Gas Distribution in Californiaâ€™s Low-Carbon Future

Please see our attached comments.

Additional submitted attachment is included below.

November 13, 2019

Laurie ten Hope
Deputy Director
Research & Development Division
California Energy Commission
1516 Ninth Street
Sacramento, California 95814

RE: Comments on *Natural Gas Distribution in California's Low-Carbon Future*

Dear Director Hope:

The Coalition for Renewable Natural Gas (RNG Coalition) is a California-based nonprofit organization representing and providing public policy advocacy and education for the Renewable Natural Gas (RNG) industry. 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 Coalition respectfully submits these comments to the California Energy Commission (CEC) in response to the publication of the draft report entitled *Natural Gas Distribution in California's Low-Carbon Future* (Aas et al., 2019) prepared for CEC by Energy and Environmental Economics (E3) and the University of California, Irvine.[1]

In many respects *Aas et al., 2019* reinforces our comments[2] initially submitted in response to the CEC Staff Workshop on the Natural Gas Distribution Infrastructure and Decarbonization Targets Workshop held on June 6, 2019. We look forward to working with the CEC, other agencies, and all stakeholders to develop policies that best achieve the decarbonization outcomes examined by *Aas et al*. One policy that could be helpful in achieving this goal would be a Renewable Natural Gas Procurement Program as called for by Senate Bill 1440 (Hueso, 2018).[3]

[1] Aas, Dan, Amber Mahone, Zack Subin, Michael Mac Kinnon, Blake Lane, and Snuller Price. 2019. *Natural Gas Distribution in California's Low-Carbon Future: Technology Options, Customer Costs and Public Health Benefits.* Prepared for the California Energy Commission. Publication Number: CEC-500-2019-055-D.

[2] https://efiling.energy.ca.gov/GetDocument.aspx?tn=228816&DocumentContentId=60149

[3] SB 1440 bill text here: https://leginfo.legislature.ca.gov/faces/billVersionsCompareClient.xhtml?bill_id=201720180SB1440&cversion=20170SB144098AMD

E3's Work Continues to Show the Complementary Nature of RNG Adoption and Building Electrification

We believe that all of the work done to date by E3 has demonstrated the importance of combining RNG with other strategies to reduce greenhouse gas emissions in California.[4] We reiterate that decarbonization must not rely on a single fuel alone[5] and that E3's work shows that RNG—and especially biomethane—is an essential contributor to California's decarbonization effort, because it is a cost-effective solution available at scale in the near-term.[6]

We are pleased to see that *Aas et al., 2019* finds that, "RNG, particularly biomethane, is used in all mitigation scenarios that achieve an 80 percent [greenhouse gas] reduction by 2050."[7] We also note that biomethane is not used at any significant volume in the *Reference scenario* but it reaches 25% and 16% of remaining natural gas demand energy service demand in the *High Building Electrification* and *No Building Electrification* scenarios respectively.[8] We believe this scenario analysis strongly justifies our position that additional policy support is needed to quickly move RNG toward its full potential.

Biomethane is a Cost-Effective Source of Greenhouse Gas Reductions Today. We Appreciate it Being Differentiated from Synthetic Natural Gases, which are Currently more Expensive but May Decline in Cost Over Time.

We appreciate that *Aas et al. 2019* attempts to better differentiate between biomethane and other sources of RNG. The RNG supply curves in *Aas et al., 2019* clearly show that biomethane is lower cost than other forms of RNG, is an effective complement to electrification, and that it remains primarily untapped relative to its potential.

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[4] E3 has produced a series of work that shows the complementary nature of biomethane-derived-RNG and electrification. This series includes: *Deep Decarbonization in a High Renewables Future: Updated Results from the California PATHWAYS Model* (June 2018) and *Residential Building Electrification in California* (April 2019) and *Aas et al. 2019*.

[5] We reemphasize that our goal is not to oppose other alternatives that may help to accomplish the changes in buildings needed to meet the State's ambitious climate goals, including building electrification where appropriate.

[6] Our organization focuses our current advocacy on biogas-derived biomethane—because of its near-term commercial potential—but we are supportive of all sustainable ways of making RNG. *Aas et al. 2019* explains four categories of RNG: biomethane derived from waste biogas resources via anaerobic digestion, biomethane derived from waste or residues via gasification of biomass (a biofuel production process), hydrogen derived from electrolysis, and synthetic natural gas derived from hydrogen and a renewable CO_2 source. Each of these technologies can produce higher-carbon and lower-carbon variants. Generally, we support all low carbon variants of each, after considering other dimensions of sustainability, and based on the facts in each specific case.

[7] *Aas et al. 2019*, see page 80.

[8] *Aas et al. 2019,* see Table 2 on page 34.

However, we continue to believe E3's work is likely conservative with respect to long-term RNG supply potential and costs, including for biomethane.[9] The fact that biomethane still provides such strong contribution in all scenarios, even under conservative assumptions, shows that quickly promoting additional biomethane use is a 'no-lose' option that should be pursued expeditiously.

Further, accurately forecasting technology cost declines in embryonic industries (i.e., non-biomethane forms of RNG) is extremely challenging. Therefore, it is possible that all renewable gases could conceivably be cheaper than E3 currently predicts in the out years, once these industries reach appropriate scale. We appreciate the attempt to acknowledge this in the updated analysis. The history of the solar and wind industries demonstrates that just because options look expensive in the present day you should not abandon attempts to promote technology cost declines in potentially high-impact technologies (or put arbitrary constraints on their use). We need more arrows in the quiver to win the fight against climate change, not less.

It's Possible to Design Policies that Allow Competition Between Sources of GHG Reductions in the Building Sector to Achieve Lowest-Cost Outcomes

We continue to believe that, once RNG and certain electrification technologies achieve more widespread adoption, it may be useful to design policies that allow for multiple GHG abatement options to compete directly to help minimize the cost of reaching our decarbonization goals. California has established other successful policies that create competition across a variety of greenhouse gas reduction options. For example, the Low Carbon Fuel Standard (LCFS) and the Renewable Portfolio Standard are both technology-neutral, market-based program that reduce lifecycle greenhouse gas emissions of various sectors.

These programs have many years of proven success and the same concepts could be used to create a policy to promote cleaner options in buildings. We note that in *Aas et al. 2019* biomethane is used in buildings in all scenarios, even in 2050.[10] Creating a policy that allows

[9] We note that the biomethane portion of the supply curve has not changed much relative to prior work. E3 has produced a series of work that rely heavily on the UC Davis RNG work—and therefore the Electrigaz 2011 study—for their biomethane RNG cost assumptions. See our prior comments on those studies. Full citations are below:

Amy Jaffe et al., *The Feasibility of Renewable Natural Gas as a Large-Scale, Low Carbon Substitute*, STEPS Program, Institute of Transportation Studies, UC Davis, https://ww3.arb.ca.gov/research/apr/past/13-307.pdf

Electrigaz, *Economic Study of Renewable Natural Gas Production and Injection Costs in the Natural Gas Distribution Grid in Ontario - Biogas Plant Costing Report.* Prepared for Union Gas and Enbridge. September 2011. Available starting on page 82 of the pdf here: https://www.uniongas.com/-/media/about-us/regulatory/rate-cases/eb-2017-0255-cap-and-trade-compliance-plan-2018/UNION_IRR_2018_Cap_and_Trade_20180119.pdf?la=en&hash=C3827CA2252B804DCECA8D289D4F95A11D15E289

[10] *Aas et al. 2019*, see Figure 9 on page 38.

for head-to-head competition between RNG and other technologies around greenhouse gas performance would minimize long-run consumer costs.

The CEC, the CPUC and CARB, should examine if an LCFS-like analog for the building sector could be developed. If such an overarching program is established, the CEC should carefully examine how specific subprograms, such as those authorized by SB 1477 (Stern, 2018) and SB 1440 (Hueso, 2018), interact with other policies established to reach the overarching goals. If an overarching policy is not considered, at a minimum the interaction effects between these policies should be clearly evaluated and transparently presented to all stakeholders.

Conclusion

We appreciate that the ongoing dialogue on building decarbonization issues. We respectfully ask the CEC to work with its sister agencies to create a well-designed policy framework that promotes the use of RNG as one of many important options to help decarbonize buildings in California.

Thank you very much for your consideration of these comments. Please do not hesitate to contact me directly with any questions or concerns.

Sincerely,

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