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BAC Comments on E3 Report

Additional submitted attachment is included below.



November 13, 2019

California Energy Commission
Docket Unit, MS-4
1516 Ninth Street
Sacramento, CA 95814-5512

Re: Comments on Draft Report on Natural Gas Distribution in California's Low-Carbon Future (CEC-500-2019-055-D) – Docket No. 19-MISC-03

Dear Energy Commission:

The Bioenergy Association of California submits these comments on the *Draft Report on Natural Gas Distribution in California's Low-Carbon Future*, issued in October 2019. The Draft Report provides significant data and modeling that can help to inform California's plans to reduce carbon emissions 80 percent by 2050. In particular, the Draft Report's finding that relatively low-cost RNG could provide almost half of the gas needed in 2050¹ is very exciting and warrants significantly more discussion and analysis to determine what the highest and best use of the in-state RNG potential and what infrastructure is needed (and where) to put that RNG to best use.

The current draft contains several significant errors and omissions, though, that distort the Draft Report's findings and recommendations. Those errors and omissions should be corrected before the report is finalized or used to inform critical energy and infrastructure choices going forward. Some of the most critical issues, described more fully below, are:

- The Draft Report continues to minimize the urgency of Short-Lived Climate Pollutant reductions and fails to mention state laws requiring reduction of these most damaging climate pollutants.
- The Draft Report's assumptions about biomass potential are not scientifically based and orders of magnitude lower than other assessments by UC Davis and others.
- The Draft Report makes unsupported assumptions about electrification impacts on wildfire in the coming decades.
- The Draft Report largely ignores the costs of hardening electricity infrastructure to reduce wildfire risks and climate change impacts.

¹ Draft Report at page 29.

- The Draft Report fails to consider the climate change impacts (or future regulatory costs) of electricity caused wildfires, which are one of the state's largest greenhouse gas emitters and the single largest source of black carbon emissions.
- The Draft Report fails to consider the public health impacts of electricity caused wildfires in its discussion of outdoor air quality impacts, despite the fact that electricity caused wildfires are now a major source of air pollution in California.
- The Draft Report fails to address the costs or public health impacts of backup generators needed during electricity outages, which are increasingly necessary to ensure reliable power supplies.
- The Draft Report purports to be about the role of natural gas in the state's decarbonization plans, but then focuses mostly on building decarbonization, which skews the assessment of the role of natural gas overall.

The Bioenergy Association of California (BAC) represents more than 70 local governments, public agencies, private companies, utilities, community development and environmental groups working to promote sustainable bioenergy development in California. BAC's public sector members include cities and counties, air quality and environmental agencies, wastewater and solid waste agencies, research institutions, non-profit environmental and economic development groups, and municipal utilities. BAC's private sector members include energy and waste companies, technology providers, investors, agricultural and food processing companies, an investor owned utility and private investors. BAC members are building sustainable bioenergy projects to provide flexible generation and baseload renewable power, renewably hydrogen for fuel cells, low carbon and carbon negative transportation fuels, pipeline biogas, and combined heat and power.

1. The Draft Report Continues to Ignore the Importance of Reducing Short-Lived Climate Pollutants, as Required by SB 1383.

The Draft report devotes considerable attention to methane leaks, but fails to mention the state's Short-Lived Climate Pollutant (SLCP) laws or other sources of SLCP emissions, which are far larger and more significant than methane leaks.² In a report that is intended to guide the state's decarbonization efforts, this omission must be corrected. In particular, BAC recommends:

- A. The discussion of the state's climate policy framework should include Senate Bill 605 (Lara, 2014) and Senate Bill 1383 (Lara, 2016) on Short-Lived Climate Pollutants.
- B.** The report should include a discussion of SLCP emissions that can be reduced through biogas production and use, particularly since there are many other SLCP sources that are significantly larger than methane leaks from the natural gas system.

² The discussion of the policy framework on pages 11-12 does not mention SB 605, SB 1383, or the importance of SLCP reductions in the state's *California's 2017 Climate Change Scoping Plan*.

Methane emissions from organic waste are many times greater than methane leaks from the natural gas system.³ Black carbon emissions from wildfire, many of which are caused by electricity infrastructure, are even greater.⁴ Since black carbon is more than 40 times as damaging to the climate (based on the 20-year global warming potential of each),⁵ including a discussion of black carbon emission from electricity caused wildfires is also critical to any discussion of decarbonization.

2. The Assumptions about Biomass are Not Scientifically Based and Should Be Corrected.

The Draft Report makes a number of assumptions about California's biomass potential that are not supported with citations and are significantly lower than widely accepted assessments of California specific biomass potential. A few of the assumptions that must be corrected are:

- A. The Draft continues to use a population weighted fraction of the nationwide biomass potential, despite denying to the CEC that that is how it derived the California biomass potential and despite the existence of far more accurate assessments. In a letter to the California Energy Commission in June of this year, E3 denied that it was correlating biomass potential with population,⁶ yet the Draft Report states explicitly that "The total biomass available to California is assumed to be the state's population-weighted share of the national supply."⁷ It is hard to reconcile these two statements, but assuming that the Appendix to the Draft Report is correctly stating the basis for E3's biomass assessment, then E3's earlier letter to the CEC was not accurate. More importantly, using a population weighted fraction of the nationwide biomass potential leads to a California potential that is less than one-third of the assessment provided by UC Davis, which is based on actual California data. UC Davis found that California produces 19.5 million bone dry tons of biomass residue annually, while E3's population-weighted assessment is only 6 million bone dry tons annually.⁸ E3 should use the far more accurate, California specific assessment of biomass potential prepared by UC Davis for the California Biomass Collaborative and cited in the Commission's *2017 Integrated Energy Policy Report*.
- B. E3 asserts incorrectly that current forest biomass amounts may not be sustainable as the current tree mortality crisis will not continue indefinitely. This is a highly misleading statement when UC Davis' assessment of forest biomass

³ *Short-Lived Climate Pollution Reduction Strategy*, adopted by the California Air Resources Board in March 2017. Available at: https://www.arb.ca.gov/cc/shortlived/meetings/03142017/final_slcp_report.pdf.

⁴ Id.

⁵ Id.

⁶ E3 letter to Guido Franco, CEC, dated June 24, 2019, in response to BAC's comments on E3's June presentation to the CEC.

⁷ Draft Report, Appendix D, page D-17.

⁸ Draft Report, Appendix D, Table D-12.

potential was conducted in 2013, prior to the current tree mortality crisis.⁹ This statement is also unsupported by findings from CalFire and state law, which requires a significant increase in forest fuel removal as well as other vegetation that must be removed for defensible space and to mitigate wildfire risks.¹⁰ CalFire’s assessment is that California will need to maintain significantly higher levels of forest fuel removal – and other vegetation removal – for many decades to come. E3’s assertions are not supported by citations and are not consistent with CalFire, the Governor’s Forest Management Task Force, or state law. This statement should be corrected to be consistent with state law and CalFire policy.

- C. E3 claims, without citation, that the US Department of Energy’s national biomass assessment is “generally understood to represent an optimistic outlook on biomass resource potential.” If this is generally understood, then why doesn’t E3 provide a single reference to back up that statement? And even if this assertion is accurate generally, E3 provides no reference that verifies whether it is true or not for California biomass potential. More surprisingly, if E3 has reason to believe that the US DOE’s biomass assessment is not accurate, then why is E3 using it as the basis for its own assessment of California biomass potential? Assertions like this, without citation or more direct analysis related to California biomass potential, should not be included in the final report.

3. The Draft Report Makes Unsupported and Unrealistic Assumptions about Electrification Impacts on Wildfire in the Coming Decades.

The Draft Report makes several assertions related to wildfire costs that are not supported by citations or analysis. In particular, the Draft Report states that since transportation electrification will require more electricity than building electrification, building electrification will not cause increased wildfire risks. That statement does not make logical sense. Even if transportation electrification will be responsible for a greater share of increased wildfire risks, it does not follow that building electrification will lead to no increase in wildfire risks.

Second, the Draft Report asserts – again, without citation or analysis – that building electrification is unrelated to the footprint of the electricity grid, and therefore will not increase wildfire risks. Appendix D to the Draft Report states that “To the extent the risk of wildfires is related to the footprint of the electricity grid rather than the annual energy being used, then building electrification would have negligible impact on that risk.” There are a lot of assumptions in this statement. First, what does E3 mean by the statement that wildfires are related to the “footprint of the electricity grid?” This statement is not supported by empirical evidence or system wide studies of electricity caused wildfires, many of which are due to faulty equipment or negligence, not the “footprint” of the grid, which isn’t a defined term or term of art. Second, there is no analysis or data showing that building electrification would not affect the “footprint” of

⁹ Id.

¹⁰ See, eg, SB 901 (Wood, 2018), which requires a doubling of forest fuel removal. See also, Public Resources Code requirements for defensible space.

the grid. Building electrification would certainly increase the need for additional electricity generation, transmission, distribution, and storage. How are those not related to the “footprint” of the electricity grid? This nonsensical statement cannot be the basis for concluding that increased building electrification will not increase the risks of electricity caused wildfires.

4. The Draft Report Largely Ignores the Costs of Hardening Electricity Infrastructure.

The Draft Report concludes that it will be less expensive to electrify than to decarbonize California’s gas supply, but ignores the likely costs of hardening California’s electricity infrastructure both to reduce the risks of causing wildfires and to reduce climate change and other impacts on the infrastructure itself. The Draft Report focuses on a technology comparison, stating that the technologies needed to provide decarbonize gas are much more expensive and the technologies available to electrify are already commercialized.¹¹ This ignores many other significant costs, however, including the very steep costs of hardening California’s electricity infrastructure. Public and policymaker outrage at the Public Safety Power Shutoffs to date is likely to increase calls to underground transmission and distribution lines. Doing so would cost the state trillions of dollars. Even if California only undergrounds a small percentage of power lines, the cost will be in the tens to hundreds of billions of dollars. The Draft Report fails to include this issue in the comparison of costs with the gas sector.

The Draft Report implies incorrectly that wildfire and climate change impacts will impact electricity and gas infrastructure equally. As the Draft states, “Wildfires, flooding, and extreme heat mean that the provision of reliable and low-cost energy services in the state is becoming more complex and challenging.”¹² While this statement is true on its face, it implies that those challenges face all energy types equally, which is not at all the case. A recent study by ICF presented to the California Public Utilities Commission in January showed that electricity infrastructure is many times more vulnerable than gas infrastructure to floods, heat, high winds, severe storms, sea level rise, wildfire, and other climate impacts and disasters.¹³ The Draft Report does not analyze the increased costs that electricity ratepayers are likely to bear as a result of climate change impacts on electricity infrastructure. Gas infrastructure, by contrast, is much more resilient and much easier to harden against climate change impacts and other disasters. None of this analysis is included in the Draft Report.

5. The Draft Report Fails to Consider the Climate Impacts of Increased Electrification.

The Draft Report fails to assess the likely increase in climate pollution due to increased electrification. Electricity infrastructure has caused the majority of California’s large fires over the past decade. Electricity caused wildfires are a major source of black carbon

¹¹ Draft Report at page 2.

¹² Draft Report at page 8.

¹³ http://www.climateassessment.ca.gov/events/docs/20190124-Slides_ICF.pdf.

emissions, which are 3200 times more damaging to the climate than carbon dioxide, the main climate pollutant from fossil fuel burning. Yet the Draft Report does not consider the increased climate pollution that would likely be caused by increased electrification. The Draft Report also fails to consider that at some point, California will have to include wildfire emissions in the state's greenhouse gas emissions inventory and will have to hold regulated entities responsible for wildfire emissions, just as it holds the gas utilities responsible for methane leaks. SB 1383 requires a 40 percent reduction in anthropogenic black carbon emissions.¹⁴ Wildfire caused by electricity infrastructure is certainly an anthropogenic source of black carbon emissions, yet E3 fails to even mention this risk to future electricity rates or to the state's overall climate strategy.

6. The Draft Report Fails to Consider the Public Health Impacts of Wildfire Smoke Caused by Electricity Infrastructure.

The Draft Report provides an incomplete and misleading discussion of outdoor air quality issues. The Draft concludes that electrification will provide greater benefits for outdoor air quality based on several assumptions, including the assumption that bioenergy will continue to rely on combustion (which is the source of NOx emissions). This ignores the potential for biogas to be used in fuel cells and also ignores quickly improving NOx emissions controls. More significantly, the Draft Report fails to even mention the impact on air quality of electricity caused wildfires. Electricity sparked wildfires cause millions of person days each year of unhealthy and hazardous air quality. For example, the 2013 Rim Fire north of Yosemite (sparked by electric wires) caused 7 million person days of unhealthy air quality and tripled emergency room visits in the surrounding areas.¹⁵ There have been five fires since then that are larger than the Rim Fire, and four of those were caused by electricity infrastructure. This is an enormous amount of air pollution that is directly caused by electricity infrastructure and yet the Draft Report never mentions electricity sparked wildfires in its comparison of outdoor air quality impacts of electrification versus gas decarbonization.

7. The Draft Report Fails to Consider the Air Quality and Climate Impacts of Backup Generation.

The Draft Report also ignores the need for backup generation and its impacts on climate change and air quality. Recent experience shows that many homeowners, emergency services, and other buildings will buy diesel backup generators to ensure that they have reliable electricity supplies. If buildings are electrified, the use of polluting backup generators is also likely to increase – especially since batteries cannot provide long-term (weekly or seasonal) energy supplies.¹⁶ At a minimum, any plan to electrify buildings should consider needs for backup generation and consider biogas and other forms of renewable gas to provide backup generation rather than diesel.

¹⁴ Health and Safety Code section 39730.5.

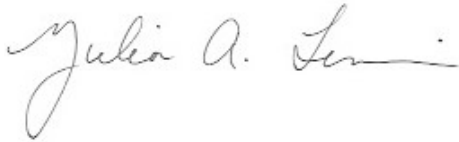
¹⁵ Long, et al, *Aligning Smoke Management with Ecological and Public Health Goals*, 2017.

¹⁶ Clack, Christopher T.M. et al, *Evaluation Of A Proposal For Reliable Low-Cost Grid Power With 100% Wind, Water, And Solar*, June 26, 2016. Available at: www.pnas.org/cgi/doi/10.1073/pnas.1610381114.

Conclusion

While there is helpful data in the Draft Report, it contains significant gaps and far too many unsupported and misleading assertions to be the basis for energy planning in California. BAC urges the Energy Commission to ensure that these omissions and misstatements are corrected before the report is finalized. Achieving carbon neutrality in just a few decades will be difficult enough. Trying to do so based on unsupported conclusions and incomplete data will make it virtually impossible.

Sincerely,

A handwritten signature in cursive script that reads "Julia A. Levin". The signature is written in black ink and is positioned above the printed name and title.

Julia A. Levin
Executive Director