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Additional submitted attachment is included below.



**Sierra Club Comments on the Draft 2017 Integrated Energy Policy Report (IEPR)
Docket 17-IEPR-01**

November 13, 2017

I. Introduction

Sierra Club submits these comments in response to the Workshop on the Draft 2017 Integrated Energy Policy Report on October 23, 2017 and the *Draft 2017 Integrated Energy Policy Report*. We value the considerable amount of time that went into the workshop and report as well as all the other workshops and reports that produced the various chapters. We appreciate the opportunity to contribute to the final 2017 Integrated Energy Policy Report (IEPR).

Our comments are limited to Chapter 9 on Renewable Gas, as the Sierra Club sees this as an area of potential risk. We urge the Commission staff to:

1. Note the limited supply of biomethane potential and possible further reductions to the potential;
2. Include any available cost-effectiveness comparison between emissions avoidance efforts and biomethane use;
3. Reorient its recommendations towards prioritizing reduction of greenhouse gas emissions through diversion of waste streams before developing a market for repurposing the resulting emissions; and
4. Recommend that air quality impacts of anaerobic digestion be considered before developing a full-scale market for biomethane projects.

1. California's biomethane potential is already limited, and successful SB 1383 implementation may further reduce that potential.

As noted in comments from the Union of Concerned Scientists (UCS), the potential supply of biomethane in California is limited and would meet only a fraction of California's

energy needs. UCS notes that analysis from the National Renewable Energy Laboratory shows that the amount of biomethane potentially available in California could meet only 3 percent of California's existing demand for natural gas across all sectors or 15 percent of all heavy-duty diesel consumption.¹

As Senate Bill 1383 (Lara, Chapter 395, Statutes of 2016) is fully implemented, biomethane potential in California may decrease even further. SB 1383 directs the development of a comprehensive strategy to address the problem of short-lived climate pollutants (SLCP), including both steps to reduce the original problem (directing the diversion of organic waste from solid waste streams and improving manure management practices) as well as steps to incentivize productive use of the resulting emissions (considering a market for biomethane). SB 1383 directs various state agencies to aim to reduce emissions potential from the very waste streams that would feed any biomethane potential, including direction to the California Air Resources Board (CARB) to adopt regulations reducing methane emissions from livestock and dairy manure management operations by up to 40 percent from 2013 levels by 2030. While the full impact of SB 1383 efforts related to the landfill and manure management streams remain to be seen, it is reasonable to assume that some of these efforts will result in meaningful methane reductions that even further limit the available biomethane potential in the state.

2. State funding agencies should be directed to compare the cost-effectiveness of reducing emissions within the waste stream against re-purposing the resulting emissions.

To fully evaluate the cost-effectiveness of any biomethane projects, Sierra Club recommends that the final 2017 IEPR include a comparison between organic waste diversion and any biomethane project incentive. The Draft 2017 IEPR defined cost-effectiveness in the renewable gas context as strategies that “yield the lowest cost per SLCP reduction benefit in terms of GHG emissions reduced.”² SB 1383 made clear that the intent behind the legislation was to support the adoption of policies that “improve organics recycling and innovative, cost effective, and environmentally beneficial uses of biomethane derived from solid waste facilities.” In order to meet the intent of SB 1383, the state agencies will need to compare the cost-

¹ Union of Concerned Scientists Comments on 17-IEPR-10, Renewable Gas (July 14, 2017) at 1, available at http://docketpublic.energy.ca.gov/PublicDocuments/17-IEPR-10/TN220161_20170714T105011_Jimmy_O'Dea_Comments_Union_of_Concerned_Scientists_Comments_on.pdf.

² Draft 2017 IEPR at 254.

effectiveness of biomethane uses against the upstream diversion of organics away from the solid waste streams altogether. For example, the cost-effectiveness of a public subsidy to incentivize anaerobic digesters at dairy and livestock facilities should be compared against the cost-effectiveness of incentivizing improved manure management practices. Similarly, the cost of diverting organic wastes from landfills should be compared against additional deployment of new landfill gas to biomethane projects.

To the extent that this information is available, it should be included in the final 2017 IEPR. If this information is not yet available, we suggest that the 2017 IEPR include direction to state funding agencies to gather relevant cost information through biomethane pilot projects and organic waste diversion.

3. The first recommendation of the IEPR's Renewable Gas chapter should encourage state agencies to reduce potential short lived climate pollutants in the waste streams that lead to renewable gas potential.

The current recommendations in the Renewable Gas chapter overemphasize efforts to monetize a problem rather than encouraging state agencies to avoid the problem altogether. Senate Bill 1383 (Lara, Chapter 395, Statutes of 2016) aims to develop a comprehensive strategy to mitigate the massive problem of short-lived climate pollutants (SLCP). The statute directs a variety of actions to address this problem, including both steps to reduce the original problem (directing the diversion of organic waste from solid waste streams and improving manure management practices) as well as steps to incentivize productive use of the resulting emissions (considering a market for biomethane). The recommendations in the final IEPR report should reflect that multi-faceted approach by encouraging a diversion of the original pollutants alongside the creation of market mechanisms to address the resulting methane emissions.

The draft recommendations currently overemphasize the development of a market mechanism for biomethane at the expense of recommending steps to reduce SLCP from entering the waste streams in the first place. The first recommendation currently urges state funding agencies to “focus on cost-effective strategies to develop markets for renewable gas.”³ Instead, the primary recommendation should encourage state agencies to reduce methane through the recycling of organic waste and improving manure management practices. The Draft 2017 IEPR's

³ Draft IEPR at 292.

thirteenth recommendation is to reduce methane through recycling of organic waste, but this recommendation should be raised to the first priority.

Sierra Club favors decreasing the amount of waste generated by minimizing the use of materials; in order of importance, the aim of energy policy should be to reduce, re-use, and recycle. The primary aim of this chapter should be to first reduce short-lived climate pollutants, and the secondary aim should be to repurpose those pollutants. These two aims are reflected in SB 1383 as it includes directives to reduce SLCP from entering the waste streams, and we urge the Commission to further reflect these priorities by reordering their recommendations.

4. Life cycle impacts of anaerobic digestion should be considered before developing a full-scale market for biomethane projects.

Despite the potential to reduce short lived climate pollutants, creating a market for biomethane projects has the potential to cause other significant environmental impacts that are not currently accounted for. Comments from the Community Alliance for Agroecology and the Center on Race, Poverty and the Environment (CPRE) highlighted these concerns in the biomethane pilot project docket before the California Public Utilities Commission (CPUC), and we recommend that the Commission include those concerns in the final version of the 2017 IEPR.⁴

For example, CPRE directed attention to a study that shows that anaerobic digesters can reduce methane emissions from manure waste between 25 and 40 percent,⁵ but that the resulting digestate increased ammonia by 81 percent.⁶ Ammonia is a precursor to fine particulate matter, and nitrous oxide can significantly impact local air quality. This study highlights that additional research is needed to fully evaluate emissions reductions and increases from anaerobic digestion. The draft 2017 IEPR briefly alluded to the potential air quality impacts when it noted that “at least 10 other dairy digester systems have been shut down due to economic conditions and/or *more stringent air quality regulations.*”⁷ Sierra Club recommends that the final 2017 IEPR includes any available additional details on the potential air quality impacts of anaerobic digesters.

⁴ See Joint Comments of Community Alliance for Agroecology and Center on Race, Poverty and the Environment in Rulemaking 17-06-015. <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M194/K614/194614914.PDF>

⁵ Michael A. Holly, et al., Greenhouse gas and ammonia emissions from digested and separated dairy manure during storage and after land application, *Agriculture, Ecosystems and Environment* 239 (2017) 410-419, 416.

⁶ Holly, et al. at 417.

⁷ Draft IEPR at 256.

II. Conclusion

Thank you for the opportunity to submit these comments and engage in the process of ensuring California achieves its necessary energy savings and climate goals.

Respectfully submitted,

/s/

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