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Bioenergy Association of California Comments on Draft AB 1257 Report

Additional submitted attachment is included below.

September 30, 2015

The Honorable Robert Weisenmiller, Chair
The Honorable Andrew McAllister, Commissioner
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Re: Comments on AB 1257 Natural Gas Act Report

Dear Chair Weisenmiller and Commissioner McAllister:

I am writing on behalf of the Bioenergy Association of California to provide comments on the Draft Staff Report, *AB 1257 Natural Gas Act Report:Strategies to Maximize the Benefits Obtained from Natural Gas as an Energy Source*. The Draft Staff Report provides considerable information about the natural gas sector, but should be expanded in several areas related to biogas to achieve the goal of AB 1257 to maximize the benefits of gas as an energy source. In particular, we urge the Commission to:

- Correct the definition of biogas so that it is technology neutral and includes the gas produced from organic feedstock regardless of the conversion technology;
- Quantify the potential for instate biogas production based on the correct definition of biogas;
- Expand the discussion of greenhouse gas reduction and other benefits of biogas production and use, including wildfire and black carbon reductions and other benefits;
- Expand the discussion of barriers to biogas distribution and use; and
- Expand the discussion of policies and incentives to remove those barriers and significantly boost biogas production in California.

The Bioenergy Association of California (BAC) represents more than 60 public agencies, private companies, local governments and others working to convert organic waste to energy. BAC's public sector members include air quality, solid

waste, wastewater and environmental protection agencies, publicly owned utilities, cities and counties. Its private sector members include energy and waste companies, technology providers, investors, consultants and others.

BAC recommends the changes and additions below to the Commission's AB 1257 Report on Natural Gas.

1. Need to Correct the Definition of "Biogas."

The Draft Staff Report incorrectly adopts the definition of "biogas" from AB 1900 (Gatto, 2012), which was intended solely for application to pipeline gas use as Assemblyman Gatto, the bill's author, pointed out to the California Public Utilities Commission in the attached letter dated November 24, 2014. In that letter, Assemblyman Gatto cautioned that it is important not to conflate pipeline biogas with biogas used for electricity and other purposes, which have very different legal, regulatory and technical requirements. Assemblyman Gatto also noted that limiting the definition of biogas to the gas produced from anaerobic digestion, as the Draft Staff Report does,[1] would exclude the far larger potential for biogas from gasification and other conversion technologies using organic feedstock.

Assemblyman Gatto stated in his letter to the CPUC that:

> According to the *RPS Eligibility Guidebook, 6th Edition* . . . biogas is 'eligible for the RPS if it is derived from an RPS-eligible fuel such as biomass, digester gas, and / or landfill gas.' The RPS does not exclude gasification and, in fact, two biomass gasification facilities have been certified under the RPS and more intend to participate with the implementation of SB 1122. The exclusion of gasification in the definition of biogas . . . is particularly troubling after the legislature passed two new laws this year to promote diversion of organic waste from landfills (AB 1826, Chesbro, and AB 1594, Williams). According to CalRecycle, more than half of the organic waste which will be diverted pursuant to these bills is not suitable for anaerobic digestion, but these organics could be used to produce electricity in a gasification facility instead."

Assemblyman Gatto correctly pointed out that more than half of the organic waste that is landfilled in California is not suitable for anaerobic digestion because it is too cellulosic. That includes wood and construction debris, tree trimmings, agricultural waste and more. Even more significantly, forestry waste is not suited to anaerobic digestion because itis highly cellulosic, but it can be converted to biogas through gasification and other conversion technologies. Since forest biomass is potentially the largest source of bioenergy, and it is a

[1] Draft Staff Report on AB 1257, at page 46. CEC-200-2015-006-SD.

critical tool to reduce wildfire[2] and black carbon emissions,[3] the CEC's definition of biogas should be broad enough to include the gas produced from conversion of forest waste and other cellulosic waste.

The CPUC was persuaded by Assemblyman Gatto's letter and, in its Final Decision on SB 1122, included biogas from any conversion technology using eligible (organic) feedstock.[4] The CEC should also include the gas produced from organic waste – regardless of the conversion technology – in its definition of biogas.

Correcting the definition of biogas is important not just for its potential to generate flexible generation power, but for use as a transportation fuel and generally as a substitute for pipeline gas. Two recent projects that received funding from the Energy Commission are converting forest waste to biogas and then converting that gas to transportation fuels. Although neither project is using anaerobic digestion to convert the forest waste to biogas, the resulting gas is from a biological source and should, therefore, be considered biogas.

The Commission's AB 1257 and other publications should use a consistent definition of biogas that includes the gas from eligible organic feedstock, regardless of the conversion technology used to generate the gas. It should not be limited to the gas produced from anaerobic digestion of organic waste.

2. The Staff Report Should Quantify the Potential for Biogas Production Based on All Eligible Feedstocks and Technologies.

The Staff Report underestimates the potential for biogas production because it limits the potential to biogas that can be produced from anaerobic digestion. As noted above, that leaves out at least half of the total biogas potential in the state, including potential biogas production from forest waste, the cellulosic part of the municipal waste stream and agricultural waste. A complete table showing the biogas potential from all technically available organic waste in California, based on an assessment by U.C. Davis, is below.

California can produce almost 300 billion cubic feet of biogas per year just from organic waste. That is well over 10 percent of California's total gas consumption and enough to replace two-thirds of all the diesel used by motor vehicles in California. Alternatively, biogas can be used to generate 2,000 to 5,000 MW of flexible generation, renewable power[5] – power that is critical to complement intermittent renewables as California moves toward a 50 percent RPS.

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[2] See, *Biomass To Energy: Forest Management For Wildfire Reduction, Energy Production, And Other Benefits,* prepared for the California Energy Commission by the US Forest Service, January 2010 CEC-500-2009-080.

[3] California Air Resources Board, *Short-Lived Climate Pollutant Reduction Strategy Concept Paper*, 2015.

[4] CPUC Decision 14-12-081, adopted in the RPS proceeding, R.11-05-005.

[5] *2011 Bioenergy Action Plan*, prepared by the California Energy Commission for the Interagency Bioenergy Working Group, at page 3. March 2011. CEC-300-2011-001-CTF

Biogas Potential from Technically Available Organic Waste in California

Feedstock	Bone Dry Tons or Billion Cubic Feet	Million gasoline gallon equivalents
Agricultural Residue (Lignocellulosic)	5.4 M BDT	272 gge
Animal Manure	3.4 M BDT	170 gge
Fats, Oils and Greases	207,000 tons	56 gge
Forestry and Forest Product Residue	14.2 M BDT	710 gge
Landfill Gas	106 BCF	457 gge
Municipal Solid Waste (food, leaves, grass)	1.7 M BDT	159 gge
Municipal Solid Waste lignocellulosic fraction)	10.5 M BDT	525 gge
Waste Water Treatment Gas	11.8 BCF	66 gge
FUEL POTENTIAL		**2,415 gge**

Based on data compiled by Rob Williams, University of California, Davis, 19 May, 2014.[6]

We urge the Commission to include a full assessment of the potential for biogas production in California, using all technically available organic waste and all conversion technologies. An accurate, and full, assessment of biogas potential is critical to quantify the benefits and develop appropriate policies and incentives to achieve that potential.

3. The Staff Report Should Include Additional Benefits of Biogas.

The Draft Staff Report mentions some of the most important benefits of biogas production and use: production of low carbon fuels and renewable power, helping California to meet its landfill diversion requirements, reducing methane emissions, and producing organic fertilizer and other soil amendments. The Draft Staff Report omits several other important benefits of biogas, though, including the reduction of catastrophic wildfire, which causes 67 percent of California's black carbon emissions, the reduction of air and water pollution, the benefits to environmental justice communities of using biogas in place of diesel, the job creation and other economic benefits of increasing instate production of biogas.

[6] Williams, R. B., B.M. Jenkins and S. Kaffka (California Biomass Collaborative). 2014. *An Assesment of Biomass Resources in California, 2012 – DRAFT.* Contractor Report to the California Energy Commission. PIER Contract 500-11-020. For an explanation of Notes and Sources, see the full table and notes in Appendix B.

BAC urges the Commission to quantify each of these benefits, particularly as they can help to achieve the Governor's 5 Pillars of Climate Change:

- Reducing Short-Lived Climate Pollutants (black carbon as well as methane) – the Air Board's Strategy to Reduce Short-Lived Climate Pollutants mentions biogas and bioenergy in virtually every section.[7]
- Meeting a 50 RPS (by providing flexible generation, renewable power)
- Reducing petroleum by 50% (by providing the lowest carbon transportation of any kind and the cleanest alternative available for heavy duty trucks)
- Maintaining and restoring carbon sequestration in natural and working lands by reducing forest fires and providing organic soil amendments (biochar, biosolids and digestate) that are the byproducts of biogas production.

4. The Staff Report Should Provide a More Complete Description of the Barriers to Biogas Development and Distribution.

Despite the many benefits of biogas for California's energy sector and environment, California lags significantly behind the world's leading bioenergy markets. Germany, for example, has more than 7,500 biogas production facilities with a combined output of 3,352 MW and employing 45,000 people.[8] Germany constructed 340 new biopower facilities in 2012 alone.[9]

To achieve anything like the level of biogas production in Germany and other European countries, California must accurately identify the barriers to increased biogas production in California. Although the Draft Staff Report mentions regulatory issues and costs, it omits several of the most significant barriers to biogas production and use:

- Interconnection to pipelines and transmission lines – length of process, lack of transparency, lack of predictable costs, costs that can be 10-15 times other states, utility disincentives;
- Pipeline biogas standards, particularly the Btu and siloxanes requirements;
- Lack of long-term purchase agreements under the Low Carbon Fuel Standard;
- Failure to allocate any Low Carbon Transportation funding from the Greenhouse Gas Reduction Fund to biogas, even though it provides the lowest carbon transportation of any kind;

[7] California Air Resources Board, *Short-Lived Climate Pollutant Reduction Strategy Concept Paper*, 2015. Available at: http://www.arb.ca.gov/cc/shortlived/shortlived.htm.
[8] http://renewables.seenews.com/news.
[9] Id.

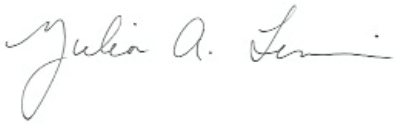
- Failure to quantify the full lifecycle benefits of biogas production and use, and to monetize those benefits.

5. The Staff Report Should Recommend Ways to Remove the Barriers to, and Maximize the Benefits of, Biogas.

The Draft Staff Report, although entitled *Strategies to Maximize the Benefits Obtained from Natural Gas as an Energy Source* does not propose any strategies to maximize the benefits from biogas. At a minimum, BAC urges the Commission to identify possible ways to address the barriers described above and to incorporate recommendations related to biogas from the *2015 Integrated Energy Policy Report*. BAC also urges the Commission to assess progress on the strategies and actions identified in the *2012 Bioenergy Action Plan*, to see where California is making progress and what still needs to be done. BAC encourages the Commission to work with the Interagency Bioenergy Working Group to develop an updated Bioenergy Action Plan in 2016. Given the potential for biogas to help meet the Governor's Climate Change Pillars, an updated Bioenergy Action Plan would be very timely. BAC also urges the Commission to work with the CPUC to increase the Natural Gas Public Interest Energy Research fund to enable additional RD&D focused on biogas.

We appreciate the opportunity to comment on the Draft Staff Report and look forward to working with the Commission to maximize the benefits of biogas as an energy source in California.

Sincerely,



Julia A. Levin
Executive Director