

Biomethane Procurement

Opportunities and Challenges in California

Biomethane Procurement Challenges California Energy Commission

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Policy Objectives

- The long-term objective of the *2012 Bioenergy Action Plan* is to create a competitive bioenergy market in California, including biopower, biofuels, and biogas.
 - Biomethane is treated biogas. Biomethane is a fungible commodity that can be treated and used as a direct replacement of natural gas in many different applications including transportation fuels, power production, and producing heat.
- Achieving this objective requires all options that fit California's values for safety, environmental performance, and economic feasibility be available.

Why Use the Pipeline?

- Economically feasible small-scale systems using biogas do not have a good track record for achieving air quality standards in severe non-attainment air districts.
- On-site and local demand for energy (transportation fuels, power, or heat) may not exist and exporting power can be infeasible due to uncertainties in the electrical interconnection process for small generators.
- Large natural gas facilities are more efficient than on-site facilities.
- The natural gas pipeline is an efficient method to transport gas to large natural gas facilities or to offset residential natural gas use.

Biogas/Biomethane Sources

- Dairies
- Publicly Owned Treatment Works/Wastewater Treatment Plants
- Landfill gas
- Source-separated food waste and green waste
- Comingled organic and non-organic waste
- Other animal wastes

Preliminary Energy Commission Staff Analysis of Biomethane Procurement Challenges

- Lack of confidence that biomethane producers can consistently meet pipeline health and safety standards.
- Interconnection cost relative to project cost
 - Depends on resource location and available feedstock within a reasonable distance.
- Biomethane clean-up technologies have not been fully commercialized.
- ARB/OEHHA recommended health protective levels for constituents of concern is based on data from three of the potential sources of biogas. Public data is needed from other potential sources.

Preliminary Recommendations

Research, Development and Demonstration

- Fund research to develop and/or demonstrate biomethane technologies that could be capable of achieving adopted biomethane pipeline quality standards.
- Fund research to identify constituents of concern from different feedstock types. Results can be used to open up other resources to biomethane pipeline injection.

Preliminary Recommendations

Options to Reduce Development Cost Through Economies of Scale

- Bring utilities and developers together to identify locations with highest resource potential within close proximity to pipelines.
- Continue to promote/fund research efforts to develop feasible options for transporting raw biogas or biomass suitable for anaerobic digestion to centralized facilities.

Questions to Consider

- Are the challenges accurately characterized in this presentation?
- What other challenges could delay or block the development of biomethane projects in California?
- What other challenges will limit utility procurement of biomethane?
- What actions should the Energy Commission recommend be undertaken to address the challenges? (by 2014, 2017)

Questions / Comments

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Written comments due 5:00 p.m. on June 14, 2013

Submit written comments to:

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Include the docket number [13-IEP-1M](#) and “[Biomethane Procurement Challenges](#)” in the subject line of your comments.

Workshop documents can be downloaded at:

www.energy.ca.gov/2013_energypolicy/documents/#05312013