

DOCKETED

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On Draft Solicitation on Demonstrating Innovative Solutions

Additional submitted attachment is included below.

Date: 8/9/18

To: California Energy Commission

From: Brian Gannon, Biogas Energy

RE: Comments on Draft Solicitation on Demonstrating Innovative Solutions to Convert CA's Residual Forest Biomass into RNG

Comments:

It's great to see this issue get the attention it deserves. Thanks for focusing on forestry biomass "rescue".

1. With the urgency of the need for removal of forestry biomass, one would hope the budget were more than \$4million total, and \$2million maximum per project. Can more funding be allocated to this urgent need?
2. Gas quality standards (Rule 30 and 21) are difficult to attain, and unnecessary if the gas is not going into pipeline. The description encourages projects to "Use the RNG produced in an end-use application such as heating, electricity generation or transportation fuel." I suggest removing the gas upgrading requirement.
 - a. The upgrading technology is distinct from the gas production technology, and requiring demonstration of both in one project is challenging.
 - b. Gas upgrading technologies have been demonstrated for biogas, so that doesn't need more demonstrating, and demonstration on wood-gas is a separate solicitation in my opinion.
 - c. Making heat or electricity is the simplest use of the gas and will likely be the most cost effective in the market considering cost of biogas upgrade and injection, so I suggest focusing on projects demonstrating gas production, regardless of its end use.
 - d. One may object that this funding source is from Natural Gas R&D, not electricity generation; but natural gas is the predominant source of CA's electricity so the use of this gas to generate power is directly linked to natural gas and justified under this solicitation.
3. Since this is a demonstration project with limited max funding, I would lower the scale to 1MMBtu/hr total energy output. This would achieve the goal of demonstrating technology without putting too much emphasis on the project's output.
4. Target cost for commercially-mature system: the Levelized Cost of Methane accounts for what? Feedstock acquisition is a large part of that equation and it raises the question of the state's role in covering the cost of biomass removal from the forests to help justify investment in projects like this.
5. The justification for pipeline injection of RNG comes from carbon intensity of the gas under the LCFS program. Is there a CI for this type of gas which would justify the commercial adoption of the technology? If not, pipeline injection should be eschewed for electricity generation at utility scale. The priority of

getting the biomass out of the forests (and out of the danger of fires) should augment the state's role in making power generation projects viable.

Bottom line: IMHO the requirement to make pipeline-quality RNG is both over-ambitious for this demonstration and overkill for what the market needs. Reduce requirement to making gas from forestry waste, full stop. Then the future project developer can decide if going all the way to pipeline is suitable or if simple power generation is best.