WAGA ENERGY

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Via email to LMR@arb.ca.gov

Landfill Methane Regulation
California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812

Re: Comments on CARB's *Preliminary Concepts for Potential Improvements to Landfill Methane Regulation*

Dear Sir / Madam:

Waga Energy Inc. (Waga) is pleased to present these comments on the May 18, 2023, presentation titled *Preliminary Concepts for Potential Improvements to Landfill Methane Regulation*. Our comments are focused on Slide 27 Beneficial Use of Landfill Gas. Waga is a developer of landfill gas beneficial use projects and has extensive experience developing projects globally and in California and can provide firsthand experience on barriers to beneficial use of landfill gas, options for gas use, and parameters that indicate a potentially viable project in California. We support CARB's request for comments as landfills are the largest potential source of in-state Renewable Natural Gas (RNG) and studies have shown that this resource has a production potential of up to 1,246 MM Therms per year (CEC, 2022)[1].

Barriers to Beneficial Use of Landfill Gas

Major barriers to the beneficial use of landfill gas in California include the high cost of natural gas interconnects and electricity. Natural gas interconnects in California are the highest in the country with the Southern California Natural Gas Company typically charging over $5 million and Pacific Gas & Electric charging over $3 million just for the metering station and not including any required pipeline that is necessary to connect the landfill to the natural gas system. From our experience based on built projects, a typical metering station including all necessary features (flow measurement, gas analysis and isolation valves) will cost a third. We applaud the California Public Utilities Commission (CPUC) for establishing a biomethane incentive program under D.15-06-029, which provides up to $3 million for projects that successfully interconnect with the natural gas pipeline system. While the CPUC has

[1] CEC (2022). Renewable Natural Gas in California. Consultant Report Prepared by Verdant for the California Energy Commission. August.

provided $80 million in funding for the program, it is currently oversubscribed. We encourage the CPUC to provide additional funding for this program that can help address a major barrier to landfill gas beneficial use projects.

The largest operating cost for a landfill gas to renewable natural gas (RNG) project is electricity and electric costs in California are approximately twice as high as other states. Further, historically this cost has significantly outpaced inflation and increased over 4% annually[2]. This provides a major barrier and risk to implementing beneficial reuse projects as renewable natural gas revenues in California are currently not higher than in other states due to reliance on the Environmental Protection Agency's (EPA) Renewable Fuel Standard (RFS) for monetizing the value of the RNG. California has a great program in place to help address this barrier with the Biomethane Procurement Program that was developed by the CPUC in response to Senate Bill 1440. However, unfortunately the state utilities are prohibited from purchasing RNG from landfills until they meet the organic procurement target. We suggest that the CPUC allow the state utilities to begin purchasing RNG from landfills now to help address the high cost of development in California.

Options for Gas Use

California has done a commendable job developing a renewable electricity sector that is comprised of low cost solar and wind resources. We are aligned with CARB that RNG use should be prioritized to decarbonize hard to electrify sectors like industrial applications, water heating, and space heating[3]. However, to make RNG available for those sectors, and more generally to develop even further renewable sources of energies to fight against global warming, we encourage California to allow the state utilities to begin procuring RNG from landfills now so that additional progress can be made towards achieving decarbonization goals. RNG from landfills is the cheapest renewable natural gas molecule available and belongs to the solution for decarbonization.

Parameters that Indicate a Potentially Viable Project in California

Two parameters that are indicative of a potentially viable project in California is volume of landfill gas and distance to the nearest natural gas pipeline. In our experience, projects smaller than 1,000 scfm are not viable in California under current market conditions. Note, outside of the United States we do implement projects at sizes as low as 300 scfm. We have also found that the distance to the nearest natural gas pipeline typically must be less than two miles. Note, these are generalities, and each project is unique.

We are grateful for the opportunity to comment on the proposed regulation changes.

Sincerely,

Guénaël Prince
CEO

[2] https://www.eia.gov/electricity/data.php
[3] CARB (2022). Scoping Plan for Achieving Carbon Neutrality.