October 29, 2015

Richard Corey
Executive Officer
California Air Resources Board
PO Box 2815
Sacramento, CA 95812

Dear Mr. Corey:

The Coalition For Renewable Natural Gas (RNG Coalition or RNGC) represents and provides public policy advocacy and education on behalf of the renewable natural gas industry (RNG, biomethane or upgraded biogas). Our membership includes each sector of the industry in the US, as well as member companies from Canada, the UK, Brazil and Denmark. Together, our members produce 90% of the renewable natural gas in North America.

We continue to follow the development of the Air Resources Board (ARB) Draft Short-Lived Climate Pollutant Strategy and provide comments in response specifically to 1) support the objective to reduce methane emissions, 2) identify barriers that practical solutions could overcome to increase RNG production and pipeline injection, and 3) emphasize the need for greater collaboration with industry stakeholders to resolve existing constraints.

SUPPORT OBECTIVE TO REDUCE METHANE EMISSIONS

RNG is primarily methane. The ARB has already acknowledged that methane is at least 20x more potent than carbon as a greenhouse gas (GHG). We support the Draft Strategy Plan to reduce methane emissions, including through regulatory implementation of statutory requirements to increasingly divert separated municipal solid waste away from landfills. We also support legislative policy, regulatory incentives and other funding program opportunities that will enable the greatest reduction of methane emissions – the development of High Btu RNG projects that capture otherwise flared of fugitive methane emissions at the largest feedstock sources in California (agricultural waste, landfills, wastwater

treatment facilities, etc.). We concur that broad collaboration among State agencies, industry and stakeholders will be necessary to accomplish methane emissions reduction commensurate and in congruence with the State's often conflicting clean air and renewable energy goals.

IDENTIFY BARRIERS THAT PRACTICAL SOLUTIONS COULD OVERCOME

The RNG Coalition could not agree more with the Draft Strategy Plan's recognition of and commitment to overcome barriers that have heretofore prohibited increased development and deployment of RNG. The only barrier that is tantamount to the technical impediment created by stringent regulation is the associated costs of complying with such regulation.

Barriers. We have categorized these regulatory costs into three categories: Pre-injection, Interconnection, and post-injection costs.

Pre-Injection Costs. In addition to the cost of developing a High Btu RNG production facility, the high cost of complying with increased testing and monitoring requirements place an added burden on the developer estimated at between $27,500 - $55,000 above what industry has experienced anywhere else in the country.

Interconnection Costs. These costs include permitting, labor and equipment necessary to connect the RNG production facility to the common carrier natural gas pipeline. Information obtained from the Investor Owned Utilities (IOUs) estimates interconnection costs in California at between $1.5 - $3 million per mile. If an RNG feedstock source is three miles from the nearest pipeline, baseline interconnection cost could reach $9 million. By contrast, pipeline interconnections for existing High Btu RNG projects outside of California range between $75,000 to $500,000 per mile.[1]

Additionally, RNG is required to achieve a minimum heating value (energy content measurement) of 990 btu/scfm in order to gain access to the common carrier pipeline in California. Because RNG lacks the higher chain hydrocarbons innate within other gasses (such as fossil natural gas or propane), high Btu RNG projects outside California are either required to meet a lower heating value standard (950-975 btu/scfm) or else obtain a waiver from the IOU. The estimated annual costs necessary to blend with propane in order to achieve pipeline access in California is between $330,000 - $660,000, not including applicable one-time Project Safety Management Permitting cost of approximately $150,000 and ongoing related annual compliance costs of nearly $30,000.

[1] Opening Brief, filed by Coalition For Renewable Natural Gas on September 5, 2013, at 27.

Of chief concern, particularly to prospective developers of High Btu RNG facilities at landfills, are the stringent siloxane standards set by the CPUC (AB 1900). It is important to note that siloxane standards were not established for human health or safety reasons, but rather in consideration of the performance of certain end-use equipment, engines and appliances. The concern to developers is that if at any point RNG exceeds the maximum concentration limit allowable, the IOUs can exclude RNG from their pipeline – placing an RNG developers entire revenue stream in a perpetual state of risk. Compounding the problem is the fact that the limit established by the CPUC is at near non-detectable levels. Because it is virtually impossible to, with current technology, consistently measure the siloxane content of RNG with predictability, investors are unwilling to provide the necessary capital required by developers to develop a High Btu RNG project.

Post-injection Costs. These costs include the equipment, odorants and requisite labor costs to comply with the continuous monitoring requirements imposed on RNG by the California Public Utilities Commission (CPUC). Assuming just one site-visit per month (a minimum 4-hour visit, at prevailing labor rates), we conservatively estimated these ongoing costs at $7,609.37 per month, or $91,312.44 per year. Post-injection costs also include additional reporting and recordkeeping requirements for which we do not have an estimate.

In aggregate, we conservatively estimate the one-time Pre-Injection, Interconnection and Post-Injection costs of regulatory compliance with the CPUC's AB 1900 Decision (D.14-01-034) to be between $2,007,500 - $3,837,500 with ongoing annual costs thereafter of approximately $422,400. The cost of compliance with regulation remains a barrier to development of RNG projects and challenge that threatens the emergence of our nascent industry in California.

Considering the technical and cost barriers that stand in the way of the RNG industry's ability to participate in the process of reducing methane emissions, we affirm the Draft Strategy Plan's statement that widespread support is absolutely necessary to strengthen the emerging in-state RNG market in California.

COLLABORATE TO RESOLVE EXISTING CONSTRAINTS

We are continuing to work with industry stakeholders on the belief that the aforementioned barriers are not insurmountable. We support pursuing supplemental policy options and collaboration with the IOUs that would accelerate RNG project development, deployment and access to the common carrier pipelines.

We acknowledge the incremental work that state agencies are collaborating on, to overcome barriers to pipeline injection, and appreciate the Draft Strategy Plan's commitment on the their behalf to redouble efforts – including efforts to consider appropriate adjustments to the CPUC's AB 1900 regulations. We

request that any consideration to adjust the minimum heating value requirement also reconsider the current siloxane standard.

Likewise, the RNG Coalition will continue working with the IOUs, the ARB and state sister-agencies to identify and act on identified strategies, including the Short-Lived Climate Pollutant Reduction Strategy, and funding mechanisms to encourage the advancement of clean energy sector technology in conjunction with the State's environmental objectives.

Sincerely,

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