February 11, 2019

Mr. Daniel Wolf
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101-2147

RE: Petition by CenterPoint Energy to Introduce a Renewable Natural Gas Pilot Program Docket No. G-008/M-18-547

Dear Mr. Wolf,

The Coalition for Renewable Natural Gas (RNG Coalition) offers this letter in continued strong support of CenterPoint Energy's petition to introduce a Renewable Natural Gas (RNG) Pilot Program (Pilot). We are pleased to see other commenters highlight the fact that projects that capture methane from agricultural and municipal waste streams are a critical mitigation strategy that can both reduce methane and provide a valuable source of negative-carbon energy.[1] In the following comments we aim to assuage concerns raised by other parties in regard to the environmental performance[2] and potential ratepayer costs of RNG.[3]

Developing a Minnesota-specific Method to Evaluate the Carbon Intensity of Projects Should Not Delay Action, Since all RNG is Low Carbon

Fresh Energy, the Minnesota Center for Environmental Advocacy, and the Sierra Club have commented that Minnesota has no policy framework in place to evaluate and verify the carbon intensity (CI) of renewable natural gas feedstocks. However, this need not be a barrier to approval of the Pilot because: (1) all currently commercially available methods of producing RNG have excellent carbon intensity performance, and (2) robust tracking systems have developed as part of the systems for evaluating compliance with transportation fuel programs.

[1] See, for example, the January 8th comment submitted by Fresh Energy, the Minnesota Center for Environmental Advocacy, and the Sierra Club.
[2] Ibid.
[3] Ibid. and the Comments of the Office of the Attorney General

The most common ways of making RNG today include methane capture at landfills, waste water treatment facilities, and at dairies or other agricultural digesters. On average, in the CI scoring performed by the California Air Resources Board (CARB) for the Low Carbon Fuel Standard (LCFS), RNG provides a 46% reduction in greenhouse gases relative to fossil natural gas.[4] The pathways registered with the United States Environmental Protection Agency under the Renewable Fuels Standard (RFS) tell a similar story, with the vast majority of RNG qualifying for D3 or D5 Renewable Identification Numbers—representing at least a 60% reduction and a 50% reduction respectively relative to fossil fuels.

Tracking of the renewable gas to avoid any double counting of the amount produced has been a key focus of these two transportation fuel programs. In the RFS auditors verify the amount of RNG produced through the Quality Assurance Program (QAP).[5] In the LCFS, CARB enforcement staff diligently checks project claims and is also developing a forthcoming third-party verification system.[6] Therefore, the RNG industry is very familiar with—and supportive of—robust tracking and certification of the environmental benefits of the gas. The Pilot could easily piggy-back on these existing robust systems for evaluating CI and tracking RNG volumes, possibly as a transition to a tracking system focused on RNG use in non-transport applications.

For example, the procurement rules of the Pilot could mandate that any project from which RNG is procured must undergo an audit by a verification firm with relevant credentials (either a certified QAP provider or accredited CARB verification firm) to demonstrate claimed RNG volumes and greenhouse gas reduction benefits. Alternatively, a more formalized standard—specifically designed for the voluntary programs such as the Pilot—could be employed if it could quickly be developed.[7]

---

[4] The weighted average CI of RNG-to-CNG in CARB's most recent LCFS data has as a CI of 43 grams of carbon dioxide equivalent per megajoule of energy (g CO_2e/MJ). This is a 46% reduction compared to fossil natural gas to CNG with a CI of 79 g CO_2e/MJ found in Table 7.1 of the LCFS Regulation. The worst RNG-to-CNG project registered with CARB (a landfill project) has a CI of 67, offering a 15% reduction relative to fossil gas. The best project, sourced from dairy biomethane, offers greater than a 100 percent reduction relative to fossil gas due to methane destruction. (Note that these values include the emissions associated with compressing the RNG to vehicle fuel, a step that would not be necessary in heating applications. Including the compression step conservatively reduces the benefit claimed for RNG.)

[5] https://www.epa.gov/renewable-fuel-standard-program/quality-assurance-plans-under-renewable-fuel-standard-program

[6] https://ww2.arb.ca.gov/news/carb-amends-low-carbon-fuel-standard-wider-impact

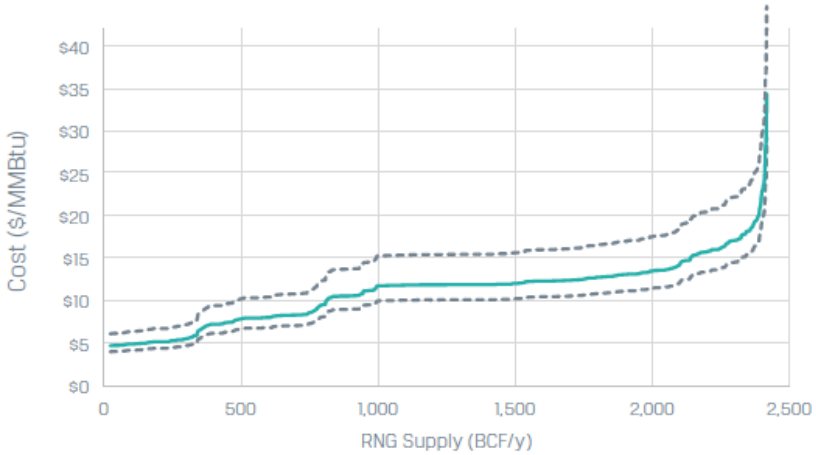
[7] As proposed in the December 14th comments from the Center for Resource Solutions.

Some Untapped Supply of RNG is Available at Production Costs Below the Levels Discussed by Other Parties

A primary area of concern in the Comments of the Office of the Attorney General (and other parties) appears to be the cost of RNG supply in the current market.[8] As acknowledged in Centerpoint Energy's initial filing, the possibility of elevated costs is driven, in-part, by strong demand from transport-sector policies and limited current supply due to the relatively recent emergence of such policy drivers. This current dynamic may prove to be a short-term phenomenon, as additional supply is currently being constructed.

As we said in our prior comments, between 1982 and 2011, 30 RNG projects were developed—most of which were incentivized by various US state's Renewable Portfolio Standard Programs (RPS) and underwritten by the monetization of Renewable Energy Credits (RECs) that RNG-sourced electricity generated under such programs. Since 2011, 60 RNG projects have been developed—and more than 50 new RNG projects are under construction or in development. In contrast to earlier projects, most of these recent projects were incentivized by the RFS and the LCFS.

Despite strong demand recently from these transportation programs, the untapped supply of moderate-cost RNG is significant. The figure below, showing a national supply curve for RNG, is from a study conducted by ICF International.[9] ICF found significant supply available at production costs well below the current prices for RNG in transport fuel markets.



[8] January 8th Comments of the Office of Attorney General.
[9] https://www.icf.com/resources/white-papers/2017/design-principles-for-renewable-gas

Although the transport markets currently provide strong incentives for RNG project developers, the financial community perceives these systems as being associated with significant policy risk and it remains difficult to finance projects purely from these programs.

Further, long-term gas purchasing contracts are rare in the transport space. Longer-term offtakes with solid utility counterparties would be extremely attractive to RNG project developers, and this alone may allow the Pilot to access supply at lower prices than those offered on a spot basis in the transport fuels markets. Essentially, project developers may be willing to offer lower priced supply in return for long-run investment certainty from a creditable base client such as Centerpoint.

The Pilot will Demonstrate Policy Leadership and Provide Long-run Benefits to Minnesota

By being a first mover in the effort to address the challenge of building decarbonization, the Pilot will show that Minnesota is forward-thinking and friendly to green investment. The returns on such leadership do not accrue overnight, but they are significant. Consider, for instance, that renewable electricity generation from sources like solar and wind have not always been as cost-effective as they are today. Cost reductions in those renewable energy technologies were spurred by a combination of factors driven primarily by sustained policy support from visionary jurisdictions. Much of that innovation and cost decline came as the technology was deployed at truly commercial scale. The states who support such sources of energy have developed a robust workforce in these areas and are benefiting from the clean energy economy.[10]

The RNG industry in North America is nascent relative to other renewables industries—and relative to the RNG industry in Europe—but it has recently demonstrated extraordinary growth. This sector has the potential to create thousands of clean energy sector jobs and the industry is looking for friendly jurisdictions in which to expand.[11] RNG has the potential to achieve additional long-run cost declines and be a significant source of green jobs, but it will take leadership, vision, and gradual

[10] https://www.renewableenergyworld.com/articles/2017/04/what-are-the-top-10-states-for-clean-energy-jobs.html

[11] Up to 173 direct and indirect jobs per project, see: https://static1.squarespace.com/static/53a09c47e4b050b5ad5bf4f5/t/59077544ebbd1ad192d13ff6/1493660998766/ICF_RNG+Jobs+Study_FINAL+with+infographic.pdf

exposure to ensure consumer acceptance. Programs such as the Pilot are the first step in this direction for use of RNG in the buildings sector.

Investment in Infrastructure to Supply RNG need not Conflict with Programs to Promote Building Efficiency or Electrification

As other parties have recognized, the RNG community does not claim to be able to solve the challenge of decarbonizing existing uses of fossil natural gas use alone. Rather, we view RNG as one part of a portfolio of decarbonization technologies.

We recognize that RNG supply from current production technologies is unlikely to be sufficient to replace more than 10% of existing fossil natural gas demand.[12] However, that doesn't mean that the opportunity presented by RNG use should be discounted. Relative to other options to fully decarbonize the building[13] and transport sectors[14] it remains a cost-effective source of greenhouse gas reduction.

Additional Study on Determining the Best Use of the RNG Resource, while valuable, Should Not Delay Action on Programs to tap the Resource Today

In summary, the RNG resource is underdeveloped and in need of additional policy support from programs such as the Pilot to create investment certainty for project developers. The Pilot would represent a nation-leading effort in the building sector that would offer Centerpoint's customers a choice to use clean fuels to heat their homes for the first time.

The RNG Coalition supports the increased development, deployment and utilization of RNG regardless of the feedstock, indiscriminate of the competing technologies used to upgrade raw biogas to RNG, and for all sustainable end-use applications. We agree with other commenters that RNG should be considered for its potential to generate renewable, dispatchable electricity. However, we note that it is difficult for RNG-to-power projects to compete with other renewable power resources that have already

---

[12] Power-to-gas and other longer-term technologies to generate RNG may allow the penetration of low-carbon gas to be higher.

[13] For example, a study by Navigant Consulting for Southern California Gas Company found that, in the context of SoCalGas's service territory, decarbonization of residential and commercial gas end uses using RNG would have cumulative combined annual cost for RG projections range from $60 billion-$71 billion while electrification scenarios ranged from $75 billion-$91 billion.
https://www.socalgas.com/1443741887279/SoCalGas_Renewable_Gas_Final-Report.pdf

[14] RNG has generated 95% of the Cellulosic Biofuel Renewable Identification Numbers for the US EPA administered Renewable Fuel Standard, demonstrating that RNG is cost-effective method of generating very low carbon transportation fuels.

seen significant cost declines on a $/kWh basis due to the historical (and ongoing) targeted policy support discussed above.

Where RNG is likely to be one of the lowest cost decarbonization options—such as in the building and transport sectors—it should be given the chance to fully commercialize and scale. Centerpoint Energy's proposed pilot is a visionary first step in that direction and should be approved.

Sincerely,

Sam Wade
Director of State Regulatory Affairs
Coalition for Renewable Natural Gas
1017 L Street #513
Sacramento, CA 95814
916. 588. 3033
sam@rngcoalition.com