STATE OF VERMONT
PUBLIC UTILITY COMMISSION

Case No. 22-2230-PET

Petition of Vermont Gas Systems, Inc., pursuant to 30 V.S.A. § 248(i), for approval of an out-of-state renewable gas purchase contract with a term exceeding five years	Remote Hearing September 20, 2022

Order entered:

PROPOSAL FOR DECISION

PRESENT: Daniel Burke, Esq., Hearing Officer
Andrea Poppiti, Utilities Analyst

APPEARANCES: Owen J. McClain, Esq.
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Catherine Bock
Pro Se
Intervenor

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I. INTRODUCTION

This case involves a petition filed by Vermont Gas Systems, Inc. ("VGS") with the Vermont Public Utility Commission ("Commission") seeking approval of an out-of-state renewable natural gas ("RNG") purchase contract with Archaea Energy Marketing LLC ("Archaea") under 30 V.S.A. § 248(i) (the "Contract"). Section 248(i) of Title 30 requires Commission approval for contracts involving the purchase of gas from outside the state for resale to customers when the contract term exceeds five years or the contract represents more than 10% of the company's peak demand for resale to customers.

The Contract requires VGS to purchase, at minimum, a volume of 300,000 dekatherm ("DTH")[1] of RNG annually from a landfill RNG plant owned by Archaea in Waterloo, New York. The Contract includes a 14.5-year term with an option for an additional five-year extension. The Contract also includes an option for VGS to increase the total RNG volume purchased under the Contract and allows for VGS to resell purchased volumes of RNG into renewable transportation fuel markets.

In this proposal for decision, I recommend that the Commission issue an order approving the contract.

II. PROCEDURAL HISTORY

On June 13, 2022, VGS filed the Contract for review by the Commission under 30 V.S.A. § 248(i).

Also on June 13, 2022, VGS filed a motion for confidential treatment of portions of the Contract.

On June 16, 2022, VGS filed a motion for the approval of a proposed protective agreement between itself and the Vermont Department of Public Service ("Department").

[1] One DTH is the equivalent of 1 million British thermal units ("MMBtu").

On July 5, 2022, the Department filed a recommendation requesting that the Commission open an investigation into the Contract.

On July 7, 2022, the Commission issued orders approving the proposed protective agreement and granting confidential treatment to portions of the Contract.

On July 11, 2022, the Commission issued an order opening an investigation into the Contract and appointing me as a Hearing Officer for this case pursuant to 30 V.S.A. § 8.

On July 21, 2022, I held a scheduling conference for this case, which was attended by representatives of VGS and the Department.

On July 25, 2022, I issued a scheduling conference order.

On July 29, 2022, Catherine Bock filed a motion to intervene in this case.

On August 5, 2022, VGS and the Department responded to Ms. Bock's intervention motion. Neither VGS nor the Department objected to Ms. Bock's request for permissive intervention under Commission Rule 2.209(B).

On August 11, 2022, I conducted a workshop on the Contract. The workshop was attended by representatives of VGS, the Department, Ms. Bock, several members of the public, and Commission staff.

On August 15, 2022, I issued an order denying Ms. Bock's motion to intervene after concluding that Ms. Bock's stated interests in the outcome of this case are similar to those of VGS's ratepayers generally and also because those interests will be adequately represented by the Department, an existing party to this proceeding.

On August 17, 2022, Ms. Bock filed a motion to reconsider the denial of her motion to intervene.

On August 22, 2022, VGS and the Department filed responses to Ms. Bock's motion to reconsider. Neither the Department nor VGS opposed Ms. Bock's motion to reconsider, though VGS raised concerns about potential delays to the progress of this case.

On August 25, 2022, I issued an order granting Ms. Bock's motion to reconsider and approving her request for permissive intervention under Commission Rule 2.209(B).

On August 26, 2022, the Department filed the direct testimony of Adam Jacobs.

On August 30, 2022, I issued a procedural order amending the schedule for this case.

On September 2, 2022, Ms. Bock filed direct testimony and exhibits, including her own testimony and testimony of the witnesses Dr. Emily Grubert and Geoffrey Gardner.

On September 7, 2022, the Clerk of the Commission issued a notice for an evidentiary hearing to be held remotely on September 20, 2022.

On September 9, 2022, Ms. Bock filed a motion requesting a change to the scheduled date for the evidentiary hearing due to witness availability.

On September 12, 2022, the Department and VGS filed responses to Ms. Bock's motion to change the date for the evidentiary hearing.

On September 15, 2022, VGS filed a motion to strike the direct testimony of Geoffrey Gardner in its entirety.

On September 16, 2022, I issued an order resolving outstanding motions and discussing logistics for the remote evidentiary hearing.

Also on September 16, 2022, VGS filed the rebuttal testimony of Gregory Morse.

On September 19, 2022, the Intervenor filed a response to VGS's motion to strike the testimony Geoffrey Gardner.

On September 20, 2022, I conducted a remote evidentiary hearing in this case. The evidentiary hearing was attended by Commission staff, VGS, the Department, Ms. Bock, all of the witnesses who filed testimony in this case, and approximately 50 members of the public. During the evidentiary hearing, I issued an oral ruling denying VGS's motion to strike the testimony of Geoffrey Gardner. I also admitted into the evidentiary record all prefiled testimony and exhibits filed in this case, VGS's cross-exhibits 1, 7, 11, and 13, and Intervenor cross-exhibits 1 and 2.

On September 21, 2022, VGS filed a motion to modify the briefing schedule in this case.

On September 28, 2022, I issued an order amending the briefing schedule and setting a schedule for the remainder of this proceeding.

On October 14, 2022, the Department, Ms. Bock, and VGS filed written briefs and proposed findings of fact.

Over the course of this proceeding, the Commission received approximately 130 written comments from members of the public.

III. PUBLIC COMMENTS

Approximately 130 members of the public filed comments with the Commission in response to the Contract, all of which either opposed the Contract or raised concerns with the Contract's potential impact on VGS's ratepayers or the environment. I have reviewed all public comments filed in this case to date, and I appreciate the members of the public who took time to review the parties' filings and provide feedback and context that has been beneficial for my review of the Contract and the evidence filed in this case. The comments that reflect a detailed understanding of the materials filed in this case and specific knowledge on relevant issues were particularly beneficial for my review of this case.

Although these public comments cannot form the basis of my proposal for decision because they are not sworn testimony that has been admitted into the evidentiary record, they have been of considerable help in identifying issues raised throughout this case, including some issues that were not raised by the parties directly. The public comments assisted me in reviewing the witnesses' testimony and preparing questions for witnesses at the evidentiary hearing. I also note that many members of the public who attended the workshop in this proceeding asked detailed questions and provided comments that aided in contextualizing many of the important policy considerations presented in this case.

The comments filed in this case largely focused on the Contract's environmental impacts. Many commenters challenge VGS's assertion that the Contract will result in environmental benefits for Vermonters or have a positive impact on mitigating the effects of climate change. Many commenters assert that the Contract will result in an increase to greenhouse gas emissions and limit Vermont's ability to satisfy the statutory mandates of Vermont's Global Warming Solutions Act ("GWSA"). Other commenters raise concerns that adding RNG to VGS's current natural gas supply will perpetuate the use of fossil fuels in Vermont. Several comments also raise concerns specific to the environmental impacts caused by the landfill in Waterloo, New York from which RNG supplied under the Contract will be produced. Finally, many commenters raised concerns about the Contract increasing the cost of natural gas without providing a meaningful environmental benefit. The subject matter of these comments is discussed throughout this proposal for decision.

IV. FINDINGS

Based on the Petition and the accompanying evidentiary record in this proceeding, I have determined that this matter is ready for decision. Based on the evidence of record, I report the following findings to the Commission in accordance with 30 V.S.A. § 8(c).

Contract Terms

1. The Contract requires VGS to purchase a minimum volume of 300,000 dekatherm of RNG (also called biogas) annually from Archea. Lawliss pf. at 5; exh. VGS-TL-2 (redacted).

2. The RNG delivered under the Contract will be produced at the Seneca Meadows Landfill that is located in Waterloo, New York. The RNG supplied under the Contract will be transported from Waterloo, New York, to a delivery point at Parkway, Ontario. From there, gas will be transported on VGS's existing contracted pipeline capacity to its point of connection with TC Energy at the Canadian border between Phillipsburg, Quebec, and Highgate, Vermont. Lawliss pf. at 5; exh. VGS-TL-2 (redacted).

3. The Contract includes a term of 14.5 years, with an option to extend the Contract for an additional five years upon the mutual agreement of VGS and Archea. Because the initial contract year will be for a period of less than half of a calendar year, VGS's purchase obligation for this initial period will be 130,000 dekatherm. Lawliss pf. at 5; exh. VGS-TL-2 (redacted).

4. The Contract includes an option that allows VGS to increase delivery volumes under the Contract by 100,000 dekatherm per year—an amount that equals approximately 1% of VGS's annual retail sales volumes. Murray pf. at 5; exh. VGS-TL-2 (redacted).

5. The Contract includes a price per dekatherm plus the cost of delivery. The Contract price, however, will fluctuate based on an escalation clause linked to the Annual Consumer Price index subject to an annual cap. Exh. VGS-TL-2 (redacted).

6. The Contract defines the RNG "biogas" to be delivered by Archea to VGS as "(i) Gas, meeting the definition of 'Biogas' in the then-current Renewable Fuel Standards Regulation in 40 C.F.R. 80.1401, produced at a biogas processing facility, along with the Environmental Attributes associated therewith or (ii) Gas, meeting the definition of 'Biogas' in the then-current Renewable Fuel Standards Regulation in 40 C.F.R. 80.1401, produced by [Archea] accompanied by the quantity of Environmental Attributes corresponding to the quantity of such Gas." Exh. VGS-TL-2 (redacted).

7. The Contract defines "Environmental Attribute" to mean "all environmental and other attributes, characteristics, benefits, reporting rights, credits, reductions, offsets, allowances, green tags, and all other benefits attributable to the production, delivery, or use of Gas sold pursuant to this Contract." Exh. VGS-TL-2 (redacted).

8. The Contract authorizes VGS to elect to either take all RNG volumes supplied under the Contract directly to VGS's own retail supply portfolio or take only a portion of the available volumes and sell the remainder into renewable transportation fuel markets. Murray pf. at 6; exh. VGS-TL-2 (redacted).

VGS's Resale Options

9. The Federal Renewable Fuel Standard is a program administered by the United States Environmental Protection Agency ("EPA") that requires transportation fuel refiners and producers to provide renewable fuels for a certain percentage of their annual volumes. These companies can either produce the renewable fuel directly, purchase Renewable Identification Numbers ("RINs") associated with other renewable fuel production, or pay an Alternative Compliance Payment. Murray pf. at 7.

10. Every year the EPA sets obligations (known as Renewable Volume Obligations) for large transportation fuel producers. This program has created a marketplace for the sale of RINs, which these companies can use to satisfy their annual Renewable Volume Obligations. Murray pf. at 7.

11. The states of California, Washington, and Oregon have established Low Carbon Fuel Standards ("LCFS") that create an additional marketplace for RNG in the transportation fuel space. California's program has been functional for several years, but Oregon's and Washington's programs are just beginning. Murray pf. at 8.

12. Under LCFS programs, RNG is assigned a carbon intensity value based on the lifecycle carbon benefits from the production and use of RNG as a transportation fuel. The carbon intensity value translates into a ton of carbon avoided, and this carbon value is then traded in the various states' cap and trade carbon markets. Entities from those states that need to purchase carbon credits can purchase RNG-associated credits, thereby generating the RNG value stream. The same molecule of RNG can generate both RINs to satisfy the federal RFS

obligations and state-level LCFS credits, so long as it is used to fuel compressed natural gas ("CNG") vehicles. Murray pf. at 8.

13. With the exception of the first contract year, the Contract authorizes VGS to nominate up to the full quantity of dekatherm of RNG that would otherwise be sold under the Contract to be retained by Archea and marketed into the vehicle transportation market on VGS's behalf to generate RINs, LCFS credits, or any other credits that may be available from environmental attributes associated with the RNG. Exh. VGS-TL-2 (redacted).

14. The Contract requires VGS to make a nomination as to any volumes of RNG that will be sold into transportation fuel markets no later than June 1 of each year. For any volumes of RNG that are nominated for resale, Archea will be required to use commercially reasonable efforts to market and sell the RNG into the vehicle transportation market on behalf of VGS to generate credits. Archea would then be entitled to a share of the net sale proceeds. Exh. VGS-TL-2 (redacted).

15. For any volumes of RNG sold into the transportation markets, VGS will apply the revenues received from the net proceeds against the overall cost of RNG within its supply portfolio. Murray pf. at 9; Lawliss pf. at 7-8.

16. VGS may use the Contract's resale options as a tool to generate offsetting revenues to effectively "buy down" the cost of the remaining RNG volumes they choose to deliver to their retail customers. Jacobs pf. at 6.

17. Any Contract volumes resold into transportation markets will not be counted toward VGS's in-state RNG portfolio, supporting its climate goals, or Vermont's greenhouse gas reduction commitments. Murray pf. at 11.

18. For volumes of RNG that are not nominated for resale into the transportation fuel markets on or before June 1 during each year of the Contract term, VGS will nominate the volumes that will be delivered to the delivery point for use in VGS's supply portfolio, to be sold as part of VGS's voluntary RNG program, or to be consumed through VGS's internal use. Lawliss pf. at 5-6.

19. Although forward prices for RNG attributes in the renewable transportation markets are limited, VGS's estimates for the value of the RNG's environmental attributes are verifiable and reasonable for the short-term future given historical trends in these markets. Jacobs pf. at 4.

Consistency with Regulatory Requirements and Impact on VGS's Gas Supply and Rates

20. VGS currently operates under an alternative regulation plan that authorizes the company to increase the amount of RNG under its Purchased Gas Adjustment by 2% of its overall retail gas sales. Murray pf. at 5.[2]

21. The initial 300,000 dekatherm commitment under the contract is the equivalent of approximately 4% of VGS' firm portfolio by volume. Lawliss pf. at 6-7.

22. Fully using 300,000 dekatherm of RNG purchased under the Contract in VGS's firm portfolio (i.e., not exercising the option to resell RNG in renewable transportation markets) would result in an approximate 3.6% increase to VGS's overall firm rates. Lawliss pf. at 7.

23. VGS projects that it will need to purchase and sell upwards of two billion cubic feet per year of non-fossil gas (such as RNG or Green Hydrogen) by 2030 to meet its expected requirements under the GWSA. Murray pf. at 4.

24. VGS calculates that fully exercising options to increase RNG under the Contract would allow the company to secure approximately 50% of the non-fossil gas needed to meet its 2030 supply requirements under the GWSA and supply more than 13% of retail sales with RNG. Murray pf. at 4-5.

25. The Contract's options, including the ability to increase or decrease supply volumes and to resell RNG into transportation markets, provide VGS with flexibility to ramp up its RNG supply consistently with its alternative regulation plan and manage unforeseen financial and regulatory risks associated with the Contract. Murray pf. at 6; tr. 9/20/22 at 65-66 (Murray).

Environmental Benefits of the Contract

26. The primary environmental benefit of the Contract will be to displace geologic natural gas with RNG produced at the Seneca Meadows facility to reduce greenhouse gas emissions generated by VGS's distribution and sale of natural gas in Vermont. This finding is supported by the additional findings below.

27. To verify RNG attributes, VGS will use the same process established in Case No. 8667 for all RNG supply contracts, which includes an annual review by an EPA RIN certified consulting group. This company will review the project, the production, the delivery pathway,

[2] VGS's current alternative regulation plan was approved by the Commission on February 22, 2022, in Case No. 19-3529-PET.

and title to the attributes to ensure VGS has received all the RNG consistent with its contracts. Lawliss pf. at 8.

28. VGS's broader approach for reducing carbon emissions and responding to regulatory and legal requirements, including the GWSA, includes three main strategies: (1) weatherization and efficiency; (2) in-home installations of devices such as heat pump water heaters, cold-climate heat pumps, hybrid heating systems, and geothermal systems; and (3) alternative supply, including new sources of low- and zero-carbon alternative energy such as RNG, hydrogen, and district energy systems to displace traditional natural gas. This Contract falls into the third category. Morse pf. reb. at 15.

29. The greenhouse gas impacts of RNG are variable based on production pathway and use case. Truly zero- or negative-greenhouse gas RNG is extremely rare. Grubert pf. at 6.

30. To estimate the emissions intensity of the RNG to be acquired under the Contract, VGS used the California Air Resource Board's ("CARB") GREET Model to conclude that Seneca Meadows Landfill has a carbon intensity score of approximately 45 g/MJ in comparison to an assumed a carbon intensity score of 79 g/MJ for geologic natural gas used in Vermont, resulting in a carbon intensity reduction of approximately 34 g/MJ, or a 43% reduction. Jacobs pf. at 9.

31. If VGS were to replace 10% of geologic natural gas from its projected supply portfolio by 2030 with RNG purchased under the Contract, there would be an approximate 4% reduction of VGS's projected 2030 greenhouse gas emissions that would otherwise occur in the absence of the Contract. Grubert pf. at 7.

32. The GREET model was developed by Argonne National Laboratory. Clean fuels programs in California, Oregon, and Washington each specify the use of modified versions of the GREET model to measure the difference in carbon emissions for various fuels. Morse pf. reb. at 13.

33. The Agency of Natural Resources' current emissions inventory practice would inaccurately assume a 100% reduction in emissions from any source of RNG, which conflicts with VGS's calculation of a 43% reduction using the GREET Model. The Vermont Climate Council is currently working to better quantify emissions impacts associated with RNG. Jacobs pf. at 9.

34. The GREET Model is adequate and likely required for evaluating potential LCFS credit quantity and value for RNG produced at the Seneca Meadows Landfill. However, the GREET Model could result in imprecise measurement of assessing greenhouse gas reductions in Vermont because the model develops a carbon intensity score for RNG from the Seneca Meadows Landfill by assuming variables that are specific to California, such as the physical distance for transporting the RNG from New York to California. Grubert pf. at 9-10.

35. The GREET model used in California is not a perfect representation of exact conditions for every resource; however, given the pace of change, the number of possible scenarios, and the challenges of direct measurement for many characteristics, it would be impractical to develop a precise model. Morse pf. reb. at 14.

36. It is reasonable to assume comparable emissions intensities to that of CARB's GREET model in magnitude and direction when evaluating the Contract. Jacobs pf. at 9.

37. In the absence of an approved Vermont-specific calculation, the GREET Model provides a transparent model that has been evaluated through a public process that includes many points of view. Morse pf. reb. at 14.[3]

38. The carbon intensity of geologic natural gas in Vermont, when factoring an estimated state-average methane emissions rate of 0.9% methane emitted per unit of methane withdrawn for consumption, may be as low as 61 g/MJ, which would result in a greenhouse gas emissions reduction of 26% per unit of geologic gas displaced by RNG provided under the Contract. Grubert pf. at 11.

39. The RNG purchased by VGS under the Contract and supplied for retail sales in Vermont will achieve greenhouse gas reductions between 26% and 43% per unit of geologic gas displaced. Findings 30 and 38, above.

Consistency with the Comprehensive Energy Plan and the GWSA

40. The Vermont 2022 Comprehensive Energy Plan ("CEP") is structured to meet requirements for reductions of greenhouse gas emissions required under the GWSA. Jacobs pf. at 6.

[3] The Vermont General Assembly identified the GREET model as a permissible "transparent and accurate emissions accounting" methodology to assess lifecycle emissions for clean heat measures under An Act Relating to the Clean Heat Standard (H.715 or the Clean Heat Standard), which did not ultimately become law in Vermont.

41. One method for assessing the cost-effectiveness of the environmental attributes associated with Contract, and the Contract's consistency with both the GWSA and the CEP, is to compare the cost paid for RNG under the Contract with the social cost of carbon. Jacobs pf. at 2-4, 6.

42. The Vermont Climate Council, through its Science & Data Subcommittee, has overseen the development and presentation of material for estimating the social cost of carbon in Vermont. Jacobs pf. at 6.

43. The Vermont Climate Council relied on a definition from the National Academy of Science for social cost of carbon as "an estimate, in dollars, of the present discounted value of the future damage caused by a metric ton increase in carbon dioxide [] emissions into the atmosphere in that year or, equivalently, the benefits of reducing [carbon dioxide] emissions by the same amount in that year." Jacobs pf. at 6.

44. The Vermont Climate Council, through its work relying on studies conducted by the New York Department of Environmental Conservation, has calculated the social cost of carbon at $128 per short ton of CO2 equivalent levelized over 15 years. Jacobs, pf. at 6-7; tr. 9/20/22 at 90 (Jacobs).

45. The calculated value for the social cost of carbon can change in the future as a result of updates to the calculation methodology, including changes to inputs or the decisions of policy makers regarding appropriate discount rates to apply to any future damages from carbon emissions. Jacobs pf. at 8.

46. The Contract will be consistent with the CEP so long as it is managed by VGS to keep the cost paid for emissions reductions below the social cost of carbon. Jacobs pf. at 10-11; tr. 9/20/22 at 94-95 (Jacobs).

47. To keep the cost paid for emission reductions below the social cost of carbon, VGS projects that it will need to exercise the option to resell at least a portion of the RNG volume from the Contract into the renewable transportation markets. Tr. 9/20/22 at 75-76 (Morse).

48. VGS does not intend for the Contract, on its own, to achieve all emissions reductions contemplated by the GWSA. Rather, the Contract is one part of a set of initiatives that will contribute to Vermont achieving its statewide reduction requirements over the term of the GWSA. Morse pf. reb. at 15.

49. VGS can exercise the Contract's options to keep RNG costs and the effective price paid for emissions reductions below the social cost of carbon. Jacobs pf. at 11.

Issues Related to the Seneca Meadows Landfill

50. The Seneca Meadows Landfill that will be used to source the RNG is subject to a permit that is set to expire in 2025. Grubert pf. at 9; Morse pf. reb. at 14.

51. If the Seneca Meadows landfill is unable to obtain a permit extension, the existing landfill will have adequate feedstock to ensure performance of the Contract. Morse pf. reb. at 17; tr. 9/20/22 at 73 (Morse).

52. If Archea is unable to supply required RNG from the Seneca Meadows Landfill, the Contract authorizes Archea to fulfill its delivery obligations with RNG from other landfills located in the northeastern United States, including landfills located in New York and Pennsylvania. Exh. VGS-TL-2 (redacted); tr. 9/20/22 at 74 (Morse).

53. A carbon capture and sequestration ("CCS") facility is planned to be installed at the Seneca Meadows Landfill by 2027. Grubert pf. at 13.

54. CCS captures and sequesters carbon dioxide, not methane, and RNG does not produce carbon dioxide until it is combusted. Grubert pf. at 13.

55. The sequestration of biogenic carbon dioxide like that generated at landfills can generate extremely valuable "negative emissions," as a form of carbon dioxide removal. Grubert pf. at 13.

56. The Contract does not expressly entitle VGS to receive environmental attributes of any carbon dioxide sequestered at the Seneca Meadows Landfill. Exh. VGS-TL-2 (redacted).

57. VGS asserts that it would be entitled all environmental attributes from the facility, including those associated with the possible CCS facility under the Contract's definition of "environmental attributes." Morse pf. reb. at 17-18.

V. BACKGROUND AND LEGAL STANDARD

This case calls for the Commission to examine the merits of a proposed Contract that constitutes, by a significant margin, the largest increase to VGS's RNG supply that the company has proposed to date. It also requires the Commission to decide, for the first time, whether to approve an agreement that will result in RNG being added to VGS's overall firm retail portfolio.

Currently, VGS generally only offers RNG to customers through voluntary tariffs with rates that reflect the cost premium of acquiring RNG.

Under 30 V.S.A. § 248(i), Commission approval is required for the "purchase of gas from outside the State, for resale to firm-tariff customers" when the contract term exceeds five years or the contract represents more than 10% "of the company's peak demand for resale to firm-tariff customers."

Before addressing the substantive merits of the Contract, it would be helpful to briefly discuss aspects of VGS's recent regulatory history and address how the Contract would fit within the context of recent Commission orders, VGS's current alternative regulation plan, and other regulatory obligations.

The Commission first required VGS to implement a program directed at RNG as part of its approval of the Addison Natural Gas Pipeline ("ANGP") in Case No. 7970. Specifically, the Commission conditioned approval of the ANGP "on VGS developing a proposal to foster bio-methane projects in Addison County."[4] The Commission later approved a petition from Lincoln Renewable Natural Gas, LLC to install and operate an anaerobic digester to produce RNG from farm and food waste in Salisbury, Vermont.[5] VGS purchases RNG for retail distribution directly from the Salisbury digester.[6] Then, on September 6, 2017, the Commission approved a petition from VGS to establish a program that authorized VGS to sell RNG to customers on a voluntary basis through a tariffed rate.[7] Following implementation of the voluntary RNG program, VGS has received approval from the Commission for two separate contracts that provide RNG supply for its voluntary RNG tariff. The first contract authorizes VGS to receive a minimum delivery of

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[4] *Petition of Vermont Gas Systems, Inc. for a certificate of public good, pursuant to 30 V.S.A. Section 248, authorizing the construction of the "Addison Natural Gas Pipeline" consisting of approximately 43 miles of new natural gas transmission pipeline in Chittenden and Addison Counties, approximately 5 new distribution mainlines in Addison County, together with three new gate stations in Williston, New Haven, and Middlebury, Vermont*, Case No. 7970, Order of 12/23/11 at 78-79.

[5] *Petition of Lincoln Renewable Natural Gas, LLC ("Lincoln RNG"), pursuant to 30 V.S.A. Sections 231 and 248(j), seeking approval for the construction, ownership, and operation of a renewable natural gas facility in Salisbury, Vermont*, Case No. 8596, Order of 4/8/16.

[6] The Commission recently approved a separate petition from a third party for the acquisition of the Salisbury digester. *See Petition of GEPIF III Vanguard Renewables NewCo, L.P. for an order approving the acquisition by GEPIF III Vanguard Renewables NewCo, L.P. of an indirect controlling interest in Salisbury AD 1, LLC pursuant to 30 V.S.A. § 107, and for continuing de minimis regulation under 30 V.S.A. § 108*, Case No. 22-2992-PET, Order of 7/28/22.

[7] *Petition of Vermont Gas Systems, Inc. for a Renewable Natural Gas Program and Optional Tariff*, Case No. 8667, Order of 9/6/17.

70,000 MMBtu and a maximum delivery from 120,000 MMBtu of RNG per year from a supplier located in Ontario, Canada, for a term of approximately fifteen years.[8] The second contract authorizes VGS to acquire a minimum of 20,000 MMBtu and a maximum of 30,000 MMBtu per year for a term of approximately seven years with supplier located in Dubuque, Iowa.[9]

VGS's current alternative regulation plan, which was approved by the Commission on August 11, 2021, expressly authorizes VGS to increase its RNG supply equivalent to 2% of its retail sales on an annual basis.[10] This component of the alternative regulation plan is consistent with VGS's most recent integrated resource plan ("IRP"), which was approved by the Commission with findings that VGS would seek to increase its supply of RNG by approximately 2% per year and that "[i]t is unlikely that VGS will be able to meet its RNG targets exclusively with locally sourced RNG, so it plans to procure RNG from a variety of other sources including landfills, wastewater, and larger digesters that are not local."[11] However, with respect to the IRP, it is important to emphasize that its approval was conditioned on a memorandum of understanding with the Department that requires that VGS's 2024 IRP include an analysis of "steps taken to develop and apply a valuation of greenhouse gas emissions framework to inform resource procurement decisions in the next IRP *and apply to any investment decisions in the interim*. VGS's 2024 IRP will consider investments from the utility, customer, and societal perspectives."[12] Likewise, the alternative regulation plan requires that any proposal to increase RNG should factor "the overall impact on rates, VGS's competitive position, the extent to which VGS is increasing RNG under its Voluntary RNG Program, and the environmental benefits of adding RNG supply."[13]

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[8] *Petition of Vermont Gas Systems, Inc. for approval of a Natural Gas Supply Contract pursuant to 30 V.S.A. § 248(i)*, Case No. 18-2154-PET, Order of 7/26/18. The contract was initially approved for approximately seven years, but the Commission later approved an extension of the contract term to approximately 15 years. *Petition of Vermont Gas Systems, Inc. for approval of revisions to a natural gas supply contract pursuant to 30 V.S.A. § 248(i)*, Case No. 19-0808-PET, Order of 5/10/19.

[9] *Petition of Vermont Gas Systems, Inc. for approval of an out-of-state renewable gas purchase contract with a term exceeding five years pursuant to 30 V.S.A. § 248(i)*, Case No. 20-0384-PET, Order of 05/07/20.

[10] *Petition of Vermont Gas Systems, Inc. for approval of an Alternative Regulation Plan, pursuant to 30 V.S.A. § 218d*, Order of 8/11/21, at 4-5.

[11] *Petition of Vermont Gas Systems, Inc. for approval of its 2020 Integrated Resource Plan*, Case No. 21-0167-PET, Order of 10/13/21, at 3.

[12] *Id.* at 8 (emphasis added).

[13] Case No. 19-3539, Exhibit VGS-JMP-5 at 4-5.

Within the backdrop of VGS's efforts to increase RNG supply, the Vermont General Assembly enacted the GWSA. The GWSA calls for mandatory, state-wide greenhouse gas reductions of 26% from 2005 levels by 2025; 40% reduction from 1990 levels by 2030; and 80% reduction from 1990 levels by 2050.[14] The first phase of implementing the GWSA involved the issuance of a Climate Action Plan, which was required to "set forth the specific initiatives, programs, and strategies, including regulatory and legislative changes, necessary to achieve the State's greenhouse gas emissions reduction requirements pursuant to section 578 of this title."[15] The Climate Plan was issued in December 2021. The next step in the GWSA implementation tasks the Vermont Agency of Natural Resources with adopting and implementing rules on or before December 1, 2022, that are "consistent with the specific initiatives, programs, and strategies set forth in the [Climate Action Plan] and achieve the 2025 greenhouse gas emissions reduction requirement pursuant to section 578 of this title."

The Department also recently issued the most recent iteration of the Comprehensive Energy Plan ("CEP") in January 2022. As required by 30 V.S.A. § 202b, the CEP is intended, in part, "to implement the State energy policy set forth in section 202a of this title, including meeting the State's greenhouse gas emissions reductions requirements pursuant to 30 V.S.A. § 578, and shall be consistent with the relevant goals of 24 V.S.A. § 4302 and with the Vermont Climate Action Plan adopted and updated pursuant to 10 V.S.A. § 592." Importantly, the 2022 iteration of the CEP expressly addresses the GWSA's greenhouse gas reduction mandates in setting out the State's energy policy. Relevant to this case, the CEP encourages consideration of increased usage of RNG, but cautions that although "increases in the quantity of RNG and natural gas alternatives serving ratepayers is desirable, Vermont should be aware — just as it needs to be with unregulated fuels — of locking customers into existing combustion-based thermal energy infrastructure, particularly if it delays or dissuades electrification of thermal loads."[16] The CEP also concludes that "[a]ny RNG design should consider the benefits and burdens of RNG to all ratepayers."[17]

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[14] 10 V.S.A. § 578.
[15] 10 V.S.A. § 592(b).
[16] CEP at 210.
[17] *Id.* at 211.

VI. POSITIONS OF PARTIES

VGS and Ms. Bock presented starkly different perspectives on the relative benefits of VGS's proposed Contract, with their principal disagreements centering on the purported environmental benefits of the Contract.

VGS, while acknowledging that the Contract is not a panacea for mitigating the climate impacts of its core business practices, argues that incorporating increasing amounts of RNG into its supply is consistent with its existing regulatory obligations and is a necessary component of its overall strategy for complying with GWSA mandates and reducing greenhouse gas emissions. Specifically, VGS argues that the Contract is consistent with its alternative regulation plan, its IRP, the CEP, and the GWSA. VGS further argues that the evidence and recommendations filed by Ms. Bock are contrary to VGS's existing legal and regulatory obligations. VGS asserts that it "does not contend this Contract solves the entire carbon emissions problem. Instead, this Contract makes meaningful progress toward GWSA mandates as part of a suite of efforts that VGS is undertaking to reduce carbon emissions."[18] VGS also asserts that "even as VGS moves more customers away from fossil gas through energy efficiency, electrification, geothermal, and other strategies, this Contract will continue to support hard-to-electrify larger commercial and industrial loads, which comprise a significant portion of VGS's annual volume, and will promote economic development by supporting a growing number of energy-intensive businesses that desire renewable and/or carbon-free operations."[19]

Ms. Bock, on the other hand, challenges whether any environmental benefits will be attained for Vermont by allowing VGS to proceed with the RNG acquisitions contemplated by the Contract. Ms. Bock argues that the Contract "provides no real greenhouse gas emissions reduction benefit, should not be the basis for rate increases for VGS customers, and does not promote the general good of the State of Vermont."[20] Ms. Bock contends that the Contract will be counterproductive toward achieving Vermont's climate objectives, including those incorporated into the GWSA. Ms. Bock challenges the asserted environmental benefits of RNG generally, criticizes VGS's calculation of the greenhouse gas reductions to be achieved by the Contract, and argues that incorporating more RNG into VGS's portfolio will perpetuate the use

[18] VGS Brief at 13-14.
[19] VGS Brief at 2.
[20] Intervenor Brief at 1.

of fossil fuels. She asserts that "[r]educing emissions *growth* is not the same as reducing emissions" and that "the Contract does not offer a pathway to net zero emissions."[21] Ms. Bock further argues that any financial benefits from the option to resell natural gas into transportation markets are speculative, and that VGS's reliance on the GREET Model overstates the expected greenhouse gas reductions that will be achieved through performance of the Contract. Ms. Bock also raises concerns about negative environmental impacts caused by the landfill from which VGS will source RNG under the Contract.

The Department presents a nuanced position on the Contract. It argues that the Contract "*may* be consistent with the [GWSA], 2022 [CEP], VGS's Alternative Regulation Plan [], and least-cost integrated planning provided that the Contract is managed to maintain the cost paid for emissions reductions below the social cost of carbon."[22] In other words, the Department argues that for the Contract to deliver positive environmental and ratepayer value consistent with VGS's existing and anticipated regulatory obligations, VGS will need to actively manage and exercise the options available under the Contract to ensure that the price paid by VGS for emissions reductions does not exceed the social cost of carbon. The Department's support for the Contract, therefore, is subject to the Commission adopting a proposed condition that would incorporate the social cost of carbon as a metric for measuring the Contract's cost-effectiveness. The Department's proposed condition, which is discussed in more detail below, would require that VGS "provide its annual nominations under the Contract and a detailed estimation of contract performance in compliance with its obligation to manage the price paid for emissions reductions from volumes of RNG delivered to VGS customers to not exceed the [social cost of carbon]."[23] In its briefing, VGS indicates that it does not oppose the Department's proposed condition.[24]

VII. DISCUSSION AND CONCLUSIONS

Introduction

I recommend that the Commission approve the Contract. This case presents policy issues that fall squarely within a crossroads of the Commission's role of regulating VGS within the rigid confines of traditional utility regulation and a necessary pivot of those standards toward

[21] *Id.* at 11 and 14 (emphasis in original).
[22] Department brief at 1 (emphasis added).
[23] *Id.*
[24] VGS Brief at 9-14.

allowing VGS a degree of flexibility to meaningfully confront how its core business practices contribute to greenhouse gas emissions. All parties in this case have presented credible testimony and exhibits highlighting the benefits, drawbacks, and risks of the RNG that will be delivered under the Contract, and importantly how this Contract will affect VGS's ratepayers. Having considered the parties' evidence and legal briefing, I recommend that the Commission conclude that, on balance, the Contract, if properly managed and subject to careful regulatory oversight, will serve to benefit VGS's ratepayers and Vermont's broader energy policy objectives by reducing greenhouse gas emissions in a manner that is consistent with traditional least-cost planning principles.

Consistency with Existing Regulatory Obligations and Financial Considerations

Of significant importance is the Contract's consistency with VGS's applicable legal and regulatory obligations, including VGS's current alternative regulation plan and IRP, both of which were subjected to detailed scrutiny by the Commission in separate proceedings that went through the Commission's contested case process. The IRP and alternative regulation plan encapsulate overarching planning principles and objectives that direct VGS's energy-acquisition policies, including VGS's approach toward mitigating the greenhouse gas impacts that inherently result from its traditional business practices. As discussed above, VGS's alternative regulation plan and IRP both contemplate that VGS will progressively increase the supply of RNG that is added to its general firm portfolio as part of a broader array of policies and programs that are intended to limit VGS's greenhouse gas emissions. In approving VGS's alternative regulation plan and IRP, the Commission gave approval for VGS to pursue opportunities for acquiring additional RNG to add to its retail supply portfolio. VGS's alternative regulation plan expressly authorizes VGS to increase the amount of RNG in its retail supply portfolio by 2% per year, and the Contract's deliverables fit within this limit. The Contract, on its face, is consistent with and promotes the high-level objectives set out in VGS's IRP and alternative regulation plan.

However, as correctly noted by the Department, the regulatory approval of VGS's IRP was conditioned on tethering VGS's acquisition of new RNG resources to traditional least cost-planning principles. Although the IRP encourages VGS to pursue RNG resources, the Commission's approval of the IRP makes clear that the financial impacts of VGS's acquisition of new RNG resources must be analyzed from the utility, customer, and societal perspective. Thus,

although the alternative regulation plan authorizes VGS's acquisition of progressively increasing amounts of RNG, the Commission's approval of the IRP establishes that VGS's new investments into RNG remain firmly fixed to traditional least-cost utility planning principles.

The Department persuasively argues that the Contract can satisfy these traditional least-cost planning principles only if VGS actively manages the Contract's resale options to ensure that any price premium paid for the RNG (i.e. cost in excess of the market rate) does not exceed the cost of carbon reductions effectuated by the RNG acquired under the Contract. I discuss the calculations used to assess the Contract's potential greenhouse gas reduction potential using the GREET Model below, but the Department's analysis of the contract price and the greenhouse gas emissions savings demonstrates that the Contract can be managed to result in a cost-effective, net-positive environmental benefit.[25] However, the evidence in this case indicates that VGS will need to exercise the Contract's resale options and receive revenues from transportation fuel markets to achieve this objective. Indeed, a VGS witness acknowledged at the evidentiary hearing that it likely will not be feasible for VGS to keep the premium price paid for RNG under the Contract below the cost of carbon reductions without obtaining revenues from resales of the RNG.[26]

To ensure the cost-effectiveness of the Contract, the Department proposes that the Commission subject approval of the Contract to the following condition, which VGS has consented to:

> To the greatest extent practicable, VGS shall manage its options under the Contract so that the price paid for emissions reductions from volumes of RNG delivered to VGS customers (net of any proceeds from VGS's sales into [the] renewable transportation fuel market) does not exceed the social cost of carbon. The management of options may consider the price paid per ton of carbon over multiple years and in connection with other parts of the alternative supply portfolio. Nothing in this condition removes the obligation to consider rate impacts of the individual contract within the alternative supply portfolio to balance societal and ratepayer interests. VGS shall submit its intention regarding annual Contract management decisions, including estimated and nominations ("Annual Nominations") 60 days prior to the Annual Nomination due date to the Commission and the Department, and describe how the Annual Nomination, and any potential changes thereto during the year, is in compliance with this

[25] The actual price to be paid per dekatherm under the contract is subject to the Commission's July 7, 2022, order granting confidential protection to portions of the Contract.

[26] Tr. 9/20/22 at 75-76 (Morse).

> condition. The Department or any party shall have 30 days to provide comments on the Annual Nominations described in VGS's filing.[27]

If the Commission determines to approve this Contract, I recommend that it adopt the Department's proposed condition. Although VGS should be encouraged to pursue all available options for mitigating the climate and environmental impacts of its business, any ratepayer investments into new programs, initiatives, or purchase contracts should be cost-effective and ensure that financial risk is appropriately balanced between the company and its ratepayers. Comparing the premium paid for RNG under the Contract against the cost of greenhouse gas reductions is a reasonable means for conducting such an assessment, and the social cost of carbon is an appropriate metric for making that comparison. Although the social cost of carbon is potentially subject to modification over time, it is a practical, easily accessible metric for evaluating the cost-effectiveness of the Contract. I note that it is a metric that the Commission has used in the context of setting screening values for energy efficiency utilities.[28] Imposing this condition on VGS will also add an additional layer of regulatory scrutiny of VGS's management of the Contract, which will help to ensure that potential ratepayer benefits are protected. Also of importance, I note the Department's conclusion that the Contract will be consistent with the CEP is based on ensuring that the price paid for emissions reductions does not exceed the social cost of carbon.

Ms. Bock argues that the social cost of carbon is an imprecise metric and that it would be unfair to use the social cost of carbon in setting VGS's rates. However, under the Department's proposed condition, the social cost of carbon would not be a metric used to set VGS's rates. Instead, it would be one of several metrics that could be used by the Commission to assess whether the Contract is managed cost-effectively, which in turn can affect decision-making about cost recovery using traditional ratemaking standards in a future rate case. Ms. Bock's point about the imprecision of the social cost of carbon metric, however, is not wholly without merit. Although the Department and VGS have demonstrated to my satisfaction that this an appropriate tool for assessing the cost-effectiveness of the Contract, if Vermont adopts a different mechanism for valuing carbon reductions during the term of the Contract, whether by

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[27] Department brief at 6.

[28] *See Petition of the Vermont Department of Public Service for a proceeding to update avoided costs and other screening values used by the Energy Efficiency Utilities*, Case No. 21-2436-PET, Order of 10/10/22.

rulemaking under the GWSA or future legislation, or if the social cost of carbon metric is changed significantly, it may be necessary to revisit this condition if it is adopted by the Commission.

Ms. Bock also challenges the Contract's reliance on environmental attributes associated with RNG to be cost-effective. Specifically, Ms. Bock highlights that the RNG delivered under the Contract will be produced out-of-state, and based on the nature and physics of natural gas transmission, there is no guarantee that any RNG molecules generated at the Seneca Meadows Landfill will actually be physically transported to VGS's distribution network in Vermont. However, as Ms. Bock also notes, this reliance on environmental attributes for RNG generated out of state is analogous to mechanics of the REC market in the electric industry. Although Vermont does not currently have a statutory analog to the Renewable Energy Standard ("RES") that applies to VGS, the Department and VGS have both credibly demonstrated that there are active markets within which VGS will be able to sell RNG attributes for the foreseeable future to generate revenues. In any event, the lack of a specific legal mandate analogous to the RES should not be an impediment to VGS pursuing cost-effective opportunities to reduce greenhouse gas emissions as the GWSA, at least indirectly, imposes greenhouse gas reduction obligations on VGS.

Ms. Bock does, however, raise a notable risk that Vermont could potentially adopt a clean heat standard or rules under the GWSA that would prohibit VGS from using attributes from RNG generated out-of-state toward Vermont-specific mandates.[29] In response to my questioning on this issue during the evidentiary hearing, a VGS witness testified that:

> If something were to change on the policy front, we know this RNG is valuable in these wholesale renewable transportation fuel markets. There's other markets developing. So I don't envision the scenario where Vermont Gas can't move this gas in a direction and probably actually generate ratepayer benefit, and as is contemplated in the clean heat standard legislation this pathway or deliverability was I think the term that was used as related to our renewable fuels. So this would have aligned with the clean heat standard, and frankly we were talking about this contract as the bill was being worked on and we're optimistic that bill could be revived this coming session. So I don't see it giving us a lot of risk. We're watching all that and actively engaged in that as we go forward, but, you know, Vermont's a small state and we have a lot of challenges with the energy

[29] Intervenor Brief at 31-32.

> goals within our boundaries given the limitations we have both on our system as well as on the electric system.[30]

Based on the VGS witness's testimony, I recommend that the Commission conclude that VGS has acknowledged and addressed this risk and is prepared and will be able to manage the Contract cost-effectively if Vermont imposes regulatory requirements that affect VGS's ability to claim environmental attributes associated with the Contract. Also, as discussed in the findings of fact above, the Department has verified VGS's estimates for the value of the RNG attributes in the renewable transportation markets for the near-term future, which supports VGS's assertion that there will be buyers for these attributes even if they ultimately cannot be used to satisfy state-level regulatory obligations in Vermont. Thus, the Contract does hedge the risk of regulatory change in Vermont. However as discussed elsewhere in this proposal for decision, approval of the Contract is not a guarantee of rate recovery. To the extent there are new regulatory mandates that affect the Contract's financial performance, the Commission may need to address VGS's management of the Contract in response to such mandates when evaluating cost recovery in future rate cases if the Contract is approved.

Environmental Benefits

The cost of the Contract must be considered in tandem with the environmental benefits it is intended to generate, and the parties dispute whether and to what extent such benefits will in fact materialize. VGS argues that the displacement of geologic natural gas with RNG purchased under the Contract will result in a 43% reduction of greenhouse gas emissions per unit of fossil gas displaced. VGS's conclusion relies on a carbon intensity score of 45 g/MJ for RNG produced at the Seneca Meadows Landfill under the GREET Model. Ms. Bock criticizes VGS's reliance on the GREET Model. She also disputes VGS's calculation of greenhouse gas emissions based on an assumed carbon intensity score of 79 g/MJ for geologic natural gas in Vermont. The expert witness presented by Ms. Bock, Dr. Grubert, concluded that displacing geologic natural gas with RNG from the Seneca Meadows Landfill would result in a reduction of greenhouse gas emissions of 26% per unit of fossil gas displaced. Dr. Grubert's assessment was based on a presumed carbon intensity score of geologic gas in Vermont of 61 g/MJ. I note that Dr. Grubert's testimony on this point was supported by documented calculations, and that her

[30] Tr. 9/20/22 at 65-65 (Murray).

testimony does raise some doubt on VGS's reliance on the 79 g/MJ carbon intensity score of geologic carbon in Vermont. However, as Dr. Grubert acknowledged during the evidentiary hearing, her calculation of the carbon intensity score was based on reviewing data from the U.S. Energy Information Administration ("EIA") and was not based on personal knowledge of Vermont's energy marketplace.[31]

At a threshold level, resolving the difference between Ms. Bock and VGS's calculations of the carbon intensity score of geologic natural gas is not material because it is clear that the parties agree that there will be some level greenhouse gas reductions. This conclusion demonstrates that the Contract will result in environmental benefits – a factor that favors approval of the Contract. However, setting the carbon intensity score of geologic natural gas could affect the financial performance of the Contract because it essentially sets the benchmark for assessing the greenhouse gas reductions achieved through the contract. The parties acknowledge this difference would be immaterial for the sale of RNG attributes in LCFS programs (since the value is based on the GREET Model score), but it would affect the social cost of carbon calculation discussed above. I recognize, however, that VGS's reliance on the 79 g/MJ value derives from assumptions for the carbon intensity of conventional natural gas as reported by CARB in summarizing average LCFS credit prices.[32] Because the 79 g/MJ is the value that has been used in active RNG credit trading markets, and because Dr. Grubert's testimony is not based on personal knowledge of the Vermont natural gas market, I conclude that it is reasonable for VGS to rely on the 79 g/MJ for assessing the greenhouse gas reductions achieved under the Contract.

Dr. Grubert's testimony, nonetheless, highlights a potential risk that warrants consideration. In assessing the projected environmental benefits of the Contract, VGS relies on the GREET Model, which is used in other jurisdictions (including California) and may generate results based on inputs and assumptions that do not accurately reflect conditions in Vermont. VGS likewise relies on a carbon intensity value for geologic natural gas that was developed for those other markets. Once the Agency of Natural Resources promulgates rules implementing the GWSA, or if the General Assembly enacts new legislation directed at the thermal heating sector,

[31] Tr. 9/20/22 at 13 (Grubert).
[32] Exhibit Intervenor Cross-1 at 8-9 (discovery response A.DPS.VGS.1-5).

it is possible that Vermont will apply a different method for calculating the carbon intensity of the RNG to be procured under the Contract or a carbon intensity score for geological natural gas in Vermont. These variables could have a significant impact on the overall performance of the Contract, even if it does yield a net-positive environmental benefit, because the financial performance of the Contract is tied to the overall emissions savings generated by the Project.

The flexibility built into the Contract, including the options to increase or decrease supply or resell RNG into the renewable transportation markets, will mitigate against this risk. Likewise, the Department's proposed condition, which would tie performance of the Contract to the social cost of carbon, establishing a clear performance benchmark, will also shield VGS's ratepayers from this and other financial risks tied to the Project. Therefore, I recommend that the Commission conclude that this potential risk is not so significant to outweigh the potential benefits of the Project. However, VGS should anticipate that a failure to account for this and other related risks through effective management of the Contract's options could result in cost-recovery issues in future rate setting proceedings.

I also emphasize that RNG is a relatively nascent development. Relying on an imprecise model that was developed for a similar regulatory purpose (i.e., measuring greenhouse gas emissions reductions), but for use in a different jurisdiction, may lack a degree of specificity that would otherwise be required in some contexts, such as in evaluating a utility's cost-of-service in a rate setting case. Because there are few state-level RNG mandates, the natural gas market has not coalesced around specific standards for measuring and trading environmental attributes associated with RNG to the same extent that the electric industry has with renewable energy certificates ("RECs"). Nor has a robust market for trading attributes associated with RNG developed outside of the renewable transportation markets discussed above, which are still relatively limited in scope and maturity in comparison to the REC trading marketplaces. This distinction between the electric and natural gas industries is to be expected, as states generally have not yet enacted natural gas analogues to the renewable portfolio standards for the electric industry. However, increased use of RNG, both in Vermont and in other jurisdictions, should result in access to improved data, analytical tools, and marketplace transparency in the near future—especially if other states enact legislation comparable to the GWSA or clean heat standards that set specific greenhouse gas reduction mandates directed at the thermal heating

sector. Nonetheless, for purposes of analyzing the Contract, I am persuaded by the evidence presented by the parties that the GREET Model provides sufficiently accurate results to develop a reasonable estimate of the Contract's potential greenhouse gas reductions.

Ms. Bock also argues against approval of the Contract on the basis that the Contract will not meaningfully contribute to VGS meeting its GWSA mandates. In support of this position, Dr. Grubert presented testimony that replacing 10% of geologic natural gas from VGS's projected supply portfolio in 2030 with RNG purchased under the Contract will result in an approximate 4% reduction in greenhouse gas reductions, which falls well below the mandated 2030 targets included in the GWSA. Ms. Bock is correct that this Contract, by itself, will not enable VGS to meet its GWSA obligations. Ms. Bock is also correct that VGS's acquisition of RNG under this Contract will result in greenhouse gas emissions because the RNG produced at the Seneca Meadows Landfill is not a zero-carbon resource.

Ms. Bock's argument with respect to the GWSA, however, overlooks much of VGS's testimony in this case, which emphasizes that adding RNG to its supply portfolio is only one aspect of a multi-faceted approach to reducing greenhouse gas emissions and meeting GWSA mandates. VGS's climate mitigation strategies also include efficiency and weatherization, in-home appliance and heat pump installations, and other alternative fuel supplies including geothermal, hydrogen, and district energy system. RNG is only one component of VGS's broader approach to mitigating its climate impact. In this case, VGS has demonstrated that the proposed RNG Contract, if managed effectively, can be a cost-effective means of reducing its overall greenhouse gas impact, which will contribute to the company's ability to meet its GWSA objectives. Although other mitigation strategies, such as efficiency and weatherization, may be more cost-effective than RNG at reducing net greenhouse gases, VGS provides a necessary utility service that is relied upon by thousands of Vermonters. For those customers who are unable to fuel switch away from natural gas in the near-term future, whether for financial or logistical reasons, regulatory policy should be directed at reducing the emissions profile of the natural gas that those customers will continue to use in a cost-effective manner.

Over the coming decades, as the GWSA's mandates ramp up, VGS will have to significantly adapt its business model and the delivery of its services to meet those mandates. As the Commission has highlighted in past orders, including orders approving VGS's IRP and

alternative regulation plan, and as the CEP stresses, VGS will need to take a multi-pronged approach to reducing its greenhouse gas impact. VGS should have adequate flexibility to pursue a wide array of options for achieving those mandates so long as VGS pursues approaches that are cost-effective for the ratepayers who depend on its service.

Ancillary Issues Related to the Seneca Meadows Landfill

The parties in this case also presented testimony and briefing on the issue of whether the Contract entitles VGS to environmental attributes that would be generated by a carbon capture and sequestration ("CCS") system that is proposed to be constructed at the Seneca Meadows Landfill. I have concluded that there is insufficient evidence in the record to determine whether the CCS system is likely to be completed or to support a conclusion that VGS is entitled to environmental attributes from the CCS system if it does become operational during the term of the Contract. The only relevant evidence in the record on the latter point is a VGS witness's hearsay testimony about contract negotiations, the Contract itself, and non-attorney witnesses' testimony about how to interpret the contract's definition of "Environmental Attribute." I conclude that the Contract, on its face, is ambiguous as to whether VGS is entitled to attributes generated by the possible CCS system at the Seneca Meadows Landfill. Accordingly, my recommendation that the Commission approve the Contract is not based on potential revenues that VGS would receive under the Contract from the potential CCS system. However, if the CCS system does come online, and VGS is entitled to environmental attributes from the system, it should be expected that any revenues generated from those attributes would be applied to offset the overall cost of the Contract.

Ms. Bock and numerous public commenters also raise concerns about the viability of the Seneca Meadows Landfill and its environmental impacts on water resources located adjacent to the landfill in New York. The evidence filed in this case shows that the landfill operates subject to a permit that is set to expire in 2025. VGS has demonstrated to my satisfaction that Archea will be able to perform its delivery obligations under the Contract even if the landfill's permit is not extended because the landfill currently has adequate feedstock to allow for continued production of RNG through the term of the Contract. The Contract also allows Archea to provide VGS with RNG from alternative landfills in New York or Pennsylvania. Thus, I

conclude that Archea's performance under the Contract is not at risk if the landfill permit that expires in 2025 in not extended.

With respect to the many public comments about the landfill's environmental impacts in central New York, the Commission's jurisdictional scope of review over the Contract is limited by 30 V.S.A. § 248(i). Although Ms. Bock and these commenters raise legitimate issues and concerns about environmental impacts caused by the landfill, the Commission does not have jurisdictional authority in this proceeding to review the environmental impacts of a landfill located outside of Vermont.[33] The evidence admitted into the evidentiary record on this point is also either too vague or dependent on hearsay (in the form of newspaper articles or opinion pieces) to support factual findings on any adverse environmental impacts attributable to the landfill's operations. Further, any such environmental impacts will presumably be reviewed by federal or State of New York regulatory agencies with appropriate jurisdictional authority over the landfill's operations. Accordingly, I do not recommend that the Commission consider the landfill's potential adverse impacts in evaluating whether to approve the Contract.

Conclusion

In conclusion, I note that Ms. Bock has flagged legitimate criticisms and skepticism regarding the benefits of RNG, but it would be premature to foreclose VGS's participation in a nascent marketplace that has the potential for satisfying Vermont's broader energy policy objectives. The Contract, however, is not without risk to VGS's ratepayers. Therefore, if the Commission issues an order approving the Contract, it will be incumbent on the Commission and the Department to closely monitor VGS's performance under this Contract and within the RNG marketplace generally. It is also appropriate to establish guardrails around VGS's management of the Contract's various options and routinely assess VGS's management of the Contract in appropriate regulatory settings, including in future rate cases. The Department's proposed condition, which includes reporting requirements and a proposed financial performance metric tied to the social cost of carbon, will assist in achieving an appropriate degree of regulatory oversight and properly evaluating whether the Contract is implemented in a manner that is consistent with Vermont's energy policy objectives. Accordingly, I recommend that the

[33] *See Application of Twenty-Four Elec. Utilities for A Certificate of Pub. Good Authorizing Execution & Performance of A Firm Power & Energy Cont. with Hydro-Quebec & A Hydro-Quebec Participation Agreement.*, Case No. 5330, Order of 10/12/90.

Commission issue an Order approving the Contract subject to the Department's proposed condition.

VIII. CONCLUSION

To the extent the findings of fact and conclusions of law in this proposal for decision are inconsistent with any proposed findings of fact or conclusions of law submitted by any party, such proposed findings or conclusions of law, having been considered, are rejected.

This Proposal for Decision has been served on all parties to this proceeding in accordance with 3 V.S.A. § 811.

Dated at Montpelier, Vermont this 19th day of October, 2022.

Daniel Burke, Esq.
Hearing Officer

IX. ORDER

IT IS HEREBY ORDERED, ADJUDGED, AND DECREED by the Vermont Public Utility Commission ("Commission") that:

1. The findings, conclusions, and recommendations of the Hearing Officer are adopted.

2. Vermont Gas Systems, Inc.'s ("VGS") proposed contract with Archaea Energy Marketing LLC for the purchase of renewable natural gas and its associated attributes (the "Contract") is approved.

3. To the greatest extent practicable, VGS shall manage its options under the Contract so that the price paid for emissions reductions from volumes of RNG delivered to VGS customers (net of any proceeds from VGS's sales into the renewable transportation fuel market) does not exceed the social cost of carbon. The management of options may consider the price paid per ton of carbon over multiple years and in connection with other parts of the alternative supply portfolio. Nothing in this condition removes the obligation to consider rate impacts of the individual contract within the alternative supply portfolio to balance societal and ratepayer interests. VGS shall submit its intention regarding annual Contract management decisions, including estimated and nominations ("Annual Nominations") 60 days prior to the Annual Nomination due date to the Commission and the Department, and describe how the Annual Nomination, and any potential changes thereto during the year, is in compliance with this condition. The Department or any party shall have 30 days to provide comments on the Annual Nominations described in VGS's filing.

Dated at Montpelier, Vermont this _____.

_____	)	
Anthony Z. Roisman	)	PUBLIC UTILITY
	)	
	)	
_____	)	COMMISSION
Margaret Cheney	)	
	)	
	)	OF VERMONT
_____	)	
J. Riley Allen	)	

OFFICE OF THE CLERK

Filed:

Attest:_____
Clerk of the Commission

Notice to Readers: This decision is subject to revision of technical errors. Readers are requested to notify the Clerk of the Commission (by e-mail, telephone, or in writing) of any apparent errors, in order that any necessary corrections may be made. (E-mail address: puc.clerk@vermont.gov)

Appeal of this decision to the Supreme Court of Vermont must be filed with the Clerk of the Commission within 30 days. Appeal will not stay the effect of this Order, absent further order by this Commission or appropriate action by the Supreme Court of Vermont. Motions for reconsideration or stay, if any, must be filed with the Clerk of the Commission within 28 days of the date of this decision and Order.

PUC Case No. 22-2230-PET - SERVICE LIST

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