

IN THE SUPREME COURT  
OF THE  
STATE OF VERMONT

No. 23-AP-084

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

(Appeal of Catherine Bock)

Appeal from the Vermont Public Utility Commission  
Case No. 22-2230-PET

**BRIEF OF APPELLANT CATHERINE BOCK**

James A. Dumont, Esq.  
Law Office of James A. Dumont, Esq. PC  
15 Main St., P.O. Box 229  
Bristol, VT 05443  
dumont@gmavt.net  
dumont.vt@gmail.com  
802-453-7011  
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## **Statement of the Issues**

1. Did the Commission err in ruling that it was irrelevant that there is no evidence that a 14.5 year contract for imported landfill gas would reduce the gas company's greenhouse gas emissions, where the gas company sought approval of the above-market price contract on the grounds that the landfill gas would reduce its emissions in accord with the Global Warming Solutions Act?

2. Did the Commission err in ruling that the contract complies with least-cost planning principles where the uncontradicted evidence was that the contract is not a least-cost means of reducing emissions?

3. Was the Commission clearly erroneous in finding that a permit condition limiting the environmental value of the company's annual import decisions by the social cost of carbon will ensure that the contract satisfies traditional least-cost planning principles, where no record evidence supported that conclusion?

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## **STATEMENT OF THE CASE**

### **Subject of the Litigation**

This is an appeal by Catherine Bock, a Vermont Gas Systems, Inc. (VGS) ratepayer, of an order by the Public Utility Commission approving a contract to purchase renewable natural gas (RNG) from a New York landfill. VGS sought approval of the contract as a cost-effective means of complying with the Global Warming Solutions Act of 2020 (GWSA),<sup>1</sup> which requires reduction of Vermont greenhouse gas (GHG) emissions by 40% by 2030 and by 80% by 2050 (with 1990 levels as the baseline). Landfill gas is 26% less carbon-intensive than conventional fossil gas, according to Intervenor's expert, but may be as much as 43% less intensive according to VGS.

The contract will cause Ms. Bock's and every customer's rates to rise. The Department's expert testified, without contradiction by any other witness, that the contract is one of the most expensive means available to reduce emissions, as compared to other emission reduction investments such as efficiency.

Intervenor's expert explained that the contract will cause increased rather than decreased VGS emissions, or only negligible emission reductions, because gas sales are increasing and the less carbon-intensive RNG will add to rather than displace existing gas sales. She testified that alternative investments of VGS ratepayer money such as efficiency or electrification would actually decrease VGS emissions and provide a pathway toward GWSA compliance.

The Commission found that the contract will cause rates to rise, that it is irrelevant that landfill gas may be only 26% less carbon intensive than fossil gas and that it is irrelevant that landfill gas may not displace any fossil gas, and approved the contract.

### **Appellant's Claims on Appeal**

1. The Commission erred in ruling that it was irrelevant that there is no evidence that a 14.5 year contract for imported landfill gas would reduce the gas company's greenhouse gas emissions, where the gas company sought approval of

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<sup>1</sup> 2020 Vermont Laws No. 153.

the above-market price contract on the grounds that the landfill gas would reduce its emissions in accord with the Global Warming Solutions Act. (Argument 1)

2. The Commission erred in ruling that the contract complies with least-cost planning principles where the uncontradicted evidence was that the contract is not a least-cost means of reducing emissions. (Argument 2)

3. The Commission was clearly erroneous in finding that a permit condition limiting the environmental value of the company's annual import decisions by the social cost of carbon will ensure that the contract satisfies traditional least-cost planning principles, where no record evidence supported that conclusion. (Argument 3)



## **Facts of the Case**

### The VGS Petition and Testimony re: the Purpose of the Contract and Least-Cost Analysis

VGS filed a petition seeking approval of the Archaea contract on June 22, 2022 under 30 V.S.A. § 248(i), which requires Commission approval of out-of-state gas purchase contracts for a period exceeding five years. The contract anticipates that VGS will purchase from Archaea Energy Marketing LLC a minimum of 300,000 dekatherms (Dth) of RNG per year for a period of at least 14.5 years with an option to continue for an additional five years. Purchase under the contract would include the environmental attributes of the RNG as well as the RNG itself. The contract would allow VGS to increase the amount of RNG purchased in any year by 100,000 Dth above the previous year's purchase. VGS would be able, annually, to nominate volumes of RNG it purchases for sale by Archaea on the renewable transportation fuel market. Proceeds from such sales above the purchase price to VGS would be split between VGS and Archaea as designated in the contract. VGS asserts that revenue from these sales will allow the company to moderate the extent of rate increases resulting from the contract. PC 602-605.

VGS witness Todd Lawliss set forth the purpose of the contract. He testified that the purpose of the contract is to advance the company's "commitment to reduced greenhouse gas emissions as required by the Global Warming Solutions Act." PC 560.

Mr. Lawliss was asked to discuss the contract in the light of the company's least-cost planning obligations under 30 V.S.A. § 218c. Section 218c calls upon utilities to meet the public's need for energy "at the lowest present value life cycle cost, including environmental and economic costs, through a strategy combining investments and expenditures on energy supply, transmission, and distribution capacity, transmission and distribution efficiency, and comprehensive energy efficiency programs..." Mr. Lawliss replied that the contract "is a least-cost means for VGS to advance the State's renewable energy commitments and GHG reductions through our supply choices." PC 561.

Mr. Lawliss then provided VGS's least-cost analysis. The analysis consisted entirely of comparing the cost of gas under the contract with the cost of gas under its preexisting supply portfolio. PC 561-562.

At the technical hearing, Mr. Lawliss confirmed that the only least-cost analysis he had performed consisted of a comparison of the rate impacts of the contract with the rate impacts of continued use of conventional natural gas  
9/20/22 Tr. 56

VGS witness Thomas Murray testified that the contract is consistent with the company's Alternative Regulation Plan, and explained the resale components of the contract. PC 586-597. These include an initial purchase of 300,000 dekatherms and the right to increase the purchase by adding 100,000 dekatherms each year. PC 590

Mr. Murray testified that, notwithstanding the contract option to sell the Archaea gas into the transportation fuels market, "VGS expects that by 2030, we will bring most, if not all, of the Archaea RNG volumes into our Vermont portfolio, rather than selling them externally." PC 595. He noted that there may be market or policy scenarios "in which we would continue to sell into those markets."

#### DPS Witness Adam Jacobs' Testimony re: Least-Cost Analysis and a Rate Ceiling

Adam Jacobs holds a B.A. and an M.S. and formerly was the Energy Manager for the City of Boston. PC 506. He testified that the Department's position is that the contract must be evaluated for conformity with the State's energy policy and least-cost integrated planning, including the State's Comprehensive Energy Plan<sup>2</sup> and the GWSA. PC 508-509. Mr. Jacobs cited to 30 V.S.A § 218c.

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<sup>2</sup> Section 202b of Title 30 authorizes creation of a Comprehensive Energy Plan (CEP). The CEP sets forth statewide energy needs and goals; it does not permit, authorize or find appropriate any particular project or investment.

Mr. Jacobs testified that in obtaining approval of its 2020 Integrated Resource Plan, VGS had agreed that it would apply least-cost planning to any investment decision made prior to approval of its next IRP in 2024. PC 512.<sup>3</sup>

Mr. Jacobs testified that he had reviewed Mr. Lawliss' and Mr. Murray's prefiled testimony and also discovery responses from VGS. The discovery encompassed a broader set of comparisons than the least-cost analysis Mr. Lawliss testified about. It encompassed other supply and demand-side options under § 218c. Mr. Jacobs found, based on the discovery answers, that the proposed Contract would be "one of the most expensive" means for VGS to reduce its emissions:

...the Proposed Contract is substantially more expensive than other RNG sources in VGS's portfolio in terms of dollar-per-metric ton of carbon dioxide equivalent refused. Moreover, VGS's evaluation of current or pending emissions reduction initiatives using both supply and demand-side measures demonstrates that the Proposed Contract is one of the most expensive means for VGS to reduce emissions. (PC 510)

Mr. Jacobs also testified that the option to sell the Archaea gas into the transportation fuels market would allow VGS to use that revenue to "buy down" or offset the high price of the Archaea gas that VGS elects to import into Vermont, thereby reducing rate impacts. PC 511

Rates will rise because of the contract. PC 515. Theoretically, Mr. Jacobs found, the option of selling the gas into the transportation fuels market could

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<sup>3</sup> There is an obvious error on line 16 of page 7 of Mr. Jacobs' PFT (PC 512). That sentence refers to VGS's Alternative Regulation Plan, while providing the docket number and the content of the Memorandum of Understanding adopted by the Commission in the Integrated Resource Plan docket. The Docket No. 21-0167-PET, referred to by Mr. Jacobs, is the IRP approval docket, not the ARP docket. Also, the language cited by Mr. Jacobs is referred to in the Commission's order in the IRP docket.

soften the rate impacts. He stated the option to sell could reduce rate impacts in two parts of his testimony, first at PFT pp. 5-6 and at PFT p. 10 (PC 510-511, 515).

However, VGS's intention to import, rather than sell, "most, if not all" of the Archaea gas runs counter to the possibility of offset. PC 515.

Mr. Jacobs proposed using the social cost of carbon to place a ceiling on rate impacts. He explained that the social cost of carbon represents the present discounted value of the damage caused by future, avoided emissions. The value is dependent on the discount rate used and other factors that he anticipated would change over time. He recommended that the Commission impose a condition limiting the value paid for emissions reductions from the contract so that the value would not exceed the social cost of carbon. PC 511-513, 515-516. The condition would influence VGS's exercise of its options under the contract with the purpose of placing "a ceiling on rate impacts." PC 515-516 [Jacobs PFT at 10-11].

At the technical hearing, Mr. Jacobs was asked whether the contract is consistent with the State's 2022 Comprehensive Energy Plan. He answered: "It considers renewable natural gas as one solution to reduce emissions accordance with the Comprehensive Energy Plan and the Climate Action Plan." 9/20/22 Tr. 94-95. Mr. Jacobs was not asked about, and did not testify about, whether the social cost of carbon condition he had proposed, if adopted, would mean that the contract does satisfy traditional least-cost planning principles, despite his testimony that it is a high-cost alternative.

#### Intervenor's Expert Witness Emily Grubert's Testimony

Intervenor presented the testimony of Emily Grubert, Ph.D. Dr. Grubert holds a Ph.D. from Stanford University, an M.A. and an M.S. from the University of Texas at Austin, and a B.S. from Stanford. She is a registered professional engineer. She has served as Deputy Assistant Secretary for Carbon Management at the U.S. Department of Energy, and also has worked at Pacific Gas & Electric on natural gas transmission line projects. She currently is an Associate Professor of Sustainable Energy Policy at the University of Notre Dame. She has authored 60 peer-reviewed journal papers, and has been quoted in The New York Times, The Los Angeles Times, The Chicago Tribune and The Wall Street Journal. Her

peer-reviewed publications include articles specifically on RNG and its contributions to climate change. PC 400-402, 405, 417-498.

Professor Grubert testified that the contract is likely to increase rather than decrease emissions, does not provide a credible path towards compliance with the GWSA, and instead will make it more difficult to attain compliance. PC 403-408, 413-416

She provided a detailed basis for her conclusions. Vermont's natural gas related CO<sub>2</sub> emissions have doubled since 2012 after a long period of being nearly flat. PC 406-407. Natural gas accounted for 13% of Vermont's energy-related CO<sub>2</sub> emissions in 2019, up from 6% in 1990. *Id.* The natural gas share of Vermont's 2019 GHG emissions is likely higher given the more significant role of methane emissions in natural gas' GHG footprint relative to petroleum. PC 407-408. CO<sub>2</sub> emissions related to use of petroleum remained essentially flat during the recent period when natural gas emissions have been rising. *Id.*

Although RNG is less carbon intensive than fossil gas, without evidence that RNG will displace existing fossil gas sales, the contract will add to the company's emissions. The company, Dr. Grubert noted, has presented no evidence that there would be displacement. PC 406-407, 9/20/22 Tr. 10-11

VGS calculates the greenhouse gas intensity of Archaea gas to be 43% less than Vermont's existing supply of gas, but its calculations were seriously flawed. Based on her extensive education, experience, and research in this precise area, Dr. Grubert testified that a 26% reduction is more accurate. PC 410.

As gas sales increase, RNG gas will add to existing natural gas emissions, and the contract at best will slow the growth of emissions. It is unlikely that the RNG will be reducing rather than adding to emissions relative to the 1990 baseline. PC 406-408, 410-411.

If one accepts as accurate VGS's predicted benefits of the contract, the contract would reduce the company's GHG emissions, but by only 4% by 2030. PC 414

In order to determine if RNG provides a realistic pathway to compliance with the GWSA, its projected benefits (a 4% reduction), its cost and its emissions must be compared with the benefits, costs and emissions of alternative means of using ratepayer funds to reduce emissions, such as electrification, heat pumps

and efficiency upgrades. PC 404, 410-411. These alternatives, unlike RNG, provide an actual path to compliance with the GWSA's deadlines. PC 414-415.

The use of ratepayer funds to purchase RNG as a means of achieving reduced emissions by the statutory deadlines is counterproductive for several reasons in addition to its lack of cost-effectiveness as compared to electrification, heat pumps and efficiency. Its use prolongs the use of fossil gas by preserving and investing in fossil fuel infrastructure and slows the implementation of alternatives, due to limitations on time, regulatory effort and ratepayer funding. RNG is rarely considered as a sole fuel but is a blended fuel, so it is fundamentally tied to ongoing use of fossil gas. Ultimately, RNG systems will need to be replaced, at ratepayer expense, with an alternative that is capable of providing services without GHG emissions, causing ratepayers to pay for both the transition to RNG/blended gas and the transition off RNG/blended gas. PC 415-416.

#### Catherine Bock's Testimony and Exhibits

Ms. Bock holds a B.S. in biochemistry, an N.D. from the National University of Natural Medicine, and a M.P.H. from Nordic University. PC 296. She testified about the health impacts of RNG on indoor air quality, PC 296, and also admitted into evidence, without objection, a publication by EarthJustice and the Sierra Club on RNG and a report by the UCLA School of Public Health on the health effects of residential gas appliances, CB 1 and CB 2. 9/20/22 Tr. 41-42 (no objection to Bock exhibits) The first article, "Rhetoric vs. Reality, the Myth of Renewable Natural Gas for Building Decarbonization," reiterates Professor Grubert's testimony that RNG contributes to climate change and that electrification of homes is more cost-effective than use of RNG.

#### VGS Rebuttal Testimony of Gregory Morse

VGS witness Gregory Morse testified as VGS's rebuttal witness. Mr. Morse has a B.S. degree in Business Administration-Finance. PC 252.

Mr. Morse rebutted Dr. Grubert's testimony by characterizing it as follows: "Dr. Grubert appears to be asserting that this contract is not enough—on its

own—to achieve the emissions reductions contemplated by the GWSA.” PC 264. And “Do we propose that landfill RNG is the sole pathway to achieve our GWSA goals? We do not.” PC 269. He explained why it was unrealistic for any one contract to satisfy the GWSA, and that the company is planning on using additional means. PC 265-267.

Mr. Morse also responded to Dr. Grubert’s testimony that there is no evidence that landfill gas will displace fossil gas and that without displacement of fossil gas by landfill gas the contract will increase emissions. Mr. Morse’s rebuttal was: “Since Dr. Grubert appears to acknowledge that RNG under the Contract has a lower carbon intensity traditional gas in our portfolio, it seems undisputed that this Contract will reduce emissions.” PC 266.<sup>4</sup>

Mr. Morse also testified in rebuttal to Mr. Jacobs’ testimony. Mr. Morse testified that the social cost of carbon changes dramatically with just a small change in the discount rate assumption, and that changes in other assumptions can also have dramatic effects, such as increasing the cost from \$128 per ton to \$493 per ton. PC 257-260. He testified that the company would agree to the Department’s proposed condition on the understanding that the company would be granted flexibility in applying the condition. He submitted a draft of the condition that requires compliance “to the greatest extent practicable” based on the company’s evaluation of a number factors. PC 263.

Mr. Morse’s rebuttal did not respond to Mr. Jacobs’ testimony that the proposed contract is one of the most expensive means for VGS to reduce emissions.

## **The Proceedings Below**

### Ms. Bock’s Post-Hearing Brief and Proposed Findings

Ms. Bock submitted a post-hearing brief, including proposed findings. PC 209-241. The proposed findings summarized Dr. Grubert’s testimony PC 211-222. The proposed findings also addressed, in detail, the record evidence from

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<sup>4</sup> Mr. Morse also was asked whether he agreed with Dr. Grubert’s assertion that natural gas has not been displacing petroleum in Vermont. He replied that he does not agree but the question is irrelevant. PC 266.

Mr. Jacobs' testimony that the contract "is one of the most expensive means for VGS to reduce emissions" and is not cost-effective. PC 222-223

Ms. Bock also objected to the proposed condition limiting rates by the social cost of carbon. She explained that there is no statutory definition of the term, that its meaning and value is highly variable and uncertain, and that there is no precedent or authority for use of the concept in evaluating specific projects such as the Archaea contract. PC 231-235.

### The Department's Post-Hearing Brief

The Department's post-hearing brief reiterated Mr. Jacobs' testimony that the contract is "substantially more expensive than other sources in VGS's portfolio in terms of dollar-per-metric tone of carbon dioxide equivalent reduced." PC 205. The brief also reiterated that, according to VGS's own data about other supply and demand measures available to reduce emissions, "the contract is substantially more expensive." PC 206.

The Department also referred to Mr. Jacobs' testimony proposing a condition based upon the social cost of carbon. Citing to Mr. Jacobs' testimony at PFT 5 and 6, it stated that the revenue that VGS gains by selling RNG into the renewable transportation fuels market may reduce the effective price of the RNG that VGS imports and thereby soften rate impacts. PC 206.

In a subsequent paragraph that did not cite Mr. Jacobs' testimony or any other witness' testimony, the Department added another purpose for the condition: ensuring that the contract would meet least-cost standards. The brief argued that the condition would ensure that the environmental attributes of the contract "are delivered in a least-cost means" as well as minimizing rate impacts. PC 206. This addition later was adopted by the Hearing Officer and the Commission, as discussed below.

### VGS's Post-Hearing Brief and Proposed Findings

VGS submitted a brief and proposed findings. The brief acknowledges that, in the order approving of its 2020 IRP, the company was required to submit



traditional least-cost planning justification for any investment proposed prior to the next IRP in 2024. PC 171-172.

The VGS brief alleges that the contract will reduce emissions because natural gas will be “displacing” fossil gas, PC 170. Similarly, Proposed Finding 31 alleged that the contract will provide environmental benefits by “displacing” fossil gas. VGS stated that this finding was supported in the record by Mr. Morse’s prefiled testimony at p. 12. PC 197.<sup>5</sup>

The VGS brief adopts Mr. Morse’s characterization of Dr. Grubert’s testimony: “... Dr. Grubert’s contention that this contract is not enough—on its own—to achieve the emissions reduction contemplated by the GWSA is irrelevant.” PC 176

### The Hearing Officer’s Proposal for Decision

The Hearing Officer issued a Proposal for Decision on October 19, 2022. PC 131-159. The PFD relied upon the Commission’s order in 2021 that approved of the company’s latest Integrated Resource Plan (IRP). PC 145. That order was issued on October 13, 2021, *Petition of Vermont Gas Systems, Inc., for approval of its 2020 Integrated Resource Plan*, Case No. 21-0167-PET. The October 13, 2021 order, at pages 4 and 6, approved of the plan on condition that the company’s 2024 plan, and every investment decision made between October 13, 2021 and approval of the 2024 plan, must comply with statutory least-cost planning principles. Therefore, the Hearing Officer explained, the Archaea contract must be justified by resort to “traditional least-cost planning principles.” PC 145, 149-150.

The PFD found that the contract grants VGS the right to purchase 300,000 dekatherms of gas per year, and then to increase the purchase by adding another 100,000 dekatherms each year. PC 136. It found that if the contract rights to purchase 300,000 dekatherms are exercised by VGS, the contract will result in a 3.6% increase in rates. PC 139. The PFD did not address the rate impacts if VGS decides to exercise its right to purchase additional dekatherms.

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<sup>5</sup> Page 12 of Mr. Morse’s prefiled testimony may be found at PC 262. It does not mention displacement. Nowhere in Mr. Morse’s testimony does he testify that landfill gas will displace fossil gas.

Finding 26 states that the primary environmental benefit of the contract “will be to displace natural gas with RNG” from the Archaea site. PC 139. The only support for this finding is the PFD’s subsequent sentence: “This finding is supported by the additional findings below.” None of the additional findings allege that the Archaea gas will displace existing sales of fossil gas, or cite any witness who testified that Archaea gas will displace existing sales of fossil gas. The closest is Finding 31, which relies on Dr. Grubert’s testimony about what the impacts would be “if” displacement were to occur. Finding 31 states:

If VGS were to replace 10% of geological natural gas from its projected supply portfolio with RNG purchased under the contract, there would be an approximately 4% reduction of VGS’s projected 2030 greenhouse gas emissions that would otherwise occur in the absence of the Contract. Grubert pf. at 7. (PC 140)

The PFD’s finding 46 states that the contract will be consistent with the Comprehensive Energy Plan if it is managed to keep the cost paid for emissions reductions below the social cost of carbon. PC 142. Mr. Jacob’s prefiled testimony at p.10-11 and his testimony at transcript at pp. 94-95 are cited as the record support for the connection between the Energy Plan and the cost of carbon condition. PC 142. The Discussion section then states that the Department “persuasively argues” that the contract will “satisfy... traditional least-cost planning principles” because of the social cost of carbon condition, and the PFD therefore recommends adoption of that condition. PC 150. The record support cited is, again, Mr. Jacobs’ prefiled testimony at pp.10-11 and the transcript at pp. 94-95.

The PFD does not resolve the dispute between Dr. Grubert and VGS about the carbon intensity of landfill gas—whether it will be 43% less carbon intense or 26% less carbon intense than Vermont’s existing gas—by finding that resolving the difference “is not material because it is clear that the parties agree that there will be some level greenhouse gas reductions” [sic]. PC 154.

The PFD then adopts VGS’s characterization of Dr. Grubert’s testimony as faulting the contract because the contract “by itself, will not enable VGS to meet its GWSA obligations.” PC 156. The PFD responds that this expectation is not

realistic, because adding RNG to its supply portfolio is only one aspect of VGS's multifaceted approach to reducing emissions. PC 156.

The PFD acknowledges that efficiency and weatherization may be more cost-effective than purchasing Archaea landfill gas, but dismisses that concern because the contract will provide reduced-carbon gas to customers who cannot switch fuels:

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. (PC 156)

The PFD concludes that VGS has demonstrated that the contract “can be a cost-effective means of reducing its overall greenhouse gas emissions” if the social cost of carbon condition is imposed. PC 156

#### Ms. Bock's Objection to the PFD

In her objection to the PFD, Ms. Bock argued at length that the social cost of carbon condition will not remedy the failure by VGS to demonstrate that significant or any emissions reductions will be produced by the contract, and does not justify the rise in rates. PC 113, 118, 124-125.

Ms. Bock objected that VGS has failed to present evidence comparing the cost of the contract's emission reductions with the cost of other means of reducing emissions such as weatherization and heat pumps, and yet the PFD had found the contract to be cost-effective, and that the contract will unreasonably increase costs for all VGS ratepayers. PC 124, 129

Ms. Bock objected to the assertion in Finding 26 that the contract will displace geologic gas and pointed out that the findings that Finding 26 asserted support Finding 26 do not do so. PC 115. She pointed out that Dr. Grubert had testified that VGS had not demonstrated how the contract gas would be displacive, and that over the past ten years natural gas emissions have doubled.

Ms. Bock objected to the mischaracterization of her position. She and Dr. Grubert had not argued that the contract must be evaluated to determine if the contract alone will bring VGS into compliance with the GWSA. Their submissions argued, and demonstrated, that the contract does not provide a “pathway” to compliance and instead will be a barrier or a dead end. PC 121-122. She objected to the statement that so long as “some level of greenhouse gas reductions” will occur, the contract would be consistent with the GWSA. PC 123.

### The Commission’s Ruling

The Commission adopted the PFD (PC 41) and responded to Ms. Bock’s objections to the PFD. PC 41-50. The most salient response by the Commission was its determination that the question of displacement was immaterial. It was immaterial because of VGS’s duty to serve its existing customers, who deserve to use gas with a reduced carbon intensity. Even if the contract does cause added overall emissions because it will add to rather than displace existing gas sales, it will provide lower intensity carbon gas to its existing customers. PC 48; see also PC 45.

The Commission also decided that it did not need to decide how much lower the carbon intensity of the contract gas would be. Whether Dr. Grubert was correct that there is only a 26% reduction, or VGS was correct that there is a 43% reduction, “the carbon intensity of the RNG to be procured under the Contract is less than the carbon intensity of the geologic natural gas used in Vermont.” PC 44.

The Commission also determined that the contract complies with state energy policy and will be cost-effective because of the social cost of carbon condition. It adopted the PFD, which had ruled that the contract satisfies traditional least-cost planning principles because of the condition. It also wrote that the condition will “ensure that VGS’s participation in RNG attribute markets appropriately balances the Contract’s net costs with its environmental benefits” and “will help to ensure that the premium price paid for RNG reflects the environmental benefits that will be achieved through the contract.” PC 41, 46-47.

The Commission also rejected Ms. Bock’s objection that the PFD mischaracterized and did not address Dr. Grubert’s testimony that the contract

does not provide a pathway toward GWSA compliance. Because the PFD found that the contract will comply with the CEP, the PFD necessarily found that the contract was a pathway to compliance, and “the decision to approve the Contract is not a determination that the Contract, by itself, is sufficient for VGS to meet its anticipated GWSA obligations.” VGS will take other actions, such as efficiency and weatherization, to achieve compliance. PC 44-45

The Commission agreed that the cost of RNG under the contract will likely exceed the market rate for natural gas for the 14.5 year life of the contract. PC 46-47

### Ms. Bock’s Motion to Reconsider

Ms. Bock filed a motion to reconsider. PC 97-108. The motion argued, *inter alia*, that by finding that any reduction in greenhouse gas emissions, no matter how small, is a benefit consistent with the state’s energy policy, the Commission failed to respect the legislative mandate in the GWSA.

### The Commission’s Ruling on the Motion to Reconsider

The Commission decided that none of Ms. Bock’s arguments satisfy the high standard for granting motions to reconsider. PC 7 The Commission rejected the argument that it had found that any reduction would suffice. “Rather, we concluded that the evidence presented in this case shows that the Contract can be *a cost-effective means* of reducing greenhouse gas emissions if managed effectively by VGS.” PC 8 (emphasis in the original). “Specifically,” the order continued, that management includes pursuing other means of reducing emissions. PC 8

The Commission concluded that in its approval order it had “stressed that approval of the Contract should not dissuade investment in other cost-effective means of reducing greenhouse gas emissions, including ‘weatherization, heat-pump installations, and the introduction of other low-carbon fuels and sources of energy...” PC 9. The conclusion also repeated that the contract reduces the emissions profile of natural gas for customers who are unable to switch to another fuel. PC 9

## **Claims of Error**

### First Claim of Error

The stated purpose of this high-priced contract is to implement VGS's commitment to satisfy the emissions reduction requirements of the GWSA. The GWSA mandates 40% emissions reductions by 2030 and 80% by 2050, using 1990 as the baseline.

The evidence was uncontradicted that unless the landfill gas displaces existing fossil gas sales, the landfill gas will add to the company's emissions, not reduce them. There was no evidence that displacement will occur. Gas sales are rising. Landfill gas has 74% of the carbon intensity of traditional gas, according to Dr. Grubert. The contract may slow the growth of emissions, but it will not reduce them as required by the GWSA. Emissions will continue to grow.

The PFD found that there will be displacement. After the briefing made clear that there was no evidence of displacement, the Commission ruled that displacement is irrelevant. It is irrelevant, the Commission explained, because the contract will reduce the carbon profile of existing customers.

The plain meaning of the GWSA requires emissions reductions, not improvement of the gas carbon profiles of individual customers while overall emissions increase.

### Second Claim of Error

The evidence was undisputed that the Archaea contract is a high-cost means of implementing the GWSA. That means that ratepayers will be paying more for this means of emissions reduction than they would be paying for other means that are more effective—such as weatherization and heat pumps. A rate increase will be needed.

The Commission's precedents have repeatedly held that § 218c of 30 V.S.A. requires that utilities make their investment decisions based on evaluation of the least-cost alternatives, including evaluation of both environmental and financial cost, and considering both supply-side and demand-side alternatives, such as weatherization and heat pumps. In Docket 21-0167-PET the Commission held

that Vermont Gas must comply with these least cost principles for any investment it chooses to make prior to approval of its 2024 IRP.

The Commission erred in approving of the contract in the absence of evidence that the contract complies with least-cost planning principles, where the undisputed evidence was that the contract is a high-cost alternative and will cause a rate increase.

### Third Claim of Error

The record evidence about the function of the social cost of carbon condition was from Mr. Jacobs. He testified both that the contract is a high-cost means of emissions reduction and that imposition of the social cost of carbon condition would protect ratepayers by placing a ceiling on rates. Mr. Jacobs also testified that the purchase of RNG was consistent with the State's Comprehensive Energy Plan, which explicitly mentions RNG as part of VGS's energy mix. Mr. Jacobs did not testify that the imposition of the social cost of carbon condition would mean that the contract satisfies traditional least-cost planning principles.

The Department's brief, followed by the PFD and then the Commission, found that the imposition of this condition would mean that the contract satisfies traditional least-cost planning principles. No record evidence supported this claim. The Commission was clearly erroneous in finding that a permit condition limiting the environmental value of the company's annual import decisions by the social cost of carbon will ensure that the contract satisfies traditional least-cost planning principles.

## **STANDARD OF REVIEW**

When the Commission issues findings, those findings must be sustained unless clearly erroneous. 30 V.S.A. § 11(c). A finding is clearly erroneous if it lacks "substantial footing in the evidence." *Petition of Green Mtn. Power Corp.*, 131 Vt. 284, 305, 305 A.2d 571, 584 (1973).

The Commission must explain how it reached factual conclusions upon which it relied; if it does not, remand is required. *In re Petition of Vermont Gas Systems, Inc.*, 2018 VT 44, ¶¶ 21, 22, 207 Vt. 324, 187 A.3d 1138.

An agency's decisions may be overturned if arbitrary and capricious. *Town of Victory v. State*, 2004 VT 110, ¶ 22, 177 Vt. 383, 865 A.2d 373; *Petition of Town of Sherburne*, 154 Vt. 596, 605, 581 A.2d 274 (1990). A decision is arbitrary and capricious if made on ad hoc basis, without reference to standards or principles. *In re Handy*, 171 Vt. 336, 345, 764 A.2d 1226 (2000).

This Court reviews questions of law de novo, and defers to an agency's interpretation of a statute if the statute falls within the commission's expertise and the commission has consistently interpreted the statute in the same manner. *In re Stowe Cady Hill Solar, LLC*, 2018 VT 3, ¶ 21, 206 Vt. 439, 182 A.3d 53 ("agency construction that 'contradicts the agency's own previous construction' is not due any deference" (quoting from *Norfolk S. Ry. v. Shanklin*, 529 U.S. 344, 356 (2000))). Even if the interpretation of the statute falls within the agency's expertise and the statute has been consistently interpreted, an agency's interpretation is entitled to no deference if the interpretation is unreasonable or arbitrary. *In re Robinson*, 2019 VT 8, ¶ 22, 209 Vt. 557, 209 A.3d 570.

## ISSUE PRESERVATION

Ms. Bock objected repeatedly that the contract would not be a cost-effective means of complying with the GWSA, that the contract will not reduce emissions consistent with the GWSA without displacement of existing fossil sales and that there is no evidence of displacement. She did so through Dr. Grubert's testimony, her post-hearing brief and proposed findings, her objection to the PFD and her motion to reconsider.

Ms. Bock objected that the contract is not the least-cost means of emission reduction, but is a high-cost means, in her post-hearing brief at PC 222-225 and in her objection to the PFD at PC 124, 129.

Ms. Bock objected that the social cost of carbon condition has no legal basis, is ambiguous and will not protect ratepayers in her post-hearing brief at PC 231-235 and in her objection to the PFD at PC 113, 118, 124-125.



## ARGUMENT

**1. The Commission erred in ruling that it is irrelevant that there is no evidence that a 14.5 year contract for imported landfill gas would reduce the gas company's greenhouse gas emissions, where the gas company sought approval of the above-market price contract on the grounds that the landfill gas would reduce its emissions in accord with the Global Warming Solutions Act.**

Vermont's Global Warming Solutions Act requires greenhouse gas emissions reductions "not less than 40 percent from 1990 greenhouse gas emissions by January 1, 2030" and "not less than 80 percent from 1990 greenhouse gas emissions by January 1, 2050." 10 V.S.A. § 578. The justification offered by VGS for the Archaea contract and the concomitant rate increase is that the contract will advance the company's compliance with the GWSA. Mr. Lawliss' prefiled testimony said as much:

Q.10. Why should VGS purchase this supply and why should it commit to a 14.5 year term?

A.10. VGS is committed to providing a decarbonized thermal energy future that meaningfully advances Vermont's commitment to reduce greenhouse gas emissions as required by the Global Warming Solutions Act... (PC 560)

It is necessary, therefore, to evaluate the costs of the contract against the proposed benefit—reduction of greenhouse emissions in compliance with the Act.

The Intervenors' expert, Dr. Gruber testified that the contract will not cause any reduction in emissions unless the landfill gas displaces existing sales of fossil gas, and there is no evidence that it will. Natural gas sales are increasing, and the added gas from the landfill in Waterloo, New York will supplement existing sales.

At the close of the PUC proceedings, after Dr. Grubert's testimony, Mr. Jacobs' testimony, and the briefing by Ms. Bock, the Hearing Officer issued his

PFD that alleged that displacement had been shown, and therefore there would be reductions in emissions, however small (4%). The finding lacked any foundation in the record. Ms. Bock pointed that out. In response, the Commission ruled that whether or not displacement had been shown was immaterial. It was immaterial, the Commission stated, because the contract will reduce the carbon profile of existing customers (by an undetermined amount).

But the purpose of the contract, the reason that VGS proposed it even though it will raise rates, was to reduce the company's overall emissions in keeping with the GWSA—not to reduce the profile of individual customers. The GWSA's supremely important goal is emissions reduction.

The Commission appears to have approved the contract on the basis it will implement the GWSA— without any evidence that the contract will reduce emissions, which meant without any evidence that the contract will implement the GWSA. This was clearly erroneous. On the other hand, if the Commission's intent was to approve the contract on the basis that the GWSA does not require emissions reductions, just reduced carbon intensity, the ruling was an error of law. However, the Commission failed to articulate the rationale for its conclusion. Remand is necessary. *In re Petition of Vermont Gas Systems, Inc., supra.*

**2. The Commission erred in ruling that the contract complies with least-cost planning principles where the uncontradicted evidence was that the contract is not a least-cost means of reducing emissions.**

Section 218c of Title 30 imposes on all utilities the duty to plan their investments based on least-cost evaluation. Longstanding Commission precedent holds that least-cost evaluation requires evaluation of not just the status quo versus a proposed decision, but evaluation of a range of reasonable supply-side and demand-side alternatives, such as weatherization, fuel-switching and efficiency. *Petition of Green Mountain Power for A Certificate of Pub. Good Pursuant to 30 V.S.A. S 248(j) Authorizing Upgrades to the Castleton Substation in the Town of Castleton, Vermont., No. 20-3966-PET, 2021 WL 2214019, at \*8 (Vt. Pub. Util. Comm'n. May 24, 2021) (finding that while alternative were*

considered, the proposed upgrade was the “most cost-effective option to meet present and projected future demand”); *Petition of GMP Microgrid Ferrisburgh LLC for A Certificate of Pub. Good, Pursuant to 30 V.S.A. S 248, Authorizing the Installation & Operation of Up to A 4.99 Mw Solar Elec. Generation Facility & 2 Mw Battery Storage Facility to Be Located Off Greenbush Rd. in Ferrisburgh, Vermont.*, No. 17-5236-PET, 2019 WL 524057, at \*8 (Vt. Pub. Util. Comm’n. Feb. 4, 2019) (finding costs of proposed construction of a solar electric generation facility to be “roughly comparable to the costs of the potential alternatives”); *Petition of GMP-Essex Solar/Storage LLC for A Certificate of Pub. Good, Pursuant to 30 V.S.A. S 248, Authorizing the Installation & Operation of A 4.5 Mw Solar Elec. Generation Facility & 2 Mw Battery Storage Facility in Essex, Vermont.*, No. 18-2902-PET, 2019 WL 314322, at \*7, 19 (Vt. Pub. Util. Comm’n. Jan. 16, 2019) (finding proposed construction of a solar electric generation facility to be “relatively low-cost” and such costs to be “roughly in the middle of a set of generic alternatives”); *Petition of Vermont Gas Sys., Inc., for A Certificate of Pub. Good, Pursuant to 30 V.S.A. Section 248, Authorizing the Constr. of the Addison Nat. Gas Pipeline Consisting of Approximately 43 Miles of New Nat. Gas Transmission Pipeline in Chittenden & Addison Ctys., Approximately 5 New Distribution Mainlines in Addison Cnty., Together with Three New Gate Stations in Williston, New Haven, & Middlebury, Vermont.*, No. 7970, 2013 WL 6834750, at \*54 (Vt. Pub. Util. Comm’n. Dec. 23, 2013) (finding the proposed construction of natural gas transmission line “meets the standard of a least-cost analysis” because different project designs were considered.)

VGS failed to submit the required evaluation. Mr. Lawliss’s testimony compared the cost of the contract only against the cost of the status quo, and not with the cost of other means of reducing emissions. The Department’s expert, Mr. Jacobs, by using pretrial discovery, did the company’s work for it. He found that the contract is not a least-cost alternative. It is one of the highest cost means of reducing emissions.

The Commission found that the contract will cause a 3.6% rise in rates, assuming that only 300,000 Dth are purchased.

Integrated Resource Plans, or IRPs, are one means of performing that evaluation. The Department, the company, and the Hearing Officer agreed, however, that VGS’s most recent IRP was accepted by the Commission on the

basis of a Memorandum of Understanding with the Department that required that the next IRP, due in 2024, actually comply with that requirement, and, in the meantime, every investment decision by the company also must comply with that requirement. The published ruling by the Commission, issued on October 13, 2021, in Docket No. 21-0167-PET, is that ruling. *Petition of Vermont Gas Systems, Inc., for approval of its 2020 Integrated Resource Plan*, Case No. 21-0167-PET. The duty to perform least cost evaluation of every investment prior to adoption of the 2024 IRP is found at pages 4 and 6.

The Commission appears to have approved of the contract on the basis that it will cost-effectively reduce the carbon profile of existing consumers—regardless of the evidence that the contract is not a least-cost alternative. If so, the Commission’s ruling was clearly erroneous.

It is possible that the intent of the Commission was to approve of the contract even though it was not a least-cost alternative. If so, the Commission’s order conflicts with § 218c, the Commission’s longstanding interpretation of § 218c, and the Commission’s order in Docket No. 21-0167-PET. This was contrary to law—§ 218c and the Commission’s own rulings—and arbitrary and capricious because it is ad hoc decision that was made without reference to standards, principles or precedents. *In re Handy, supra*.

**3. The Commission erred in finding that a condition limiting the environmental value of each annual purchase decision by the social cost of carbon will ensure that the contract satisfies traditional least-cost planning principles despite the record evidence that the contract does not.**

Mr. Jacobs and Mr. Morse testified that the value of the social cost of carbon varies depending on what variables are considered, how they are weighted, and the discount rate used. Mr. Jacobs proposed that the social cost be used for one purpose—to impose a ceiling on rates. He did not propose to substitute the social cost of carbon condition for the least-cost analysis that he had performed, which had found the contract to be a high-cost alternative. He had done the § 218c evaluation and had concluded that the investment was a

high-cost means of reducing emissions. He did not testify that his conclusions would change if the social cost of carbon condition were adopted.

Nonetheless, the Department's brief, followed by the PFD and then the Commission, found that the condition would also function as a substitute for least-cost evaluation of the proposed contract. The PFD and the Commission found that the contract would "satisfy" "traditional least cost planning principles" if the condition were imposed. The Department did not cite Mr. Jacobs' testimony for this allegation, although the PFD and the Commission order did.

Mr. Jacobs had testified that the condition would function as a ceiling on rates and that the purchase of RNG was consistent with the State's Comprehensive Energy Plan, which explicitly mentions RNG as an option for VGS to employ. Mr. Jacobs did not testify that the social cost of capital condition would transform this particular, high-priced RNG contract into a least-cost alternative.

There is no basis in the record for the Commission's conclusion that the contract satisfies least-cost planning principles under § 218c and the Commission's precedents because the Commission has imposed the social cost of carbon condition. The decision should be reversed because it is clearly erroneous. 30 V.S.A. § 11(c); *In re Green Mtn. Power Corp.*, *supra*.

The Hearing Officer's and the Commission's conclusion also makes no sense. So long as the environmental value of the RNG contract does not exceed the social cost of carbon cap, a decision about which investments to make below that cap will not be governed or affected by the cap. For example, if the company is presented with a choice between low-cost weatherization and purchase of landfill gas with environmental attributes that cost more than weatherization but less than the social cost of capital, the cap will have no bearing on the decision. The company can make the wrong decision (buying more RNG) and remain in conformity with the condition.

## **CONCLUSION**

The Court should reverse the Commission's order approving of the Archaea landfill gas contract.

Date: May 29, 2023

/s/ James A. Dumont

James A. Dumont, Esq.  
Law Office of James A. Dumont, Esq. PC  
15 Main St., PO Box 229  
Bristol, VT 05443  
dumont@gmavt.net  
dumont.vt@gmail.com  
802-453-7011

### **CERTIFICATE OF COMPLIANCE**

This brief complies with the word-count limitation imposed by V.R.A.P. 32(a)(4). As counted by Microsoft Word, it contains 7,869 words without including the Table of Authorities and the Table of Contents.

Date: May 29, 2023

/s/ James A. Dumont

James A. Dumont, Esq.  
Law Office of James A. Dumont, Esq. PC  
15 Main St., PO Box 229  
Bristol, VT 05443  
dumont@gmavt.net  
dumont.vt@gmail.com  
802-453-7011