

**STATE OF VERMONT  
PUBLIC UTILITY COMMISSION**

Case No. 19-3529-PET

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Petition of Vermont Gas Systems, Inc. for approval of an Alternative Regulation Plan, pursuant to 30 V.S.A. § 218d	
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**PREFILED DIRECT TESTIMONY OF  
NEALE LUNDERVILLE  
ON BEHALF OF VERMONT GAS SYSTEMS, INC.**

November 25, 2020

**SUMMARY OF TESTIMONY**

Mr. Lunderville describes the Company's vision for the future and explains how the Proposed Alternative Regulation Plan lays the groundwork to implement key innovative strategies to achieve VGS's Climate Action Plan, which will help customers transition to lower-carbon thermal energy in support of the State's bold climate goals. He provides an overview of the testimony of other VGS witnesses and describes the core mission at VGS, both now and in the future. Finally, he describes the specific features of the Proposed Plan that address Climate Action Initiatives and related performance metrics, and explains why these are the right building blocks for a robust alternative regulation framework that will support climate action and innovation policy.

**PREFILED DIRECT TESTIMONY OF**  
**NEALE LUNDERVILLE**  
**ON BEHALF OF VERMONT GAS SYSTEMS, INC.**

1 **Q1. Please state your name and occupation.**

2 **A1.** My name is Neale Lunderville. I am the President and Chief Executive Officer of  
3 Vermont Gas Systems, Inc. (“VGS” or the “Company”).

4

5 **Q2. Please describe your educational background and professional experience.**

6 **A2.** I became President and CEO of VGS on October 1, 2020. Over my career, I have held  
7 various public sector positions: under Governor Jim Douglas, I served as Secretary of  
8 Transportation (2006-2008) and Secretary of Administration (2008-2011), as well as on the  
9 Governor’s senior staff as Secretary of Civil and Military Affairs (2003-2006); under Governor  
10 Peter Shumlin, I served as the State’s first Irene Recovery Officer (2011) in the wake of Tropical  
11 Storm Irene; under Governor Phil Scott, I assisted with the gubernatorial transition (2016), as  
12 well as in the State’s immediate response to the global Covid-19 pandemic (2020); and under  
13 Mayor Miro Weinberger, I served as General Manager of the Burlington Electric Department  
14 (2014-2018). In the private sector, I worked for Green Mountain Power, and co-founded and led  
15 NG Advantage LLC, a Milton, VT-based company that serves compressed natural gas to  
16 customers not connected to a pipeline. I received my undergraduate degree from American  
17 University in 1996.

1 **Q3. Have you previously testified before the Vermont Public Utility Commission**  
2 **(“Commission”)?**

3 **A3.** No.  
4

5 **Q4. What is the purpose of your testimony?**

6 **A4.** The purpose of my testimony is to set forth our vision for VGS’s future and explain how  
7 our proposed Alternative Regulation Plan (the “Proposed Plan”) lays the groundwork for VGS to  
8 implement key strategies to achieve our Climate Action Plan. My testimony begins with an  
9 introduction of VGS’s witnesses and a summary of the testimony they provide in support of the  
10 Proposed Plan.

11 The remainder of my testimony discusses the Company’s long-term vision to transform  
12 from a traditional natural gas company to a climate-forward energy utility that helps our  
13 customers reduce their carbon footprint in strong support of Vermont’s ambitious climate goals. I  
14 discuss what this transformation means for VGS and our customers, and describe how alternative  
15 regulation can provide a pivotal framework to support and incentivize it. Finally, I explain the  
16 specific regulatory innovations that we are contemplating at VGS and explain how the Proposed  
17 Plan sets us on a path to fully develop a comprehensive alternative regulation framework that  
18 supports our mission and promotes Vermont’s clean energy future.

19

20 **Q5. Please introduce VGS’s witnesses and describe the purpose of their testimony.**

21 **A5.** In September 2019, VGS filed a proposed Alternative Regulation Plan supported by the  
22 testimony of Don Rendall, Eileen Simollardes, Thomas Murray, and Andrea Kean. VGS

1 subsequently requested a stay of that proceeding as a result of discussions with the Department  
2 of Public Service (the “Department”) regarding uncertainties about the Covid-19 pandemic. The  
3 Commission approved that request and subsequently extended VGS’s existing Alternative  
4 Regulation Plan in order to extend the Purchased Gas Adjustment (“PGA”) clause through the  
5 end of September 2021.

6 The Proposed Plan we submit today contains many of the same components, supported  
7 by VGS witnesses. In addition, we have modified the Proposed Plan with key innovative features  
8 that will benefit our customers, support the Company’s long-term strategic goals, and set us on a  
9 path to develop a robust alternative regulation framework that will encourage and support our  
10 climate-forward service in support of the State’s energy goals.

11 • **Jill Pfenning** succeeded Eileen Simollardes this past year and currently serves as VGS’s  
12 Vice President of Regulatory Affairs and General Counsel. Ms. Pfenning’s testimony  
13 explains the components of the Proposed Plan and addresses why the Proposed Plan is  
14 consistent with the Section 218d criteria. Ms. Pfenning also explains the mechanism  
15 associated with two new innovation features in the Plan. First, she explains how the PGA  
16 Renewable Natural Gas (“RNG”) feature will promote our efforts to displace traditional  
17 natural gas usage. Second, she explains the mechanics of how the Earning Sharing  
18 Mechanism (“ESM”) protects customers while promoting VGS’s pursuit of innovation to  
19 promote the reduction of greenhouse gas (“GHG”) emissions.

20 • **Ashley Wainer** serves as VGS’s Vice President of Finance. The Proposed Plan  
21 establishes certain filings throughout its term and creates a path for VGS to return the  
22 remaining System Expansion and Reliability Fund (“SERF”) dollars to customers by the

1 end of the Plan's term. Ms. Wainer's testimony describes these features of the Proposed  
2 Plan in more detail, and explains how the Proposed Plan will, in addition to return SERF  
3 over its term, establish a fixed, predictable rate path through the term of the Plan.

4

5 **Q6. Please describe VGS's core mission and explain the policies and long-term planning**  
6 **that drive the Company's leadership today.**

7 **A6.** The essence of VGS's mission is warmth. We heat our customers' homes in the cold of  
8 winter. We deliver the flame under the bubbling pot. We give customers a low-cost fuel to  
9 transform raw materials into finished goods. By turning fuel into flame, we have been powering  
10 northwestern Vermont for more than 50 years, providing safe, reliable, and affordable thermal  
11 energy to thousands of customers in Franklin, Chittenden, and Addison counties.

12 Until recently, our energy supply was nearly all traditional natural gas, a fossil fuel  
13 transported to Vermont from Canada. That started to change in 2017 when we introduced the  
14 nation's first voluntary RNG program. In 2019 VGS took a bigger step: we announced an  
15 ambitious and comprehensive strategy to transform the Company and become net zero by  
16 2050—meaning that VGS would eliminate or offset our GHG emissions to be carbon neutral by  
17 mid-century in direct support of Vermont's 90% renewable by 2050 goal.<sup>1</sup> To demonstrate our  
18 commitment to immediate action, VGS also set a near-term goal of reducing GHG emissions in  
19 customers' homes and businesses by 30% in the next 10 years.

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<sup>1</sup> Vermont Comprehensive Energy Plan 2016: [https://publicservice.vermont.gov/publications-resources/publications/energy\\_plan/2016\\_plan](https://publicservice.vermont.gov/publications-resources/publications/energy_plan/2016_plan).

1           As my predecessor Don Rendall said at the time, “Today we put a stake in the ground:  
2 VGS stands with our customers and partners in the fight against global climate change.”  
3 Admittedly, we’ve received some quizzical stares since that announcement. What role is there  
4 for a traditional regulated gas utility in a world working to reduce GHG emissions? The answer  
5 remains the same: warmth. VGS is uniquely positioned to deliver safe, reliable, and affordable  
6 warmth to Vermonters, but with a sharp focus on energy efficiency and an increasingly  
7 renewable portfolio. By expanding weatherization efforts, we can reduce the amount of energy  
8 needed by customers, putting money back in their pockets. By boosting our RNG supply and  
9 exploring non-gas technologies—including hydrogen, district energy, and electrification—we  
10 can lower the carbon intensity of our thermal energy needs. Taken together, VGS can transform  
11 into a powerful force for climate action in Vermont while continuing to deliver—day in and day  
12 out—for our customers.

13           VGS shares the climate change concerns of its customers and seeks to move quickly  
14 toward a more sustainable future. The path to 2050 requires a smart, swift, and balanced  
15 approach; a “flash cut” away from natural gas in Vermont would leave tens of thousands of  
16 customers with cold homes and lacking an affordable thermal energy option. There is a better  
17 way that leverages VGS’s assets and harnesses the Company’s commitment to our customers.

18           VGS is strategically positioned to play a central role in the reduction of GHG emissions.  
19 Since 1992, VGS has been helping customers with home weatherization and energy efficiency  
20 projects; buttoning up homes and businesses is an important part of our culture and company  
21 identity. Our state-of-the-art pipeline network is a strategic asset for energy transformation, itself  
22 indifferent to the type of gas flowing to its nodes; we have chosen to make it more renewable.

1 Our technicians have worked in the basements and boiler rooms of our customers for over five  
2 decades; we have created a strong bond of trust with those we serve. In short, as Vermonters  
3 grapple with greater climate uncertainty, VGS delivers experience, stability, and peace of mind  
4 to help customers navigate the energy revolution. To best support both our customers and the  
5 State's energy goals, we need a comprehensive approach that brings the Company's vision and  
6 strategy together with a regulatory framework that gives VGS the flexibility to transform and  
7 thrive.

8         So, what does that mean? The first step is complete: we've set an ambitious 2030 goal as  
9 part of a 2050 vision for our customers, our community, and our company. Although I only  
10 recently took the helm at VGS, I worked closely, in a consultative role, since early 2019 with  
11 Don Rendall and the VGS leadership team in developing the Climate Action Plan launched in  
12 November 2019. I am fully committed to the plan and the vision. But we need more than a  
13 transformative vision to meet our ambitious climate targets. The prospect of transforming a  
14 traditional natural gas company raises challenging questions: What investments can we make  
15 today that will promote energy efficiency, accelerate a shift to renewable energy, and reduce  
16 GHG emissions? What are the best strategies to keep thermal energy affordable, especially for  
17 low-to-moderate income customers and price-sensitive employers? How do we support emerging  
18 technologies that could transform our energy landscape? How do we continue to invest in our  
19 infrastructure to keep it safe, reliable, and affordable for customers, while also implementing a  
20 transformative business model that will reduce overall fuel usage? In summary, how do we  
21 realign the Company's traditional business model with our climate objectives?

1           To address these questions, our Proposed Plan includes key components of our future  
2 business framework. In general, our efforts over the term of the Proposed Plan reflect the three-  
3 pronged approach of our Climate Action Plan: (1) reducing overall thermal load through  
4 efficiency (established under the VGS Energy Efficiency Utility Demand Response Plan  
5 (“DRP”)); (2) increasing the sustainability of our remaining supply through additional RNG  
6 contracts, in-state RNG developments, and other thermal supply alternatives like district heat,  
7 hydrogen, or strategic electrification; and (3) investing in emerging technologies, research and  
8 development, and strategic partnerships with other energy services providers to leverage value  
9 and expertise as we de-carbonize thermal loads. My testimony reviews all three prongs, but the  
10 Proposed Plan focuses on the regulation of prong (2) increasing the sustainability of our supply  
11 and prong (3) innovation and emerging technologies.

12           While these efforts define the current state of our transformation efforts, we also know  
13 that new opportunities for innovation and progress will emerge over time. We remain in the early  
14 stages of this transformation. Today, we cannot detail precisely how we will achieve our climate  
15 objectives over the next ten, twenty, or thirty years. Like the electric sector of 15-20 years ago,  
16 we see thermal technologies and renewable fuels on a fast march, but it’s still unclear which will  
17 advance quickest, how rapidly prices will drop, and the environmental, economic, and social  
18 factors that might favor one column over another.

19           We are confident, however, that several principles are key to our transformation. First,  
20 we need to be nimble. The best path to achieving our goals will be an iterative one. We must be  
21 equipped with the tools to learn from what works, shift our resources when it makes sense, take  
22 advantage of emerging opportunities, and lean in and execute when a strategy shows substantial

1 promise. Second, we must align our revenue goals with our climate goals. As a rate-regulated  
2 utility, this means we must align our regulatory structure to promote priorities that advance  
3 innovative solutions to our climate challenges while continuing to support safe, reliable, and  
4 affordable service under our traditional framework. Accordingly, we've revised the Proposed  
5 Plan from the one we proposed in 2019 to lay the groundwork for an alternative regulation model  
6 that promotes and encourages our energy transformation.

7

8 **Q7. How does the Proposed Plan promote VGS's strategic vision and innovation and**  
9 **advance Vermont's climate goals?**

10 **A7.** The Proposed Plan supports dual goals that the Company faces in our near- and long-term  
11 future that would be a challenge to advance together under traditional rate regulation. The first  
12 goal is continuing to provide safe, reliable, and affordable natural gas service to our 53,000  
13 customers. The second is achieving the aggressive GHG reduction goals in our Climate Action  
14 Plan. As we make our transformation, it is critical that our rate structure provides a path to  
15 pursue both tracks with a balanced approach supportive of our customers, the company, and  
16 State goals.

17 First, as we move quickly with our climate efforts, we must remain affordable and cost-  
18 competitive for customers. This requires creative problem solving, innovative thinking, and a lot  
19 of hustle. We must invest now in potential alternative service and revenue models that support  
20 affordability for all our customers going forward. The Proposed Plan opens the door for us to  
21 pursue the sustainable innovations that will define the character of our business 20 years from  
22 now.

1           Second, we also acknowledge that the bold steps we need to take today to address climate  
2 change do not fall neatly under the umbrella of traditional natural gas service priced based on the  
3 cost of service. Our Proposed Plan achieves some revenue decoupling through the fixed rate  
4 structure in conjunction with the ESM and PGA, but we believe our transformation will  
5 ultimately require new forms of revenue and cost sharing that will help us maintain safe, reliable  
6 service even as we drastically reduce customer emissions. Ultimately, we expect that more  
7 performance-based regulation will be needed to successfully transform our climate impacts.

8           Accordingly, we need to develop an alternative regulation framework that acknowledges  
9 the central importance of these initiatives, and where appropriate, accounts for innovative  
10 programs that do not fit neatly under the umbrella of a traditional cost of service. As noted, we  
11 are in the early stages of our transformation. We believe the appropriate initial step toward a  
12 robust alternative regulation framework that supports initiatives within our Climate Action Plan  
13 is to initially provide a modest level of financial flexibility that incentivizes VGS's pursuit of the  
14 initiatives as well as the accountability and customer protection measures discussed below.

15

16 **Q8. You testify that VGS's Climate Action Plan involves a three-pronged approach.**

17 **Please explain this strategy in more detail.**

18 **A8.** Our Climate Action Plan calls for a 30% reduction in customer GHG emissions by 2030  
19 and sets the goal of net zero by 2050. In our assessment, this will require increased development  
20 in three key areas: (1) reducing overall thermal load through efficiency; (2) increasing the  
21 sustainability of our remaining thermal load; and (3) investing in the deployment of emerging  
22 and future technologies and services. Each of these strategies, sometimes referred to as Climate

1 Action Initiatives (or “CAIs”), as well as the regulatory framework that supports their  
2 implementation, are discussed below:

3 **Reducing Thermal Loads**

4 Energy efficiency is the cornerstone strategy of our Climate Action Plan. By reducing  
5 customer usage, we lower their bills and curb their GHG emissions, making it a powerful tool in  
6 the effort to reduce overall GHG emissions and meet our goal of being net zero by 2050. In  
7 October, the Commission approved a DRP for VGS that significantly expands our energy  
8 efficiency programs as a component of our Climate Action Plan to achieve a 30% reduction in  
9 GHG emissions by 2030.<sup>2</sup> Our DRP includes more funding for efficiency work and involves a  
10 new innovation in efficiency funding that allows VGS to finance increased investments using  
11 current access to capital, amortized over 15 years. We are pleased that these efforts are supported  
12 by the Commission and the Department and are committed to continuing to explore ways to  
13 increase our energy efficiency work at an affordable scale for our customers.

14 **Increasing Sustainability of Thermal Load**

15 Our efforts to increase the sustainability of our thermal load fall into two buckets:  
16 (a) increased utilization of RNG in our supply portfolio and (b) investment in the displacement  
17 of conventional fossil-fuel based heat through in-state RNG projects or other thermal supply  
18 alternatives.

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<sup>2</sup> *Petition of Vermont Department of Public Service re EEU Demand Resource Plans*, Case No. 19-3272-PET, 2020 WL 6292898, at \*2 (Vt. Pub. Util. Comm’n Oct. 22, 2020).

1 *(a) Renewable Natural Gas*

2 We have already started utilizing RNG to reduce GHG emissions. In September 2017, the  
3 Commission approved VGS's first-in-the-nation voluntary RNG program ("Voluntary RNG  
4 Program"), which established a framework for VGS to offer customers the option to purchase  
5 RNG as a portion of their natural gas usage. On an annual basis, VGS customers consume  
6 approximately 40,000 Mcf through this voluntary program, which displaces an equivalent  
7 amount of fossil fuel gas, representing 0.3% of our overall load, on average. While this is a small  
8 initial step, the Voluntary RNG Program continues to be an important tool for our Climate  
9 Action Plan. We are currently working with a variety of large and small customers to increase  
10 RNG commitments and reduce GHG emissions. For example, UVM Medical Center,  
11 Middlebury College, Vermont Coffee Company, and Seventh Generation have all made  
12 substantial commitments to purchase RNG to offset some or all of their traditional gas usage.

13 Meeting our climate goals will also require a greater percentage of RNG usage in our  
14 overall supply portfolio. To that end, this year we started to incorporate small amounts of RNG  
15 into our overall supply portfolio. In April 2020, the Commission approved the first PGA (an  
16 important component of our current Alternative Regulation Plan) under which 25,000 Mcf of  
17 RNG on an annualized basis was included as part of all customers' rates. To meet our Climate  
18 Action Plan goals while maintaining safe, reliable, and affordable service, we forecast that 20%  
19 of our retail sales will need to be sourced with RNG by 2030. The PGA feature of our alternative  
20 regulation plan is an essential tool for meeting this objective. As explained in additional detail by  
21 Ms. Pfenning in her testimony, the PGA enables VGS's natural gas charge to closely track  
22 wholesale market prices on a quarterly basis. In the Plan we propose today, the PGA has been

1 modified to align with our Climate Action Plan. Through the PGA’s RNG feature, VGS would  
2 be authorized under the Plan to gradually increase the percentage of RNG in retail sales in  
3 accordance with a framework that gives us the flexibility to add RNG while maintaining  
4 affordability and taking advantage of market-based price signals.

5         So how does this Climate Action Initiative work? Under the PGA’s RNG feature, VGS  
6 will be allowed to ramp up RNG as a percentage of our overall retail sales. VGS will gradually  
7 increase RNG as a percentage of our overall retail sales in amounts that reflect approximately  
8 2% annually. This gradual approach will help mitigate the short-term rate impacts of this CAI,  
9 ensure that we are making progress toward transitioning to lower GHG emissions in the near  
10 term, and avoid rate volatility in later years by avoiding an abrupt increase in RNG as we  
11 approach our long-term goals.

12         The Department and the Commission will have multiple opportunities to review and  
13 approve VGS’s overall RNG strategy going forward. First, in this proceeding, we are asking the  
14 Commission to approve the PGA RNG feature, which we believe is an important step that will  
15 provide the Company with the flexibility needed to implement our long-term RNG targets.  
16 Second, in addition to this case, VGS is filing its Integrated Resource Plan (“IRP”) in January  
17 2021, which will provide more information about the Company’s long-term RNG plans based on  
18 scenario planning. The review of that Plan will coincide with the procedural schedule in this  
19 case, which will enable the Department and the Commission to consider the PGA RNG feature  
20 in the context of our long-term IRP. Third, under the PGA, VGS will continue to file quarterly  
21 PGA tariffs reflecting our current RNG feathering strategy at the time of filing as well as an

1 annual gas supply plan. These tools will allow for an ongoing opportunity to evaluate the status  
2 of our RNG strategy.

3 Finally, with this Proposed Plan, VGS is establishing a set of Climate Action and  
4 Innovation Performance Metrics.<sup>3</sup> Under these metrics, VGS will report annually on the overall  
5 costs, volume, renewability profile of our gas portfolio, associated GHG reduction impacts, fossil  
6 fuel displacement, and rate impacts of including additional RNG in base supply. These metrics  
7 will provide a framework for assessing the impacts of the program, as well as aid the further  
8 development of performance metrics (based on what we learn under this plan) that may allow  
9 more performance-based incentives, penalties, and revenue decoupling in future proceedings  
10 after the term of the Proposed Plan.

11 *(b) Investment in Forward-Looking Renewable Supply*

12 The second innovation category under the Proposed Plan involves a broader strategy to  
13 promote investment in renewable thermal energy supply. In addition to procuring RNG from  
14 the broader market through purchase contracts, VGS will pursue in-state opportunities to  
15 broaden the availability of not just RNG, but other forms of renewable supply as well. For  
16 example, VGS has recently partnered with Vanguard Renewables, Inc. to support the  
17 development of an RNG facility in Addison County.<sup>4</sup> Under our long-term renewable supply  
18 strategy, detailed below, VGS will pursue similar strategies to strengthen the RNG market here  
19 in Vermont and the region. We anticipate that such opportunities will come in multiple forms.  
20 Such potential strategies may be for VGS to either partner with other stakeholders in the

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<sup>3</sup> See Exhibit VGS-JMP-1, Attachment 3.

<sup>4</sup> See *Petition of Salisbury Ad 1, LLC*, Case No. 18-3449-PET, 2018 WL 6590112 (Vt. Pub. Util. Comm'n, Dec. 5, 2018) at \*1 (approving transfer of the Section 248 CPG for the Salisbury renewable natural gas production facility approved by the Commission in Case 8596).

1 development of RNG facilities, enter long-term purchase contracts that would support the  
2 financing and development of the facilities, or directly invest capital to support the development  
3 and viability of in-state projects that are attractive to our customers and bring collateral  
4 economics and environmental benefits.

5         Additionally, this strategy is not limited to RNG facilities alone. Under our renewable  
6 supply investment strategy, VGS will also pursue the promotion of other thermal energy supply  
7 strategies that promise to reduce our customers' GHG emissions in an affordable and sustainable  
8 manner. For example, district heat systems, based on steam generation, geothermal, or other  
9 environmentally sustainable technologies, have the potential to significantly reduce our  
10 customers' usage of traditional natural gas and in turn lead to significant GHG reduction. The  
11 challenge for our customers and our community is getting these kinds of projects off the ground  
12 and implementing regulatory strategies that incentivize action. The Proposed Plan promotes  
13 these lower GHG solutions by enabling VGS to pursue investment opportunities that directly  
14 reduce our overall natural gas load. For example, a renewable district heating project that brings  
15 150,000 MMBtu on-line could displace the equivalent supply of MMBtus provided through  
16 traditional natural gas service, thereby reducing GHG emissions.

17         Emerging technologies offer another example. In our own system, just as we are able to  
18 inject pipeline-quality RNG or propane (at certain levels) directly into our system, we could  
19 pursue renewable supply strategies like hydrogen. Studies suggest that natural gas distribution  
20 systems like VGS's can accommodate 5-20 percent of hydrogen, produced through electrolysis  
21 from excess renewable electricity. As the electric grid increases renewable generation capacity  
22 (wind and solar), the need for storage also increases. VGS's system could be utilized as a

1 scalable storage vessel for this excess electricity in the form of hydrogen; put another way, green  
2 hydrogen production becomes “dispatchable demand” to utilize renewable electricity that would  
3 otherwise be curtailed. The renewable hydrogen can be blended with natural gas, then burned in  
4 our customers’ heating equipment. Accordingly, just as we displace traditional natural gas with  
5 RNG, some percentage of our system could be fueled with renewably generated hydrogen.  
6 Similar to a propane peaking facility, this kind of project could either reduce our annual peak  
7 load under a more sustainable framework or be ramped up to offer a significant reduction in the  
8 amount of traditional natural gas purchased through our PGA. A project like this could be  
9 pursued by VGS either in partnership with other entities or under the terms of a purchase  
10 contract.

11         So how does this renewable supply strategy work for VGS and its customers? In the  
12 future, we envision there will be a thermal attributes market similar to the Renewable Energy  
13 Credit (“REC”) market that has successfully encouraged the development of renewables in the  
14 electric generation sector. The REC market decouples the renewable attributes from the  
15 underlying electricity that actually serves a customer’s physical electrical load, providing market  
16 liquidity for customers and utilities to acquire renewable attributes. This is similar to VGS’s  
17 acquisition, and retirement, of renewable attributes associated with RNG.

18         In a similar fashion, we envision a future where thermal can be assessed as both a unit of  
19 energy required to heat a home or office as well as a renewable credit. Our Proposed Plan does  
20 not propose a thermal REC market, but the REC market framework is a helpful way to think  
21 about how we achieve our Climate Action Plan goals. This is not a novel concept in Vermont  
22 energy policy. In Vermont’s Renewable Energy Standard (“RES”), Tier I sets targets for electric

1 renewables sourced regionally; the thermal equivalent might be renewable fuel sourced outside  
2 Vermont, like several of our RNG contracts. RES Tier II sets targets for in-state electric  
3 renewables; the thermal equivalent might be local bio-fuel projects, like the above-mentioned  
4 Vanguard facility in Salisbury. And RES Tier III provides for transformation and strategic  
5 electrification; the thermal equivalent might be non-gas projects that curb GHG emissions, like  
6 the Burlington District Energy System.

7         Exploring this further, under RES Tier III applicable to Vermont's electric distribution  
8 utilities, an energy transformation project is eligible for Tier III credits if, among other  
9 requirements, the project results in a net reduction in fossil fuel consumed by the provider's  
10 customers and in the emission of GHG attributable to the consumption, whether or not the fuel is  
11 supplied by the distribution utility. For purposes of crediting the distribution utility under their  
12 Tier III RES requirements, the net reduction in fossil fuel consumption resulting from the project  
13 is converted to a MWH equivalent of electric energy.

14         We think it is helpful to consider a similar structure that could support the reduction of  
15 GHG for VGS customers, and we have used that concept to frame our thinking about carbon  
16 reduction. For example, by investing in a district heating system or other alternative form of  
17 heating supply, VGS could achieve net reductions in fossil fuel consumption. The Proposed Plan  
18 provides the early building blocks needed to develop a regulatory framework that promotes  
19 alternative thermal strategies that do not fit under traditional regulation, which could involve a  
20 tradeable renewable thermal market. The Proposed Plan promotes this future opportunity by  
21 enabling VGS to invest in thermal alternative strategies at modest levels while providing  
22 reporting on performance metrics to inform the future development of more robust and well

1 defined regulatory policies, and support enactment of a statutory thermal RES. For example, in  
2 the years beyond this Plan, VGS could trade renewable attributes associated with alternative  
3 heating projects to meet renewable thermal standards, or invest in projects to bring down the  
4 long-term rate impacts on customers.

5         So how does the Proposed Plan enable VGS to pursue these opportunities? We recognize  
6 that the Proposed Plan today comes in advance of what we envision to be a fully formed future  
7 renewable thermal market. As a competitor in today's heating market, VGS and our customers  
8 have an inherent interest in ensuring that our reductions in GHG emissions do not adversely  
9 impact the affordability, reliability, and competitive position of our traditional natural gas service  
10 in relation to heating oil and other existing thermal heating options. Accordingly, we believe the  
11 most appropriate step in the next three years is to provide a framework that will enable us to  
12 continue to work toward a more robust and measurable renewable thermal framework, while  
13 ensuring that we continue to compete in today's thermal market.

14         To that end, the Proposed Plan establishes a modest annual Climate Action and  
15 Innovation Budget coupled with innovation performance metrics that serve as a measuring stick  
16 for progress. Over the term of the 3-year Plan, VGS anticipates that it will invest \$6 million  
17 pursuing innovation and GHG reductions for our customers. The Proposed Plan facilitates this  
18 investment by establishing a Climate Action and Innovation Budget with a \$2 million annual cap  
19 on investment. For example, VGS could invest in a district heat project that reduces our  
20 customers' natural gas use, pursue the development of a hydrogen pilot project, or undertake an  
21 analysis to provide further assessment of how our strategy to decarbonize can be implemented in  
22 an affordable and reliable manner. The result of these efforts would provide both direct GHG

1 reduction benefits while also adding meaningful metrics to evaluate the costs, benefits, GHG  
2 reductions, and potential rate impacts of various strategies. Importantly, rate impacts are limited  
3 to the \$2 million annual Climate Action and Innovation Budget, and the Proposed Plan ensures  
4 that customers are protected from any under- or over-spending on innovation during the term of  
5 the Plan through the ESM. Additional information about the mechanics of the Proposed Plan are  
6 provided in Ms. Pfenning’s testimony.

7 **Research, Development, Efficiency and Partnership**

8 The third prong of our innovation and GHG reduction strategy acknowledges that  
9 increasing our renewable supply alone is not enough to meet our ambitious climate goals. It also  
10 recognizes that unilateral action by VGS alone does not meet the challenges associated with  
11 reducing the GHG impacts for thousands of customers with differing priorities and needs. Under  
12 the third prong of our strategy, VGS will pursue research and development into new business  
13 models, partnerships, and multilateral agreements that can support our customers’ shift away  
14 from GHG emissions. These CAIs mean partnering with our Energy Efficiency Utility (“EEU”)  
15 team to identify where our efforts can be coordinated with the EEU. It also means partnering  
16 with stakeholders on the electric side and engaging with individual customers about how they  
17 can transform their thermal energy use.

18 The Proposed Plan sets us on a path to pursue electrification where it makes sense, to  
19 support our customers’ energy transformation where it is feasible, and to promote innovations  
20 like fuel cells, micro-grid generators, smart grid technology, and smart thermostats. Like the  
21 second prong of our innovation strategy, VGS will pursue these initiatives using the \$2 million  
22 Climate Action and Innovation Budget. One example of the kind of multilateral collaboration we

1 have in mind is a “Power to Gas” hydrogen storage project. The project would focus on testing  
2 the percentage of hydrogen that could blend with natural gas and its impact on various types of  
3 heating equipment. This would be done in a “lab”-type setting before incorporating hydrogen  
4 into our system directly. The pilot project could also have a small generator (gas or hydrogen  
5 fuel cell) to showcase how we can serve as storage and “give-back” to the grid. Once we are able  
6 to show proof of concept, this pilot could gather data and information to enable a larger scale  
7 hydrogen project.

8 Likewise, our Climate Action and Innovation Performance Metrics in this category set us  
9 on a path to measure the success of various innovation efforts, evaluate the costs and benefits,  
10 and move toward a more robust and forward-looking alternative regulation program in future  
11 plans that will provide even greater support for GHG reduction, measuring progress, and  
12 identifying the most affordable and effective solutions to our climate challenges.

13

14 **Q9. Please describe how the Proposed Plan supports Climate Action Initiatives and**  
15 **explain how CAI performance metrics will support a robust alternative regulation**  
16 **framework going forward.**

17 **A9.** Under the Proposed Plan, we have established a set of Climate Action and Innovation  
18 Performance Metrics that track our innovation budget over the term of the Plan and account for  
19 spending, assess costs and benefits, and evaluate potential rate impacts of various CAIs, and  
20 track our progress toward GHG emission reductions. These performance metrics will ultimately  
21 inform our climate strategy going forward, and help the Company and our regulators identify  
22 opportunities that push us toward our goals while maintaining safe, reliable, and affordable

1 heating services. These metrics could ultimately provide the backbone for a robust regulatory  
2 framework that comprehensively addresses thermal heating and GHG reduction in the same way  
3 that regulatory policies like the electric renewable energy standard have promoted the  
4 development of renewable electric generation. The Proposed Plan sets us on a path to make the  
5 investments we need and develop the information that will be critical to establish clear metrics  
6 and a concrete financial and regulatory path to net zero by 2050.

7

8 **Q10. Does this conclude your testimony?**

9 **A10. Yes.**