STATE OF VERMONT
PUBLIC SERVICE BOARD

Docket No. 7970

Petition of Vermont Gas Systems, Inc. for	**)**
a certificate of public good, pursuant to	**)**
30 V.S.A. § 248, authorizing the construction	**)**
of approximately 43 miles of new natural gas	**)**
transmission pipeline in Chittenden and Addison	**)**
Counties, approximately 5 miles of new	**)**
distribution mainlines in Addison County,	**)**
together with three new gate stations in Williston,	**)**
New Haven and Middlebury, Vermont	**)**

CONSERVATION LAW FOUNDATION'S PROPOSED FINDINGS OF FACT AND BRIEF

Conservation Law Foundation (CLF) submits the following proposed findings of fact and brief in the above captioned proceeding.

I. Introduction

The Petitioner, Vermont Gas Systems (VGS or Petitioner) failed to demonstrate that the proposed project will promote the general good of the state. VGS failed to demonstrate that the proposed project satisfies all the 30 V.S.A. § 248 criteria. The proposed project will increase greenhouse gas emissions, and will continue Vermont's over-reliance on fossil fuels that contribute to climate change. The proposed project is inconsistent with the actions needed to meet Vermont's climate change goals. The proposed project fails to address the impacts from

fracking, has not been demonstrated to meet power demands in a least cost manner, and is inconsistent with the goals outlined in Vermont's Comprehensive Energy Plan.

The Board should deny approval of a certificate of public good for the project as proposed. In the alternative, the Board should approve the project with conditions that require VGS to provide funding for significant additional thermal efficiency efforts to mitigate the greenhouse gas emission impacts of the proposed project.

FINDINGS OF FACT AND BRIEF

II. Burden of Proof

VGS bears the burden of proof to demonstrate that the proposed project will "promote the general good of the state." 30 V.S.A. § 248(a)(3); *In re: Champlain Pipeline Co.,* Docket No. 5300, Order of 8/21/89 at 47 (petitioner bears burden of proof); see also *Petition of Central Vermont Public Service Corp.*, Docket No. 4782, Order of 4/10/86 at 7 ("The burden of proof is, of course, upon the petitioners with respect to each element of their case."). To satisfy its burden, VGS must establish by a fair preponderance of the evidence the facts needed to allow the Board to decide in its favor. *In re Smith*, 169 Vt. 162, 168, 730 A.2d 605, 610 (1999). This burden includes the risk of non-persuasion. If VGS's evidence is not specific enough for the Board to find that it has "conclusively [met] this burden of proof" with regard to every aspect of § 248, then the Board must conclude that the criteria are not satisfied and deny the petition. *In re: East Georgia Cogeneration, L.P.,* Docket No. 5179, Order of 6/25/91 at 43-44 (denying CPG because evidence was not specific enough to support the conclusion that petitioner satisfied every criterion under § 248). As described below, VGS has failed to demonstrate that the proposed project meets the requirements of 30 V.S.A. § 248.

III. Greenhouse Gas Emissions

1. Natural gas is a nonrenewable, carbon-based fuel. (Erickson 6/14/13 at 6).
2. The extraction and delivery of natural gas results in methane emissions to the atmosphere. (Erickson 6/14/13 at 6).
3. Warming of the earth's climate system is unequivocal and with over 90% certainty is due to the increase in human caused greenhouse gas emissions. (Erickson 6/14/13 at 4-5).
4. The main human caused greenhouse gases are carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O). (Erickson 6/14/13 at 5).
5. Methane has a global warming potential 72 times greater than carbon dioxide over a twenty year time horizon and 25 times greater over a hundred year time horizon. (Erickson 6/14/13 at 5; Stanton 6/14/13 at 8, 13).[1]
6. Evaluation of emissions based on the full life cycle, including extraction, processing, distribution and combustion is appropriate to determine the GHG emission impacts of the proposed project. (Erickson 6/14/13 at 6; Stanton 6/14/13 at 9).
7. In 2012, during the VGS led stakeholder process, environmental stakeholders requested an evaluation of the project's life-cycle GHG emissions and impacts from hydraulic fracturing (fracking). (CLF-Cross-2).

[1] See discussion *infra* at 8. Following the hearings in this case the IPCC released a new assessment that significantly increases the global warming potential of methane relative to carbon dioxide.

8. VGS failed to provide information or analysis regarding life-cycle GHG emissions or fracking with its initial testimony. (Tr. 9/19/13 at 97 (Poor); Simollardes 12/20/12 at 4-5).
9. A significant source of emissions from natural gas is from methane leaks over the total life cycle of natural gas. (Stanton 6/14/13 at 10).
10. Life cycle methane leakage rates range from 1.3 to 5.75 percent. (Stanton 6/14/13 at 10; Poor 8/14/13 at 8; Bluestein 6/28/13 at 4-6).
11. There is significant uncertainty regarding the accuracy of the emission factors and leak rates for natural gas systems. (Stanton 8/14/13 at 3).
12. The proposed project will obtain 85% of its gas from Western Canada. Tr. 9/20/13 at 78 (Bluestein).
13. VGS estimates of upstream emissions for the project are "largely conjectural" since they are based on inferences from the better studied United States gas systems, instead of data from the Canadian system from where most of the gas used will originate. (Stanton 8/14/13 at 3).
14. The proposed project is larger than is needed to meet the anticipated demand of customers in Addison County. (Tr. 9/16/13 at 21 (Gilbert).
15. Approximately one-third of the project's capacity will be excess capacity. (Stanton 8/14/13 at 5; Teixeira 12/20/12 at 10).
16. The available excess capacity is sufficient to supply a gas-fired electric generating facility or additional manufacturing. (Stanton 8/14/13 at 5; 9/13/13 at A.11).
17. No policy measure precludes use of the gas in the proposed project for new generation or manufacturing. (Stanton 8/14/13 at 5).

18. VGS has proposed no limit on the use of gas in its proposed project. (Tr. 9/16/13 at 26 (Gilbert)).

19. For the purpose of evaluating emissions, it is unreasonable to assume that all capacity will replace existing oil or propane use. (Stanton 8/14/13 at 5; 9/13/13 at A.11; Erickson 6/14/13 at 7).

20. A sensitivity analysis that considers a range of additional gas use and a range of leak rates shows the following:

Sensitivity analysis of 100-year cumulative CO2e emissions (short tons):

		Methane leak rate		
		1.5%	**3.0%**	**5.3%**
Additional natural gas use (MCF)	**0**	(1,828,914)	(1,138,851)	0
	153,632	(812,969)	0	1,341,342
	500,000	1,477,518	2,567,582	4,365,449

(Stanton 9/13/13 at A.12).

21. Significant increases in GHG emissions result from additional natural gas use and from average to high leak rates. (Stanton 9/13/13 at A.12).

22. Additional new use of 500,000 MCF with a zero leak rate results in increased GHG emissions (Tr. 9/20/13 at 123 (Stanton)).

23. Expansion of natural gas infrastructure in Vermont will likely displace not only oil and propane, but also current and future uses of renewable energy. (Erickson 6/14/13 at 6; Wolfe 6/14/13 at 10-12; Tr. 9/17/13 at 128 (Wolfe)).

24. New gas infrastructure will "lock in" Vermont to natural gas over the next fifty to one hundred years resulting in total GHG emission increases and continued reliance on fossil fuels. (Erickson 6/14/13 at 7; Stanton 8/14/13 at 9).

25. The analysis of GHG emissions provided by VGS includes the assumption that all gas use will replace oil or propane. VGS failed to provide an analysis of GHG emissions that compared expanded gas use to use of non carbon-based fuels. (Tr. 9/20/13 at 78 (Bluestein); Tr. 9/16/13 at 127-29 (Simollardes)).
26. Regarding GHG emissions, Conservation Law Foundation's witnesses provided the only testimony and analysis from doctoral level experts. (CLF-JDE-1; CLF-EAS-1).
27. To evaluate the project against Vermont's GHG reduction goals, the project must be evaluated on the basis of total, long-term GHG emissions for the State under various scenarios of technology adoption and longevity, not the impact of replacement of marginal, short-term oil use at the household level. (Erickson 6/14/13 at 7). VGS failed to provide this analysis.

Discussion

The proposed project's environmental impacts include its greenhouse gas emission impacts. Greenhouse gases are a significant contributor to climate change, which threatens Vermont's climate, environment and economy. As reported in the Fourth Assessment Report of the United Nations Intergovenmental Panel on Climate Change (IPCC), "warming of the climate system is unequivocal" and most of the observed increase in global average temperatures since the mid-20th century is with more than 90% certainty due to human caused increases in greenhouse gas emissions. (Erickson 6/14/13 at 4).

Title 30 V.S.A. § 248(a)(2) requires the Public Service Board (Board) to determine that a proposed project "will promote the general good of the state" in order for it to issue a certificate of public good. A proposed project's air emissions impacts are an important part of this evaluation. *In re East Haven Windfarm,* Docket 6911, Order of 7/17/06 at 33-34 (benefits of

reduced air emissions from fossil fuel facilities). A petitioner must demonstrate that its proposed project will not have an undue adverse effect on air purity and the natural environment. 30 V.S.A § 248(b)(5). Greenhouse gas emission impacts are expressly included in the 30 V.S.A. § 248(b)(5) criteria. GHG impacts also affect a project's economic benefits under 30 V.S.A. § 248(b)(4) and its ability to meet a portion of Vermont's energy demand in a least cost manner as required by 30 V.S.A. § 248(b)(2).

Vermont Gas Systems (VGS) failed to demonstrate that the proposed project will not have an undue adverse effect on air quality. 30 V.S.A. § 248(b)(5). VGS provided a far too limited evaluation of the proposed project's greenhouse gas emission impacts. Despite requests from environmental stakeholders, VGS failed entirely in its initial filings to provide an evaluation of emissions that considered upstream impacts. Since methane is a far more potent greenhouse gas than carbon dioxide, the upstream emissions from the project, including from leaks in the system that will transport gas from Western Canada to Vermont are an important part of this evaluation and should have been included in the VGS filings from the outset.

All of the GHG emissions analysis provided by VGS is unreliable and unconvincing. It is based on the unreasonable assumption that all the gas used will replace oil or propane. First, the proposed project has an expected useful life of fifty to one hundred years. It is unreasonable to assume that in that time frame new lower or zero emission sources will not be used as required to meet Vermont's climate change goals. Second, use of the considerable excess capacity in the proposed pipelines was not accounted for in the VGS emissions analysis. The project's impacts should be evaluated based on the emissions the project is capable of producing. Simply assuming that the excess capacity either will not be used or that it will be used only to replace existing oil

or propane use is unreasonable and unrealistic. VGS's analysis is overly simplistic and unrealistic and cannot be relied upon for evaluating the project's expected GHG emissions.

There is both a wide range and significant uncertainty regarding the accuracy of emission factors and leak rates for methane from natural gas systems. While this makes it difficult to assign with confidence one specific number to either the expected leak rate or the expected emissions, it does allow the appropriate consideration of a range of likely emissions from this project.

The September 13, 2013 analysis of greenhouse gas emissions provided by Conservation Law Foundation's witness, Dr. Stanton used the same conservative assumptions (such as the 100 year global warming potential for methane) that other witnesses used, and built on the previous analysis and comments of both VGS and the Public Service Department (PSD). The assumptions regarding the global warming potential (GWP) of methane are in fact even more conservative than what is recommended in the latest or 5th IPCC Assessment, a draft of which was released in late September and can be found (in a very large PDF (158MB)) at: http://www.climatechange2013.org/images/uploads/WGIAR5_WGI-12Doc2b_FinalDraft_All.pdf . Table 8-7 on page 8-58 shows that the GWP of methane in the new assessment increases from 72 (old GWP) to 84 (current GWP) times more than CO2 in the twenty year time frame and from 25 (old GWP) to 34 (new GWP) times more than CO2 in the hundred year time frame. With over a 25% increase in the 100 year GWP of methane, all the calculations provided in this proceeding for the expected GHG emissions from the project are significantly understated. Based on the new assessment, the Board would request the parties to resubmit their calculations if it did not otherwise determine that there is a significant increase in GHG emissions based on the understated calculations.

Dr. Stanton's analysis incorporated the VGS and PSD recommendation that upstream emissions from oil should be included in the analysis, and the recommendation from VGS and the PSD regarding the appropriate figure to use for the density of methane in the calculations. It also incorporated the PSD's recommendation that a range of potential greenhouse gas impacts under various assumptions would provide a clearer picture of the actual project impacts. Dr. Stanton's analysis represented both a reasonable range of methane leak rates consistent with the testimony provided by all the witnesses, and a reasonable range regarding additional gas use. Overall, Dr. Stanton's analysis represents the best possible analysis using the quantitative information submitted in this proceeding. It represents the collected corrections and improvements to the initial VGS analysis as presented by the parties in this proceeding.

As proposed, the Addison Natural Gas Project will increase greenhouse gas emissions over the life of the project. Based on the capacity of the facility and the reasonably expected leak rates, the project will result in increased emissions equivalent to 1.4 to 4.3 million short tons of CO2.

Vermont has established specific greenhouse gas reduction goals. 10 V.S.A. § 578. Vermont law states:

> It is the goal of the state to reduce emissions of greenhouse gases from within the geographical boundaries of the state and those emissions outside the boundaries of the state that are caused by the use of energy in Vermont in order to make an appropriate contribution to achieving the regional goals of reducing emissions of greenhouse gases from the 1990 baseline by:
>
> (1) 25 percent by January 1, 2012;
>
> (2) 50 percent by January 1, 2028;
>
> (3) if practicable using reasonable efforts, 75 percent by January 1, 2050.

10 V.S.A. § 578(a). The proposed project will increase greenhouse gas emissions during the timeframe in which Vermont law sets forth that emissions should be reduced. The proposed

project represents an investment in natural gas infrastructure by Vermont ratepayers that will "lock in" Vermont to either use this infrastructure or deal with large stranded costs over the next 50 to 100 years. Ratepayer dollars have been set aside for this project and will continue to be used to fund this project for years to come. Approving this project commits Vermonters to adopting long-lived natural gas infrastructure that is not compatible with meeting Vermont's 2050 greenhouse gas reduction goals. The proposed project fails to promote the general good of the state and fails to meet the 30 V.S.A. § 248(b)(5) criteria requiring that the project not have an undue adverse effect on air purity and natural resources.

IV. Hydraulic Fracturing

28. The proposed project will supply gas from sources that use hydraulic fracturing. (Tr. 9/16/13 at 19 (Gilbert)).
29. The extraction of natural gas supplies using hydraulic fracturing is environmentally damaging and prohibited in Vermont. (Erickson 6/14/13 at 8).
30. VGS has proposed no limitation that would exclude gas from sources that use hydraulic fracturing. (Tr. 9/16/13 at 19 (Gilbert)).

Discussion

Vermont law explicitly prohibits hydraulic fracturing (fracking) for oil or gas. Vermont law states: "No person may engage in hydraulic fracturing in the state." 29 V.S.A. § 571(a). The legislative findings supporting this prohibition express the Legislature's concern regarding the environmental impacts of fracking. The findings specifically state that to "ensure that the state's underground sources of drinking water remain free of contamination, the general assembly

should prohibit hydraulic fracturing for the purpose of the recovery of oil or natural gas …." Vermont Legislature Act No. 152, Sec. 1 (2011 (Adj. Sess.)).

Many people commenting during both of the public hearings also expressed serious concern about fracking and Vermont's use of gas that comes from fracked sources.

Where Vermont law has expressly banned fracking because of its impacts on the environment and drinking water supplies, a project that proposes to use and deliver gas from fracked sources does not promote the general good of the state. 30 V.S.A. § 248(a). Rather than advancing environmental protection, human health or the public good, the proposed project simply shifts environmental, health and economic burdens to other communities. VGS has the obligation to demonstrate that its project promotes the general good of the state, and responsibly addresses the environmental externalities of its project. See Docket 5270 Order of 4/19/90 at pIII-80-81 ("Environmental impacts of Vermont's resource options should be considered explicitly, irrespective of their geographic incidence or origin.") As stated previously by the Board: "If Vermont's power supply choices create adverse environmental results beyond our borders, we may or may not conclude that those results are justified, but it would be immoral for us to pretend that they will not occur." *Id.* at pIII-83. Similarly, in approving the Hydro Quebec contract the Board stated: "Our analysis of environmental issues has been confined by the limits of our enabling statute to only those factors that may affect the general good of Vermont. However, we did not limit this review to consideration of direct effects on Vermont alone, but extended it to consider regional and global ecosystem and atmospheric effects that would affect Vermont in a much broader context." Docket 5330 Order of 10/12/90 at 29. The Board has recognized that it "must consider all the environmental effects of facilities within the state, and it must also consider the environmental (and other) consequences of projects beyond the state *to*

the extent that they affect "the general good of the state." Docket 5330 Order of 9/21/89 at 4 (emphasis in original). VGS has failed to propose any reasonable limits on gas from sources that use hydraulic fracturing or any means to address the externalities of its proposed project. By failing to address in any way the impacts from fracking, a practice that is specifically banned in Vermont, the proposed project does not promote the general good of the state.

V. Least Cost Analysis

31. VGS does not have an approved integrated resource plan. (Simollardes 12/20/12 at 10).
32. The VGS least cost analysis only evaluated gas compared to oil or propane, and did not evaluate gas compared to biomass, heat pumps or renewable sources. (Tr. 9/16/13 at 127-29 (Simollardes)).
33. The VGS least cost analysis did not evaluate how the excess capacity in the system would be used. (Tr. 9/16/13 at 127 (Simollardes)).
34. Expansion of natural gas use in Vermont should be evaluated against a shift directly to renewables, including wood-heating for homes and businesses, district heating with biomass, and electrical generation from a diversity of renewable sources. (Erickson 6/14/13 at 7).

Discussion

Title 30 V.S.A. § 248(b)(2) requires the Board to determine that a proposed project is needed to meet present and future demand at least cost, which includes the environmental and economic costs of the project. 30 V.S.A. § 248(b)(2); 30 V.S.A. § 218c.

During the public hearing, one commenter raised the issue of how the proposed project compares with the new generation of electically-powered ductless heat pumps and biomass systems that he represented another New England state evaluated and were found to rival the customer cost-efficiencies of natural gas. Other commenters questioned how the proposed project compared to renewable power, including biomass.

By comparing the proposed project only to other fossil fuels, VGS provided an inadequate least cost evaluation. There are other resources apart from oil and propane that are available for potential customers of VGS. An appropriate least cost analysis would have compared the proposed project to renewable sources and electric sources and compared the full life-cycle costs of the project relative to other supplies.

VGS failed to demonstrate that the proposed project is needed to meet present and future demand at least cost and has failed to satisfy the requirements of 30 V.S.A. § 248(b)(2).

VI. Comprehensive Energy Plan

35. Vermont's Comprehensive Energy Plan specifies a goal of having 90 percent of Vermont's energy come from renewable sources by 2050. (CLF-EAS-11; Stanton 6/14/13 at 23; Erickson 6/14/13 at 6).
36. Expanding gas infrastructure in Vermont delays the transition to renewable fuels and locks in fossil fuel use for decades. (Erickson 6/14/13 at 7; Stanton 8/14/13 at 9).
37. Additional fossil fuel infrastructure in the form of a new gas pipeline is incompatible with meeting 90 percent of Vermont's energy needs from renewable sources. (Erickson 6/14/13 at 6; Stanton 8/14/13 at 9).

38. VGS provided no evaluation of the impact of the proposed project on meeting Vermont's 90% renewable goal. (Gilbert 12/20/12 at 15-16; Simollardes 6/28/13 at 3).

Discussion

Vermont established aggressive goals in its Comprehensive Energy Plan that call for meeting 90% of Vermont's energy needs with renewable sources by 2050. VGS made no showing in this proceeding how this aggressive goal can be met while significantly expanding gas infrastructure as is proposed by this project.

In order to promote the general good of the state, a new energy project should move Vermont closer to meeting the goals set forth in the Comprehensive Energy Plan. The proposed project moves Vermont in a direction away from the CEP goals and fails to promote the general good of the state.

VII. Mitigation

39. A reduction in GHG emissions can be achieved by making Vermont's overall fuel consumption more efficient. (Stanton 6/14/13 at 21).
40. Measures to reduce climate change impacts of a project would be beneficial. (Tr. 9/18/13 at 189 (Sorensen)).
41. It is appropriate to mitigate adverse environmental impacts of a proposed project. (Tr. 9/18/13 at 187 (Sorensen)).

42. One means to effectively mitigate the higher greenhouse gas emissions resulting from the proposed project would be for Vermont Gas to commit to a significant expansion of thermal efficiency. (Stanton 8/14/13 at 12).

43. Additional thermal efficiency is a good means to mitigate the increased greenhouse gas emissions from the proposed project. The need and opportunities for thermal efficiency have been well evaluated and quantified in the Thermal Efficiency Task Force Report. (Stanton 8/14/13 at 12; CLF-EAS-10).

44. The work of the Thermal Efficiency Task Force found that in 2010 Vermonters paid over $600 million to import fossil based heating fuels. (CLF-EAS-10 p.ES-1; Stanton 6/14/13 at 21).

45. Comprehensive and rapid weatherization of Vermont's buildings brings significant benefits including reducing vulnerability to the volatility in the fuel market and keeping more money in the Vermont economy. (CLF-EAS-10 p.ES-1; Stanton 6/14/13 at 21-22).

46. A new investment in thermal efficiency of $267 million over seven years would save over 6.8 million tons of CO2 equivalent. (CLF-EAS-10 p.ES-1; Stanton 6/14/13 at 22-23).

47. Significant expansion of thermal efficiency efforts mitigates GHG emission increases and satisfies the following building efficiency goals set forth in Vermont statute:

    a. Improving the energy fitness of 25% of the state's housing stock by 2020 (approximately 80,000 housing units)

    b. Reducing annual fuel use and fuel bills by an average of 25% in the housing units served

c. Reducing total fossil fuel consumption across all buildings by an additional 0.5% each year, leading to a total reduction of 6% annually by 2017 and 10% annually by 2025

d. Saving Vermont families and businesses over $1.4 billion on their fuel bills over the lifetimes of the improvements and measures installed

e. Increasing weatherization services to low-income Vermonters.

(Stanton 8/14/13 at 12-13).

48. Energy efficiency is the cleanest and lowest cost means to reduce greenhouse gas emissions and will provide the greatest emissions reduction per dollar. (Stanton 8/14/13 at 13).

49. The efficiency improvements identified by VGS and the PSD are part of the ongoing potential study to evaluate the investments needed for VGS to acquire all reasonably available cost effective energy efficiency and are not targeted to capture additional emission reductions that are needed to mitigate GHG emission impacts.

Discussion

Significant new investment in thermal energy efficiency provides one means to mitigate the GHG emissions impacts of the proposed project. Since the proposed project will increase greenhouse gas emissions over the expected life cycle and use of the project, it is reasonable for those impacts to be mitigated and for that mitigation to be put in place at the time the project is approved. It is only with substantial mitigation of the GHG emissions impacts that this Board is able to determine that the proposed project will promote the general good of the state and satisfy the air purity and greenhouse gas criteria of 30 V.S.A. § 248(b)(5).

While VGS and the PSD identify some limited expansion of efficiency services resulting from the proposed project, this level of increased efficiency is insufficient to mitigate the GHG emissions increases of the proposed project. First, neither VGS nor the PSD specifically evaluated the level of new efficiency or the emissions reductions associated with them. Absent this evaluation, the Board cannot find that it would be sufficient to mitigate the project's impacts. At best, the limited expansion of energy efficiency as VGS acquires new customers will provide only those emission reductions that would be required anyway as part of the VGS obligations as an EEU. Only CLF provided evidence regarding the scope of savings and emissions reductions that could be expected from a significantly expanded thermal efficiency effort. Building on the work of the Thermal Efficiency Task Force (TETF) provides the best and most effective means for Vermont to reduce GHG emissions in a cost effective manner. The testimony of CLF outlined the scope of the investment needed, based on the TETF work, and showed how it could be implemented while still delivering financial savings to VGS customers.

A reasonable mitigation of the GHG emissions impacts of the proposed project provides for a substantial portion (75 percent) of the VGS claimed "savings" from the expansion to pay for expanding thermal efficiency as contemplated in the TETF Report. This mitigation will be structured to include:

- Payment per unit of gas sold, comparable to how other efficiency programs are funded.
- Ability to ramp up over time and expand as more gas is used.
- Provide benefits more broadly than only to VGS customers.

The additional energy efficiency investments should be based on a systems benefits charge (SBC) like construct based on the volume of gas delivered. Because gas is generally a less expensive fuel than that which it replaces, there is a delta from which to draw funding for increased energy efficiency. The funding will be used to support expanded thermal energy efficiency since considerable work has been done in this area and it has consistently been identified as an area where additional economic savings and GHG emission reductions are readily available. The funding will be scaled to increase commensurate with a carbon reduction curve that conforms to the need to reduce GHG emissions 75% by 2050. 10 V.S.A. § 578. Specifically, SBC-like funding from gas usage will help further commercialize and deploy new thermal energy efficiency, providing regional energy diversity, mitigating gas price increases and improving resilience.

In the long term, expanded reliance on natural gas is inconsistent with the need to decarbonize the energy system consistent with scientific consensus and public policy goals adopted by Vermont. Significantly expanded investments in thermal efficiency will build in the needed limitations to investments in new gas infrastructure and will bring about the needed decarbonization of the energy system and ensure that the proposed project is part of the clean energy transformation that is needed instead of being an obstacle to achieving our climate goals.

The mechanism to achieve this mitigation will include:

1. Total Budget of $150 million (75% of estimated $200 million savings over 20 years).
2. Collected from all VGS customers.
3. Increases in funding as additional customers are added.

The additional efficiency funding will begin with a budget of $4 million per year and will ramp up by 25% each year, which should be comparable to the added sales volume.

There will be statewide eligibility for the additional thermal efficiency. This will provide the largest number of customers who can benefit and will allow the new investments to make the most GHG reductions.

Since the source of the funding will be from VGS customers, the delivery of services will be weighted so that 75% of the funds are used to serve residents in counties where VGS has infrastructure in place. Additionally, there will be a preference or weighting to ensure low income customers are served first. This will reduce LIHEAP needs and provide even broader statewide benefits.

The delivery of the additional thermal efficiency will be the responsibility of VGS, which is now an EEU. VGS will have the opportunity to develop the specific plans for the effective delivery of these services as part of its EEU obligation. As with the other efficiency services, one means to do this would be through partnerships with the Vermont Energy Investment Corporation, the Burlington Electric Department and the Community Action Agencies. The TETF anticipated and recommended a "one stop shop" for expanded thermal efficiency and the Board would look to VGS to develop the means to do this for its expanded thermal energy efficiency. VGS would take the lead and partner with other entities as needed to ensure the seamless provision of expanded thermal energy efficiency services.

The Board recognizes that there has been limited development of the mitigation measures so far in this proceeding. VGS should submit a complete GHG mitigation plan that addresses all the measures described above within 60 days, and if necessary, the Board will hold further hearings to evaluate those proposals.

VIII. Conclusion

For the foregoing reasons a Certificate of Public Good should not be awarded for the proposed Addison Natural Gas Project. In the alternative, a Certificate of Public Good should be conditioned on VGS providing funding for significant additional thermal efficiency efforts to mitigate the greenhouse gas emission impacts of the proposed project.

Dated at Montpelier, Vermont, this 11th day of October, 2013.

CONSERVATION LAW FOUNDATION

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