
Public Involvement Report

Siting Electric Generation in Vermont

Energy Generation Siting Policy Commission

*A Companion Volume to a Report to the
Governor*

(May 2013)

Table of Contents

1. INTRODUCTION	3
2. EXECUTIVE SUMMARY	4
3. GRAPHICAL SUMMARY	5
3.1 WRITTEN COMMENTS	5
3.2 PUBLIC HEARING COMMENTS	7
4. PLANNING	9
4.1 CURRENT CRITERIA USED BY THE BOARD	9
4.2. PLANNING ROLE FOR STATE AGENCIES	11
4.3 AVAILABLE TECHNOLOGIES	13
5. TIER SYSTEM	14
5.1 ENERGY DEVELOPMENT IN THE BUILT ENVIRONMENT	14
5.2 DEFINITION OF A TIER	15
5.3 PROJECT SIZE	15
6. OPPORTUNITY FOR PUBLIC PARTICIPATION	15
6.1 ALTERNATIVES TO THE CONTESTED CASE MODEL	16
6.2 MUNICIPALITIES AND THE PUBLIC	17
7. TRANSPARENCY AND EFFICIENCY	18
7.1 DATA SHARING	18
7.2 ROLE OF THE STATE	18
7.3 INDEPENDENT REVIEW	20
8. ENSURE ADEQUATE ENVIRONMENTAL, HEALTH AND OTHER PROTECTION	20
8.1 GENERAL COMMENTS	20
8.2 CLIMATE CHANGE	21
8.3 WILDLIFE	22
8.4 SCENIC IMPACT	23
8.5 HEALTH	23
8.6 WATER RESOURCES	24

1. Introduction

This Public Involvement Report summarizes the public comments submitted to the Vermont Energy Generation Siting Policy Commission (Commission) from October 2012 through April 2013 via the Commission's website, email, mail, and hand delivery as well as statements made by members of the public at the five public hearings held throughout the state. This report begins with an executive summary, which is followed by a graphical summary of the number of comments received by generation type and by unique individual. Following the graphical summary, you will find an overview of the comments that is meant to be read in conjunction with the corresponding report issued by the Commission. The full report, titled *Siting Electric Generation in Vermont: Analysis and Recommendations* and released on April 30, 2013, is available at <http://sitingcommission.vermont.gov/publications>.

Throughout this report, you will find references to the Commission's full report that directs you to the most relevant portion using the section and recommendation numbers. Use of the word "report" refers to the full report that will be followed by the symbol "S" referring to the section in the report. Finally the abbreviation, "Rec.," refers to the recommendation number. For example, a reference reading [See *Report § 4.3, Rec. 3*] refers to the Commission's report, section 4.3, recommendation number 3.

While this is not an exhaustive record of public comments, it is intended to capture general trends to form a snapshot of public opinion across a variety of siting issues. Please note that this report does not reflect the views of the Commissioners and that no statement in this outline has been endorsed or verified as true by the Commission or its staff. This unfiltered summary is meant to help those interested in learning what the comments mainly reflected without culling through the 811 comments (constituting 2,605 pages) from 472 individuals and groups¹. Many comments included attached reports and websites to underscore their perspectives.

All of the comments are available at http://sitingcommission.vermont.gov/public_involvement. Transcripts or recordings of all public hearings as well as other proceedings are available at <http://sitingcommission.vermont.gov/publications>.

Some individuals and groups submitted comments that specifically addressed draft recommendations by the Commission that were issued beginning on March 14, 2013 and continuing through April 24, 2013. Sections based on these comments are denoted with an asterisk (*) in the text. For a comprehensive text of comments received in response to draft recommendations, see public comment batches 10, 11, and 12 at http://sitingcommission.vermont.gov/public_involvement.

¹ Non-profit organizations included the American Lung Association; Independent System Operator of New England (ISO-NE); The Green Mountain Club (GMC); Green Mountain Power (GMP); Renewable Energy Vermont (REV); Ridgeprotectors; Sierra Club's Vermont Chapter; Vermont Association of Planning and Development Agencies (VAPDA); Vermonters for a Clean Environment (VCE); Vermont League of Cities and Towns; Vermont Public Interest Research Group (VPRIG); Vermont Natural Resources Council (VNRC); The Washington Electric Coop; and the Wilderness Society.

2. Executive Summary

Planning. Many commenters, particularly non-profit organizations, pointed to a need for greater foresight in energy generation planning in the state. The growing number of generation siting applications in Vermont means that cumulative impacts on wildlife, viewsheds, and quality of life are more relevant than ever. Many suggested that state agencies should conduct scientifically based mapping exercises to identify low-impact, high-potential lands for generation and then prioritize those areas for development. Others suggested that the Public Service Department (Department) should work with developers, residents, and other stakeholders in advance of the Section 248 process to identify priority sites for both protection and development. Some suggested that the Public Service Board (Board) conduct a more thorough needs analysis, while many agreed that continued attention to price and reliability is important. Some noted that the emergence of new technologies, such as energy storage and smart grid, will require a more flexible, evolving regulatory framework. [See *Report § 4.3*]

Simplified Tier System. There was widespread support among commenters for the concept of a tier system whereby smaller projects undergo an expedited review while larger projects get more thorough consideration. Significant differences of opinion emerged about the definitions for the various tiers and the process that should apply to each tier. Some suggested that smaller projects could be evaluated exclusively by town selectboards, while others suggested that a grid-wide perspective is needed for all projects in order to preserve system stability and reliability. Several commenters noted that defining tiers based on capacity ignores significant differences in impact. For example, farm methane could have a relatively small footprint when compared to solar plants of the same generating capacity. [See *Report § 4.4*]

Opportunity for Public Participation. This area drew strong opinions from many commenters. The comments ranged across a wide spectrum. Some advocated for a smaller role for the public. Many argued for greater opportunity for the public to participate, while a small minority proposed local autonomy in siting decisions. The many commenters who advocated for a greater role for local control generally sought for selectboards, development review boards, or planning commissions to have more control over proposed projects within their jurisdictions. Many other commenters pointed out that allowing local control could stymie renewable energy development in the state and raise the regulatory costs of the process. Many commenters felt that the Board process was legalistic and inaccessible to average citizens. Some advocated for the public to be involved up front in a negotiation process with developers prior to Section 248 review. [See *Report § 4.5*]

Transparency and Efficiency. The need for greater transparency and efficiency was a theme running throughout the comments. Commenters advocated for several practical improvements, such as a more complete, updated, and interactive Board website, data sharing between state agencies and parties, independent monitoring of existing projects, and an increased level of staffing at state agencies involved in siting. Several commenters noted that the siting process should be streamlined so that it is simpler and faster for developers. Nearly all the commenters who addressed this topic remarked on the complexity and cost of Board proceedings. From the community point of view, the complexity of the regulatory process is a significant barrier to participation. From the developer point of view, the expense and duration of the current regulatory process significantly affects project planning and financing. [See *Report § 4.6*]

Ensure Adequate Environmental, Health, and Other Protection. The Commission received many comments expressing concern about climate change and urging for a regulatory system that facilitates the rapid development of renewable energy sources in Vermont. In public hearings, particularly in Burlington and via Vermont Interactive Television, as well as in written submissions, commenters pointed out the negative economic impacts that climate change will have on the state. Others were concerned about climate justice, asking that the Commission make it easier for developers to site energy in state rather than "outsourcing" energy impacts to other areas. Others commenters, particularly those speaking at Lowell and Rutland, as well as in written submissions, were concerned with issues ranging from the impact of wind turbines on birds and bats to impacts on water quality associated with site construction. These commenters offered criticism of current protections, as well as concrete suggestions to improve those protections including recommendations of setbacks and the institution of a health impact assessment to be completed with each project, among others. Commenters also raised health concerns about the

noise generated by wind turbines as well as the health impacts of air pollution from biomass and fossil fuel plants. [See Report § 4.7]

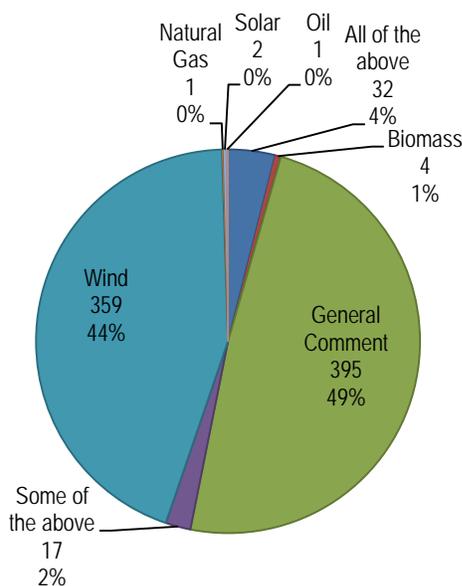
3. Graphical Summary

3.1 Written comments

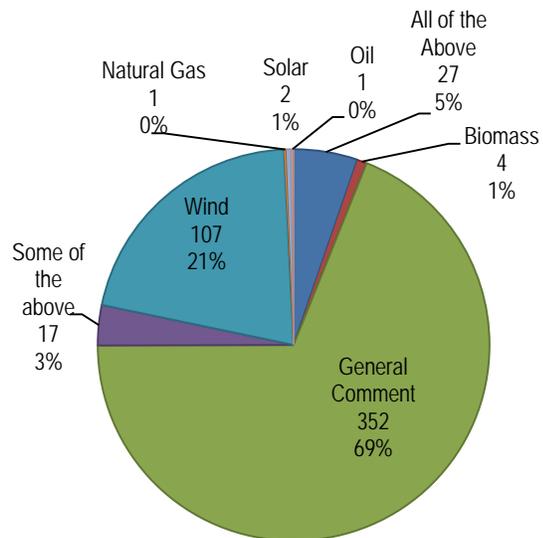
Of the 472 individuals and groups who submitted comments to the Commission, the vast majority submitted “general” comments. Most of these were direct comments on the Section 248 review process itself, with over 300 of these advocating for renewable energy generation at scales both small and large. Most of the general comments expressed concern about climate change and urged the Commission to advocate for redrafting regulatory standards to make it easier for the state to develop low-carbon electricity sources. There were 107 individuals who submitted comments on wind specifically, the vast majority of them directly opposed to the development of wind energy in the state, particularly large-scale wind projects. The main concerns of these comments included the potential for negative impacts of wind on human health (from both noise and low-frequency infrasound), birds and bats, terrestrial wildlife (from fragmentation), electric rates, and reliability (due to intermittency). The remaining comments focused on other specific electricity sources. Biomass commenters pointed out that the location of biomass can have impacts on air quality, as well as on the energy and money spent to transport wood fuel. Commenters who addressed some or all generation types generally advocated for additional renewable sources or encouraged smart planning across resources to ensure system reliability and to consider the cumulative impacts on cultural and environmental resources of the whole generating portfolio.

While most individuals commented only once, there were several very active commenters who submitted multiple comments during the course of the comment period. These repeat commenters concentrated primarily on wind generation, with two individuals submitting 195 comments between them. Graph 2 shows the number of *individuals* who commented by generation type, while Graph 1 shows the number of *comments* by generation type. Some commenters submitted comments on more than one source, so they are counted once in Graph 2 for each source they addressed. These graphs demonstrate the high number of comments received about wind, and that the majority of individuals who commented submitted general comments addressing the siting process under 30 V.S.A. Section 248.

Graph 1: Written comments, submissions by type

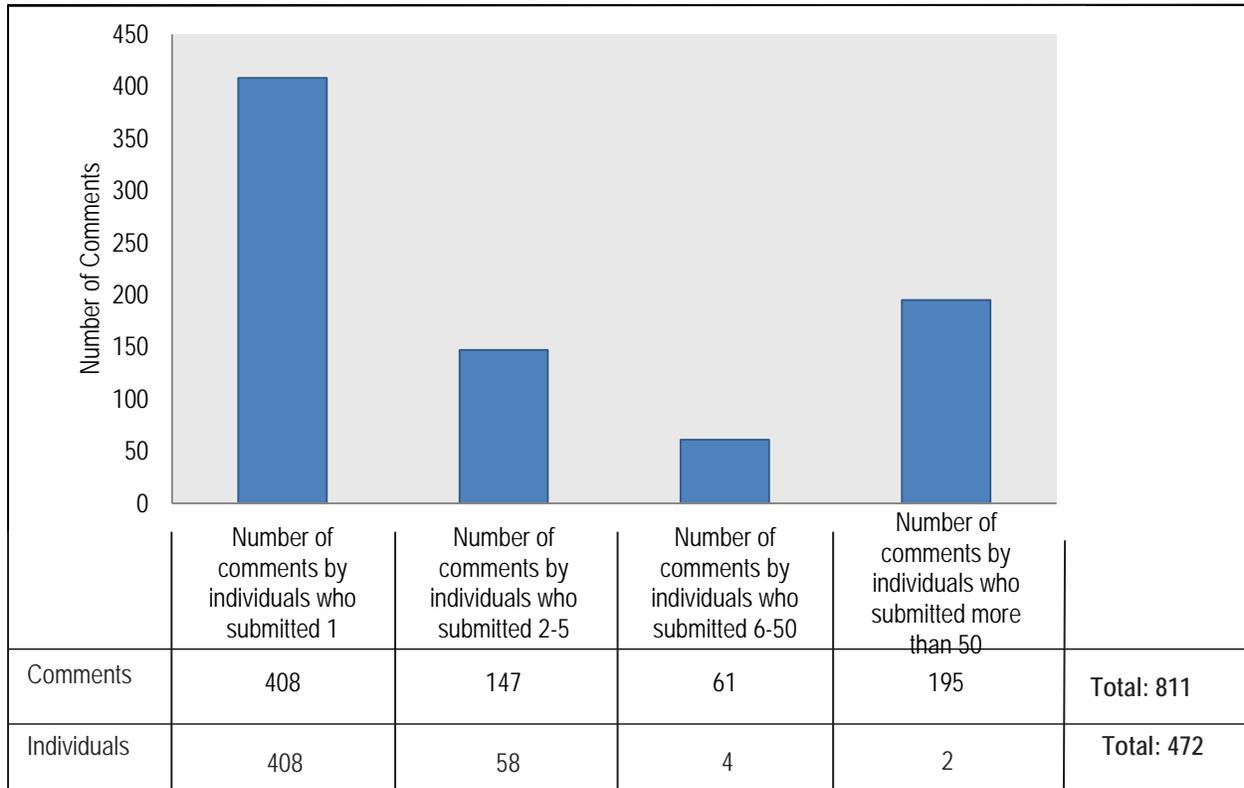


Graph 2: Written comments, individuals by type



Graph 3 shows that most commenters submitted only one comment (total 408). Another 64 commenters submitted more than once, but there was a stark divide between those individuals who submitted one or a couple of comments each (466), and the six very active participants who each submitted many comments.

Graph 3: Written Comments, Unique and Repeat Individuals



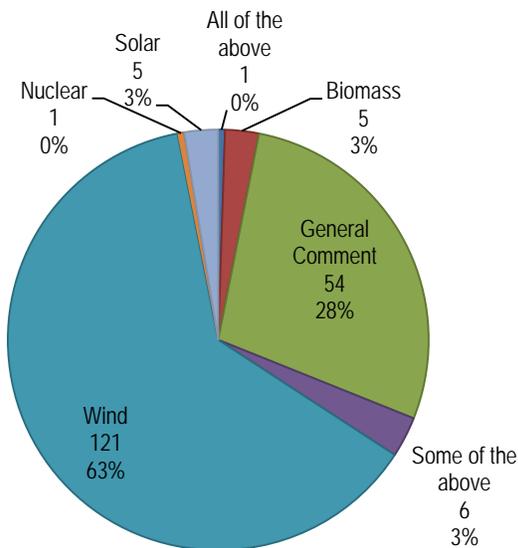
3.2 Public hearing comments

The Commission held five public hearings across the state both prior to and after the draft Commission report was made public. The first three public hearings were held in Brattleboro, Burlington, and Lowell to hear public comment as it related to the charges of the Commission. The hearings were well attended, and comments generally reflected a similar range of suggestions and concerns as those conveyed by the written comments. The full transcripts of these hearings can be viewed at <http://sitingcommission.vermont.gov/publications> under the specific dates on which the hearings were held.

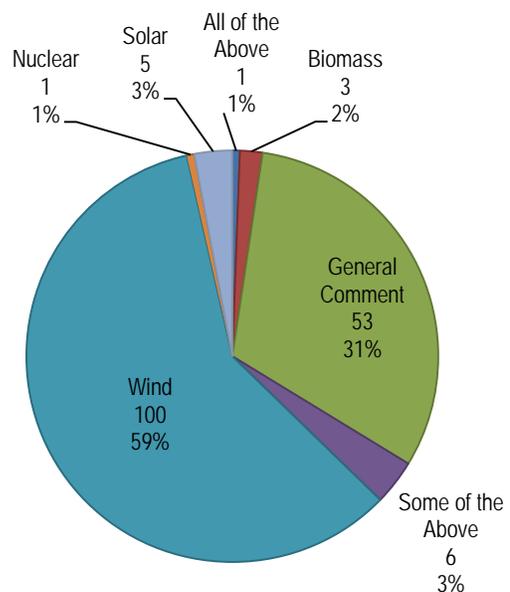
These comments were taken into account, along with the written comments, in the initial drafts of the report as well as in the subsequent deliberations. The first and second drafts of the Commission's recommendations were discussed in eight deliberative sessions and posted online for additional comment. Once the third draft of the recommendations was completed, the Commission held another two public hearings to receive comments on that draft in Rutland, and via Vermont Interactive Television at the following VIT locations: Bennington, Brattleboro, Lyndonville, Middlebury, Montpelier, Newport, Rutland, Springfield, St. Albans, White River Junction, and Williston.

In total, 193 comments were received from 162 individuals during the public hearings. As Graph 4 and Graph 5 illustrate, the majority of the public hearing comments revolved around wind energy (59% of individuals), many of which raised concerns about large-scale wind projects, and more general comments (31% of individuals), most of which were in favor of expanding renewable energy or raised specific suggestions regarding the siting process.

Graph 4: Public hearings, submissions by type

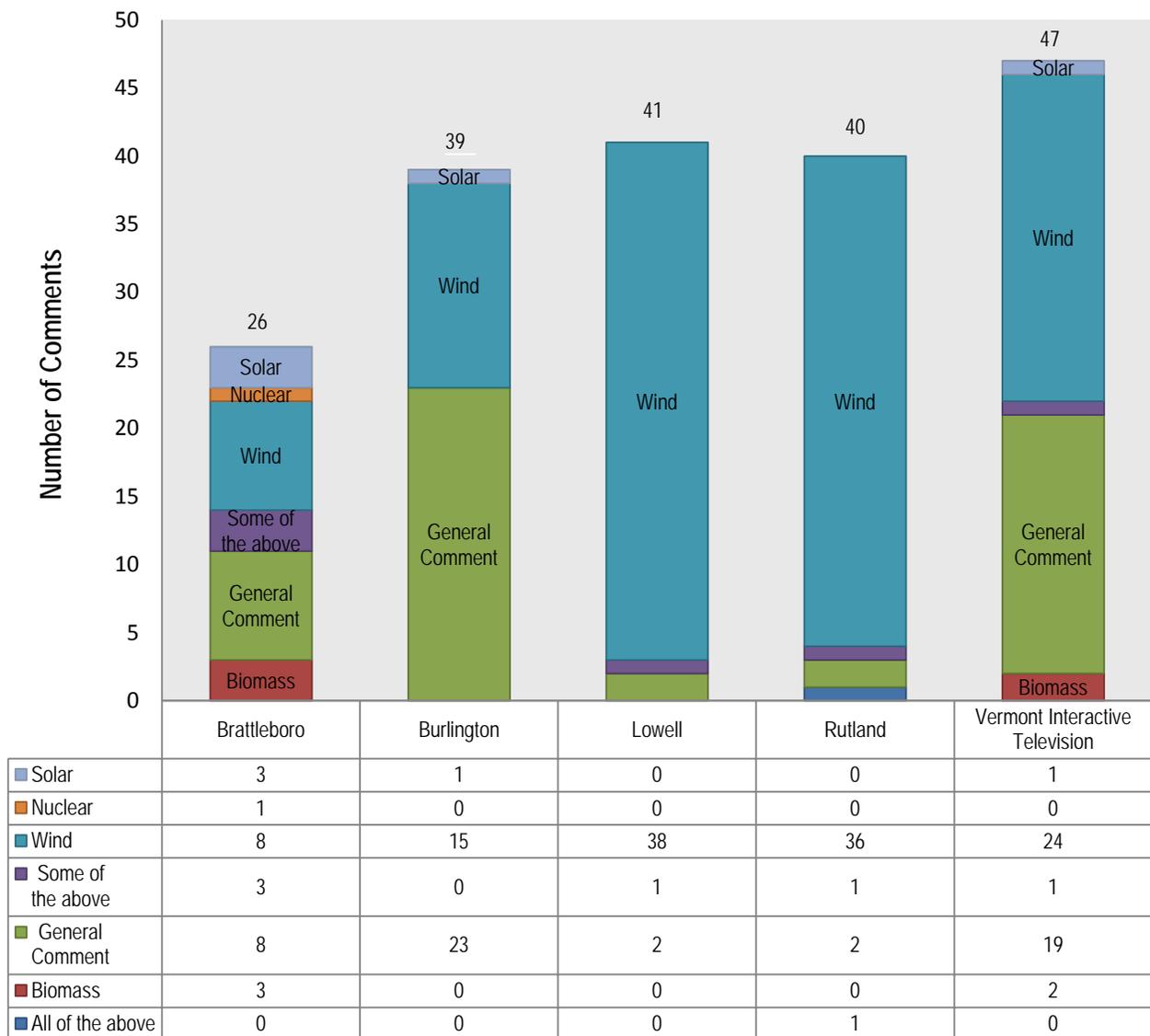


Graph 5: Public hearings, individuals by type



The types of comments made at the public hearings varied greatly depending on where the public meeting was held. Speakers were more likely to address a generation type if a plant of that type was located near the location where the hearing was held. For example, in Lowell, where a large wind facility was recently sited, most of the speakers commented about wind specifically. Only in Brattleboro, which is about six miles from the Yankee nuclear facility, did speakers address nuclear power. Most of the general comments were made in Burlington or via Vermont Interactive Television from the Williston location. These comments tended to focus on the need to mitigate climate change by building low-carbon sources of generation or on the role of the public in the siting process. Graph 6 shows the five public hearings broken down by the generation type that speakers addressed.

Graph 6: Public hearings, submissions by location and type



4. Planning

The need for planning was a popular topic, with the comments falling into three general categories: i) current criteria used by the Board; ii) a planning role for state agencies; and iii) available technologies. Many commenters recommended that a specific group - either a state agency, Regional Planning Commissions (RPCs), or a broader stakeholder group - should take into account the many tradeoffs in energy planning. For example, many commenters recognized the important role of conservation and efficiency in balancing supply and demand for electricity and noted that the need for new generation could be at least partially satisfied through such measures. Other commenters stated that developing intermittent sources such as wind and solar requires simultaneous development of baseload sources (generally gas, coal, or nuclear), and argued that a comprehensive, spatially specific energy plan for the state would need to take into account intermittency concerns. [See *Report § 4.3*]

"A new legal framework should be created to provide a meaningful comparison between a proposed (merchant) renewable electricity production facility and a set of efficiency measures with equivalent energy savings."

- The Wilderness Society

4.1 Current criteria used by the Board

Needs analysis. Commenters noted that applying the needs standard to merchant generators has proved problematic because those generators cannot prepare a least-cost integrated plan or implement efficiency and conservation measures like a traditional regulated utility. As the Wilderness Society wrote, "the Board uses 30 V.S.A. §248 (b)(2) to evaluate whether the proposed project is necessary to meet demand for electricity 'which could not otherwise be provided in a more cost effective manner through energy conservation programs and measures and energy-efficiency and load management measures.'" [See *Report §§ 2.1; 2.2*]

"[T]he interconnection of some generation technologies ... to weaker parts of the transmission system can be challenging and time consuming to study."

- Independent System Operator of New England

Interconnection and transmission upgrades. The Independent System Operator of New England (ISO-NE) submitted comments to the Commission explaining that interconnection of new projects to the transmission grid is an extremely complex process which often cannot always be adequately studied before state-level permit applications are submitted. The organization noted that interconnection studies often occur concurrently with state permitting processes. [See *Report § 4.3, Rec. 1*]

Public good and energy security. Many commenters discussed the importance of energy security and the "public good." They argued that paramount to the Board's mission is the importance of reliability and the avoidance of price volatility. Commenters wrote that these two factors are major components of public good. Some stated that the development of renewables could greatly contribute to the public good in that they will insulate consumers from increasingly unreliable and expensive non-renewable fuel supplies. VNRC asked the Board to clarify how it weighs the public good in its decision-making process, especially in relation to climate change and direct impacts on the natural environment. [See *Report §§ 4.1; 4.3, Recs. 1 and 2*]

"I think it is perfectly appropriate that energy-generation projects be evaluated on a statewide basis given that the network that provides the energy is statewide."

- Linda Gray

Level of deference given to municipal plans*. Several commenters suggested that the Board should articulate how they consider municipal plans and what weight they are given. Many commenters felt that municipal plans should be controlling in siting proceedings; that is, if the municipal plan specifically prohibits the development of large-scale power generation, the Board ought not have the authority to approve plants in that municipality. Other commenters noted that allowing strict local control could prevent

rational and adequate development of generation resources to meet demand. There was a tension between those who sought to give town plans greater influence in the process or to move the approval process to Act 250 District Environmental Commissions and those who wrote that the current Section 248 process grants sufficient weight to municipal plans. The City Council, Planning Commission, and Energy Committee of South Burlington wrote in to suggest that Section 248 be revised to give "valid" municipal policies on renewable siting "significant regard" where plans would be considered valid if they accommodate long-term energy supply needs. Vermonters for a Clean Environment, Inc. (VCE) responded to the Commission's draft recommendations by writing that under Act 250, town plans are given deference and suggested moving the Section 248 process to Act 250 jurisdiction. Green Mountain Power (GMP) wrote that delegating the responsibility for energy siting to municipalities or regions would likely result in a complex and unmanageable process. GMP advocated for the creation of a statewide renewable generation planning group similar to the Vermont System Planning Commission (VSPC), a stakeholder transmission planning group instituted by Board order #7081. [See *Report* §§ 4.1; 4.3, *Rec.* 4]

Leadership in Vermont. Many individual commenters wrote that Vermont is a leader in the field of environmental protection and that it should continue to be a leader by actively promoting the development of renewable energy. Commenters argued that Vermont has developed a reputation for being at the forefront in environmental protection and that if the state acted decisively to build low-carbon generation, other states are likely to follow. Other individuals, especially at the Lowell public hearing emphasized the importance of leading by taking meaningful action on climate change without "sacrificing" mountains to large-scale wind development. [See *Report* § 2.1]

"Every time I see these turbines running, I really do take pride in seeing that Vermont can produce our own energy and that we're doing so in a responsible way."

-Kerry Wilson

Interim zoning.* VCE suggested that the Commission propose an Interim Zoning process in towns facing energy development. Such a process would give municipalities the right to engage in town plan amendment process after a project is proposed. VCE argued that the municipal plan amendment process is the most democratic process for creating a clear, written community standard regarding generation. [See *Report* § 4.3, *Rec.* 4]

Evaluating existing projects to identify best practices. Several individuals recommended that a state agency should conduct evaluations of the impacts of existing projects. Jean Vissering, a landscape architect who routinely reviews the aesthetics of wind projects, recommended that the Department "serve as a clearinghouse for research ... peer reviewed, possibly even commissioning its own research into the actual impacts of existing projects." She argued that to date, no studies have been completed after projects are operational to evaluate strengths and failures of the project. [See *Report* § 4.7, *Rec.* 21]

Reliability. Some commenters wrote that adding intermittent sources to the supply of power can cause reliability issues because of intermittency, but they suggested that small projects widely distributed across the landscape may operate to meet local daily peak loads to avoid the need for new long-distance transmission. Others suggested using small-scale distributed generation to meet demand where it occurs, alleviating some reliability concerns that stem from transmission constraints. [See *Report* §§ 2.2; 4.1; 4.3, *Rec.* 1]

* indicates comments received in direct response to draft recommendations issued by the Commission
Public Involvement Report, Vermont Energy Generation Siting Policy Commission, 2013

4.2. Planning role for state agencies

Public Service Department planning. Several commenters suggested that the Department take on a greater role in proactive energy generation planning. Commenters proposed that the Department could create a spatially explicit comprehensive energy plan, and could also facilitate the development of general design guidelines that could be applied to all generation projects. Commenters recognized that cumulative impacts should be considered during the *planning* phase, not only during the Section 248 approval process. Some suggested that a proactive planning process could also identify areas where solar panels or turbines would have the least visual impact. [See *Report § 4.3 Rec. 1*]

Cumulative impacts. Many commenters, including individuals and non-profit organizations, such as the Wilderness Society and the Green Mountain Club (GMC), were concerned about the best way to deal with the cumulative impacts of energy development. They proposed that cumulative impacts be considered during a new planning phase. They argued that planning should maximize the role of demand reduction as well as acknowledge both energy and other development. Several commenters noted that the potential for cumulative impacts on forest characteristics that support biodiversity – such as interior forest, intact ridgelines, and landscape connections – requires consideration of the build-out of future projects. Some suggested that these impacts could be offset through compensatory mitigation measures, that is, by placing permanent conservation easements on other areas similar to the area being used for development. [See *Report § 4.3, Recs. 1, 2 and 3*]

“We need a comprehensive landscape-specific energy plan that maximizes the role of demand-reduction, and acknowledges cumulative impacts of energy and other development”

- The Wilderness Society

Planning across energy alternatives. Many commenters pointed out that there are direct tradeoffs between types of (and alternatives to) transmission and generation. These commenters argued that our interconnected system of energy production, transmission, and consumption should be considered comprehensively, and trade-offs among alternatives should be analyzed. For example, a new generation project far from areas of high demand may require extensive transmission upgrades. Alternatively, bringing natural gas to populated areas may alleviate electric demand by shifting water heating, cooking, and home

heating away from electricity. The interconnectedness of the system makes it difficult to plan for any one segment in isolation, as is currently done in the project-by-project model. [See *Report § 4.3, Recs. 1, 2 and 3*]

Mapping exercises.* Commenters generally advocated for more mapping at the state and Regional Planning Commission (RPC) level. Commenters suggested mapping in several ways. Some suggested mapping important natural resources; others suggested identifying sites of historical value; still others advocated for maps showing generation potential throughout the state by generation type. Renewable Energy Vermont (REV) recognized that when identifying sites for potential development, planners should specify which criteria they used. For example the best location for interconnection may not always be the area closest to the load. The best locations from a wildlife perspective may not be the best from a grid optimization perspective. [See *Report § 4.3, Recs. 1, 2 and 3*]

Scenario impact assessment.* The Wilderness Society suggested that as energy development scenarios are fleshed out, it would be helpful for the Department to ideally include implications for all relevant Section 248 criteria, to the extent that information is available. The Wilderness Society suggested that the Department could develop scenarios then calculate for each scenario impacts on greenhouse gas emissions, water and air quality, landscape disruption, net impact to jobs, and projected energy prices. The group suggested that the Department develop a scenario assessment tool that would allow users to assess impacts based on the specific data developed by the Department. [See *Report § 4.3, Recs. 1, 2 and 3*]

* indicates comments received in direct response to draft recommendations issued by the Commission
Public Involvement Report, Vermont Energy Generation Siting Policy Commission, 2013

“Regional Planning Commissions (RPCs) should develop geographic energy plans for high potential/low potential areas for electric siting by technology.”

-Green Mountain Power

Role of Regional Planning Commissions (RPCs).* The Vermont Association of Planning and Development Agencies (VAPDA) wrote that like the development of any other major system of infrastructure, the energy infrastructure system should be planned deliberately. VAPDA pointed out that the best places for renewable energy development, and the resources to fund their development, are limited. The Vermont Natural Resources Council (VNRC) wrote in support of a stronger and more specific role for regional planning, and expressed concern about the lack of internal expertise and

sufficient staffing capacity at RPCs to take on generation planning. If RPCs play a greater role in energy siting, VNRC argues that there should be a clear expectation that regional plans make a reasonable provision for renewable energy development within each region. [See *Report § 4.3, Recs. 1, 2, 3 and 4*]

Concerns over capacity and costs of planning.* Some recognized the high costs of planning, pointing out that energy planning requires technical expertise and statewide integration of power into the ISO New England grid. REV and VNRC noted that the technical expertise required may not be compatible with local or regional planning. REV expressed concerns about staffing and expertise at RPCs, noting that highly technical topics dominate the energy siting process, including full System Impact Studies required by utilities, the role of capacity factor, and shifting peak loads. REV argued that these technical topics require expert staffing not currently available at RPCs. [See *Report § 4.3, Rec. 3*]

Relationship between RPCs and town plans.* Several commenters, particularly those at the Rutland public hearing, felt that RPCs would not adequately represent the interests of individual towns during the planning process proposed by the Commission. Some advised the Commission to move the proposed planning process to the town level. A few individuals recommended that the town plans of neighboring towns with a line of sight to proposed projects should be given deference during the planning and siting process. [See *Report § 4.3, Recs. 1, 2, 3 and 4*]

“[I]n terms of regional plans, we want to be careful in thinking that that’s a democratic process because it might not be ... the voices of the individual towns could be put aside.”

- Carol Geery

“We’ve been pretty good in Vermont about passing environmental protections but not planning. If we had planning, it would be much easier.”

- Dean Dorren

Regional planning and state concerns.* GMP suggested that planning for generation on a region-by-region basis will likely lead to inadequate statewide system planning, the potential for degradation to the transmission system, and incompatibility with ISO-New England’s operation of the New England transmission grid. GMP suggests that generation planning be closely coordinated with the Vermont Systems Planning Committee (VSPC) efforts to plan for the state’s transmission needs. The Vermont Public Interest Research

Group (VPIRG) wrote that although both municipalities and RPCs should be involved in the planning process, the Commission should ensure that there is no explicit or implicit local power to reject a particular source of energy, or a specific project within a region or town. VPIRG also argued that the concept of the public good should not be undermined by local planning and that the Department’s roadmap for the RPCs should include a clear and thorough review process to ensure that plans are in line with the Department’s Comprehensive Energy Plan renewable energy goals. [See *Report § 4.3, Rec. 1, 2, 3, and, 4*]

Cooperation of the Department and RPCs.* The Wilderness Society suggested that the Department cooperate with the RPCs throughout the scenario development process rather than just at the beginning as was proposed by the Commission. The organization suggested that the Department has the technical capability to develop realistic scenarios using a flexible decision-support tool. Such a tool could allow users to vary scenarios and understand resulting impacts. As the Wilderness Society envisions this planning process, RPCs would be intimately involved in using such a tool to define a desired energy future for their regions and the state as a whole. A process that educates and informs stakeholders and the general public about priorities, technical limitations, and tradeoffs could result in a roadmap for energy development in the state. The Wilderness Society suggests that once completed, and as revised over time, RPC energy plans should be posted on VT

* indicates comments received in direct response to draft recommendations issued by the Commission Public Involvement Report, Vermont Energy Generation Siting Policy Commission, 2013

Biofinder (an online mapping tool designed by ANR that identifies natural resources across the state) for developers and the general public. [See *Report § 4.3, Recs. 1, 2 and 3*]

4.3 Available technologies

The role of storage. A few commenters pointed out that storage may eventually play a key role in Vermont’s energy future as an emerging technology that could help even out the supply curve of intermittent resources, and potentially alleviate the need to build expensive fossil-fuel peaking plants. One commenter submitted a report, titled *Electricity Storage: Technologies and Regulation* by the National Regulatory Research Institute, which discusses regulatory issues involved in storage. Technologies under development include batteries, flywheels, supercapacitors, compressed air, and pumped storage. Some commenters noted that the potential of such technologies to be deployed in Vermont is unknown, and an appropriate regulatory framework for such technologies has yet to be developed. [See *Report § 4.8*]

“To date, little explicit attention has been paid to the question of what regulatory mode for the various identifiable storage services would best serve the public interest.”
-National Regulatory Research Institute

“VT doesn’t need any new electricity generation sources until 2031... all VT needs to do in that time period is to implement energy conservation and efficiency measures”
-Kathleen Iselin

Efficiency is an important energy resource. Many commenters, including environmental groups like VPIRG and VNRC, as well as individuals, wrote that energy efficiency is more important than ever in meeting New England’s energy demands. They argued that energy efficiency should be the first resource for meeting future demand. Several commenters pointed out that efficiency and conservation measures in Vermont could significantly reduce the need for new generation. [See *Report § 4.3, Recs. 1, 2 and 3*]

Distributed generation.* VCE noted that the proposed framework for planning focuses on large grid structures, but small-scale, distributed generation may be more relevant in the future. VCE argued that “technology is not moving in the direction of larger central power plants with lots of power lines.” The group wrote that technologies and markets for small-scale, distributed generation are improving, and that the Commission’s recommendations should focus more intensely on these future scenarios. The group suggested that the planning process should be flexible enough to accommodate such innovations. [See *Report § 4.4*]

Farm methane. At the time of this report, the Board regulates all aspects of methane digesters, including the management of manure before and after it is used in the digester. Please note that recent legislation will change this process (see Vermont bill H. 405). The Executive Committee of GMP’s Renewable Development Fund recommended splitting up regulation of manure management systems and electric generation. The group noted that farmers will be able to adapt their manure management systems more quickly to changing circumstances if they do not have to submit a request to the Board to amend their Certificates of Public Good (CPG). The group argued that the current CPG approval takes too long for farmers to accommodate, stating that “the manure must continue to be managed by the farmer on a daily basis to avoid negative impacts to air and water.” [See *Report § 4.8*]

The need for new transmission.* A couple of commenters at the public hearings noted that with an increase in energy generation in the state, transmission lines may need to be added or upgraded. Commenters, particularly those at the Rutland public hearing, were concerned that increased transmission development could be visually unappealing. [See *Report §§ 4.1, 4.2, 4.3, Recs. 1, 2 and 3*]

* indicates comments received in direct response to draft recommendations issued by the Commission
Public Involvement Report, Vermont Energy Generation Siting Policy Commission, 2013
p. 13 of 25

5. Tier System

Few commenters directly addressed the tier system, but those who did generally supported the creation of a more clear and efficient tier system. Several commenters had specific suggestions as to how to modify the tier system. Comments generally fell into three categories: i) energy development in the built environment; ii) the definition of the various tiers; and iii) how project size should impact the degree of regulatory scrutiny. Many individuals advocated for energy development to occur in the built environment. Some commented on how a tier should be defined. Finally, there was significant disagreement about the degree of intensity of regulatory review that should be required for the different tiers.

5.1 Energy development in the built environment

Wide support.* The vast majority of commenters who addressed the issue supported a tier system that would expedite smaller projects and make community-scale projects easier to permit. Supporters of the tiered approach ranged from the Vermont League of Cities and Towns to VPIRG. [See *Report § 4.4, Recs. 5 and 6*]

"[There is a] need for siting standards that encourage solar projects on the built landscape and discourage using agricultural fields."

- Annette Smith, Vermonters for a Clean Environment, Inc.

Flexible or fixed tiers.* VNRC recommended that the Agency of Natural Resources (ANR) develop natural resource screening criteria that could, in certain circumstances, bump a project up or down the tier system based on potential likelihood of natural resource issues. The group also suggested the removal or strict limitation of "self-certification" opportunities for developers under the tier system, because self-certification insufficiently protects natural resources. GMP supported an application and approval process with firmer guidelines in which requirements for siting renewable energy in each tier are clearly defined – including required studies, permits, and mitigation of impacts – and approval timelines for permits are set. GMP wrote that "nameplate capacity is the appropriate way to define tiers, because it is simple, straightforward, and matches existing practice. With clear screening criteria and a checklist, projects would have the desired certainty." [See *Report § 4.4, Recs. 5 and 6*]

"As an environmentalist, I want to see the cleanest sources of energy moving forward."

- Tim Hoopes

Solar and small-scale wind. Many commenters wrote that solar and small-scale wind power should be encouraged in the built environment, such as on rooftops, in highway medians, in parking lots, and at large commercial and industrial buildings, by reducing as many administrative barriers as possible. Several of these commenters discouraged development on forested and

agricultural lands. Commenters recognized that an expedited review process for such resources could alleviate the need to build in remote or pristine locations. [See *Report § 4.4, Rec. 6*]

Incentives. In advocating for more renewable energy development in the built environment, or to encourage more community-owned distributed generation projects, many commenters suggested that such projects be provided incentives beyond the current net metered rates. Some suggested that individuals or groups be allowed to sell excess electricity generated (beyond consumption) back to the utilities at a rate deemed appropriate by the utilities as a way to encourage both more rapid development of community-scale generation and as a way to encourage Vermonters to invest locally. Others suggested that the current net metering limit of 500 kW be raised to 1 MW for community-led projects. Still others said that the Board should provide financial or process incentives to encourage developers to choose developed land that is close to load for projects. [See *Report § 4.4, Rec. 6*]

* indicates comments received in direct response to draft recommendations issued by the Commission
Public Involvement Report, Vermont Energy Generation Siting Policy Commission, 2013

5.2 Definition of a tier

Establishing tiers.* REV suggested that to define the tiers, the Board should open a rulemaking process and involve various stakeholders to design an appropriate tier structure based on technology and size. REV wrote that it strongly supports a tiered approach, but would suggest maintaining four tiers. The group gave specific tier recommendations of Tier 1 up to 500 kW (registration with a checklist), Tier 2 from 500 kW to 5 MW (streamline permit with checklist “plus”), Tier 3 from 5 to 25 MW (non-contested case), and Tier 4 from 25 MW and above (contested case), which differed significantly from the Commission’s suggested tiers. REV suggested that these specific tier levels be aligned more closely with potential project impacts than the size triggers recommended by the Commission. VCE recommended that the Commission’s proposed tiers be amended so that all projects above 2.2 megawatts fall into the highest tier for a more thorough review, arguing that the environmental and health impacts of those projects should be given the same weight as larger projects. [See *Report § 4.4, Recs. 5 and 6*]

Capacity might not reflect impact. Some suggested that rather than rely solely on capacity triggers, tiers might be better defined by area disturbed, proximity to residences or priority natural areas, or some other threshold related to cultural and environmental impacts. These commenters suggested that the specific makeup of the various tiers should be considered in light of the proposed technology. Several commenters noted that using a simple capacity-based tier system across all technologies may not improve the process of public acceptance where projects are controversial or unwelcome. [See *Report §§ 4.4, Rec. 5; 4.5, Rec. 8*]

5.3 Project Size

Small projects. Several commenters pointed out that very small projects may not require the rigor of a Section 248(j) proceeding, let alone a full Section 248 proceeding, arguing that perhaps a “registration” method would be more appropriate. These commenters pointed out that the current process is designed for the less-common, large-scale projects and unnecessarily hinders small and community-scale projects. This hindrance, they argued, limits our ability to respond to climate change by building small-scale distributed generation. [See *Report § 4.4, Rec. 5*]

Local approval for small projects. Commenters noted that some states evaluate larger projects using regional or state siting boards, while allowing local governments to evaluate smaller projects. These commenters suggested that smaller projects be moved from Board approval to local town selectboard or development review board approval. [See *Report §§ 4.4, Recs. 5 and 6; 4.5, Rec. 8*]

Number of wind turbines.* Several commenters suggested that developers propose smaller, distributed facilities instead of large facilities like Kingdom Community Wind or Sheffield. They argued that the Board should encourage these smaller projects (3-7 turbines) and discourage larger ones (15-25 turbines). The commenters suggested that smaller projects can be accommodated on lower ridgelines, but may require more sites. [See *Report §§ 4.4, Rec. 5; 4.5, Rec. 8*]

6. Opportunity for Public Participation

Public participation was one of the most commonly addressed topics throughout the comment period. Many residents of municipalities who had participated in the Section 248 process wrote in with concerns that their voices were not being heard. Some sought to correct the financial imbalance between municipalities and developers through intervenor funding, while others suggested that the regulatory process be moved to a more local level. Several commenters wrote that the process was sufficiently inclusive of the public and felt that further public involvement may cause the process to become overly lengthy.

The comments fell into two general categories: alternatives to the contested case model, and the role of municipalities and the public within the hearing process.

6.1 Alternatives to the contested case model

Dispute resolution. According to a report titled *Negotiating the Wind: A Framework to En*
Turbines, submitted by Vermont Law Professor Sean Nolan, alternative dispute resolution should only be deployed when parties are willing to compromise and not rigidly locked into their positions. The report pointed out that that if the applicant keeps the community at a distance, withholds critical information, surprises the community with new information, and/or makes attempts to marginalize dissenters, the community will likely respond in kind, which can stymie the siting process. Ridgeprotectors suggested that the Board require a fully transparent pre-permitting process, including notification to area towns and posting in local newspapers, before a first meeting with regulators, and that the Commission provide specific guidelines for petitioners, regulators, and public officials regarding what they can and cannot say to the press about a project while it is in the permitting phase or under appeal. [See *Report § 4.5, Recs. 7, 8 and 9*]

Conflict-driven process. Commenters described that in their experience, attorneys representing developers actively oppose the granting of intervenor status to citizens during Section 248 proceedings, and that the contested-case model sets up conflict rather than a cooperative atmosphere. As a result, many citizens feel that they are excluded from the process because they are not technical or legal experts or because they cannot afford to hire such experts. [See *Report § 4.5, Recs. 8, 9 and 10*]

"Please make this process more open to the common citizens who are directly affected by these projects. The way it works now merely discourages input from those who are not paid participants. This does not serve the public good."

- Tom Shea, Searsburg

Costly regulation.* GMP wrote that "the current 248 process to site generation is extremely rigorous, inclusive, and expensive. The public has adequate and multiple opportunities to participate in the siting processes; environmental and cultural protections are robust." GMP argued against giving municipal plans more weight because it would make the siting process even more costly for developers, pushing renewable energy out of state. VNRC argued that adding additional steps in the regulatory process would result in "duplicative efforts or create layers of bureaucracy that make things unnecessarily difficult." VPIRG echoed these sentiments by adding that the increased number of regulatory hurdles recommended for utility-scale projects could delay the development of renewable energy in the state, which the group views as problematic in light of climate change. VPIRG argued that Vermont already has one of the toughest permitting processes in the Northeast. [See *Report §§ 4.3, Recs. 1, 2 and 4; 4.5, Rec. 9*]

Pre-application siting negotiation. Some commenters felt that an early negotiation between developers and residents should be deployed to identify locally specific mitigation measures and head off conflict before it begins. Negotiations could concentrate on parameters such as screening, turbine height, or conservation easements. [See *Report § 4.5, Recs. 8 and 9*]

Scoping and accessibility. Several commenters suggested that developers should be required to conduct a scoping process prior to their Section 248 application that would involve local citizens earlier. Some pointed out that as the process currently stands, development plans are often kept quiet until after many thousands of dollars have already been invested in a site. The developer has a significant stake in moving forward with that site even if the surrounding communities could identify preferable sites from their point of view. [See *Report § 4.5, Rec. 7*]

Expedited Board review.* GMP argued that if there are going to be specific requirements for public engagement, then successful implementation should provide a significant benefit to developers in the form of an expedited Board review, particularly under the "non-technical" environmental criteria of Section 248 such as orderly development and aesthetics. [See *Report § 4.5, Rec. 9*]

Fairness and consistency. The Washington Electric Cooperative expressed frustration that when there were slight alterations to their proposed projects that were agreed to during negotiations with citizens, opponents used the changes to delay the regulatory process. They argued that when developers make good faith accommodations that involve changing their original proposal, such as screening and setbacks, those changes should not constitute grounds for complaints and additional filings by opponents. [See *Report § 4.5, Rec. 9*]

6.2 Municipalities and the public

Role of public comment. Although the Board may grant a town intervenor status, residents wrote that they felt that their concerns are not being taken seriously and that they rarely influence the outcome of a siting application. Several citizens who had participated in Section 248 review noted that although they had provided expert testimony that would suggest a CPG should be denied, the Board did not fully consider this testimony and granted the CPG anyhow. [See *Report § 4.5, Rec. 9*]

“Recognizing the importance of the local citizen inputs to projects of such magnitude and potential impact is critical.”

-Kim Fried, Newark

Developer-funded citizen participation. Some commenters suggested that developers should provide funding to support the participation of additional parties, such as municipalities, because there is a significant financial disparity between developers and towns. Others noted that there is a need for a judicious dispersal mechanism for such funds if provided. Many commenters from small towns described their experience of participating in the Section 248 process as a full-time job and recounted having spent

significant amounts of time and money to participate in the process. Citizens felt that developer funding of citizen participation could offset the cost of hiring attorneys and experts. [See *Report § 4.5, Rec. 10*]

Imbalance of technical expertise and time. Many individual commenters, both in writing and at public hearings, felt it is extremely challenging for municipalities to participate in the Section 248 process because boards are volunteers trying to master a large range of technical information or hire experts at the expense of taxpayers in the municipality. Many felt that towns should have the expertise of the Board and the Department at their disposal or state funds available to them. [See *Report § 4.5, Rec. 10*]

“Even though intervenors have been given the chance to provide written testimony, they have no way, time, or money to match the parade of lawyers and experts [provided by developers].”

- Shirley Nelson

Diverse opinions. Several commenters noted that small, vocal minorities can at times dominate discussions about energy generation siting. These commenters pointed to a “silent majority” (as indicated by polls) of Vermonters who support renewable energy development. [See *Report § 4.5, Rec. 9*]

“ANR seems to start off with a huge list of reasons/concerns why the projects should not be approved, but by the end of the process seems to have backed off on most of their demands.”

- Scott McLane

ANR and the Department as public representatives. Because the heads of the Department and ANR are political appointees, some commenters felt that the agencies could not fully represent the public interest. A number of commenters wrote that during the review of specific projects, ANR and the Department had not represented the public interest in the ways the commenters thought they should have.

Public Education. REV commented that if the public is to play a larger role in energy planning in Vermont, the Department should provide significant education about how energy works, challenges in the current energy system, and the available energy choices so that the public would be fully prepared to participate in the planning process. Many other commenters identified a need for greater outreach by the Department and the

Board to educate citizens and engage them to maintain the legitimacy of those bodies in the public eye. [See *Report §§ 4.5, Rec. 9; 4.6, Rec. 11*]

The role of experts.* VCE argued that the Board ignores much of the expert witness testimony intervenors have provided and often relies exclusively on testimony provided by the developer's experts. VCE recommended moving the Section 248 process into Act 250 jurisdiction so that testimony provided by citizen-hired experts would carry more weight. GMP wrote that if developers will be responsible for bill-back costs for experts hired by the Board or by statutory parties, costs for these experts should be kept to a reasonable level. GMP argues that in some cases, additional experts beyond those who could testify from state agencies and offices are not necessary and some mechanism should be developed for determining whether outside experts are needed in a given situation. [See *Report § 4.5, Rec. 10*]

Notification.* GMP pointed out that providing the Public Engagement Plan (PEP) to the Board 150 days before the 90-day notice of intent to file for a CPG would make the notification period before the application almost 9 months in length, which, they argued, would unduly delay projects. The company suggested that a PEP be provided at the time of the notice of intent to file. GMP believes that the PEP could include a history of the activities performed, as well as a detailed plan of future activities to inform the public about the project and the permitting process. [See *Report § 4.5, Rec. 19*]

7. Transparency and Efficiency

Many commenters addressed this topic, although it was less frequently raised than public participation. Many commenters advocated for improved public access to information, data, and documentation that is produced during the Section 248 process. Several commenters identified a need for independent, third-party monitoring and some had specific suggestions for how independent monitoring could be successfully implemented. Comments in this area fell into three broad categories; i) data sharing; ii) the role of the state in transparency and monitoring; and iii) the role of independent monitors in ensuring compliance.

7.1 Data analysis and sharing

Energy return on energy investment. Some of the RPCs pointed out that for any resource to be economically and technically viable, it must yield a large amount of energy relative to the energy needed to build and operate the facility. The RPCs argued that it is critical to site renewable generation where the maximum amount of energy can be derived from the resource and that building renewables in sub-optimal locations will raise price of the electricity. A mandatory energy return on investment assessment was suggested for each proposed project.

Data sharing. Many commenters, especially RPCs, expressed a desire for data gathered by ANR and by installed MET towers to be shared with town and regional planners so that they could benefit from this useful resource. The siting process, they argued, generates a tremendous amount of data that could benefit other regional and town planning efforts if made available. [See *Report §§ 4.7, Rec. 26; 4.6, Rec. 19*]

7.2 Role of the state

Staffing at the Board, the Department, and ANR. Several commenters pointed out that given the increase in generation siting cases, the Board, the Department, and ANR are currently understaffed. Many commenters noted that the understaffing had resulted in lengthy regulatory processes, and that these agencies often use outside expertise to help evaluate the more technical issues before them. Some wondered whether this outside expertise could be replaced with in-house expert staff to save time and money in the regulatory process. [See *Report §§ 2.6; 4.5, Rec. 10; 4.8, Rec. 28*]

* indicates comments received in direct response to draft recommendations issued by the Commission
Public Involvement Report, Vermont Energy Generation Siting Policy Commission, 2013
p. 18 of 25

Website and electronic filing.* Many expressed a desire that the Board help communities understand how the siting process works, which criteria they are evaluating, and the role of citizens in that process. Citizens expressed a need for a better Board website where they can easily access Board orders and hearing documents. GMP echoed this concern, emphasizing the need to allow electronic submission of all documents. Electronic filing, the company argues, would simplify the process and reduce the expense for all parties. VAPDA argued that an improved Board website should include access to historical docket records and orders, because the PSB relies heavily upon precedent. VAPDA also suggested that historical docket records be easily searchable and open to the public. [See *Report § 4.6, Recs. 12, 19 and 20*]

"The Siting Commission needs to empower and require the Department to perform retrospective reviews on the accuracy of project projections and compliance with CPG conditions."

- James Rademacher, Pittsford

[See *Report § 4.7, Rec. 26*]

Ongoing review. Many commenters argued that either the Board or the Department should be granted the statutory power to review projects currently in operation and revoke the CPG if violations are found. These commenters thought that once the CPG is issued, the Board has little authority to react if violations are found. This characterization of Board authority was under dispute; some thought that the Board did have the authority to revoke a CPG if violations were found.

Baseline data. Several individuals and institutions, including VCE, recommended that ANR collect baseline data on wildlife usage, water quality, air quality, and carbon sequestration prior to the construction of new projects so that impacts could be adequately tracked over time. Several other commenters suggested that developers be required to make public any baseline data on water quality, species usage, or other environmental data. This would help future measurement of the impact of existing projects.

ANR and Department enforcement capacity.* VNRC recommended the establishment of hydrological and biological monitoring plan for Tier 3 and Tier 4 projects and for expanded enforcement capacity at the Department and ANR for this monitoring process. To pay for monitoring, VNRC recommended a fee structure for applicants that adequately raises the funding need to monitor projects throughout the process. [See *Report § 4.7, Rec. 26*]

Regional allocation of benefits.* Because the financial benefits of generation projects often flow primarily to the community in which the project is sited, VNRC recommended that the Board and Department work in partnership with utilities to establish guidelines for regional allocation of community benefits based on impact and turn those guidelines into "best practices" for projects in Tiers 3 and 4. [See *Report § 4.8, Rec. 27*]

Case manager.* GMP argued that requiring all communication to go through a single case manager would cause an unnecessary bottleneck in the regulatory process. The company suggested that the Department use this position primarily as a consultant to the public parties to help them engage with the process. [See *Report § 4.6, Rec. 11*]

Clarity of costs.* With several additional costs to developers proposed, including bill-back and application fees, REV noted that the Commission has not issued any concrete estimates as to the total additional funds that may be required. Such ambiguity, REV argues, may threaten project financing options for developers. [See *Report § 4.8, Rec. 28; § 4.7, Rec. 26*]

Review period for changes.* If any of the changes suggested by the Commission are implemented, REV recommended that there be a review period before the changes become permanent. The organization argued that changes should be evaluated for their efficacy, effect on cost, and effect on the regulatory timeline. [See *Report § 5*]

Publicly funded projects.* REV noted that energy generation development in Europe has been less controversial largely because projects are financed through the public means or through organized coops. REV suggests that public funding and

financing could help to remediate some of the controversy surrounding project development. Several commenters noted that this notion of a state role for planning in generation runs counter to the historical role of the private sector in identifying likely generation sites and initiating projects with the state in a reactive role, evaluating projects on an application-by-application basis. Several members of the public who spoke at hearings were strongly in favor of publicly owned and financed generation projects. [See *Report § 2.2*]

7.3 Independent Review

Monitoring.* Nearly all citizen and non-governmental organization commenters who addressed monitoring agreed that the impact of projects should be overseen by an unbiased, independent group rather than developer-hired experts. VCE expressed concern that in some cases, water sampling sites were over one mile from the construction and operation site of a project. VCE suggested that such sampling would not adequately capture impacts to important headwater areas, especially in the case of large wind facilities, which are often located on ridgelines in headwater areas. Particularly in the case of bird and bat mortality, commenters felt strongly that independent monitors should be responsible for observing and noting bird and bat deaths and injuries, and that monitoring reports should be made public. VCE wrote that third-party, independent monitoring may be needed for impacts to birds and bats. The group suggested that information collected by monitors be made public in a timely manner. [See *Report § 4.7, Rec. 26*]

Monitoring by agreed-upon third parties.* GMP suggested that if parties agree on third-party monitors, the list should include at least three monitoring organizations because requirements to utilize one specific firm may reduce competition in the marketplace and unnecessarily increase the cost of monitoring. GMP suggested that if parties cannot agree on third-party monitoring firms, the Board should review the resumes of the proposed firms and identify the three most qualified firms which the applicant could use. REV wrote that the draft recommendations were vague as to when third-party monitors would be required and suggested that the Commission identify a limited set of highly specific issues that may warrant third-party monitoring. [See *Report § 4.7, Rec. 26*]

8. Ensure Adequate Environmental, Health, and Other Protection

This general topic was one of the most commented upon by the public. Concerns were broad and ranged from the composition of the Board to climate change. Common themes that emerged were the need to consider natural resources impacts during siting and the need to define criteria related to health and natural resources more concretely. Comments in this area fell into six general categories: general comments; concerns about climate change; impacts to wildlife and habitat; scenic impact of proposed projects; concerns about health; and concerns about water resources.

8.1 General Comments

Natural resources expertise at the Board.* The Wilderness Society noted that the Board may properly impose conditions that are more stringent than those specified in ANR permits, but that there is currently no dedicated staff person or Board member with natural resource experience. The organization noted that in most other states, the entities that make siting decisions include parties with considerable natural resource expertise, and it contended that it is critical to have someone with such expertise because value judgments must be made that trade off environmental versus financial costs and benefits. VCE argued that the ANR permitting process is not open to public participation and input and that ANR's permits should therefore not be given deference. VCE argued that there is no transparency or administrative record taken during the ANR permitting process, and so the Board should not give ANR permits deference. [See *Report § 4.1*]

* indicates comments received in direct response to draft recommendations issued by the Commission
Public Involvement Report, Vermont Energy Generation Siting Policy Commission, 2013
p. 20 of 25

Impacts to areas outside Vermont. Many individual commenters noted that Vermont is imposing the costs of its energy infrastructure on other areas because the state imports almost all of its energy. Commenters advocated for the development of in-state energy generation so that Vermonters could share in both the costs and benefits of energy generation. Other commenters noted that some communities, especially in Quebec, have been displaced by the development of hydropower. Others pointed to the damaging impact that coal extraction has on the ecology and social systems of coal-producing regions. Overall, this group of commenters felt that Vermonters should take responsibility for their energy consumption by siting generation within the state of Vermont. [See *Report §§ 1.2; 2.1; 2.2*]

“We need to take responsibility for our own energy usage. It’s simply not right that our continued use of energy is causing severe negative impacts to communities in other places.”

- Donia Prince

Out-of-date criteria.* VNRC advocated for the Board to update the Section 248 the criteria to better protect natural resources, especially to address the issues of hydrology, fragmentation of habitat and forestland, and climate change. VNRC also argued that developers should be required to estimate the greenhouse gas (GHG) emissions (or avoided emissions) of their projects then be rewarded or penalized based on those estimates. VPIRG wrote that climate change is the most significant environmental issue society faces today and that a project’s capacity to reduce GHG emissions should be incorporated in determining the overall environmental impact. [See *Report §§ 4.1, 4.7, Rec. 22*]

Cumulative impacts under all Section 248 criteria.* The Wilderness Society argued that secondary and cumulative impacts analyses are clearly required by National Environmental Policy Act for projects with federal involvement. The group argues that even if in other areas of infrastructure development, the state is not sufficiently accounting for cumulative impacts (such as highways), energy infrastructure planning should still strive to take into account cumulative impacts. The group suggested that cumulative impacts should be considered under all Section 248 criteria. [See *Report § 4.7, Rec. 25*]

8.2 Climate Change

“Climate change is the most pressing environmental issue of our time ... a strategic but bold response is required in Vermont and across the globe.”

- Vermont Natural Resources Council

Report §§ 2.1; 2.2; 4.1; 4.7., Rec. 22

Habitat impacts. Several commenters, including VNRC and Sierra Club’s Vermont Chapter wrote that because renewable energy is necessary to mitigate climate change, policies that hinder its development may ultimately result in major impacts to habitat including invasive species, decreased or changing ranges for plants and animals, and extinction. Commenters felt that these impacts must be taken into account in the siting process. [See

Financial impact. Several commenters, including REV, wrote that climate change is already having enormous financial impacts on Vermonters. These commenters felt that low-carbon energy development should be sped up to help mitigate the financial risks of climate change, including risks from extreme flooding events like Tropical Storm Irene in 2011. Some commenters pointed to recent research indicating that most of the ski resorts in the state will not be economically viable in the coming decades due to climate change. These commenters argued that climate change would affect the economic base of the state, causing substantial financial disruption. [See *Report §§ 2.1; 2.2*]

“Although (climate change is) a global issue, corrective action must be taken locally.”

- Charles McKenna

Climate justice. Some commenters, especially members of the public who spoke at public hearings, pointed out that climate change is having a more dramatic impact in other parts of the world than it is in Vermont. These commenters advocated for the rapid development of renewables in Vermont to mitigate climate change for social justice reasons. They pointed to the

* indicates comments received in direct response to draft recommendations issued by the Commission
Public Involvement Report, Vermont Energy Generation Siting Policy Commission, 2013

damage that climate change has done to island nations experiencing sea-level rise and to northern cultures, such as the Inuit, who are experience dramatic changes in their historical homelands due to warming temperatures in the Arctic. [See *Report* §§ 2.1; 2.2]

“Climate change is the critical environmental issue of our time. In reviewing the environmental or cumulative impacts of a particular project, the project’s capacity to reduce climate emissions must be the utmost consideration.”

- Vermont Public Interest Research Group

Forest sequestration of greenhouse gasses. Some commenters noted that forests sequester carbon, offsetting GHG emissions. These commenters felt that any project that reduces the forest’s capacity to absorb and sequester carbon should be evaluated on the basis of whether the low-carbon energy it would generate would more than account for the impact on

forests’ sequestration capacity. [See *Report* §§ 2.1; 2.2; 4.7. *Rec.* 22]

The sale of renewable energy certificates. Several individual commenters were concerned that the sale of renewable energy certificates (RECs) eliminates the benefits of CO₂ reduction that any renewable projects would have. The sale of RECs to utilities in other states, they argued, means that projects in Vermont have no additional climate benefit because renewable generation in Vermont would merely displace renewable generation elsewhere. These commenters advised the Commission to recommend against the sale of RECs. [See *Report* § 2.2]

Federal Trade Commission (FTC) guidelines regarding the sale of RECs. Several individual commenters at the Lowell public hearing raised the issue of how renewable energy projects should be described if the RECs were being sold on the New England market. Commenters pointed out that FTC guidelines state that to refer to energy as renewable it must be coupled with its RECs. In several cases where RECs had been sold (decoupled from the energy itself), developers, state officials, and utilities had still referred to the energy as “renewable.” [See *Report* § 2.2]

“What we are doing ... is selling the renewable energy credits to out-of-state, coal-fired electric plants ... so that on paper they claim alternative energy production.”

- Glenda Nye

8.3 Wildlife

“Environmentalists are turning a blind eye to the ecological costs of renewable energy.”

-Rob Pforzheimer

Birds and bats. Several commenters argued that the impact of wind turbines on bird and bat populations may be significant, especially in areas that have been heavily developed and especially given the threat of white-nose syndrome in Vermont. Some commenters suggested that Vermont should study the cumulative impacts of wind development on bird and bat populations. [See *Report* §§ 4.1; 4.5, *Rec.* 9]

Terrestrial vertebrate habitat. Many commenters expressed concerns for the large mammals and other terrestrial vertebrates of the state. Some species, such as bobcat, black bear, and fisher, require intact habitat blocks, and some commenters argued that wind developments could fragment these blocks. Others noted the threat that climate change poses to the critical habitat of these animals, writing that it will forever alter many of the habitat corridors where Vermont’s black bear and bobcat travel today. [See *Report* §§ 4.1; 4.5, *Rec.* 9]

Conservation easements. Some commenters suggested that when an energy project has a large footprint, developers should be required to purchase conservation easements to offset the loss of habitat. Other pointed out that many developers already purchase easements to offset the impact of their projects. REV noted that four wind facilities in Vermont that directly impacted 190 acres of land resulted in the conservation of 5,608 acres elsewhere in the state as required by the Board

through the Section 248 process. Several commenters suggested that the easements should be purchased in “priority” areas for conservation under regional and local plans. [See *Report § 4.3, Rec. 4*]

Cumulative wildlife impacts. Some commenters suggested that the Board should consider the potential cumulative impacts on interior forest, intact ridgelines, and landscape connections by looking at the ultimate build-out of future projects. Many commenters recognized that the question of cumulative impacts is best addressed through conscientious planning. The commenters argued that a project-by-project evaluation offers no opportunity to ensure that the “best” sites from an environmental point of view are developed first or that impact to habitat is mitigated by appropriate conservation elsewhere. Some impacts could be offset through compensatory mitigation measures such as minimizing road construction and locating projects away from priority wildlife areas. [See *Report § 4.7, Rec. 25*]

Property values. Many individual commenters expressed concerns that energy development in the state has negatively affected property values. They pointed to studies conducted of property values before and after the installation of an energy project to contend that allowing generation to proceed diminished the value of properties near the generation. Several others contended that property values had not fallen as a result of energy development in the state. [See *Report § 4.8, Rec. 27*]

8.4 Scenic impact

Cumulative viewshed impacts. Several methods for evaluating cumulative impacts were suggested. Both individuals and the Green Mountain Club were concerned that remote areas of the state where outdoor enthusiasts and tourists travel to experience wilderness could be compromised by energy generation development. One commenter suggested that one way to evaluate the cumulative visual

“Viewing locations that offer sweeping long distance vistas such as open areas, alpine areas, cliffs or fire towers are considered more sensitive.”

-Green Mountain Club

impacts of various projects would be to draw a 10-mile radius around each project, existing and proposed. Where those circles overlap, cumulative visual impact could be considered. Some individuals noted that towns adjacent to developments experienced viewshed impacts, but did not receive compensation. [See *Report § 4.8, Rec. 27*]

Inventory of scenic resources. One commenter suggested that Vermont should identify areas with outstanding scenic value and provide an expedited permitting process for projects not located in these areas. It was suggested that this measure would preserve the scenic resources of the state viewed as critical to Vermont’s tourism industry. [See *Report § 4.8, Rec. 27*]

8.5 Health

“The American Lung Association supports life-cycle analyses of greenhouse gas emissions and recommends the same requirement for health-damaging pollutants including ozone, sulfur dioxide, nitrogen oxide, PM2.5, carbon monoxide and lead.”

- Rebecca Ryan, American Lung Association of the Northeast

Health impact assessments. Harry Chen, the Vermont Commissioner of the Department of Health (DOH), suggested that health concerns should be integrated into the siting process for all generation types, and developers should be required to conduct an assessment of the project’s anticipated health impacts. DOH suggested that assessments should include measurements of predicted (or avoided) pollutants such as ozone, sulfur dioxide, nitrogen oxide, PM2.5, carbon monoxide, and lead. DOH recommended that a new position be created at DOH to evaluate the validity of these assessments, and that developers should be required to validate their health impact modeling by collecting real data about

emissions, noise, light, and other health concerns several years after the project is completed. Several other commenters agreed with these recommendations, including the American Lung Association of the Northeast. [See *Report § 4.7, Rec. 24*]

Health benefits of renewables.* A few commenters wrote in to urge the Commission to envision policies that promote renewables because renewables emit fewer air pollutants and cause less pollution during extraction operations than traditional fossil fuels. The American Lung Association wrote in with concerns about the severe impacts of air pollution associated with oil, coal, gas, and biomass plants on vulnerable populations, especially the elderly and those with asthma. The Association urged the Commission to require an assessment of these impacts with each application. [See *Report §§ 2.2; 4.7, Recs. 21 and 24*]

"We live a mile and a half from the project to the north, and we were told we would not hear it past 1,000 feet. We can hear it loud and clear."

- Robbin Clark

Noise complaints.* VCE argued that noise standards currently used in the siting process allow levels of noise which are harmful to human health and suggested that at all large-scale wind facilities, developers be required to set back the turbines from the property line by 1.1 times the height of the turbine. Many other individual commenters noted that they were able to hear large-scale wind turbines near their homes. Commenters reported symptoms including headaches, nausea, and sleeplessness due to audible noise. [See *Report § 4.7, Rec. 21*]

Low-frequency noise. Several commenters submitted copies of a new study conducted in Wisconsin titled, *A Cooperative Measurement Survey and Analysis of Low Frequency and Infrasound at the Shirley Wind Farm in Brown County, Wisconsin*, showing that low-frequency noise, beyond the range of human hearing, was correlated with nausea, headaches, and dizziness amongst some residents near wind farms. Many residents who live near wind farms wrote in to tell the Commission about symptoms similar to those experienced in the study. Commenters who addressed low-frequency noise generally agreed that there is a need for epidemiological research by health professionals and acousticians to develop effective and precautionary setback distances for large-scale wind farms, since they believe that noise at existing industrial wind facilities in Vermont have caused negative health impacts to residents. VCE noted that in previous cases, the Board has adopted the opinion of developer experts that low-frequency noise was not a health risk and suggested that the Board more seriously consider expert testimony provided by citizen groups regarding low-frequency noise. [See *Report § 4.7, Rec. 21*]

"I have concerns about the medical consequences of sleep deprivation. I think that this is a very valid issue in terms of proximity to where people live with wind turbines."

- Stan Shapiro

Location for biomass. Several commenters expressed concerns about the air quality impacts of biomass generating facilities, which burn biomass (usually wood) to generate electricity. They noted that locating biomass plants near fuel sources cuts down on the impact of transporting the fuel, and locating them away from residential neighborhoods can reduce impacts to air quality and health. [See *Report § 4.7, Rec. 22*]

Safety concerns. A few commenters pointed to safety issues associated with large wind turbines at wind facilities in Vermont. Commenters mentioned several accidents in Europe and Australia in which turbines caught on fire or came apart at the nacelle, apparently injuring people or wildlife. [See *Report § 1.2*]

8.6 Water resources

More protections for water.* VNRC recommended that the state develop an integrated hydrology protocol to evaluate potential impacts of projects to water resources rather than a piecemeal consideration of impacts on specific water features, for example wetlands, streams, and riparian areas. VCE pointed out that the Board has previously authorized the filling of

Class A1 headwater streams which is problematic for water quality and aquatic ecosystems. VCE also pointed out flaws in using level spreaders to improve water quality at project sites. The group argued that generally level spreaders are not recommended or permitted elsewhere for slopes greater than 15%, but in the case of the Lowell wind site, many level spreaders occur on slopes greater than 15%. VCE also pointed out that the Board has previously allowed development above 2,500 feet and recommended against such high altitude development because of the risk it poses to headwaters. [See *Report § 4.7, Rec. 22*]

Aquatic habitats. Many commenters voiced concerns about the protection of aquatic habitat, noting that development of any type of generation resource may impact water quality because of increased sedimentation and possible nutrient loading. Some were concerned that current measures being taken to protect water quality, like swales and drainage ditches, are inadequate. [See *Report § 4.7, Rec. 22*]

Water quality impacts of explosives.* VCE raised the issue of potential water contamination from explosives used in blasting. The group argued that for every million pounds of explosives used, 9,000 gallons of fuel oil were injected into the aquifer and that injecting such a volume of explosives into the ground should require analysis of ground water quality. The group recommended that the Board require monitoring of water quality during blasting to test for contamination. [See *Report § 4.7, Rec. 22*]