Siting Electric Generation in Vermont

Analysis and Recommendations

Energy Generation Siting Policy Commission

A Report to the Governor
and the Vermont General Assembly

(April 2013)

The Commission would like to recognize the hundreds of individuals and organizations
who took the time and thought to share their concerns, experiences and suggestions.
It is a tribute to the unique nature of Vermont and its citizens that
so many care so deeply.

The Commission is deeply indebted to Linda McGinnis for her untiring, intelligent and good-humored support of the Commission. Ms. McGinnis' dedication is much appreciated. The Commission also wants to acknowledge and thank Joan White, Research Assistant (UVM) and the staff of several agencies for their tireless support, including Billy Coster (ANR), Anne Margolis (PSD), Sheila Grace (PSD), Ed McNamara (PSD), and Asa Hopkins (PSD), along with many other dedicated staff.

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Acronyms

ACCD – Agency of Commerce and Community Development
ANR – Agency of Natural Resources
CEP – Comprehensive Energy Plan
CHP – Combined Heat and Power
CPG – Certificate of Public Good
CT - Connecticut
DOH – Department of Health
EGSPC – Energy Generation Siting Policy Commission
GHG – Greenhouse Gas
GMP – Green Mountain Power
ISO NE – Independent System Operator New England
KCW – Kingdom Community Wind
kW – Kilowatt
MA - Massachusetts
ME - Maine
MW – Megawatt
NE – New England
NEK – Northeast Kingdom
PEP – Public Engagement Plan
PSB – Public Service Board
PSD – Public Service Department
REC – Renewable Energy Certificate
RI – Rhode Island
RPC – Regional Planning Commission
RPS – Renewable Portfolio Standard
Section 248 - 30 V.S.A. § 248 (Vermont's Statute governing electric generation siting)
SPEED – Sustainably Priced Energy Enterprise Development
UVM – University of Vermont
VAAFM – Vermont Agency of Agriculture, Food and Markets
VEC – Vermont Electric Cooperative
VELCO – Vermont Electric Power Company
V.S.A. - Vermont Statutes Annotated
VY – Vermont Yankee
WEC – Washington Electric Cooperative

Executive Summary

Purpose (See Section 1): Governor Peter Shumlin formed the *Energy Generation Siting Policy Commission* (Commission) by Executive Order (No. 10-12) on October 2, 2012. The Commission was tasked with providing guidance and recommendations on best practices for the siting approval of electric generation projects larger than the net metering threshold, and for public participation and representation in the siting process. These recommendations are to be presented to the Governor and the chairs of several legislative committees: House Natural Resources and Energy, Senate Natural Resources, House Commerce, and Senate Finance by April 30, 2013.

Context (See Section 2.1): The work of the Commission is carried out in the context of the goals and targets contained in the State's Comprehensive Energy Plan (CEP) and related statutes, as well as the impact of these targets on the electric generation siting process in Vermont. The Administration's CEP goal of 90% renewable energy across all energy sectors by 2050 is flexible about the proportion of overall energy that comes from renewable in-state sources, as well as the proportion of renewables provided from the electricity sector. Separately, the Legislature has adopted a number of statutory energy goals, some of which set specific electric and in-state targets for renewable energy as short and medium-term targets, including

- By 2022: 127.5 MW of new *in-state* renewable *electric* generation contracts provided through the Standard Offer program of SPEED (30 V.S.A. § 8005a(c))
- By 2025: 25% of all energy from *in-state* renewables (10 V.S.A. § 579(a))
- By 2028: 50% reduction in greenhouse gas emissions; 75% by 2050 (10 V.S.A. § 578(a))
- By 2032: 75% renewables in electric sales (30 V.S.A. § 8005(d)(4)(A)

Consequences for Siting (See Section 2.2): The number and types of electric generation siting dockets coming before the Public Service Board (PSB) have changed dramatically over the past decade. In contrast to the period from 2000 to 2003, when the PSB reviewed no electric generation siting applications, the past decade has seen consistent growth, reaching an average of 16 dockets per year over the past three years. Though much of the increase is explained by the initial flurry of Standard Offer projects, some of the larger, more controversial projects are not a result of the Standard Offer (i.e. are over 2.2 MW). Many of the issues associated with these dockets raise new land use, natural resource, and health impacts requiring updated siting guidelines and regulations. The processes presently followed for siting approval (30 V.S.A. § 248) and permitting were put in place many years ago, at a time when only a few centralized electric power plants existed in Vermont. The change toward greater use of in-state renewable electric generation over the past decade, the expansion of merchant rather than utility-based generation, combined with an anticipated continuation of this growth as we move towards greater demand for electricity in the future, requires a fresh look at whether the processes we currently employ for review and approval of electric generation projects should be modified and improved.

Commission Goals: The Commission understands that to achieve the State's clean energy goals, we must have processes for in-state permitting and approvals that create public trust, and consider the economic and environmental costs and benefits of each project both individually and cumulatively. The Commission believes that Vermont can address potentially competing interests and advance clean energy projects efficiently while also protecting the state's natural resources. An effective and efficient siting process is essential to achieve this. With this in mind, the Commission is particularly focused on recommendations related the following aspects of the siting process:

- The role of – and opportunities for - public participation and representation.
- Process uniformity, transparency, and efficiency.
- Adequate protection from negative environmental, cultural, and health impacts.
- Ensuring that the *best* rather than *easiest* sites are selected by maintaining a process that rewards appropriately sited projects, thus making the process easier and more predictable for all parties.
- Encouraging projects that are community-led with the aim of increasing project acceptance and reducing costly contestation of projects for all parties.
- Avoiding unintended consequences, including keeping the budgetary and retail rate consequences of the recommendations to a minimum

What the Commission heard (See Section 3): Over the course of six months (October 2012-April 2013), the Commission held a series of meetings, site visits, deliberations and public hearings across Vermont, with the purpose of hearing from the widest possible range of perspectives. In addition, in accordance with its charge, the Commission also invited state electric generation siting entities from all of the New England states and beyond to share their practices. All meetings and deliberations were held in public, and the Commission heard testimony and received written comments from hundreds of Vermonters. All of the meetings were recorded either through professional transcript or video, and all presentations are posted in their original form online at http://sitingcommission.vermont.gov. A separate companion volume summarizing the public comments will accompany this report.

Siting electric generation has become a topic of widespread discussion in the public and the Legislature in recent years. The range of comments and testimony received by the Commission spanned a broad spectrum of experience and opinion. Nonetheless, there are several common themes that emerged:

- The nature of electric generation technology and siting has changed considerably, engendering new questions of land use, natural resource and health impacts that did not exist a decade ago.
- Because of this, new guidelines and procedures need to be developed to address these issues.
- The current siting process, while rigorous, lacks sufficient clarity, transparency, and predictability. Many parties feel that important information is difficult to obtain in a timely fashion and is perceived to fall into a 'black box'.
- Certain towns, communities, regions, and individuals feel that under the current process, the public lacks sufficient time, guidance, and resources to adequately plan for or respond to projects proposed for their communities.
- The combination of these concerns has contributed to a process that is both lengthier and more costly than necessary for all parties.
- While generally there is widespread support for moving towards a renewable energy future in Vermont, there is a need to understand what that path will look like, while ensuring adequate protection of our natural resources and health.

Summary Recommendations (See Section 4): In response to the core concerns outlined above, the Commission proposes the following package of recommendations to improve the siting process for electric generation in Vermont. They should be examined in the context of the overall system of energy generation and transmission infrastructure that is needed to implement the state's energy and land use policies. The recommendations focus on increasing the opportunities for public participation early in the planning and project proposal process with the expectation that

stronger involvement early in the process will result in better projects being submitted, and a more expedient approval in the end. They also focus on improving the overall transparency, efficiency, and predictability of the process itself, ensuring broad access to all key information and more direct assistance from the PSB staff itself. Finally, they seek to address new environmental, health, and other concerns that have emerged over the past decade.

The recommendations are presented as a package because they are interlinked, reinforcing one another, such that pursuing some in the longer-term absence of others could lead to unintended consequences. That said, many of the recommendations could be implemented almost immediately, while others will require further refinement, rulemaking, or statutory change. Appendix 2 outlines these categories to help establish an expedient timeline for implementation. The Commission advocates that the current processes under Section 248 remain in place during the period when any necessary rulemaking, statutory changes, or budgetary increases are addressed.

The recommendations fall within five broad themes:

- *Increase emphasis on planning at state, regional, and municipal levels, such that siting decisions will be consistent with Regional Planning Commission (RPC) plans.* Central to this is the need to develop a 'roadmap' for how Vermont can meet its CEP goals and accompanying statutory energy targets, taking into account Vermont's commitments to a more distributed, renewable energy future as well as protecting its natural resources. This will require building multiple economic and land use scenarios and working in collaboration with regional and municipal planning commissions. Careful planning at all levels will help ensure that electric generation projects are sited, whenever possible, in the best places with adequate prior public input. Ultimately, the Commission feels that the combination of more planning and public input early in the process will help expedite later stages, thereby reducing time and costs for all involved.
- *Adopt a simplified tiered approach to siting* to achieve a quicker, more efficient review of a greater number of small or less-controversial projects while focusing the bulk of PSB time and effort on the evaluation of larger or more complex projects. The goal is to encourage more community-led projects, as is called for by the CEP, while simultaneously providing greater opportunities for public participation in larger projects. Likewise, it is intended to provide greater clarity and predictability for all parties. The Commission recommends a four-tiered system, where projects are classified by size. The Commission also recommends developing an incentive structure within the tiers to accommodate and support community-led projects and those that are designated priorities for municipalities or regions. (See Appendix 6 for suggested details on the Simplified Tier structure.)
- *Increase the opportunities for public participation*. The Commission acknowledges the need to increase opportunities to both inform and address public aspirations and concerns in the electric generation siting process. The emphasis on energy planning at the regional and municipal levels is a key factor to address this. In addition, the Commission recommends several specific process modifications related to the Simplified Tier structure that focus on increasing accessibility to information, guidance and opportunities for participation.
- *Implement procedural changes to increase transparency, efficiency, and predictability in the siting process*. The Commission recognizes that the dramatic increase in the numbers and types of electric generation dockets before the PSB requires important refinements in the current processes to provide greater clarity, accessibility, transparency and predictability in the process to all parties. The Simplified Tier process incorporates a number of detailed recommendations to this effect.

- *Update environmental, health, and other protection guidelines (on a technology basis, where necessary).* As a broader range of electric generation technologies are deployed at an increasing rate and related siting issues evolve, the Commission recognizes the central role of providing clear and accessible guidance wherever possible to ensure that all parties in the siting process are adequately informed. The Commission recommends that specific guidelines and checklists be developed by the relevant agencies - Agency of Natural Resources (ANR), Public Service Department (PSD), Department of Health (DOH), and Agency of Agriculture, Food and Markets (VAAFM) - to reflect the changing electric generation landscape. These guidelines must be made publicly available, in clear layperson terminology on an improved PSB siting website, and based on peer-reviewed scientific literature.

What follows is a summary of the Commission's recommendations, categorized by theme. Details on each recommendation can be found in Section 4.

Increase Emphasis on Planning

1. The PSD shall develop a state roadmap for meeting Vermont's statutory energy targets and CEP goals through scenario planning to enable policymakers to understand a range of potential paths for: the mix of in-state and out-of-state energy sources; the anticipated mix of technologies; areas of high and low potential for energy siting; economic and environmental costs and benefits; and the broad parameters for cumulative impact. This will also provide RPCs with essential guidance to carry out their own energy planning so as to contribute to overall state energy goals.
2. RPCs shall develop energy guidelines, policies, and land use suitability maps as part of their regional plans in order to identify high/low potential areas for electric generation siting consistent with legislated energy goals and the CEP. The PSD/ANR will provide the necessary guidance, tools, training, and resources to RPCs to work with municipalities to develop plans that reflect their geographic characteristics as well as their energy generation, conservation, and efficiency priorities.

    - By updating regional plans to include these guidelines, policies, and land-use suitability maps (to be defined in relevant statutes), RPCs shall have formal party status and their plans shall be given '***substantial consideration***' (i.e. greater weight) under 30 V.S.A. § 248 in the siting process.
    - If determined by the PSD to be consistent with legislated energy goals and the CEP, the plans shall be '***dispositive***' under 30 V.S.A. § 248 in the siting process.

3. As a top priority for legislative attention, RPC planning costs must be adequately funded in order for these recommendations to be meaningful (estimated initial cost of $40,000 per region, to be administered by the PSD). Regular updates of these plans will be necessary and should also be adequately funded.
4. Municipal plans found to be compatible with the revised regional plans shall be given '*substantial consideration*' (i.e. greater weight) by the PSB in the siting process. Currently 30 V.S.A. § 248(b)(1) requires that the PSB give '*due consideration*' to recommendations of the municipal planning commissions and legislative bodies, and the land conservation measures contained in the plan of any affected municipality.

Simplify Tier System

5. The PSB shall implement a Simplified Tier system to achieve a more efficient review of a greater number of small or less-complex projects while focusing the bulk of PSB time and effort on evaluation of larger, more complex projects. The four-tiered system would classify projects by nameplate capacity. Each tier would be accompanied by a clear checklist of requirements, available on the improved PSB siting website (see Recommendation #19), and would require increasing levels of requirement for public participation. The suggested tiers are as follows (see Appendix 6 for details):
   - *Tier 1: Application Form Process* (< 500kW, the size of many school, municipal & farm-methane projects)
   - *Tier 2: Simplified Process* (≥ 500kW to ≤ 2.2MW, the equivalent of the Standard Offer limit)
   - *Tier 3: Standard Process* (>2.2 MW to <15MW)
   - *Tier 4: Larger-Scale Process* (≥ 15MW)
6. Develop an incentive structure within the Tiers. In order to encourage projects that are community led, or reflect the top priorities of a given municipality or RPC, the Commission recommends developing an incentive structure within the tier system to enable these projects to be expedited. If a particular electric generation project has the full support of a municipality or RPC, it should trigger a more expeditious process in the proposed new tiers.

Increase Opportunity for Public Participation

7. Establish a 'trigger point' whereby the public is notified of when scoping meetings with ANR and PSD begin and documents exchange hands. This date will be made public on the improved PSB siting website (see Recommendation #19).
8. Provide earlier notification to the public in both Tier 3 and Tier 4 projects. In Tier 3, the notification period should be increased from 45 to 60 days to all affected municipalities. In Tier 4, the period should be increased from 45 to 90 days. In addition, the PSB shall review PSB Rule 5.403 to ensure that the rule provides sufficient notice to all affected municipalities. This definition may need to be assessed on a case-by-case basis.
9. Add increasing levels of public engagement requirements to Tier 2, Tier 3 and Tier 4 project applications (see Section 4 for more details).
10. Provide RPC funding support, if requested, on a cost-share basis from the time the RPC receives official notice of the project. The funding support would be for RPCs that have completed the planning process and would be applied to expenses associated with experts, staff time, attorneys and other related 'party' costs.

Improve the Siting Process for Increased Transparency, Efficiency and Predictability

11. The PSB shall hire a Case Manager to provide guidance on all aspects of the siting application process to all parties, particularly as they relate to timing. The PSB shall also enable Hearing Officers to have procedural discussions with parties or the public.
12. The PSB and PSD shall collaborate to design and implement an online case-management / docketing system. To further facilitate the process, this system should also have e-filing capacity.

13. Develop specific checklists for each Tier to establish when an application is 'deemed complete'. These checklists would include the specific maps, studies and assessments required by ANR and any other information required by PSB, and may need to vary by technology.

14. Require concurrent timing of ANR permit filing and application for a Certificate of Public Good (CPG). An applicant would be required to file complete applications for any necessary ANR (or federal) permits as part of its CPG application in order for the CPG application to be deemed complete.

15. Establish clear timelines for the initial stages of a Section 248 docket (e.g., PSB shall hold a pre-hearing conference within 14 days of an application being deemed complete).

16. ANR shall respond to permit applications consistent with ANR's permit performance standards. Include these timelines in an online docketing system, accessible by all parties.

17. Establish overall performance standards for a PSB decision on a CPG by Tier: e.g., three months for Tier 1, six months for Tier 2, nine months for Tier 3, and twelve months for Tier 4. For good cause shown, the PSB may extend the deadline for its final determination regarding the project, either at the request of a party or on its own.

18. Use a 'rebuttable presumption' for ANR permits. An applicant may choose to provide affirmative testimony that it will satisfy the environmental criteria under Section 248(b)(5), or, if a permit is required, it may rely on the issuance of the permit to demonstrate that it has satisfied particular criteria. To the extent that the applicant relies upon the permit, there shall be a rebuttable presumption that the permit demonstrates compliance, provided that the project is constructed and operated in conformance with the permit requirements. Absent the introduction of contrary evidence, the PSB will consider the issuance of the permit to demonstrate compliance with the specific criteria.

19. PSB shall ensure that the improved siting website design incorporates a 'one-stop shop' for all siting information, and includes: a) accessibility by all parties; b) a Frequently Asked Questions (FAQ) section written in clear layperson terminology; c) required checklists for the Simplified Tiers; d) a docket-management system to signal when new timelines are met (or not); e) guidelines and standards by permit, study and technology for all relevant agencies, including but not limited to ANR, PSB, PSD, DOH, and VAAFM (in addition to any necessary links between PSB docket numbers and ANR permit numbers and related website information); and f) access to historical docket records and orders, easily searchable for precedents (and free to the public; note that this may require procedural and statutory changes); g) a section where the 'trigger' point for new projects is signaled (see Rec #8); and h) all project monitoring reports.

20. PSD shall also update its website to serve as the pre-application site for relevant public information. The site should clearly note projects in the pre-application phase, and include notice of contact information, public review opportunities, and other similar information that would assist the public in engaging in the project review and discussion stages outlined in the proposed tiers. This website should also serve as a resource for post-construction comments and reporting on monitoring and other activities of the PSD.

Ensure Adequate Environmental, Health, and Other Protection

21. All relevant agencies - ANR, PSD, VAAFM and DOH shall update environmental protection and other standards and guidelines (on a by-technology basis, where relevant). These guidelines should be made

publicly available on an improved PSB siting website, in clear layperson terminology and based on peer-reviewed scientific literature, as well as established land use policies and priorities.

22. When determining a project's impact, the PSB should give '*substantial consideration'* (i.e. greater weight) to Act 250 criteria as part of the siting process review. The Natural Resources Board should also consider reviewing and modernizing all of these same Act 250 criteria (10 V.S.A. § 6086(a)) to reflect new scientific understanding of impacts related to electric generation and global climate change.

23. The Agency of Agriculture, Food and Markets (VAAFM) shall become a statutory party in the siting process in cases where there is more than a *de minimus* impact on prime agricultural soils, soils of statewide significance or the project takes place on a farm as defined by the Accepted Agricultural Practices (AAPs).

24. The Department of Health (DOH) shall review national and international standards from peer-reviewed scientific literature regarding health impacts and monitoring systems by technology and provide guidelines, where possible, to be updated annually as science evolves. Applicants will provide public health impact assessments under Tier 2, Tier 3, and Tier 4 projects as per 30 V.S.A. § 248(b)(5). DOH shall become a statutory party in the siting process on these issues.

25. The PSB shall consider cumulative impacts in project review for siting electric generation. ANR and PSD shall develop guidelines and tools for understanding and measuring cumulative impact to be used in the planning, application, and monitoring phases of the siting process. From this work, they will provide specific guidelines for project applicants regarding cumulative impact assessments in Tiers 3 and 4.

26. All parties should agree on 3rd party monitoring experts to be funded by the petitioner, and overseen by the appropriate agency (ANR, PSB, PSD, DOH) for construction and post-construction phases of a project. If no agreement is reached, the PSB will assign an expert. All reports required in this process shall be placed on the new PSB siting website. Overall project compliance with monitoring shall be assigned to the PSD, including public complaint responsibility.

Cross Cutting Recommendations

27. Although many of the following points have been covered in the body of this report, the Commission recommends that the PSB pay particular attention to these issues in the near term as they relate to siting electric generation within its current jurisdiction: a) the public need for procedural advice throughout the application process (Case Manager); b) an improved PSB website including an online case management system; c) consideration of economic efficiency and least environmental damage, with particular attention to climate change; d) health issues; e) cumulative impacts, which may include aesthetic, grid, economic and health effects; f) potential effects on neighboring property values; g) consideration of view shed in accommodating participation of communities; h) setbacks; i) principal concerns raised at public hearings for the project; and j) a more efficient process for smaller, community sponsored projects.

28. The PSD shall make a recommendation to the legislature regarding funding options to cover the costs of an improved siting process. This would help address issues of increased demand for services in the siting process from relevant agencies (ANR, PSD, PSB, and possibly VAAFM and DOH).

Looking Forward

Based on the hundreds of documents, expert testimony and public comments received over the past six months related to Vermont's electric generation siting process, the Commission has concluded that there is a need for the Section 248 process to be revised to address a shift in the size, scope, and pace of proposed projects over the last decade. In particular, the Commission acknowledges the need to move towards a process that is more open, accessible, and inclusive, while also providing greater clarity, predictability, and efficiency.

The Commission recognizes that the recommendations contained in this report provide *broad parameters* for more detailed work that will need to be carried out within and among the relevant agencies, the PSB, and the Legislature. This is commensurate with its role as a Commission, and the six-month time frame under which it worked.

Nevertheless, the Commission would like to point out that certain recommendations can begin immediately through administrative action, but may take an extended period to complete (e.g. state scenario planning and regional plan updates consistent with the CEP). However, other recommendations could be implemented in the very short-term and have immediate beneficial effect (e.g. hiring a Case Manager and implementing an electronic case management system at the PSB). Still others will require medium-term action, allowing the implementing agencies to have time to develop the details, establish rulemaking or pursue statutory changes (e.g. Simplified Tier system). The Commission has provided a preliminary proposal to help establish a potential timeline for implementation in Appendix 2, which will need to be reviewed by the relevant agencies and the Legislature. Once reviewed, the Commission recommends moving quickly on the simpler administrative actions and keeping the remaining Section 248 processes in place while the medium- and longer-term recommendations are completed.

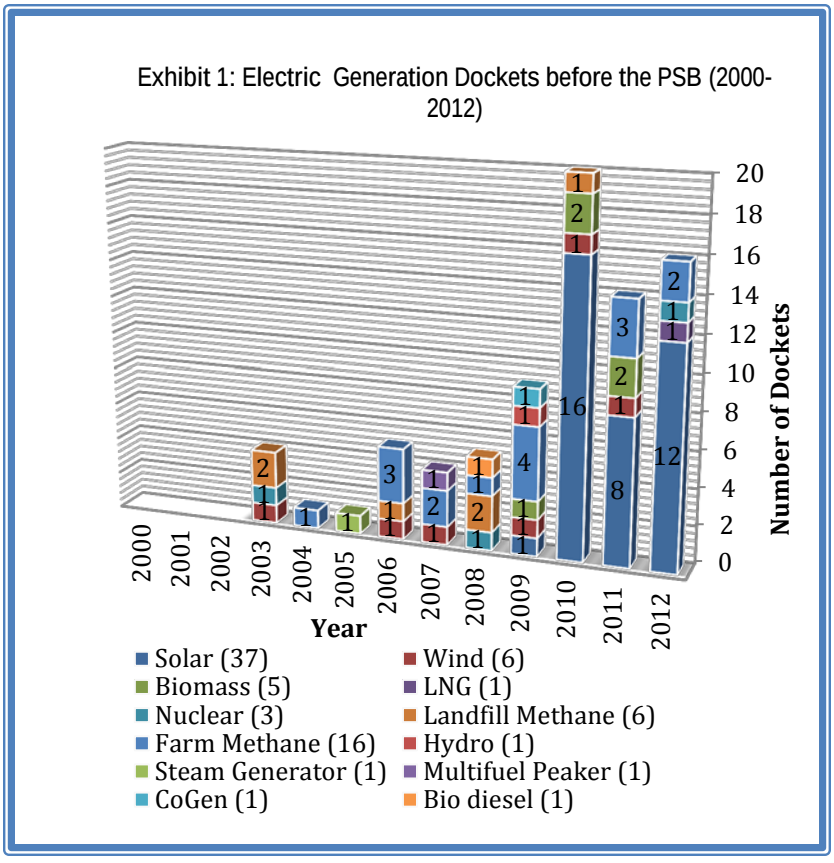
In this context, the Commission is willing to reconvene or to be available, upon request, to the Administration and the Legislature as they work through the process.

1. Introduction

The Comprehensive Energy Plan (CEP) was released in December 2011 with a goal that Vermont obtain 90% of its energy needs from renewable sources by 2050. It was developed after broad stakeholder and public input, with recognition of the important environmental and renewable energy goals put in place by our Legislature. Governor Shumlin noted in the CEP's forward, 'there is no greater challenge and opportunity for Vermont and our world than the challenge to change the way we use and produce energy.' Our climate, our energy independence, and our economic security depend upon it. This concern is underscored by a series of important legislative statutes that translate into law Vermont's commitment to transitioning our energy away from fossil fuels while protecting the natural resources that we cherish.

To achieve these goals, however, Vermont must have processes for in-state permitting of electric generation and approvals that create public trust and that consider the economic and environmental costs and benefits of each project both individually and cumulatively. Electricity is only a portion of Vermont's energy picture, but electric generation projects often engender substantial public debate. The public, legislators, developers and stakeholder groups have raised concerns ranging from the role of public participation and the adequacy of environmental protections, to the length, opacity, and expense of the process. While all energy choices involve tradeoffs that can cause opposition, broad public support for the processes used to approve energy projects is critical. The CEP recognizes that, 'we must balance what we love about Vermont – its fields, forests, and mountains – with responsibly sited electric generation projects.'

Exhibit 1: Electric Generation Dockets before the PSB (2000-2012)



The processes Vermont presently follows for siting approval and permitting under 30 V.S.A. § 248 were put in place many years ago, at a time when only a few, centralized electric power plants existed in Vermont. The change toward greater use of in-state renewable electric generation over the past decade requires a fresh look at whether the processes we currently employ for review and approval of electric generation projects should be modified and improved. As Exhibit 1 indicates, the number and variety of electric generation dockets before the Public Service Board (PSB) have increased dramatically in recent years. Like other 'public good' investments before them, such as interstate highways and affordable housing, these new investments, while contributing to our clean energy future, bring with them a host of issues that need to be carefully addressed. The Commission would like to underscore that, despite the absence of an updated

process to keep up with current conditions, the PSB has performed well in considering the new and varied issues of today's projects, albeit on a case-by-case basis.

In light of this new context for electric generation, Governor Peter Shumlin created the Energy Generation Siting Policy Commission by Executive Order on October 2, 2012 (Appendix 1). The Commission was tasked with providing guidance and recommendations on best practices for the siting approval of electric generation projects (other than net-metered or group net-metered), and for public participation and representation in the siting process. These recommendations are to be presented to the Governor and the chairs of the following legislative committees: House Natural Resources and Energy, Senate Natural Resources, House Commerce, and Senate Finance by April 30, 2013.

The five appointed Commissioners and two ex-officio members are:

- Jan Eastman (Chair), Former Secretary for the Agency of Natural Resources, and former President, Snelling Center for Government
- Gaye Symington, Executive Director, High Meadows Fund, and former Speaker of the House of Representatives
- Scott Johnstone, Executive Director, Vermont Energy Investment Corporation, and former Secretary of the Agency of Natural Resources
- Louise McCarren, Former Chair of the Public Service Board, former CEO of Western Electric Coordinating Council, and former Commissioner of the Public Service Department
- Tom Bodett, Municipal Representative to State E911 Board, veteran Selectman of Dummerston
- Deb Markowitz (Ex-Officio), Secretary of the Agency of Natural Resources
- Chris Recchia (Ex-Officio), Commissioner of the Public Service Department

What the Commission heard: Over the course of six months (October 2012-April 2013), the Commission held a series of meetings, site visits, deliberations and public hearings across Vermont, with the purpose of hearing from the widest possible range of perspectives. In addition, in accordance with its charge, the Commission also invited state electric generation siting entities from all of the New England states and beyond to share their practices. All meetings and deliberations were held in public, and the Commission heard testimony and received written comments from hundreds of Vermonters. All of the meetings were recorded either through professional transcript or video, and all presentations are posted in their original form online at http://sitingcommission.vermont.gov.

Siting electric generation has become a topic of widespread discussion in the public and the Legislature in recent years. The range of comments and testimony received by the Commission spanned a broad spectrum of experience and opinion. Nonetheless, there are several common themes that emerged:

- The nature of electric generation technology and siting has changed considerably over time, engendering new questions of land use, environmental and health impacts that did not exist a decade ago.
- Because of this, new guidelines and procedures need to be developed to address these issues.
- The current siting process, while rigorous, lacks sufficient clarity, transparency, and predictability. Many parties feel that important information is difficult to obtain in a timely fashion and is perceived to fall into a 'black box'.
- Certain towns, communities, regions and individuals feel that under the current process, the public lacks sufficient time, guidance, and resources to adequately plan for or respond to projects proposed for their communities.
- The combination of these concerns has contributed to a process that is both lengthier and more costly than necessary for all parties.
- While generally there is widespread support for moving towards a renewable energy future in Vermont, there is a need to understand what that path will look like, while ensuring adequate protection of our natural resources and health.

The Commissioners heard other concerns and suggestions in addition to these common themes, and have attempted to address the majority of them in this report. While many comments concerned large-scale wind energy, it is important to note that the Commission's charge is to assess the siting process for ALL electric generation sources, and the Commission's recommendations are applicable to this full range of sources.

What the Commission Recommends: In response to the core concerns outlined above, the Commission proposes the package of recommendations contained in Section 4 of this report to improve the siting process for electric generation in Vermont. These recommendations should be examined in the context of the overall system of energy generation and transmission infrastructure that is needed to implement the state's energy and land use policies.

The recommendations focus on increasing the opportunities for public participation early in the planning and project proposal process, with the expectation that stronger involvement early in the process will make for the submission of better projects, and a more expedient approval in the end. They also center on improving the overall transparency, efficiency, and predictability of the process itself, ensuring broad access to key information and more direct process assistance from the PSB staff itself. Finally, they seek to address new environmental, health and other concerns that have emerged over the past decade.

The recommendations are presented as a package because they are interlinked, reinforcing one another, such that pursuing some in the longer-term absence of others could lead to unintended consequences. That said, many of the recommendations could be implemented almost immediately, while others will require further refinement, rulemaking, or statutory change. Appendix 2 outlines these categories to help establish an expedient timeline for implementation. The Commission advocates that the current processes under Section 248 remain in place during the period when any necessary rulemaking, statutory changes, or budgetary increases are addressed.

1.1 Charges of the Commission

The Executive Order forming the *Energy Generation Siting Policy Commission* tasked the commissioners with seven specific charges (See Appendix 1 for E.O. No 10-12). Of these, the following aspects of Vermont's

approval of siting for electric generation were to be compared with other states in order to identify best practices, particularly those within New England's regional electric market:

1. *Procedures* for state-level approval (procedural mechanisms, timelines, substantive criteria, and standards)
2. Role of and/or opportunity for *public participation*, public advocacy, and municipal, town, or regional planning body participation in the approval process
3. *Alternative dispute resolution* processes
4. *Coordination and timing* of state-level permit issuance

The remaining three charges of the Commission are to:

5. Analyze whether Vermont's criteria for electric generation project siting approval *adequately protects* Vermont's lands, environmental resources, and cultural resources, both with respect to individual projects and with respect to *cumulative impacts* of multiple projects
6. Analyze best practices for *monitoring environmental impacts* of approved and built facilities going forward, to allow for an iterative process over time based on lessons learned
7. Consider whether the state should develop *generic siting guidelines* for developers of electric generation projects by technology, to aid permit process uniformity and provide guidance on environmental impacts, location, aesthetics, and other common issues.

After considering each of these specific charges, the Commission opted to present their recommendations as a cohesive package relating to all the charges rather than list specific recommendations per charge.

1.2 Summary of Previous Legislation and Reports

It is important to note that many of the issues addressed by this Commission have been discussed in a variety of official forums over the past decade. Of particular note are the following:

- Legislative Acts on Renewable Energy (1998-present)
- The Vermont Commission on Wind Energy Regulatory Policy, established by Governor Douglas in 2004 to provide guidance on whether Section 248 provides a review process appropriate to commercial wind generation projects.[1]
- Vermont Law School's report "Energy and Land Use: Merging the Regulatory Streams" and the accompanying proposed amendments to statutes related to siting (2009)[2]

1 Vermont Commission on Wind Energy (2004)

2 Vermont Law School (2008)(2009)

- The PSB Biennial Reports on Renewable Energy (2008, 2010, 2012)[3]

The Commission feels that these reports and the accompanying legislation have contributed substantially to improving the siting process over time to help the state achieve its goals. However, because of the continuing evolution and geographic distribution of energy technologies, there is a need to revisit some of the recommendations and statutes derived from them.

Legislative Acts on Renewable Energy: Since 1998, when it approved the first net-metering program that allowed Vermonters with small renewable power sources to run their meters backwards, the Legislature has actively debated and adopted important energy policies and processes to help Vermont reduce its dependency on fossil fuels and encourage renewable energy projects, particularly at the community level. Throughout this period, the Legislature has been clear in its intent to encourage *in-state* electric generation and to discourage long-distance transmission. As these policies have evolved, so too have the siting procedures that accompany them. Appendix 4 provides a summary of key legislation addressing these topics.

The most relevant of these acts as they relate to in-state electric generation siting are:

- Act 69 (2003) allowed electric consumers to invest in renewable energy projects and provided incentives for small-scale renewable energy systems in homes and businesses
- Act 61 (2005) established the SPEED program to encourage *in-state* renewable electric generation and required power providers to add enough renewable energy sources to fulfill increased demand between 2005 and 2012
- Act 92 (2008) set a goal of producing 25% of total energy from *in-state renewables* by 2025, and 20% of total statewide electric retail sales coming from SPEED (renewable) resources by 2017
- Act 45 (2009) The Vermont Energy Act of 2009 created the Standard Offer program to encourage development of renewables by establishing default prices to allow renewable energy developers to recover costs plus a decent rate of return on projects <2.2 MW; allowed 'appropriate' siting of wind on state lands
- Act 159 (2010) simplified permit review and interconnection procedures for all renewables <150 kW, and simplified application and interconnection for 150 kW-2.2 MW by rule or order
- Act 170, The Vermont Energy Act of 2012 enacts smart-metering 55% total renewables target by 2017; 75% total renewables target by 2032; and expanded the Standard Offer from 50 MW to 127.5 MW over the next 10 years

Although the current Commission's charge is to look at *all* types of electric generation siting, there are several recommendations from the 2004 Wind Commission that are relevant to this charge. Although many of the recommendations were implemented, several were not. The current Commission feels that many of these remain relevant today, and has incorporated them in its own recommendations, where applicable. Specific attention was paid to those recommendations that addressed increased opportunities for public participation, implementing reasonable scheduling, and improved accessibility of information on the Section 248 process. Appendix 5 contains a summary of the 2004 VT Wind Energy Regulatory Policy Commission's recommendations and the status of their implementation.

3 Vermont Public Service Board (2008, 2010, 2012)

Vermont Law School's report on energy and land use focused on statutory solutions to problems it predicted would occur under the current statutory scheme for siting electric generation. In particular, they highlighted the fact that the current procedures feature utility planning and siting regulatory processes that are 'wholly separated from the land use planning and development regulatory processes.' [4] The Land Use Institute and Institute for Energy and the Environment at Vermont Law School hosted three working group meetings with experts in energy and land use from October 2007 to December 2008. The purpose of these meetings was to develop ideas for solving some of the state's long-term energy and land use challenges by developing better land use law and utility planning law, and to devise ways to ensure that energy facility siting decisions protect important land use considerations. They produced a series of reports and a final memorandum that proposes a series of statutory amendments to the land use and utility planning processes (Chapter 117 and Section 218c) as well as to the land use and utility permitting processes (Chapter 117, Act 250, and Section 248). [5]

In addition to state-level reports and findings, issues related to siting electric generation are at the forefront of national- and state-level discussions across the country. As the incentive structure at the federal level for fossil fuels and renewables investments shifts in the coming years, so too will the need for state-level processes to be readjusted. Of particular relevance to the charge of this Commission is the 2012 report developed by the National Regulatory Research Institute – and funded by the US Department of Energy - which surveyed all 50 states on siting policies and procedures related to wind siting and zoning to establish best practices.[6] The author of this study presented a summary of his findings to the Commission in December 2012, and addressed how they might be relevant to the overall electric siting process in Vermont. Although the report's findings were directed primarily to large-scale wind energy facilities,

Exhibit 2: National Regulatory Research Institute
Best Practices for Siting*

1. Develop procedures that result in clarity, predictability, and transparency. Jurisdictions with locations suitable for commercial wind development should anticipate interest and proceed to develop and publish siting and zoning procedures, principles, and guidelines
2. Establish a one-stop, pre-submission consultation. Provide basic information for applicants in a single meeting, identifying and explaining the basics of all necessary permits and approvals.
3. Identify and map constrained and preferred wind energy development zones. Make available and accessible to the interested public GIS maps of exclusion, avoidance, and preferred development zones.
4. Include preferred development zones in transmission plans. Begin modeling and planning for wind power interconnections in preferred development zones as soon as the zones are identified
5. Prepare and make available guidelines for participants. Explain procedures and timelines for when, where, and how to participate in public hearings. Provide information about decisions already completed through rulemaking.
6. Prepare and make available for local siting and zoning officials guidelines, checklists, and model ordinances. Support local government decision makers by providing the best available technical resources.
7. Ensure the sequence for obtaining permits and approvals meets requirements to allow development of suitable projects. The sequence of events leading to approval or rejection of an application should entail a logical progression through the planning and design stages, prior to siting and zoning approval that allows construction to begin.

* drawn from a 2012 siting survey of 50 states as part of a NRRI report *'Put It There! – Wind Energy and Wind Park Siting and Zoning: Best Practices and Guidance for States'*

4 Vermont Law School's Land Use Institute and the Institute for Energy and the Environment (March 2009). Energy and Land Use: Merging the Regulatory Streams.

5 Ibid. 'Memorandum Regarding Proposed Changes to Land Use and Electric Utility Planning and Permitting Processes.

6 National Regulatory Research Institute. (Jan 2012). Put it There! – Wind Energy & Wind Park Siting and Zoning : Best Practices and Guidance for States

the basic principles are applicable across technologies. The report notes that siting and zoning of these larger-scale facilities can be complicated and is often contentious due to local opposition. It also notes that siting regulations across the country are influenced in different – and sometimes conflicting – ways by preexisting laws and administrative rules, renewable energy support policies, and public acceptance.

At the same time, the report underscores that the development of utility-scale wind in areas with promising wind resources is economically favorable compared to other types of renewable energy sources. Because 37-plus states have adopted policies that set either mandates or goals for increasing the use of renewable energy, it argues for learning from the experience of states that are much farther along the renewable energy curve than Vermont. The report provides a detailed set of recommendations on best practices for procedures for siting wind, which are wholly applicable to siting of all electric generation. It also provides recommended approaches for criteria specific to wind siting and zoning, including recommendations for: i) noise, sound, and infrasound; ii) shadow flicker; iii) ice throw; iv) wildlife and habitat exclusion zones; v) aesthetic requirements; vi) critical competing land uses; vii) permit requirements for met towers, construction and facility safety; viii) decommissioning; and ix) dispute resolution and mitigation (see Appendix 10).

Most importantly, the report summarizes important lessons for Vermont to consider in siting electric generation. Notably, the conclusions focus on the importance of communities working together to make decisions about future energy systems development, not only wind energy development, in their local area. 'There are multiple paths to this goal…Some developers work extensively with host communities prior to seeking siting approval to create macro and micro siting plans that engender little, if any, public opposition. Some landowners form associations and hire their own developers, so that the owners can directly guide decisions about setback distances and micro siting. Some governments simultaneously develop plans that identify both areas where large-scale wind projects should be avoided, while also identifying where they would be welcomed.'[7]

1.3 Overview of Contents

This remainder of this report is organized in three parts:

- Section 2 – Context: The work of the Commission is carried out in the context of the goals and targets contained in the State's Comprehensive Energy Plan and related statutes, as well as the impact of these targets on the electric generation siting process in Vermont. This section summarizes those factors and provides basic information on the electricity sector more generally. In addition, the Commission was asked to look at other states in the New England region in order to identify best practices. This section provides a summary of what was learned in that exercise.
- Section 3 - Commission Activities: In order to reach its conclusions, the Commission carried out a series of informational sessions with relevant Vermont state agencies and analogous siting agencies throughout the region, received testimony from a wide range of participants in the siting process, participated in site visits to electric generation facilities across a range of technologies, carried out a series of deliberations and participated in public hearings around the state. This section provides a description of each of these activities.

7 Ibid. p. ES-14

- Section 4 - Recommendations: After careful consideration of all the various reports, testimony, and comments, the Commission opted to present its 21 recommendations in a cohesive package across five major themes: i) an increased emphasis on planning at the state, regional and municipal levels; ii) a simplified tier system; iii) process modifications to increase the opportunity for public participation; iv) process modifications to increase transparency, efficiency, and coordination; and v) creating a standardized system of environmental and other relevant guidelines that is easily accessible and comprehensible to all relevant parties. Section 4 provides greater detail on each of the recommendations.

In addition to the report itself, there are several appendices that provide important background information to support the recommendations.

2. Context

2.1 Electricity Sector within Vermont State Energy Goals and Statutes

The Commission's charge is to improve the electric generation siting process within the context of the 2011 CEP and the Legislature's energy statutes. Exhibit 3 summarizes the key goals determined by the Administration and the Legislature to move Vermont toward a clean energy future. The central goal of the 2011 CEP is to set a path to obtain 90% of the state's energy needs from renewables across all energy sectors by 2050. The CEP is flexible about the proportion of renewables that come from in-state sources, and the proportion of renewables provided by the electricity sector. It includes an aggressive commitment to conservation and efficiency, as well as a section on land use measures to help meet our energy goals. The CEP was developed after broad stakeholder and public input, with recognition of the important environmental and renewable energy goals put in place by our Legislature. A multi-agency initiative, it received input from a broad public engagement process involving over 9000 separate comments, 100-plus local energy committees, regional/town planning commissions, and dozens of public hearings and open meetings throughout the state. While all energy choices involve tradeoffs that can cause opposition in individual situations, continued broad public support for the processes used to approve energy projects is critical.

Vermont's commitment to clean energy is also firmly grounded in statute, an effort that started long before the current CEP. Over the past decade, the Legislature has adopted a wide range of statutes to set specific short-, medium-, and long-term targets for moving our energy sources away from fossil fuels and towards renewables. In addition, Vermont has joined other states around the nation in setting specific goals for reducing greenhouse gases. Exhibit 3 above summarizes some of the key statutes related to energy targets. As regards electricity specifically, the key statutes are:

- By 2022: 127.5 MW of new *in-state* renewable *electric* generation contracts provided through the SPEED Standard Offer program (30 V.S.A. 8005a(c))
- By 2025: 25% of all energy from *in-state* renewables (10 V.S.A. 579(a))
- By 2028: 50% reduction in greenhouse gas emissions; 75% by 2050 (10 V.S.A. 578(a))
- By 2032: 75% renewables in electric sales (30 V.S.A. 8005(d)(4)(A)

Significant progress has been made in reaching these goals already. Currently, nearly 50% of Vermont's electrical supply is from renewable sources (including large hydroelectric). However, to meet the legislated 75% of electrical

sales target by 2032, or the 90% energy target by 2050, Vermont will need to continue growing its supply of both in-state and out-of-state renewable generation

Exhibit 3: Comprehensive Energy Plan Goals and Statutory Targets from Renewable Sources

Goals and Targets	Target Date	Current Status (01/13)	Goal or Statute
90% of the state's energy needs – including thermal, transportation and electric by	2050	~22%	CEP Goal
25% of all energy from ***in-state***, particularly from forests and farms (25 by '25) by	2025	~12%	10 V.S.A. 579(a)
75% of annual electric sales for each retail electricity provider in Vermont by 55% of annual electric sales for each retail electricity provider in Vermont by	2032 2017	~50%	30 V.S.A. 8005 (d)(4)(A)
20% of total statewide electric retail sales shall be generated by Sustainably Priced Energy Development (SPEED) resources that came that came online (or were uprated) after Dec. 1, 2004 by (SPEED resources are long-term contracts for energy from generators that produce renewable energy, whether or not RECs are retained)	2017	~16%	30 V.S.A. 8005 (d)(2)
127.5 MW of contracts provided through Standard Offer projects ***in-state*** by	2022	~50 MW of contracts awarded	30 V.S.A. 8005a(c)
Reduce greenhouse gas emissions within the state and from outside the state's boundaries caused by the use of energy within the state by 50% by And, if practicable using reasonable efforts, by 75% by	2028 2050	2% higher	10 V.S.A. 578(a)
Plan to generate 60MW of power ***in-state*** by combined heat and power (CHP) facilities powered by renewable fuels by	2028	1.2 MW	30 V.S.A. 202(i)

Source: Vermont Statutes and Public Service Department

A driving force behind these goals is climate change and the devastating impact it has on Vermont's natural resources, economy and people. The desire of Vermonters to reduce our dependence on imported fossil fuels, and the greenhouse gas emissions they generate, underpins a strategy that includes moving towards enhanced efficiency measures, greater use of renewable sources for electricity, heating and transportation, and electric vehicle adoption. The benefits of this strategy are fourfold: i) to foster economic security and independence; ii) to safeguard our environment; iii) drive in-state innovation and jobs creation; and iv) to create community involvement and investment.

2.2 Vermont's Electricity Sector – Facts and Figures

Over time, it is expected that electricity will play an increasingly important role in our energy profile. Currently, electricity represents about a third of Vermont's total energy consumption. Vermont used 147 trillion BTUs of energy in 2010 (30% heating, 36% transportation, 35% electricity). About 11% of this (16 TBTU) came from in-state renewable sources (60/40 split between electricity and heating with biomass). The PSD estimates that in 2013, the share of renewable sources in the electric portfolio is over 50%, and that the share of in-state renewable sources in the total has risen from 17% in 2012 to around 23% in 2013.

Analysis conducted for the CEP, as well as separate analyses conducted for utility integrated resource plans, indicate that Vermont's electricity consumption for its current set of uses in buildings is projected to fall slightly or stay flat over the next two decades. However, the PSD also projects that electrification of our transportation sector as well as heating and cooling through the use of heat pumps will likely increase the need for electricity in the coming years, even while we continue to improve our efficiency and conservation efforts. As such, as we transition to more sources that are varied, often intermittent and distributed throughout the state, electrical generation siting becomes increasingly important and the need for improved processes is a timely consideration.

The PSD estimates of the 2011, 2013 and 2016 electric energy portfolios for Vermont are shown in Exhibit 4. The reason for including all three years is that the energy portfolio is in an era of transition right now. Each year's portfolio changes noticeably during the period from 2011 through 2016, then is expected to stabilize thereafter for a period of time because of the durations of the longer-term contracts. It is important to know what is providing our energy this year but also to understand that any policy changes will affect the future portfolio and should be based on that understanding. The end of two long-term contracts triggered the transition in the portfolio from 2011 to 2016: one with Vermont Yankee and the other with Hydro-Quebec. By 2016, a new Hydro-Quebec contract that is somewhat smaller than the previous contract will be in place, and a series of utility contracts with the Seabrook nuclear station will also be in place. The shift in the overall share of energy sources for Vermont's electricity demand is illustrated in Exhibit 4.

Exhibit 4: Vermont Electric Energy Portfolio
A Sector in Transition

Energy Source	2011	2013	2016
Nuclear	39%	5%	12%
Gas	0%	0%	0%
Oil	0%	1%	1%
HQ & NYPA	37%	34%	23%
In-state hydro	8%	9%	9%
Wind	2%	9%	9%
Methane	3%	4%	4%
Wood	4%	4%	4%
Other Renewables	0%	1%	1%
Market contracts*	5%	16%	6%
Undetermined^	0%	17%	32%

*: These are market-power contracts signed as of 2012 when utilities were last surveyed. It is likely that utilities have secured additional market contracts in the meantime.
^: This is the fraction of the expected energy use that utilities had not contracted for in any way as of last fall. It is likely that the 2013 "undetermined" fraction has been filled almost exclusively by market contracts. The 2016 "undetermined" portion will likely be filled by some combination of market power contracts and long-term contracts with other specific resources, for example as part of utility actions to meet the 2017 SPEED goal. All numbers are rounded to the nearest whole percent.

This transition has an important impact on how Vermont will reach its renewable and greenhouse gas goals. The share of 'market contracts' and 'undetermined' in Vermont's portfolio are particularly important in this regard, and they both contain potentially large shares of energy coming from fossil fuels under market power contracts. As the share of nuclear energy in our portfolio falls from 39% in 2011 to 12% in 2016, Exhibit 4 demonstrates that the category 'Undetermined' increases from 0% to 32%. 'Undetermined' is the fraction of the expected energy use that utilities had not contracted for in any way as of Fall 2012. It is likely that the 2013 'undetermined' fraction has been filled almost exclusively by market contracts. The 2016 'undetermined' portion will likely be filled by some combination of market power contracts and long-term contracts with other specific resources, for example as part of utility actions to meet the 2017 SPEED goal.

To illustrate, until 2012, Vermont received the plurality of its electrical energy from nuclear power (39%) and from Hydro-Quebec (36%). With the end of the Vermont Yankee (VY) contract with Vermont utilities in 2012, that energy will be replaced with a mix of new resources. These include a combination of wind from Kingdom Community Wind, Sheffield Wind, and Georgia Mountain Wind in Vermont and from Granite Reliable in NH (~7%), nuclear from Seabrook NH (~12%), and bilateral market energy purchases of undifferentiated system power for most of the remainder. This means that the bulk of replacement power for VY is coming from a mix of power sources in NE reflecting the grid's current fuel sources, dominated by natural gas (>50%). The new Hydro-Quebec contract, which begins in 2015, is also smaller than the old Hydro-Quebec contract (running only 16 hours per day instead of 24). Vermont utilities will continue to pursue attractive long-term contracts for renewable or low-emission power, or opportunities to build and own such power sources, but they have not yet completed enough such contracts to replace the entire VY contract and the original Hydro-Quebec contract.

It is also important to note that price volatility of natural gas also has a huge impact on wholesale electric energy prices in the region. For example, prices in New England were 23% lower in 2012 compared to 2011 because of the increase in supply of relatively low-priced natural gas from nearby Marcellus Shale. However, as happened in January 2013, when high demand combined with pipeline constraints into the region and the use of globally priced liquefied natural gas drove up prices from a 2012 low of around $25/MWH to around $85/MWH, fossil fuel price volatility remains a concern.[8]

The overall capacity of Vermont-owned generators - including merchant, Standard Offer, and utility-owned generators - is heavily weighted toward oil (31%), hydroelectric (31%) and wind (22%), as illustrated in Exhibit 5. This is because capacity reflects what these generators could produce if they are running at their maximum. Vermont's oil generators primarily serve a reliability purpose, running at times of extreme load or in contingencies. Hydroelectric and wind generators each run when their resource is available, although some hydroelectric facilities can control their output by controlling the water's flow. It would be extremely rare for all of Vermont's generators to

8 ISO-NE New England 2012-2013 Regional Profile.

be operating at their maximum at the same time. Vermont electricity summer peak demand is around 1,050 MW (2011), with an all time peak at 1,118 MW in 2006. The round-the-clock equivalent capacity is about 685 MW.

In contrast, the actual generation from Vermont-owned generators reflects what is actually generated in Vermont to serve Vermont load, which is a much different breakdown. Of the total amount of electricity generated in Vermont to serve Vermont load (approximately 6,000 GWh/year, at the generator, prior to losses), hydroelectric provides around 9%, or thirty-times as much energy as oil, and wind and wood provide 6% each, or twenty times as much energy as oil.

Exhibit 5: Vermont Electric Capacity (2011)
VT Generators serving VT Load (larger than 150 kW)

Energy Source	Total Generators In VT (Capacity in MW)	VT Generators Serving VT Load (Capacity in MW)	Capacity Share Serving VT Load	VT Generators Serving VT load (Actual Generation In %, prior to losses)
Natural Gas	0	0	0%	0
Oil/Diesel/Kerosene (peakers)	172	172	31%	<1% (0.3)
Nuclear	620	0	0%	0
Coal	0	0	0%	0
Hydro	331	169	31%	9%
Pumped Storage	0	0	0%	0
Wind	121	121	22%	6%
Woody Biomass	75	71	13%	6%
Other Renewables: Solar Farm Methane Landfill Gas	 12 4 4	 12 4 4	4%	<1% (0.6)
Total	1339	553	100	22%

In addition to these large generator sources of electricity, there has also been a significant increase in net metering since Act 136 was established in 1998. As of 2012, net metering generators are expected to offset about 0.7% of energy needs, with a total of around 27 MW and 2,704 total projects. This is the equivalent of slightly more than two Georgia Mountain Community Wind projects (10 MW each) plus one Searsburg wind project (6 MW). Of this total, solar net metering represents about 90% of net metering capacity with 2,521 projects. The breakdown of net-metered applications received is shown in Exhibit 6.

Exhibit 6: Net Metered Applications Received
(as of Jan 2013)

Technology	# Applications Received	Total kW	Share
Solar	2521	24,552	90%
Wind	168	1,955	7%

Farm Methane	8	319	1%
Hydro	7	384	1%
Total	2704	27,210	100

In addition, there are many other factors that come into play in creating opportunities and challenges for meeting these goals. Questions remain regarding Vermont's current policy of allowing electric generating companies to sell their Renewable Energy Certificates (or RECs) rather than moving to a Renewable Portfolio Standard (RPS) like all other states in New England. An RPS would require utilities to purchase renewable energy and retire a certain amount of the associated RECs. Exhibit 3 summarizes the history and rationale behind Vermont's decision to adopt its own version of a renewable energy standard.

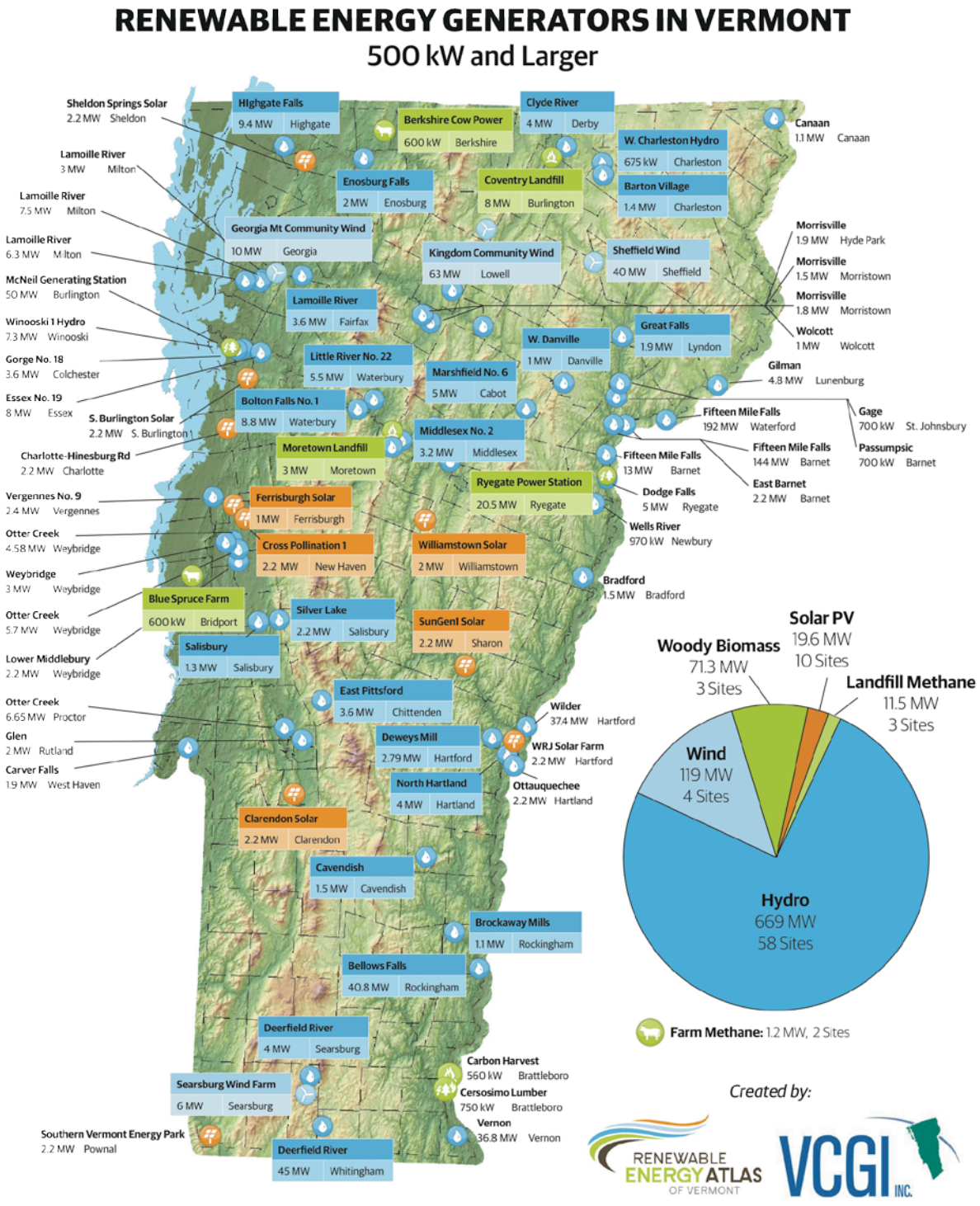
In January 2013, the PSB submitted a report to the Legislature as part of its mandate under Act 170 to provide analysis of certain issues and policy options related to renewable energy that may prove useful to the Legislature in formulating energy policy in Vermont. In this report, the PSB recommended that 'any energy policy for Vermont that seeks to directly facilitate the environmental goals of 30 V.S.A. Section 8001 such as protecting and promoting air and water quality in the state and region and contributing to reductions in global climate change, should include a requirement that RECs associated with utility-owned (or purchased) renewable energy be retired. Such a requirement would be more likely to avoid double counting of environmental benefits.'[9]

Exhibit 7: Vermont Renewable Energy Standard
The SPEED Program

In 2005, lawmakers passed Act 61, the first legislation to establish renewable energy standards, and the SPEED Program (Sustainably Priced Energy Enterprise Development) to encourage in-state development of renewable electricity. It also required power providers to add enough renewable sources to fulfill increased demand between 2005 and 2012. The bill passed the Senate on a voice vote, and the House by a 94-35 margin. The SPEED program has come under attack for allowing utilities to trade renewable energy certificates to utilities in other states. This is true, but it should be recognized that SPEED was designed to surmount the chicken-or-egg problem with renewables: the upfront investment is relatively large, making renewables uncompetitive at the beginning. Over time, their costs drop dramatically because they are renewable, with no need to keep on buying fuel (with the exception of biomass). SPEED provided a market-based solution to the initial-investment problem by allowing utilities to sell long-term contracts for renewable power. Without SPEED, the transition to renewable energy in Vermont would have been much slower.

While these issues are not directly within the Commission's charge, the Commission recognizes that they will have important implications for electric generation and siting policies and procedures in the years to come.

9 Public Service Board (Jan 15 2013). Further Analysis and Report on Renewable Energy Requirements.



DISCLAIMER: VCGI and the State of Vermont make no representations of any kind, including but not limited to the warranties of merchantability or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.

* The Commission thanks Scott Sawyer of the Vermont Sustainable jobs fund for this 2013 map.

2.3 Consequences for Siting

The number and types of electric generation siting dockets coming before the PSB have changed dramatically over the past decade, with a quadrupling of dockets in just the past five years. At the same time the types of energy technology in the dockets have expanded from three in 2003 to twelve in 2012. The increase is only partially explained by the initial flurry of Standard Offer projects, because many of the larger, more controversial projects are not a result of the Standard Offer (i.e. are over 2.2MW). Many of the new issues associated with these dockets are related to land use, natural resources, and health impacts requiring new siting guidelines and regulations. The processes presently followed for siting approval (Section 248) and permitting were put in place many years ago, at a time when only a few centralized electric power plants existed in Vermont. The change toward greater use of in-state renewable electric generation over the past decade, the advent of increasingly merchant- rather than utility-based generation, combined with an anticipated continuation of this growth as we move toward greater demand for electricity in the future, requires a fresh look at whether the processes we currently employ for review and approval of electric generation projects should be modified and improved.

Increase in number of siting applications

The number of electric generation siting applications before the Public Service Board (PSB) filed under Section 248 has increased from an average of zero per year in 2000-2003 to an average of sixteen per year in the past three years (see Exhibit 9). The total number of dockets since 2000 is 79, with the bulk of the increase coming in the past five years (64 applications since 2008). Similarly, the range of energy technologies represented by the dockets has increased from two or three in the early 2000s (wind, nuclear and landfill methane) to twelve over the course of the decade.

Exhibit 9: Public Service Board - Docket List for Energy Generation Projects (2000-2012)

Year	Total	Solar	Wind	Bio mass	LNG	Nuclear	Land fill Methane	Farm Methane	Hydro	Steam Gen.	Multi fuel Peaker	Co-Gen	Bio diesel
2012	16	12			1	1		2					
2011	14	8	1	2				3					
2010	20	16	1	2			1						
2009	9	1	1	1				4	1			1	
2008	5					1	2	1					1
2007	4		1					2			1		
2006	5		1				1	3					
2005	1									1			
2004	1							1					
2003	4		1			1	2						
2002	0												
2001	0												
2000	0												
Total	79	37	6	5	1	3	6	16	1	1	1	1	1

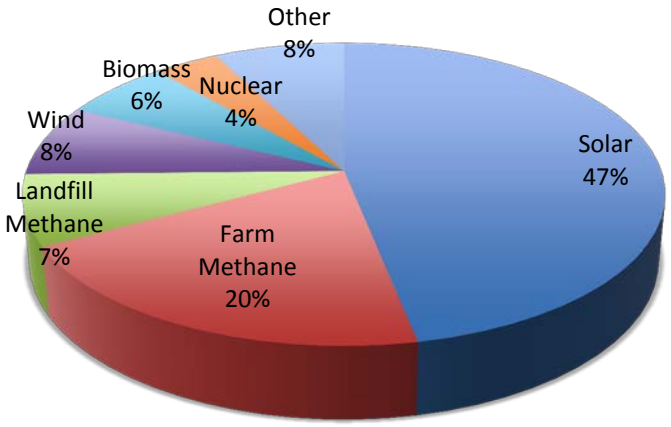
Source: Public Service Department (Feb. 2013)

Although the number of siting applications before the PSB over the past decade is much higher for solar (with 37 total applications) and farm methane (with 16 applications), the size of the projects is quite different from either biomass (five applications) or wind (six applications). On average, the solar and farm methane projects fall below within the 2.2 MW or below level, whereas the nameplate capacity for biomass and wind has ranged from 6 MW to 63 MW.

Increase in issues related to land use

As the range of technologies in electric generation has expanded in Vermont, so too have the land use issues. If the technology is biomass, the land use implications often relate to forest management. If the technology is solar, they can often relate to the amount and type of acreage used. If the technology is wind, the land use issues often revolve around ridgeline use. There are many other natural resource and health considerations and impacts engendered by each technology that have direct implications for siting.

Exhibit 10: PSB Electric Generation Dockets 2000-2012



Under the Section 248 process, and the accompanying natural resource permitting process, the rulings and guidelines have evolved to address the new range of issues. Appendix 6 provides an overview of the current siting processes under Section 248, Section 248(j), and the various precedents that have been established for some of the issues (or guidelines for others0. This has been done without any concomitant increase in staff at the participating agencies, or at the local or regional levels, placing strain on the system.

2.4 Other States

The Commission's charge required it to review and compare Vermont's statewide electric generation project siting practices with those of other New England states within our regional electricity market. In particular, it was tasked with reviewing and comparing issues such as public participation, alternative dispute resolution, and coordination of all statewide permitting (see Appendix 1).

The Commission heard a series of presentations from the siting authorities in Maine, Massachusetts, Connecticut, New Hampshire, New York, and Rhode Island. In addition, it heard from the National Regulatory Research Institute regarding a 2012 report summarizing siting and zoning practices in all 50 states and the District of Columbia as they relate to wind.[10] Given the range of energy needs based on total population (ranging from nearly 20 million in New York to just over a million in Rhode Island), there was a broad range of methods for siting electric

10 See National Regulatory Research Institute (Jan 2012)

generation, but also a remarkable similarity across the region on several points. These are summarized in Exhibit 11 below. Appendix 7 contains details by charge and by state.

New England (NE) Electric Grid Context: The NE electric grid is an 8,000-mile, high-voltage transmission system that connects electric utilities, publicly owned electric companies, power generators, suppliers, alternative resources, and end users in a six-state wholesale electricity marketplace (MA, CT, ME, RI, NH and VT). The total capacity of generating plants located in NE is about 32,000 MW, serving 14 million people (or 6.5 million households) with natural gas being the dominant fuel used to produce electric energy (52% of electric energy in 2012)[11]. Vermont represents about 4% of the NE population, 5% of the region's total electricity consumption, and 3% of the region's electric generation capacity. The state relies on both in-state resources and imports of power to serve its consumers.

Exhibit 11: Electric Generating Capacity and Electric Energy Production in NE by Fuel Type

NE Generators by Fuel Type	% Total NE Capacity 2012	% of NE Electric Energy 2012	% of VT Electric Energy 2011	% of VT Electric Energy 2016
Natural Gas	43%	52%	0%	0%
Oil	22%	<1%	0%	1%
Nuclear	14%	31%	39%	12%
Coal	8%	3%	0%	0%
Hydro	5%	6%	37% import 8% Vt	23% import 9% Vt
Pumped Storage	5%	1%	0%	0%
Other Renewables (Wind) (Methane) (Wood) (Other)	3%	7%	9% (2%) (3%) (4%) (0%)	18% (9%) (4%) (4%) (1%)
Market Undetermined			5%	6% 32%
Source: ISO-NE 2012-2013 Regional Plan and Vermont Public Service Department				

Vermont is the only state in the region without a Renewable Portfolio Standard (RPS), a state legislated target requiring competitive retail electric suppliers to obtain a specific percentage of their energy from renewable sources, and retiring their Renewable Energy Certificates (RECs). Instead, it relies on the SPEED program to create incentives for both in-state construction of renewable resources (through the Standard Offer) and long-term power contracts between utilities and developers of renewable resources.

Vermont's siting process is also unique in New England on several accounts. Key differences between Vermont and other states in our regional electricity market (plus New York) are:

- Vermont is the only state *not* to have fully restructured its electricity sector
- Vermont's PSB has the largest number of filings per year (average of 16 in past three years, linked in large part to the average size of projects considered, which are comparatively small)
- Vermont's PSB is the only one without an ANR equivalent as a Board/Commission member; others are typically run by agency heads

11 http://www.iso-ne.com/nwsiss/grid_mkts/key_facts/final_newengland_profile_2012-13.pdf

- Vermont and Rhode Island are the only states to have the state siting authority be the same as the Public Utilities Commission. All other states in the region have a separate siting commission (and Maine's siting authority rests with permits under the Department of Environmental Protection).
- Vermont and Connecticut are the only states to have state level authority for siting of all projects above the smallest level (all sizes in VT, and above 1 MW in CT)
- Vermont is the only state without explicit statutory timelines for obtaining a Certificate of Public Good (in most cases).

Despite these differences, there were many important lessons and models to draw from throughout the region. A summary of these findings is included in Exhibit 12 (a) and (b) below.

Of particular note to the Commission were some of the new ***public participation opportunities*** provided by New York's new siting regulations. Because of the size of projects in New York, these standards are applied only to projects greater than 25MW. However there are many important elements of this process that informed the Commission's decision to increase both public notification periods and public engagement standards for Tier 3 and Tier 4 projects. Full descriptions of New York's Public Information Plans and Scoping Process can be found in Appendix 8.

Second, the Commission found that several of the states had very explicit ***statutory timelines*** (with exception clauses) for both different stages of the siting process and overall decision timing. Most of the states felt that this was a strength in that it provided all parties with reasonable expectations regarding how long the entire process should last if the applicant met all the standards. The Commission is in favor of creating performance standards in the Section 248 process in order to provide greater clarity and predictability in the process. However, it also acknowledges the concern that there may be very valid reasons to extend certain timelines and asked for specific language related to such extension clauses from other states. Examples of these are summarized here:

- New Hampshire: If the subcommittee at any time during its deliberations relative to an application for a certificate deems it to be in the public interest, it may temporarily suspend its deliberations and enlarge the time frame established under this section to issue or deny a certificate.
- Massachusetts: If the board determines that required standards have not been met, it shall within twelve months of the date of filing reject in whole or in part the petition, setting forth in writing its reasons for such rejections, or approve the petition subject to stated conditions. In the event of rejection or conditioned approval, the applicant may within six months submit an amended petition. A public hearing on the amended petition shall be held on the same terms and conditions applicable to the original petition.
- Connecticut: Not later than one hundred eighty days after the filing of an application for a facility described in Connecticut's siting statute at subdivision (5) or (6) of subsection (a), provided such time period may be extended by the council by not more than one hundred eighty days with the consent of the applicant.

Third, the Commission was impressed by the strong ***online presence*** of the siting authorities in several of the states, most notably New York and Connecticut. According to the respective siting entities, this presence is constantly evolving to provide the highest levels of transparency and communication with the public. The Commission noted the FAQ section, and the advanced search engine to locate specific elements of past documents and cases of the New York website (http://www3.dps.ny.gov/).

Fourth, the Commission found that only New York of all the states in the region uses a formal system of ***alternative dispute resolution (ADR).*** Their hearing officers are empowered to mediate issues in the pre-application formal scoping period, and settlement procedures can be utilized by agreement of parties, who may request a settlement judge. Intervenor funding is available for this. Most other states have no formal ADR, but encourage informal agreements and increased public engagement activities up front with host community officials and the public to discuss mitigation measures and other agreements that can lead to support (or at least lack of opposition).

Fifth, several states use ***different types of fees*** to cover the additional costs incurred by the agencies or to cover some form of intervenor funding, particularly for more complex projects. In Maine, the applicant, via a 'Special Fee' in project billing, pays for actual agency costs. In New Hampshire, public counsel (appointed by the Attorney General) can hire consultants at the applicant's expense with the siting authority's approval. Connecticut has a $25,000 municipal participation fee for distribution by the state treasurer to participating municipalities to defray expenses. New York requires applicants to pay a fee to cover intervenor funding on a per-MW basis: $350/MW for the 'scoping phase' of the pre-application process, with a cap of $200,000, and $1000/MW for the application phase, with a cap of $400,000.

Finally, the Commission also heard from the National Regulatory Research Institute, which carried out survey of all 50 states to define best practices for siting and zoning wind projects. Some of their findings are included in Exhibit 11 below. From this work, they also developed a series ***of recommended approaches for wind siting and zoning criteria***, which can be found in Appendix 10.

Exhibit 12a: Siting Electric Generating Facilities – Comparing States							
	VT	NH	ME	MA	CT	NY	RI
Total MW capacity of existing generation (wind and others)	~1,400 total (111 wind; 620 nuclear, 358 hydro, 84 biomass, 12 solar) 16 filings in 2012	~4100 total (171 wind) 10 Sites 10 filings since 1998	~3100 total (397 wind; 768 biomass) 153 sites 2-6 filings/year	~13,000 total (46 wind) 100 sites 2-6 filings/year	8,767 total 66 sites ave 9 filings/year	~70,000 total (1,440 wind, 1000 MW more with permits) ave 8 filings/year	~1,850 (2 wind) No new generation filings in 14 yrs
Renewable Portfolio Standard Target *	No formal RPS 20% by 2017 (SPEED)	12% new by 2020	30% existing, 16% new by 2021 Wind Goal: 3000MW by 2020	15% new by 2020 Wind Goal: 2000MW by 2020	20% new by 2021	30% renewable electricity consumed by NY customers by 2015	16% new by 2021
Threshold for State Level Authority	All electric generation > net metering (>150 kW non-farm; 250 kW farm)	≥ 30 MW with opt-in for smaller units >5MW	> 100 kW ≥ 3 acres for wind no opt-ins	≥ 100 MW	≥ 1 MW if co-gen, then >25 MW no opt-ins	> 25 MW w/ opt-in	>40 MW or >10 MW for hydro
State Siting Authority (different from PUC?)	No PSB/PUC (3 independent members) With input from ANR	Yes Site Evaluation Committee (16 members from agencies)	Yes – mostly local DEP coordinates identification of required permits	Yes Energy Facilities Siting Board (6 Agency heads plus 3 public members)	Yes Siting Council DEEP checks congruence w/IRP (9-members; 5 appt by Gov, 1 senate, 1 house, 2 agency)	Yes Permanent Siting Board (5 Agency Chairs) Project Siting Board (1 Perm + 2 Residents)	No PUC Siting Board (3 members: Chair PUC, Dir Dept Enviro Mgmt, Associate Dir Statewide Planning)
Timing of Decision	No regulated timing Varies	9 mo from time application is deemed complete 8 mo for renewable facility*	Varies based on permit(s) requirements	12 mo	6 mo after the filing of an application – may be extended	12 mo from complete application, may be extended w/applicant consent. 6 mo for existing plant add-ons	30 days to accept/reject, Prelim Hearing w/in 60 days, 6 mo for Advisory agencies to submit findings; Final hearings 45 days after advisory; final decision in 120 days
Public Participation (intervenor funding)	45 day notice prior to application. No intervenor funding, but bill-back authority	No intervenor funding, but public counsel (appointed by AG) can hire consultants at Applicant's expense with SEC approval	Actual DEP costs are paid for by applicant via 'Special Fee' Project billing	Active public participation, but NO financial, legal or technical support.	Applicants submit a municipal participation fee of $25,000 for distribution by the state treasurer to participating municipalities to defray expenses, including but not limited to costs of participation	Strong for >25MW Public Involvement Plan required150 days before Scoping phase. (90 days before application) Applicant pays intervenor funding: Scoping ($350/MW up to $200,000); Application ($1000/MW up to $400,000)	1 Public Hearing in every community impacted; website; applicant assumes costs of Board. Applicant can be asked to assume Board consulting costs (including construction plant visits up to $20,000)

Exhibit 12b : Siting Electric Generating Facilities – Comparing States (cont'd)							
	VT	NH	ME	MA	CT	NY	RI
Alternative Dispute Resolution	No formal	No formal ADR, but informal agreements reached	No formal ADR Informal discussions w/parties & DEP Project Manager can sometimes resolve issues	No formal ADR, Parties can propose settlements (rare), In practice, facility applicants actively engage host community officials and public to discuss mitigation measures and other agreements that can lead to support or at least lack of opposition. EFSB approval conditions can formalize agreements between parties	No ADR	Yes Hearing officer for pre-application scoping can mediate issues. Settlement procedures can be utilized by agreement of parties, who may request a settlement judge. Intervenor funding available. Pros: can help local parties gain benefits. Cons: often extends review period; difficult to manage concurrent settlement and litigation tracks.	NA
Mandatory Evaluation Criteria	No	Yes	Yes	Yes (plus Model Ordinances to guide Local Govts)	Yes (working on developing new regulations on wind siting & zoning)	Yes	Yes
Voluntary Guidelines	Yes (Wildlife, Birds, Bats)	No	No	No	No	Yes	Yes
Setback & Sound standards published	No	No	Yes (clear procedural steps & explicit standards for determining wind siting & zoning)	Yes (model recommended standards for local govt)	No	Yes (Model recommended standards for local govt)	Yes
Cumulative Impact	Included as a criterion to consider, but no formal methods	No formal method of cumulative measurement	No current standards exist, but cumulative scenic impacts are being considered as a review criterion for future wind projects; DEP has some guidelines	EFSB is required to consider 'local and regional cumulative health impacts', which can include multiple generation facilities as well as other contributors.	By statute, Council is required to determine probable enviro impact of project alone & cumulatively with other existing facilities, incl specification of every significant adverse environmental effect, electromagnetic fields and conflict with policies of the state	Require cumulative indicators for air and visual impact in rules others should be identified at scoping stage for analysis. Cumulative impact of all project components is considered.	NA
Sources: Siting Authority self reports, ISO-NE Regional and State Profiles, NRRI 2012 Report on Best Practices for Wind Park Siting and Zoning							

3. Commission Activities

3.1 Timeline and Public Access

The Commission held a series of meetings, site visits, deliberations, and public hearings from October 2012 to April 2013 (see Exhibit 13). All meetings and deliberations were held in public and were transcribed so that all discussions, questions and answers could be made available to any member of the public interested in following the proceedings. In addition to these meetings, the Commission also received written public comments from over 470 individuals and organizations.

Full transcripts of all presentations, deliberations, and public hearing comments presented during the proceedings are available at http://sitingcommission.vermont.gov. In addition, this report is accompanied by a companion report summarizing all written comments received by the Commission. It includes comments submitted by email, via the web, and in paper copy. The full original comments are available at http://sitingcommission.vermont.gov/public_involvement

Exhibit 13: Energy Generation Siting Policy Commission
Process Calendar (Oct 2012-April 2013)

Date	Type	Topic
Oct 22	Commission Formed Executive Order	
Oct 31	Information Session #1	Current Vermont Energy Siting Processes Overview (PSD, ANR, NRB)
Nov 14	Information Session #2	Other New England States Energy Siting Process Overview (NH, ME, CT, MA)
Nov 30	Information Session #3	Perspectives from Participants in the Section 248 Process (Regional Planning Commissions, Developers, Utilities, Citizens)
Dec 6	Information Session #4	Perspectives from Participants in the Section 248 Process (Legal Experts, Environmental Groups, Towns)
Dec 19	Information Session #5	Other New England States Energy Siting Process Overview (RI, ME DEC, NY, and National Regulatory Research Institute), Vermont Public Power Supply Authority
Jan 11 (am)	Information Session #6	Additional Perspectives on Vermont's Energy Generation Siting Practices (Citizens, VCE, Senator Benning, Representative Cheney, VELCO)
Jan 11 (pm)	Deliberation Session #1	Experts: PSB, VELCO, Vermont Law School
Jan 15	Deliberation Session #2	Experts: ANR, VELCO, RPCs, Agriculture, ANR Biofinder presentation
Jan 23	Site Visit #1	Granite Ridge Energy – Natural Gas Plant, Londonderry, NH
Jan 23	Public Hearing #1	Brattleboro Union High School, Brattleboro
Jan 30	Site Visit #2 and #3	South Burlington Solar Farm McNeil Biomass Power Plant, Burlington
Jan 30	Public Hearing #2	Aiken Building, UVM, Burlington
Feb 5	Deliberation Session #3	Experts and Discussion of Options

Feb 12	Site Visit #4 and #5	Sheffield Wind - Sheffield GMP Kingdom Community Wind - Lowell
Feb 12	Public Hearing #3	Lowell Middle School, Lowell
Feb 20	Deliberation Session #4	Discuss Site Visits and Drafting Report
Mar 12	Deliberation Session #5	Drafting Report
Mar 28	Deliberation Session #6	Drafting Report
Apr 3	Deliberation Session #7	Drafting Report
Apr 3	Public Hearing #4	Draft Report/Recommendations (Rutland)
April 8	Public Hearing #5	Draft Report/Recommendations (Montpelier with interactive TV)
April 9	Deliberation Session #8	Deliberations on Draft Report/Recommendations
April 16	Deliberation Session #9	Deliberations on Final Report
April 25	Deliberation Session #10	Deliberations on Final Report
April 30	Submit Report to Legislature & Governor	Final Report

3.2 Information Sessions

The Commission held five Information Sessions during which they heard testimony on the following topics:

- *Current Vermont Energy Siting Processes:* including an overview of the current siting processes in Section 248, Act 250 and other ANR permits from the Public Service Department, the Agency of Natural Resources, and the Natural Resources Board
- *An Overview of Energy Siting Processes from Other New England States*: including presentations from the siting boards from New Hampshire, Connecticut, Massachusetts, Maine, New York, and Rhode Island. In addition, the National Regulatory Research Institute presented its most recent findings from a survey of all fifty states on Best Practices and Guidance for States in Wind Energy Siting and Zoning. [12]
- *Perspectives from Participants in the Section 248 Process:* including presentations from Regional Planning Commissions, Citizen Intervenors, Developers, Utilities, Legal Experts, Environmental Groups, Towns and Municipalities, Legislators, and other interested citizens.

At the end of each information session, there was also an opportunity for the public to provide individual comments to the Commissioners. All presentations and transcripts are available online.

12 See National Regulatory Research Institute (2013)

3.3. Site Visits

In order to have first-hand impressions of a range of electric generation technologies and the siting issues surrounding them, the Commissioners also visited five different generation sites. Members of the public accompanied the Commission on each of these visits through a lottery selection: [13]

1. *Natural Gas*: Granite Ridge Energy in Londonderry, NH (720 MW).

Although Granite Ridge is located in New Hampshire, the Commission wanted to see first-hand a full range of electric generation technologies, including natural gas, which supplies a portion of the electric energy portfolio in Vermont under market power contracts. The Granite Ridge Energy plant is a combined cycle gas-fired, grey water-cooled, electric generation plant located on a 48-acre site near the Manchester-Boston Airport. It is one of the largest electric generation plants in New England, along with the Seabrook Nuclear plant. Its gas is is supplied by the Tennessee Gas Pipeline Company, and is considered one of the most efficient natural gas plants in the US (measured by btu/KWH). Operating in the Londonderry Eco-Park, the waste heat from the two gas turbines runs an additional large steam turbine to produce additional energy.

2. *Solar:* South Burlington Solar Farm (2.13 MW).

Spread over 25 acres, this solar farm was the largest solar installation in Vermont at the time of installation (2011).

Solar trackers enable the solar panels to follow the sun throughout the day, producing as much as 45% more energy than fixed solar installations, though at a higher capital cost. The project was completed in less than a year from the start of permitting to final commissioning in June 2011. Actual installation time was 4 months. While the site was relatively free from siting constraints, and received broad support from the surrounding community, a small number of trackers were ultimately removed from the final design to avoid having an impact on functioning wetlands found on the property, reducing the size of the project from the originally proposed 2.2 MW to 2.13 MW. This solar farm was created as part of Vermont's feed-in tariff program and sells an estimated 3 million kWh/year to Vermont's SPEED Program. Total production for 2012 was 3.49 GWh. Total project cost was $12 million.

3. *Biomass:* McNeil Generating Station, Burlington (50 MW net station electrical production).

During the 1970s, the rising demand for electricity and the retirement of some existing power sources prompted Burlington Electric Department (BED) to look for ways to provide additional power to meet the city's growing need for electricity. BED conducted studies to find a fuel source that would be locally available, reliable, cost-effective,

13 For a video of each of the site visits, visit http://sitingcommission.vermont.gov/publications.

renewable, non-polluting and publicly acceptable. Wood scored high on several fronts, particularly in putting money back into the Vermont economy and providing jobs for Vermonters. A bond issue went before Burlington voters in 1978 to request authorization, and it passed with 71% approval. A CPG was approved by the PSB in Sept 1981, and the final cost of construction was $67 million ($13 million under budget). McNeil has been online since 1984, when it was the largest biomass plant in the world. It is jointly owned by BED (50%), Central Vermont Public Service (20%), Vermont Public Power Supply Authority (19%), and Green Mountain Power (11%).

In 2008, Burlington voters approved the installation of a $10 million nitrogen oxide (NOx) reduction system at McNeil. Passing with 93% voter approval, BED installed the new system, and reduced NOx emissions to less than half previous levels (<0.075#/mmbtu). By operating at a level which is one-tenth the level allowed by Vermont state regulation (and one one-hundredth of the allowable federal level), it is able to sell Renewable Energy Certificates (RECs) to the entities in the state of Connecticut. It was anticipated that the revenues from selling RECs would pay for the project in 2-3 years, but it paid for itself in 18 months.

When McNeil is running at full load (50MW), it consumes 76 tons of whole tree chips per hour, and 550,000 cubic feet of natural gas per hour. In 1989, BED decided to use natural gas on an interruptible basis between May and November of each year, allowing the plant to operate more frequently, and making it more economical. 50 MW is nearly enough electricity to power Burlington on non-peak days. There are 40 people employed at the plant. Total production for 2011 was 113.7 million MWh, and provided BED with 32% of its power supply. With Vermont Yankee offline, it is the largest baseload producer in the state. It is one of two large-scale biomass plants operating in Vermont; the other, Ryegate, went online 20 years ago and produces less than half McNeil's output.

4. *Wind:* First Wind, Sheffield (40 MW).

Operational since October 2011, this project is sited atop Granby Mountain and Libby Hill in the Northeast Kingdom, Sheffield Wind is First Wind's first project in Vermont and has been operational since October 2011. The project has a maximum output of 40MW from 16 2.5 MW turbines, and is projected to produce approximately 115,000 MWH annually for Vermont utility companies (VELCO, Washington Electric Cooperative, and Burlington Electric Department), equivalent to about 15,000 homes or all the homes in Caledonia County. The project as it was originally proposed had 25 turbines, for a total of 52 MW capacity. In response to specific issues raised by intervening parties and state agencies in the siting process, the project was revised twice. The developer agreed to remove all seven turbines and associated infrastructure from the Town of Sutton.

The project took seven years to complete at a total cost of $90 million. Annual payments to Sheffield municipal coffers are $520,000/year, and expected annual contribution to the Vermont Education Fund is from $230,000/year to $345,000/year based on output. Total project footprint is around 20 acres, with another 2,700 acres put into conserved land. Decommissioning funds are set at $1,390,000. All permits and requirements, as well as ANR mitigation and PSB compliance requirements, can be found in Appendix 12.

5. Wind: Kingdom Community Wind Project, Lowell (63 MW).

Operating since October 2012, this project is sited near Lowell in the Northeast Kingdom. It has 21 turbines serving ~24,000 Vermont households. Owned by Green Mountain Power, KCW also sells to the Vermont Electric Cooperative. Annual payments to host community are $535,000/year, increasing by $32,000 each 5 years. Neighboring, non-host towns receive $1/MWh of generation for the first 10 years. The project took 4 years to complete at a total cost of $150 million, with an additional $10.5 million for a voltage reactive device to mitigate the impact of electricity flowing into the grid and ensure the stability of the regional transmission network. This project will yield the lowest-cost new renewable generation in GMP's portfolio. Total project footprint is 135 acres. Total conserved land is 2,800 acres.

Many modifications were made as a result of the project development process, ANR permit requirements, and concerns raised by the affected communities. The original transmission corridor was proposed at 100'. Based on concerns from landowners and ANR, this was revised downward to 50', resulting in 50 acres of reduced clearing and associated impacts. Other significant modifications included: changing transmission pole locations and heights, changing turbine locations, reducing nighttime FAA lights to only times when an aircraft is present (FAA approval still pending), and relocating the collector line to avoid wetland impacts. In response to ANR's requirements to mitigate for fragmentation impacts created by the 90 acres of clearing along the ridgeline, GMP conserved 1,971 acres in perpetuity. Decommissioning funds are set at $6,100,000. The permits obtained and the ANR mitigation and PSB compliance requirements met can be found in Appendix 12.

3.4 Public Hearings and Comments

The Commission held five public hearings across the state both prior to and after the draft report was made public. The first three public hearings were held to hear the broad range of public comment with respect to the charge of the Commission. These were held in Brattleboro, Burlington and Lowell. These comments were taken into account in the initial drafts of the report as well as in subsequent deliberations. The first

and second drafts of the package of recommendations were deliberated by the Commission and posted online for 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 addition to the public hearings, the Commissioners received a broad range of written comments and suggestions from over 470 individuals online, via email and in paper form. Many of these comments referred to additional reports or articles. Of the individuals who contributed, several submitted multiple comments, such that the total number of comments received reached over 800. Exhibit 14 illustrates the breakdown of individuals who commented by type of technology in electric generation. Some individuals commented on more than one source, and were counted once for each source they commented on in this graph. Many of the general comments reflected an overall concern about the impact of climate change on Vermont's natural resources, and support for moving toward renewable energy. Many of the comments on specific technologies raised concerns regarding that particular technology, with the highest concentration of concerns being raised about large-scale wind.

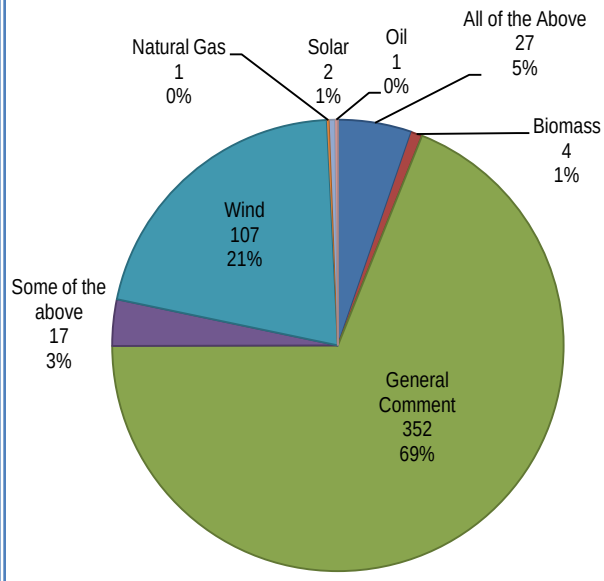


Exhibit 14: Written Comments by Generation Type (Individuals)

A summary of the various themes and recommendations generated by these comments are contained in a companion volume to this report, entitled *Energy Generation Siting Policy Commission: Public Involvement Report.* Each section of the report corresponds to the five broad categories of the recommendations contained in this report so that readers can view a summary of the comments on each issue the Commission has addressed. These categories include:

- Increase Emphasis on Planning
- Simplify Tiers System and Provide Incentives for Community-Led Projects
- Increase Opportunities for Public Participation
- Improve Siting Process for Increased Transparency, Efficiency, and Predictability
- Ensure Adequate Environmental, Health, and Other Protection

Because of the sensitive nature of the material, the report will present comments in a neutral, descriptive tone modeled on the tone adopted for the Public Involvement Report prepared as a companion volume for the CEP.

It is important to note that the Public Involvement Report is not an exhaustive record of public comments; rather it captures general trends to form a snapshot of public opinion across a variety of siting issues. As such, it is meant to help those interested in learning what those comments reflected without culling through the thousands of pages of

individual comments. For those interested in reading the specific comments in detail, they can refer to http://sitingcommission.vermont.gov/public_involvement.

3.5 Deliberations and Reporting

Given the wide range of information, opinions, and recommendations received by the Commissioners, the Commission opted to begin its deliberations by considering a core group of options for each of their seven charges. Many of the options were complementary, while others were contradictory. Most were derived from testimony or written comments. These options are contained in a draft 'Options Paper' that was placed online in order to receive comments from the public.

Once the options were discussed, adopted, and/or eliminated, it became apparent that a number of the options under each charge overlapped others being considered in other charges, and that developing recommendations by charge would not provide the integrated approach sought by the Commissioners. It was decided that a package of recommendations looking at the siting process in its entirety would be the most useful.

Consequently, the Commissioners decided to focus on the five broad themes contained in this report. The first draft contained a 'Package of Recommendations' to illustrate the inter-\related nature of the recommendations. This was also placed online for comments. As that package was deliberated, the Commissioners began to formulate the more specific recommendations under each of the broad themes that are included in this report. Public comment was encouraged, and received, over the course of six drafts, resulting this final report.

4. Detailed Package of Recommendations

4.1 Rationale for Maintaining Siting with the PSB

One issue on which the Commission received significant testimony is whether to modify the electrical energy siting process to require that it undergo Act 250 review rather than the current Section 248 process. The Commission would like to underscore that although important modifications to the siting process are necessary, it ***recommends that electric generation siting approval remain with the PSB using a revised Section 248 process***. The rationale for this is as follows. First, the PSB provides consistency over time with a single quasi-judicial body for decision-making, whose three members are appointed for 6-year terms. Second, these terms are staggered so that if there is a change in the Administration, the PSB composition does not change with it all at once. Third, as with other statewide investments, such as transmission lines, energy generation and system reliability require balancing the consideration of 'public good' with local and environmental considerations, which is accomplished best by a statewide adjudicative body. The Commission proposes to strengthen the tools and processes to keep these considerations balanced. Fourth, the Section 248 'contested case' process is both rigorous and inclusive, ensuring that any evidence that is provided can be cross-examined under oath; and providing considerable flexibility in granting approval for requests to intervene in the application process.

With regard to natural resource impacts, Section 248 provides a broader and more adaptive capacity than Act 250 to address new environmental (health, economic, and other) impacts in the context of siting. Not only must the PSB give due consideration to Act 250 criteria, but it can – and does - go much further in considering other natural resource issues such as forest fragmentation, wildlife habitat connectivity, and climate change which are not explicitly considered under the existing Act 250 criteria. Many projects have been modified considerably under Section 248 over the past decade to either mitigate or eliminate specific concerns that were identified in the process (See Appendix 11 for examples). The desire to increase the relevance of municipal and regional planning in the process is not inherently inconsistent with evaluation of the public good – the overarching standard of approval under Section 248. With the planning steps identified by the Commission in its recommendations, municipal and regional planning objectives can be successfully balanced in this evaluation.

Under current statute, the PSB has met its obligations for the siting review of new electric generation projects in Vermont. Through testimony received in each new docket, the PSB has expanded the range of issues it considers and the mitigation actions it requires. This has allowed it to begin establishing precedents that guide future projects and help address concerns raised by the public. Considering the process in use did not contemplate the current type and volume of projects, the PSB has performed a positive public service to Vermont.

That said, the siting process should be improved. The Commission received considerable testimony, reports and public comment regarding how the process needs to be more open, more efficient, less costly to all, more predictable and provide greater opportunities for public participation (among other concerns). This report outlines recommendations to address each of these concerns with the goal of strengthening the process. We believe the recommendations herein accomplish this balance successfully within the existing structure. Nonetheless, it remains clear to the Commission that the benefits of electric generation siting staying with the PSB outweigh arguments for change.

4.2 Why a 'Package' of Recommendations?

The Commission proposes the following package of recommendations to improve the siting process for electric generation in Vermont. They should be examined in the context of the overall system of energy generation and transmission infrastructure that is needed to implement the state's energy and land use policies. The recommendations focus on increasing the opportunities for public participation early in the planning and project proposal process with the expectation that stronger involvement early in the process will make for better projects being submitted, and a more expedient approval in the end. They also focus on improving the overall transparency, efficiency, and predictability of the process itself, ensuring broad access to all key information and more direct assistance from the PSB staff itself. Finally, they seek to address new environmental, health, and other impact concerns that have emerged over the past decade.

The recommendations are presented as a package because they are interlinked, reinforcing one another, such that pursuing some in the longer-term absence of others could lead to unintended consequences. That said, many of the recommendations could be implemented almost immediately, while others will require further refinement, rulemaking, or statutory change. Appendix 2 outlines these categories to help establish an expedient timeline for implementation. In those cases where more time is required for rulemaking, statutory change, or budget increases, the Commission advocates that the current processes under Section 248 remain in place, but that the PSB implement the suggestions for which they have current jurisdiction.

The recommendations fall within five broad themes:

- *Increase emphasis on planning at state, regional, and municipal levels, such that siting decisions will be consistent with Regional Planning Commission (RPC) plans.* Central to this is the need to develop a 'roadmap' for how Vermont can meet its CEP goals and accompanying statutory energy targets, taking into account Vermont's commitments to a more distributed, renewable energy future as well as to protecting its natural resources. This will require building multiple economic and land use scenarios and working in collaboration with regional and municipal planning commissions. Careful planning at all levels will help ensure that electric generation projects are sited, whenever possible, in the best places with adequate prior public input. Ultimately, the Commission feels that the combination of more planning and public input early in the process will help expedite later stages, thereby reducing time and costs for all involved.
- *Adopt a simplified tiered approach to siting* to achieve a quicker, more efficient review of a greater number of small or less-controversial projects while focusing the bulk of PSB time and effort on the evaluation of larger or more complex projects. The goal is to encourage more community-led projects, as is called for by the CEP, while simultaneously providing greater opportunities for public participation in larger projects. Likewise, it is intended to provide greater clarity and predictability for all parties. The Commission recommends a four-tiered system, where projects are classified by size. The Commission also recommends developing an incentive structure within the tiers to accommodate and support community-led projects and those that are designated priorities for municipalities or regions. (See Appendix 6 for suggested details on the Simplified Tier structure.)
- *Increase the opportunities for public participation*. The Commission acknowledges the need to increase opportunities to both inform and address public aspirations and concerns in the electric generation siting process. The emphasis on energy planning at the regional and municipal levels is a key factor to address this.

In addition, the Commission recommends several specific process modifications related to the Simplified Tier structure that focus on increasing accessibility to information, guidance and opportunities for participation.

- *Implement procedural changes to increase transparency, efficiency, and predictability in the siting process*. The Commission recognizes that the dramatic increase in the numbers and types of electric generation dockets before the PSB requires important refinements in the current processes to provide greater clarity, accessibility, transparency and predictability in the process to all parties. The Simplified Tier process incorporates a number of detailed recommendations to this effect.
- *Update environmental, health, and other protection guidelines (on a technology basis, where necessary).* As a broader range of electric generation technologies are deployed at an increasing rate and related siting issues evolve, the Commission recognizes the central role of providing clear and accessible guidance wherever possible to ensure that all parties in the siting process are adequately informed. The Commission recommends that specific guidelines and checklists be developed by the relevant agencies - Agency of Natural Resources (ANR), Public Service Department (PSD), Department of Health (DOH), and Agency of Agriculture, Food and Markets (VAAFM) - to reflect the changing electric generation landscape. These guidelines must be made publicly available on an improved PSB siting website, in clear layperson terminology on an improved PSB siting website, and based on peer-reviewed scientific literature.

4.3 Increase Emphasis on Planning

An increased emphasis on planning is the linchpin of the Commission's recommendations. Planning must be adequately funded if the recommendations are to have the intended effect of improving the siting process. By engaging regions and municipalities early in the process to proactively indicate how they prefer to contribute to meeting state energy goals, and equipping them with the necessary tools and resources to do so effectively, the Commission feels that there is a much greater likelihood of electric generation projects being sited in the best places. Moreover, the Commission believes that improved planning will result in projects with broader support, and will reduce the amount of time spent in permitting and litigation. The example of the VELCO transmission planning process in Vermont, which underwent an enormous transition in recent years to place more emphasis on public participation in planning, indicates that a greater investment in planning can generate substantial savings in time and money later on in the siting process itself by reducing issues of contention early in the process.

Recommendation 1: The PSD shall develop a state 'roadmap' to meet the CEP and statutory energy targets.

The PSD shall develop a 'roadmap' for meeting Vermont's goals and statutory targets through scenario planning, incorporating many new tools that are currently available to address environmental considerations as well as economic, transmission and load requirements. This dynamic modeling of different scenarios will enable policymakers to understand a range of potential paths for meeting the state's energy and environmental protection goals, and will include, among others, recommendations on: the mix of in-state and out-of-state energy sources; the anticipated mix of technologies; areas of high and low potential for energy siting; economic and environmental costs and benefits; and the broad parameters for cumulative impact of each scenario. It will also provide RPCs with essential guidance to carry out their own energy planning so as to contribute to overall state energy goals while also meeting and respecting other objectives, such as natural resource goals.

Process: This planning exercise should be carried out by the PSD in collaboration with the Agency of Commerce and Community Development (ACCD), ANR, other relevant state agencies, utilities, and RPCs[14], with ample opportunity for public input. The PSD should facilitate this exercise through technical assistance and administration of funding provided by the legislature. It should also be closely coordinated with the Vermont System Planning Committee (VSPC) to proactively plan for the state's future transmission needs. VSPC and VELCO planning and public outreach strategies have demonstrated effective approaches to collaborating with multiple agencies and utilities, as well as involving the public in decisions about alternative scenario planning that could serve as important models for building a 'roadmap' for energy planning. The Commission recommends that a similar group be formed to aid in the energy planning process.

Outreach: A fundamental element of building a roadmap must include a concerted effort by the PSD and other relevant agencies to explain - and illustrate - to communities across the state what different energy scenarios will entail. This will allow communities to understand that meeting the CEP and statutory goals will not result in covering all ridgelines with turbines or all fields with solar farms, but rather will comprise a mix of may different energy sources at a variety of scales, balancing strengths and weaknesses of each (in terms of output, costs, natural resource impacts, greenhouse gas emissions, etc.) and optimizing conservation and efficiency measures. The Commission recommends that the PSD consider an education outreach effort about how energy works, the challenges to our current energy system, and the basic economic and environmental costs and benefits of our choices. This will also enable communities and municipalities to more effectively participate in their own energy planning exercises to find constructive ways to proactively contribute to state goals.

Tools: Some of the tools that could inform this process include: ANR's newly released 'Biofinder' tool to identify areas of particular natural resource importance; the Vermont Renewable Energy Atlas; energy scenario planning models under development by the University of Vermont's Gund Institute, Energy Action Network (EAN), and others; VELCO transmission maps; VSPC's identified constrained areas on the electric grid; cumulative impact models built by the Wilderness Society (among others); and an new 'Energy Zones Mapping Tool' developed by the Eastern Interconnection States Planning Council. In addition, there are a number of important federal resources, including those of the National Renewable Energy Laboratory, the Department of Energy, and the US Environmental Protection Agency.

This state-level planning will provide the fundamental inputs, guidance and tools for effective planning at the regional level. As indicated in Recommendation #2, the iterative work between the PSD and the RPCs will be critical to this process, and will require that energy aspects of regional plans be developed in a coordinated fashion to enable the PSD to assess whether the plans, taken together, are consistent with Vermont energy goals and statutes. Given the rapid pace of technological advancement and energy demand that could have siting implications, these plans will need to be updated on a regular basis.

[14] By statute, regional plans are approved by a minimum 60% of the municipalities in their regions. RPCs are made up of municipal representatives and planners.

***Recommendation 2*: RPCs shall develop energy guidelines, policies, and land use suitability maps as part of their regional plans in order to identify high/low potential areas for electric generation siting consistent with legislated energy goals and the CEP.**

- *By updating regional plans to include these guidelines, policies, and land-use suitability maps (to be defined in relevant statutes), RPCs shall have formal party status and their plans shall be given **'substantial consideration'** under 30 V.S.A. § 248 in the siting process.*
- *If determined by the PSD to be consistent with legislated energy goals and the CEP, the plans shall be **'dispositive'** under 30 V.S.A. § 248 in the siting process.*

The best places for energy development, and the resources to fund their development, are limited by a number of factors. To this end, identification of these places relative to the requirements of the type of energy generation technology in question - and the potential impacts of that technology - is essential for Vermont's energy and land use policies to succeed.

a) The first step is to ensure that the statutes governing RPCs and their plans define the necessary elements to incorporate in a regional plan in order for it to be consistent with legislated energy goals and the CEP. This may require amending statutes, including 24 V.S.A. §§ 4302, 4348(a), 4350, and 4382. Such amendments would provide: i) a clear definition of the energy-related content of those plans, including the aspects necessary for the PSD to make a consistency determination; ii) guidance on energy siting and planning; and iii) timelines for when the energy aspects of regional plans need to be submitted to the PSD, consistent with statutory requirements for updating the CEP.

Using many of the tools described in Recommendation #1, the PSD/ANR will provide the necessary guidance, tools, training, and resources to RPCs which, in their processes, work in collaboration with municipalities to develop the energy aspects of their regional plans that reflect their geographic characteristics as well as their energy generation, conservation and efficiency priorities.

Examples of high potential areas could be: places where efficiency gains might be possible (e.g., capacity upgrades at existing hydroelectric sites, or maximizing the thermal potential of McNeil Generating Station or other biomass CHP plants); 'low-hanging fruit' (e.g., brownfields, public buildings, new construction, rooftops, land under existing transmission lines, etc.); and specific zones. Examples of low potential areas might be those with a particularly high natural resource value, such as rare and irreplaceable natural areas, large habitat blocks, or areas that provide an important habitat connectivity function. Generation facilities proposed for sites within designated 'high potential' areas will still need to comply with all environmental regulations and meet the natural resource standards set forth in 30 V.S.A.§ 248(b)(5). These high potential/low potential areas may differ significantly by technology.

It is the intent of the Commission to provide regions with the opportunity to proactively indicate how they prefer to contribute to meeting state goals. However, for a region to simply opt-out or construct a blanket prohibition against any particular technology does not constitute adequate planning or meet the intent of this recommendation.

- By completing and adopting the energy update of a regional plan pursuant to the revised statutes, the RPCs shall have formal party status upon notice to the PSB, and their plans shall be given '*substantial consideration*'[15] (i.e. greater weight than currently applies under 30 V.S.A. § 248).

b) Once updated, the elements of each regional plan affecting energy will need to be reviewed by the PSD, concurrently with other updated regional plans to determine both individual plan consistency and - in the aggregate – overall statewide consistency with the legislated energy goals and the CEP[16]. The intent is to encourage regions to be consistent with the state energy goals, but to also provide sufficient flexibility for the regions to be both creative and selective about doing their part to meet the goals.

- If the PSD determines overall statewide consistency of RPC plans with legislated energy goals and the CEP, and if it then determines that the elements of a given regional plan affecting energy are also consistent, then the regional plan shall be '*dispositive'* in the siting process, meaning that any project appearing before the PSB must be in conformance with the regional plan.
- If the elements of the regional plan affecting energy are not deemed consistent, then the PSD should provide guidance for ways to adjust the plan to bring it into consistency.
- If a region does not adjust its plan in a manner that the PSD determines is consistent with legislated energy goals and the CEP, but its regional plan contains the new energy sections required by statute, then the plan shall receive '*substantial consideration*' in the siting process, but shall not be dispositive.
- If any disagreement about consistency is not resolved between a RPC and the PSD during this planning phase, then the PSB will make a determination of consistency as needed to determine the weight to be given a regional plan in the context of a particular docket. The PSD and the RPC are parties to the process and will provide evidence as to whether a regional plan is consistent with legislated energy goals and the CEP.

Recommendation 3: As a top priority for legislative attention, the RPC planning costs must be adequately funded.

The Commission believes that the foundation of improving the siting process is enhanced planning work at all levels, with particular emphasis on Vermont's 11 regions. For this reason, it recommends as a top priority that the legislature approve adequate resources for this critical planning work (estimated initial cost of $40,000 per region, to be administered by the PSD). It will be equally important to fund the costs of periodic updates of the regional plans (schedule and amount to be established by the PSD).

The Commission acknowledges that allowing regional plans to become dispositive in the siting process is a substantial increase in leverage accorded to regions, and can only be granted if the plans are developed with the necessary attention to a wide range of complex factors affecting energy in Vermont. However, it also believes that with sufficient resources and training, this planning work will not only engage Vermonters at all levels in understanding the benefits and costs of our energy choices, but also will provide them the opportunity to proactively

[15] Black's Law Dictionary defines 'substantial' as 'of real worth and importance; of considerable value; as opposed to something without value or merely nominal'.

[16] As defined in 30 V.S.A. section 202a ("State energy policy"): It is the general policy of the state of Vermont: (1) To assure, to the greatest extent practicable, that Vermont can meet its energy service needs in a manner that is adequate, reliable, secure and sustainable; that assures affordability and encourages the state's economic vitality, the efficient use of energy resources and cost effective demand side management; and that is environmentally sound. (2) To identify and evaluate on an ongoing basis, resources that will meet Vermont's energy service needs in accordance with the principles of least cost integrated planning; including efficiency, conservation and load management alternatives, wise use of renewable resources and environmentally sound energy supply.

participate in determining how their regions will help meet state goals. Without adequate funding for this planning process, the recommendations outlined above are meaningless.

Recommendation 4: Once regional plans have been updated as per Recommendation #2, municipal plans in that region shall be reviewed by the RPC for compatibility with the regional plan (in accordance with 24 V.S.A. § 4350). If approved as compatible, then they shall be given 'substantial consideration' by the PSB in the siting process.

It is the intent of the Commission to provide municipalities with the opportunity to proactively indicate how they prefer to contribute to meeting regional goals. However, for a municipality to simply opt-out or construct a blanket prohibition against any particular technology does not constitute adequate planning or meet the intent of this recommendation.

Under 24 V.S.A. § 4350, "the RPC shall approve a municipal plan if it finds that the plan: (A) is consistent with the goals established in § 4302 of this title; (B) is compatible with its regional plan; (C) is compatible with approved plans of other municipalities in the region; and (D) contains all the elements included in subdivisions 4382(a)(1)-(10) of this title." If municipal plans are approved by the RPCs under the updated regional plans, the Commission recommends that they be given '*substantial consideration*' by the PSB in the Section 248 siting process.

In order to assist towns with the development of compatible municipal plans and related siting policies, guidelines for what constitutes a compatible municipal siting policy should be developed by the RPCs in collaboration with the PSD and ACCD. Technical assistance in developing and revising such policies and plans should be made available to municipalities. If a municipality chooses not to participate, or if its plan is not approved by the RPC, the plan will retain '*due consideration*' currently accorded to municipal planning recommendations under 30 V.S.A. § 248(b)(1).

The Commission recommends that the language in 30 V.S.A. § 248(b)(1) be amended to clarify that 'due consideration' or 'substantial consideration' will be given to municipal or regional *'plans'* rather than just to the recommendations of commissions or a portion of those plans. Currently the statute requires that the PSB find that the "facility, will not unduly interfere with the orderly development of the region with *due consideration* having been given to the recommendations of the municipal and regional planning commissions, the recommendations of the municipal legislative bodies, and the land conservation measures contained in the plan of any affected municipality."

The Commission also recommends that 30 V.S.A. § 248(b)(7) be amended to have an electric generation facility be in compliance with the CEP rather than the 'electric energy plan' in order to address the interrelated issues across the energy subsectors. Currently the statute states that, before the PSB issues a CPG, it shall find that "the purchase, investment or construction…is in compliance with the *electric energy plan* approved by the department under section 202 of this title, or that there exists good cause to permit the proposed action."

4.4 Simplify Tiers and Provide Incentives for Projects with Community Support

Whereas the Commission recognizes that a 'tier' system currently exists for siting electric generation in Vermont, it is a system that was designed and amended across multiple legislative directives, and does not always function in the best interests of either the public or the project developers. Much of the testimony received by the Commission revealed a process that is lengthy and costly for all participants. Some of this is attributed to a need for greater public

participation in the process, particularly for more complex projects. Some is attributed to a need for greater clarity, predictability, and efficiency in the process itself. Added to this, the Commission feels that projects will have greater success if they are community driven.

For this reason, the Commission recommends that a Simplified Tier system be established that provides both greater emphasis on public participation, more predictable guidelines and timelines, and greater incentives for community-driven projects. The aims of simplifying the existing tiers for review in Vermont's electric siting process are:

- to encourage community-driven distributed renewable energy development
- to achieve a quicker, more efficient review of smaller or less controversial projects by removing existing barriers
- to focus the limited resources of the PSB on the evaluation of larger, more complex projects
- to provide for increasingly greater opportunities for public involvement as projects become more complex
- to provide greater transparency, uniformity, and efficiency in the siting process overall

Recommendation 5: The PSB shall implement a Simplified Tier system.

The Public Service Board (PSB) shall implement a Simplified Tier system to achieve a more efficient review of a greater number of small or less-complex projects while focusing the bulk of PSB time and effort on evaluation of larger or more complex projects. The four-tiered system would classify projects by nameplate capacity. Each tier would be accompanied by a clear checklist of requirements, available on the new PSB siting website (see Recommendation #19), and would require increasing levels of requirement for public participation. In addition, many of the remaining recommendations related to public participation and increased efficiency are directly linked to the Simplified Tier system. The Commission acknowledges that additional work will need to be done by the relevant agencies to finalize the tier structure to achieve the desired objectives.

- *Tier 1: Application Form Process* (< 500kW, the size of many school, municipal & farm-methane projects)
- *Tier 2: Simplified Process* (500kW to ≤ 2.2MW, the equivalent of the Standard Offer limit)
- *Tier 3: Standard Process* (>2.2 MW to <15MW)
- *Tier 4: Larger Scale Process* (≥ 15MW)

Exhibit 15 below summarizes some of the core concepts included in the proposed Simplified Tier system. The recommendations in the following sections lay out in detail the principal aspects of these proposed tiers that are related to increased opportunity for public participation and increased efficiency. Additional details related to this table are included in Appendix 6. The Commission acknowledges that additional work will need to be done by the relevant agencies to finalize the tier structure to achieve the desired objectives.

Exhibit 15: Proposed Simplified Tier System – Summary Table

Tier	Size	Registration/Permit Process	Public Notice	Statutory Procedural Timelines	CPG Performance Standards
1	<500kw	Application Form* with: • Description of size & location of project, including any distribution line upgrades	Notice at time of filing	If an issue is raised, hold pre-hearing conference within 21 days of the date	Approved in 30 days, if no issues raised

		necessary to interconnect the project; • Completion of the ANR checklist, including a map of the project site from Biofinder and ANR Atlas • For projects >150 kW, certification that it completed the necessary steps in PSB Rule 5.500 (Interconnection Procedures for Proposed Electric Generation Resources) • Attestation that project affirmatively meets all of the substantive criteria contained in Section 248(b)		that the PSB determines a significant issue has been raised.	3 months for final CPG determination
2	500kw-2.2MW	Application form* and pre-filed testimony with: • Explanation of how the project affirmatively meets each of the substantive criteria contained in Section 248(b). • Description of the outreach efforts undertaken by the developer • Certification that the developer has made good faith efforts to hold a meeting with town Selectboard(s), planning commissions & RPC • Copies of all comments received and a description of how the petition has addressed these comments.	45 days prior to filing, Notice shall provide preliminary plans showing the location of the project and a brief summary of the impacts of the proposed project.	After filing: 14 days for PSB to 'deem complete' If complete, set schedule: + 28 days to raise issues re 248 criteria + 21 days for PSB to determine if significant issue is raised If no issue, CPG granted If issues, 21 days for public hearing, followed by prehearing conference	Approved in 12 weeks, if no issues raised 6 months for final CPG determination, with extension if due cause is demonstrated
3	2.2MW-15MW	Application form* and pre-filed testimony with: • All requirements of Tier 2 • Explanation of how the project affirmatively meets each of the substantive criteria contained in Section 248(b). • Description of the outreach efforts undertaken by the developer • Certification that the developer has made good faith efforts to hold a meeting with town Selectboard(s) planning commissions & RPC Copies of all comments received and a description of how the petition has addressed these comments.	60 days prior to filing. Notice shall provide preliminary plans showing the location of the project and a brief summary of the impacts of the proposed project.	After filing: 21 days for PSB to 'deem complete' If complete, set schedule: + 21 days for public hearings + 14 days for motions to intervene + 7 days for responses to motions and a scheduling conference (+ 30 days after public hearing for scheduling conference)	9 months for final CPG determination, with extension if due cause is demonstrated
4	>15 MW	Application form* and pre-filed testimony with: • Explanation of how the project affirmatively meets each of the substantive criteria contained in Section 248(b). • Description of the outreach efforts undertaken by the developer • Certification that the developer has made good faith efforts to hold a meeting with town Selectboard(s) planning commissions & RPC Copies of all comments received and a description of	150 days prior to notice, applicant provides Public Engagement Plan to PSB. Notice shall be provided 90 days prior to filing. Notice shall provide preliminary plans	After filing: 21 days for PSB to 'deem complete' If complete, set schedule: + 21 days for public hearings + 14 days for motions to intervene + 7 days for responses to motions and a scheduling conference (+ 30 days after public	12 months for final CPG determination, with extension if due cause is demonstrated

		how the petition has addressed these comments.	showing the location of the project and a brief summary of the impacts of the proposed project.	hearing for scheduling conference)	
*Application form templates & checklists for each Tier shall be developed by PSB in conjunction with ANR and reference any maps, studies or resource assessments ANR requires for that Tier.					

***Recommendation 6*: Develop an incentive structure within the Tiers.**

In order to encourage projects that are community led and/or supported, or to reflect the top priorities of a given municipality or region, the Commission recommends developing an incentive structure within the tier system to enable these projects to be expedited. If a particular electric generation project has the full support of a municipality or region, it should trigger a more expeditious process in the proposed new tiers.

4.5 Increase Opportunities for Public Participation

The Commission believes that an increased emphasis on state, regional, and municipal planning, as outlined above, will be a key factor in increasing opportunities for public participation at all levels in deciding where electric generation is best sited. In order to formulate a regional energy plan, it is expected that municipalities will play a central role in the process. For those regional plans that are determined to be consistent with the legislated energy goals and the CEP, they will be considered dispositive. The role of the public will be further strengthened by the following complementary recommendations within the proposed Simplified Tier system:

***Recommendation 7*: The PSB shall establish a 'trigger point' whereby the public is notified of when scoping meetings with ANR and PSD begin and documents exchange hands regarding a proposed project.**

The notification would be placed on the improved PSB siting website (Recommendation #19).

***Recommendation 8*: The PSB shall provide earlier notification to the public in both Tier 3 and Tier 4 project applications.**

Exhibit 16: Proposed Public Notification Periods

Tier	Size	Public Notification Period
Tier 1	<500kw	At time of registration
Tier 2	500kw to 2.2 MW	45 days prior to filing
Tier 3	2.2 MW to 15 MW	60 days prior to filing
Tier 4	>15 MW	90 days prior to filing

Currently, an applicant is required to submit plans for construction to affected municipal and regional planning commissions and municipal legislative bodies 45 days prior to applying to the PSB for a CPG (for a project over 150 kW). Applicants must provide notice of the proposed project to each adjoining property owner at the time the petition is filed with the Board.[17] Many feel that this time period is too short for local parties to digest project information and develop an adequate and appropriate response, particularly for larger, more complex projects. Consequently, issues are often raised after an application has been completed, which can slow the process down and impose additional costs for everyone involved.

In Tier 3, the notification period should be increased from 45 to 60 days to all affected towns. In Tier 4, the period should be increased from 45 to 90 days (see Appendix 6). The intent is to give more time for affected parties to read and understand the project implications, and prepare responses, if necessary. It is also expected that because municipalities and regions will have already developed energy components of their plans, the proposed projects will be better prepared, as will the local authorities.

The PSB shall also review PSB Rule 5.403 to ensure that the rule provides sufficient notice to all affected towns. The definition of 'affected towns' may need to be assessed on a case-by-case basis.

Recommendation 9: The PSB shall add increasing levels of public engagement requirements to Tier 2, Tier 3, and Tier 4 project applications.

The Commission recognizes that the best developers already engage in this type of process, and often do so far earlier than is recommended here. This recommendation is not intended to undermine these efforts, but rather enhance them and require others who do not follow these processes to do so.

In Tier 2, examples of public engagement in the application should include: demonstrated contact with municipal selectboards, planning commissions, and the relevant RPC of affected towns, notification of adjoining property owners, along with a description of public outreach, comments received, and an explanation of how they were addressed.

In Tiers 3 and 4 (in addition to Tier 2 requirements and longer public notification deadlines), the PSB shall hold public hearings in at least one of the municipalities potentially affected by the project. Require the PSB to formulate areas of inquiry, among others, based on the principal concerns raised in the local hearing process. Include all recommendations of the municipal and regional planning commissions and the municipal legislative bodies in the PSB's evidentiary record. Ensure that any decision on a given project addresses the principal concerns raised in these recommendations.

In Tier 4, applicants shall provide a Public Engagement Plan (PEP) to the PSB 150 days prior to the 90 days public notice. The PEP would be based on guidelines developed by the PSD (using successful public engagement models such as VELCO and New York State, (see Appendix 8). PSD would designate/contract a facilitator to work with each applicant and the relevant public entities to ensure the PEP is implemented effectively. The applicant would be required in their petition for a CPG to identify and respond to issues raised through the PEP process. The new notice periods and PEP process do not replace the need for applicants to conduct the natural resource assessments

[17] Applicants of projects the PSB finds meet the requirements of 30 V.S.A. § 248(j) are not required to provide notice to adjoining property owners. However, applicants must include the names and addresses of all adjoining property owners with its petition. PSB Rule 5.402(F)(3).

and wildlife surveys that may be required by ANR (see Appendix 6 & 9 for details). The Commission recommends further development by PSD of what constitutes a PEP. The suggestions below are drawn from the New York example.

The purposes of the PEP are to:

- provide for an open exchange of information and ideas between the public and the applicant;
- provide complete information on the application to the public;
- provide meaningful public input to key decisions
- foster active, early, and continuing involvement of interested or affected persons
- solicit public comments, ideas, and local expertise
- identify impacts which may not have been known or anticipated by the applicant or government agencies

Suggested elements of a PEP are:

- consultation with affected agencies and other stakeholders
- pre-application activities to encourage stakeholders to participate at the earliest opportunity
- activities designed to educate the public as to the specific proposal and the 248 review process
- establishment of a website to disseminate information to the public
- notifications
- activities designed to encourage participation by stakeholders in the certification and compliance process

In addition, the applicant is expected to communicate with the public early in the pre-application process through the use of various means such as media coverage, direct mailings, fliers, or newsletters. This should be done before any agreements on project stipulations have been made between the applicant and interested parties. The applicant is also expected to hold public meetings and offer presentations to individual groups and organizations.

Recommendation 10: Provide RPC funding support, if requested, on a cost-share basis in the application period, defined as the point at which they receive official notice of the project.

These funds would cover expenses for those RPCs that have completed the planning process (in Recommendation #2) and would be applied to expenses associated with experts, staff time, attorneys and other related 'party' costs. These costs should be funded under the following limits.

- In order for a RPC to be eligible to receive funding, the PSD must first determine that the energy implications of the regional plan are consistent with the legislated energy goals and the CEP. Under this scenario, the PSD does not have any direct control over the region's plan, but there is an incentive for the RPCs to make the regional plan consistent with the CEP and legislated energy targets.
- Once a RPC has been cleared to receive funding, the funding would be limited to arguments of whether or not the project is in conformance with the regional plans. In addition to that limitation, the expense would have to be reasonable and the funding would be provided on a cost-share basis. This share will be determined by the PSB (e.g. 70% state, 30% RPC).

If a municipality raises an issue, and the statutory parties (ANR, PSD, etc.) cannot resolve the issue, then the PSB has the authority to hire an expert to address the concern.

4.6 Improve the Siting Process for Increased Transparency, Efficiency, and Predictability

The Commission heard from a wide range of parties, from communities to regional planning commissions to developers, who felt that there exists a significant lack of communication and critical information-sharing on the process and timing of an application, both in the pre-application and the CPG phase of the siting process. This translates into a perceived lack of transparency in the process.

The vast majority of cases before the PSB are heard by Hearing Officers, who preside over a docket on behalf of the PSB once a petition is filed. Bound by rules prohibiting *ex parte* communication, they have restricted authority to communicate with individual parties, except through formal written communications or unless all parties receive the communication simultaneously. The way the *ex parte* rules are currently carried out by Hearing Officers is seen by many as preventing them from providing necessary assistance to individual parties on the purely procedural aspects of the siting process. Parties feel that there is no way to ask simple questions and get simple answers on procedural issues. This creates a system where both formal parties and the public feel that the PSB process can be a 'black box'.

Recommendation 11: The PSB shall hire a Case Manager to provide guidance on all aspects of the siting application process to all parties.

The Commission recommends that the position of 'Case Manager' be created at the PSB to provide guidance on all aspects of the siting application process to all parties particularly as they relate to timing. In addition, the Case Manager would provide oversight for ensuring that the PSB and/or multiagency improved website remains up to date with appropriate docketing information. The intent is to have a person available to all parties who has more flexibility to deal with the entire range of procedural issues, and communicate freely with all parties, from the beginning of the application process through the final CPG permitting. The Case Manager would provide technical assistance especially to affected communities and intervenors, and facilitate resolution of issues among parties outside the formal proceeding. Moreover, the Case Manager would be able to identify issues early in the process and move cases towards settlement in many topics, leaving only the most difficult to go to the Hearing Officers or the Board. It is recommended that the position be a statutory position.

The Commission recommends that this position be at the PSB rather than the PSD because the latter is a statutory party in siting cases, along with ANR. Most of the relevant parties were clear in requesting procedural guidance from a person who was independent of either ANR or PSD, but who was also well versed in all of the siting requirements.

The Case Manager would, among other responsibilities:

- oversee and communicate compliance with screening and application checklists for each Tier
- work with PSD and ANR to ensure that the public engagement and natural resource assessment requirements are communicated to all parties and are met for an application to be 'deemed complete'
- communicate whether statutory timelines (under Recommendation 13) are adhered to by all parties (applicant, PSD, ANR, PSB)
- provide oversight for ensuring that the improved website remains up to date with appropriate docketing information

The Commission understands that the PSB recognizes the need to explicitly encourage Hearing Officers to communicate directly with all parties and the public about timing, filing formats and other procedural issues. This will also allow them to provide all the necessary information directly to the Case Manager to carry out his/her functions effectively.

Recommendation 12: The PSB and PSD shall collaborate to design and implement an online case management/docketing system.

This new case management/docketing system should include deadlines, dates for hearings, information on studies, parties, and intervenors, etc. to allow for easy access to project-related filings and provide transparent and timely updates as to project status and project information via the internet, open to the public. To further facilitate the process, this system should also include an e-filing capacity.

Recommendation 13: The PSB shall develop specific checklists for each Tier to establish when an application is 'deemed complete'.

Much of the testimony (and comments) received by the Commission focused on the lack of clarity regarding when an application is 'deemed complete', and that clear definitions of what a complete application constitutes would significantly improve the predictability and transparency of the process. The Commission also recognizes that in making changes to the current siting process to achieve the Simplified Tier system, there will need to be accompanying checklists to ensure that the requirements and expectations for each tier are as clear as possible to all interested parties to know when an application is 'deemed complete'. These new checklists would include the specific maps, studies and assessments required by ANR and any other information required by PSB, and may need to vary by technology.

Recommendation 14: The PSB shall require concurrent timing of ANR permit filing and application for a CPG.

Applicants would be required to file complete applications for any necessary ANR (or federal) permits at the same time (or prior to) its filing for a CPG application to be deemed complete. For Tier 3 and 4 dockets, discovery shall not begin until the associated ANR permit applications are deemed technically complete.

Recommendation 15: The PSB shall establish clear timelines for the initial stages of a Section 248 docket.

The PSB should establish and hold to standard timelines for all new dockets with regard to deeming an application complete, the scheduling a pre-hearing conference, and the scheduling of the public hearing, etc. For example, the PSB shall hold a pre-hearing conference within 14 days of an application being deemed complete. All timelines should be included in an online docketing system and on the 'one-stop shop' siting website, accessible to all parties.

Recommendation 16: ANR shall respond to permit applications consistent with ANR's permit performance standards.

These timelines shall be included in an online docketing system, and on the improved PSB 'one-stop shop' siting website, accessible by all parties. See Appendix 6 for details on proposed timelines within each tier, and for current ANR performance standards. Others may need to be developed.

Recommendation 17: The PSB shall establish overall performance standards for a PSB decision on a CPG by tier.

The Commission recommends establishing overall performance standards for a PSB decision on a CPG by tier. Exhibit 17 summarizes the difference between current timelines and the proposed performance standards of: three months for Tier 1, six months for Tier 2, nine months for Tier 3, and twelve months for Tier 4, to be modified as necessary if a project undergoes substantial changes (See Appendix 6 for details). For good cause shown, the PSB may extend the deadline for its final determination regarding the project, either at the request of a party or on its own.

Exhibit 17: Timelines for a Sample of Past CPG Dockets

Proposed Tier	Docket #	Size, Type and Location of Project	Date Filed to Date CPG Granted*	Total Time	Proposed CPG Performance Standard
<500 kW	7860	136.2 kw Solar – Chase Mills	3/23/12 – 4/23/12	1 month	30 days to 3 months
	7877	382.8 kw Solar – North Springfield	5/19/12 – 8/22/12	3 months	
	7845	450 kw Methane – Bristol	12/14/11 – 4/9/12	4 months	
500 kW to ≤2.2 MW	7823	750 kW Biomass – Brattleboro	11/16/11 – 3/21/12	4 months	12 weeks to 6 months
	7871	2.2 MW Solar – St Albans	5/2/12 – 11/2/12	6 months	
	7844	2.2 MW Solar - Charlotte	1/26/12 – 1/22/13	1 year	
>2.2 MW to ≤15MW	5823	6.05 MW Wind - Searsburg	6/06/95 – 4/01/96	10 months	Up to 9 months
	7508	10 MW Wind – Georgia Mountain	3/26/09 – 6/11/10	1 yr, 2.5 mos	
>15MW	7376	40 MW Peaking Unit - Swanton	8/22/07 – 1/21/09	1 yr, 5 months	Up to 12 months
	7250	45 MW Wind - Deerfield	1/8/07 – 4/16/09	1 yr, 3 months	
	7156	52 MW Wind - Sheffield	2/21/06 – 8/8/07	1 yr, 5.5 mos	
	7628	63 MW Wind – Lowell	5/21/10 – 5/31/11	1 yr, 1 week	

* Many of these projects had significant modifications, thereby lengthening the time frame

The Commission understands that in some instances the proposed performance standards are shorter than the current time it takes to be granted a CPG. This is illustrated in Exhibit 17, which places a sample of recent approved projects under the proposed Simplified Tiers for comparison purposes. It should be noted that many of these projects were significantly modified during the application process, thereby contributing to a longer time frame.

The Commission believes that by implementing the recommendations in this report related to investing in more front-end public engagement, as well as increasing transparency and guidance in the overall process, the projects being submitted to the PSB will have fewer concerns once they are deemed complete. Therefore the actual application process should be faster, with a reduced level of litigation. In addition, with each new type of project that goes through the siting process, the PSB and all relevant parties will learn lessons regarding impacts which can feed into helping to improve guidelines, standards and the process itself, thereby helping to better shape new projects as they come before the PSB. Finally, as per the Commission's charge, it reviewed related siting standards in other New

England states and found that all of them use overall timelines that fall between 6 and 12 months (see Appendix 7 for comparisons). However, the Commission acknowledges that Vermont's practices are not always the same as other states and that these performance standards may need to be adjusted once they have been put into practice.

Recommendation 18: The PSB shall use a 'rebuttable presumption' for ANR permits.

An applicant may choose to provide affirmative testimony that it will satisfy the environmental criteria under Section 248(b)(5) or, if a permit is required, it may rely on the issuance of the permit to demonstrate that it has satisfied particular criteria. To the extent that the applicant relies upon the permit, there shall be a rebuttable presumption that the permit demonstrates compliance, provided that the project is constructed and operated in conformance with the permit requirements. Absent the introduction of contrary evidence, the PSB will consider the issuance of the permit to demonstrate compliance with the specific criteria.

Recommendation 19: The PSB shall ensure that the improved PSB website design incorporates a 'one-stop shop' for all siting information.

The siting website should include:

a) Accessibility to the process by all parties.
b) A FAQ section written in clear layperson terminology for each stage and tier of the electric siting process (see examples from New York or Massachusetts), including the basic elements of a contested case process. Perhaps this could be a project for Vermont Law School or UVM.
c) All required checklists for each tier in the Simplified Tier system.
d) Access to the case/docket-management system in part to signal when new timelines are met (or not).
e) Guidelines and standards by permit, study, and by energy technology for all relevant agencies, including but not limited to ANR, PSB, PSD, DOH, and VAAFM (in addition to any necessary links between PSB docket numbers and ANR permit numbers and related website information).
f) Access to historical docket records and orders, easily searchable for precedents (and free to the public; note that this may require procedural and statutory changes). If a subscription service like Westlaw provides content and search functionality in a way that is more efficacious than something that might be designed from scratch, then either contract the service to Westlaw to manage the documents and search engine for the PSB, but provide free access to the public.
g) A section where the 'trigger' point for new projects is signaled (see recommendation #7).
h) All project monitoring reports.

The Commissioners received a wide range of testimony and public comment regarding the perceived lack of accessibility to important information regarding the siting process. Some of the examples cited were:

- Too many different websites providing insufficient information on the siting process (ANR, PSB, PSD, etc.).
- An inability to search for specific elements and precedent in current and past cases for those wishing to establish their case before the Board. Or, if certain of these documents are available, it is often through a subscription service like Westlaw, which requires a substantial fee for use.
- No FAQ section to guide a new party to the process through the requirements in clear, simple layperson terms.

The Commission is aware that the PSD and PSB have contracted with a vendor to design and implement an integrated electronic filing web portal, case management, and document management system that will be free to the public (see Exhibit 18). While it applauds this effort, the Commission recommends including several specific elements related to the siting process in particular.

This will involve the collaboration of PSB, ANR, and PSD to ensure that there is a 'one-stop shop' resource on the PSB website that can answer all basic siting related questions and enable all relevant parties to follow a docket through the siting process. Rather than have the whole site do everything for everyone, maybe part of the site could be geared towards public understanding and participation, while another part towards professionals. Many other state siting websites are organized this way. Finally, it would be useful for the PSB to solicit stakeholder and public input regarding what would make the website useful, and that it be updated on a regular basis.

Exhibit 18: The Current Design of a
New Online Document Management System
ePSB and PUREDOCS

In 2012 the PSB and the PSD contracted with a firm to develop a new online document management system to improve the accessibility to PSB documents. The system will be called ePSB, which stands for Electronic Public Service Board. The PSD's system will be called PURE DOCS – Public Utility Regulation Electronic Filing, Docketing and Document Management System. These systems will be a key component of the overall information and document management strategy of the two bodies.

All PSB elements and most PSD division functions are included in this project. PURE DOCS and ePSB will be deployed in a manner that maintains the separation of PSB records and work-in-process from PSD records and work-in-process; while providing public access to all documents designated by either agency as public. PURE DOCS and ePSB will provide access to internal users via a web browser on the intranet and to the public and remote authorized staff via the internet (including smart phones and tablets).

The agencies will independently create business rules and workflows for the internal processes of each agency coordinating as necessary to avoid duplication and as a team to develop procedures for utility and public access.

Regarding siting documents specifically, the system will have all of the documents and data associated with each specific case that can be displayed and which the public will be able to access. At this stage, the PSB has decided not to convert prior orders, though they may decide at some later date to move all or some of their historical files over. They want to become more familiar and comfortable with the system first before converting their files. The PSD will be converting the CAPI data base files, the Dig Safe data base files, the net metering files and the annual report files---but not the case files given that the PSB has the official record.

All files, documents and data in the system will be searchable, with many different search options and methods. Additionally, the public will have access to much of the non-confidential case information as well.

Recommendation 20: The PSD shall also update its website to serve as the pre-application site for relevant public information.

The PSD website should clearly note projects in the pre-application phase, and include notice of contact information, public review opportunities, and other similar information that would assist the public in engaging in the project review and discussion stages outlined in the proposed tiers. This website should also serve as a resource for post-construction comments and reporting on monitoring and other activities of the PSD.

4.7 Enhance Environmental, Health, and Other Protection

As a broader range of electric energy technologies are deployed at an increasing rate and related siting issues evolve, the Commission recognizes the central role of providing clear and accessible guidance wherever possible to ensure that all parties in the siting process are adequately informed.

Recommendation 21: All relevant agencies – ANR, PSD, VAAFM, and DOH – shall update standards and guidelines (on a by-technology basis, where relevant).

All relevant agencies - ANR, PSD, VAAFM, and DOH – shall update environmental protection, health and other standards and guidelines (on a by technology basis, where relevant). In the planning stages of a project, developers may benefit from clear guidance from ANR and PSD, and other related agencies. These guidelines should be made publicly available on an improved PSB siting website, in clear layperson terminology and based on peer-reviewed scientific literature, where possible, as well as established land use policies and priorities. Given that there are several new areas of impact resulting from the siting of electric generation technologies, these agencies shall determine which of these impacts fall within the following categories:

a) An update of existing guidelines.
b) New guidelines that reflect additional impacts from electric generation.
c) Case specific or further study: identification of areas of impact for which there remains insufficient information to develop guidelines – or that are so site-specific that general guidelines are not applicable. In these cases, applicants must continue to rely on a case-by-case analysis and direct consultation with relevant agencies until which time there is sufficient information to establish guidelines.

Where precedents have been set on any given project impact, they must be clearly indicated and searchable on the improved PSB website. Certain guidelines on new impacts, such as setbacks and noise, may require the PSB to open a docket to study the issue prior to establishing specific criteria. Appendix 9 provides a summary of the key areas of standards and guidelines.

Recommendation 22: When determining a project's impact, the PSB should give 'substantial consideration' (i.e. greater weight) to Act 250 criteria as part of the siting process review.

When determining a project's impact, the PSB should give '*substantial consideration'* (i.e. greater weight*)* to Act 250 criteria as part of the siting process review. These criteria include 10 V.S.A. § 6086(a)(1) through (8) and (9)K. This recommendation is made with the explicit understanding that, consistent with current practice and case precedent, the PSB will, and should, continue to include in its 30 V.S.A. § 248 (b)(5) review, examination of impacts beyond the more narrow 10 V.S.A. § 6086(a)(1) through (8) and (9)K criteria in order to make a broad finding on a project's effect on esthetics, historic sites, air and water purity, the natural environment, the use of natural resources, and public health criteria. The Commission also recommends that the Natural Resources Board consider reviewing and modernizing all of these same Act 250 criteria (10 V.S.A. § 6086(a)) to reflect new scientific understanding of impacts related to electric generation and global climate change.

Recommendation 23: The Agency of Agriculture, Food and Markets shall be granted statutory party status in the siting process.

VAAFM shall become a statutory party in the siting process in cases where there is more than a *de minimus* impact on prime agricultural soils, soils of statewide significance, or the project takes place on a farm as defined by the Accepted Agricultural Practices (AAPs).

Recommendation 24: The Department of Health shall review standards and provide guidelines, where possible.

The DOH shall review national and international standards from peer-reviewed scientific literature regarding health impacts and monitoring systems by technology and provide guidelines, where possible, to be updated annually as science evolves. Applicants will provide public health impact assessments under Tier 2, Tier 3, and Tier 4 projects as per 30 V.S.A. § 248(b)(5). The DOH shall become a statutory party in the siting process on these issues.

Recommendation 25: The PSB shall consider cumulative impacts in project review for siting electric generation.

ANR and PSD shall develop guidelines and tools for understanding and measuring cumulative impact to be used in the planning, application, and monitoring phases of the siting process. From this work, they will provide specific guidelines for project applicants regarding cumulative impact assessments in Tiers 3 and 4.

Recommendation 26: All parties should agree on 3rd party monitoring experts

All parties should agree on 3rd party monitoring experts to be funded by the petitioner, and overseen by the appropriate agency (ANR, PSB, DPS, DOH) for construction and operational phases of a project. If no agreement is reached, a determination shall be made by the PSB. The Commission recommends that bill-back authority continue to be used here. All quarterly or annual reports required in this process shall be placed on the improved PSB website (Recommendation #19). Overall project compliance with monitoring shall be assigned to the PSD, including public complaint responsibility. All monitoring reports and data shall be made available on the improved PSB siting website as they are received.

4.8 Cross-Cutting Recommendations

Recommendation 27: Pay Attention in the short term

Although many of the following points have been covered in the body of this report, the Commission recommends that the Board pay additional attention to these issues in the near term as they relate to siting electric generation within its current jurisdiction.

- The public need for procedural advice throughout the application process (Case Manager).
- An improved PSB website including an online case management system.
- Consideration of economic efficiency and least environmental damage, with particular attention to climate change.
- Health issues.
- Cumulative impacts, which may include aesthetic, grid, economic and health effects.
- Potential effects on neighboring property values.

- Consideration of viewshed in accommodating participation of communities.
- Setbacks.
- Principal concerns raised at public hearings for the project.
- A more efficient process for smaller, community-sponsored projects.

***Recommendation 28:* The PSD shall make a recommendation to the Legislature regarding funding options to cover the costs of an improved siting process.**

The PSD, in cooperation with other relevant agencies, shall consider options for funding mechanisms to cover the costs of an improved siting process for the purposes of making recommendations to the Legislature. This would help address issues of increased demand for services from relevant agencies (ANR, PSD, PSB, and possibly VAAFM and DOH) related to an increasing number of electricity generation dockets, as well as costs related to improved efficiency measures, and increased public participation. The recommendations included in this report have attempted to keep additional costs to a minimum. However, there are certain critical components that the Commission feels must be funded if the entire package of recommendations is to succeed (see Exhibit 20 for details). It is important to note that some of these costs are one-time initial costs, whereas others will be marginal increases in recurrent costs. Consequently, it will be important to consider funding mechanisms that allow for both.

Potential funding mechanisms to consider are that used in a number of other New England states, including: i) *filing fees* assessed to applicants (on a per MW basis); ii) *annual fees* assessed to all generators (note: merchant generators are not obligated to pay the gross receipts tax imposed on utilities for the sale of electricity, whereas they impose a burden on the siting process that is not adequately recovered by the present fee structure. In this context, it is important that project related costs not be borne by taxpayers.); and iii) bill-back authority, which is currently available in statute (30 VSA, §§ 20, 21), but is not used as fully as it could be. Once the mechanisms are established, it would be important to consider an overall cap, as is done in all other NE states, to ensure fairness and predictability for applicants.

Exhibit 19: Potential Funding Categories

Type of Potential Funding Source	One time	Recurrent	As Needed
Filing Fee (per MW)	X		
Annual fee		X	
Bill-back authority for agencies			X
Bill-back for RPCs (on cost-share basis)			X

The Commission is aware that State budgetary resources are constrained in the current economic environment and has made an effort to keep additional costs of the recommendations to a minimum. It has also identified potential sources of funding, where possible, to address both initial 'investment' costs, as well as any recurrent costs generated by the approach. It is the Commission's belief that there are certain key recommendations that are central to the overall success of the proposed approach to revising the siting process. If these recommendations – such as financing the RPC's planning efforts, hiring a Case Manager and improving the PSB website – are not adequately funded, then in could critically undermine the overall goals.

Exhibit 20 summarize the three types of costs anticipated by the Commission related to the recommendations contained in this report: i) Initial costs: those that require a one time, up-front investment, such as the initial planning costs for RPCs or the website design and installation; ii) recurrent costs: those that will have an annual or otherwise regular recurrence, such as a Case Manager or regular updates of the Regional Plans; and iii) costs that occur on an 'as needed' basis: these include costs related to specific studies requested during the contested process, periodic website improvements, or funding for RPCs (on a cost-share basis) to support their work as a statutory party. Exhibit 20 outlines a few of the potential types of fees that could be considered to help meet the anticipated costs resulting from improving the siting process.

Exhibit 20: Potential Cost Categories

Potential Cost Item	Initial Cost	Recurrent Cost	As Needed
State Planning/Scenario modeling	X		
RPC Plans (11 Regions)	X (est. $440,000)	X (est. $44,000)	
Website Improvements/On-line Docketing	X		X
Case Manager		X	
State Agency Costs related to the Permitting Process		X	
PSD Facilitator and Compliance Monitoring		X	
RPC Funding Support as Statutory Party (on a cost-share basis)			X
3rd Party Monitors		X	
Selected studies			X

4.8 Other Important Items Related to Siting but not within the Commission's Charge

The Commission recognizes that there are many other issues related to electric generation siting which may have an important impact on the future of energy in Vermont, and therefore a potential impact on siting processes, but which were not within the specific charge of the Commission to review. Nonetheless, the Commission acknowledges the importance of these issues and summarizes them in this section.

RECs and RPS

The Commission recognizes that Vermont's current lack of a policy requiring utilities to retain a certain number of Renewable Energy Certificates (or RECs) has both positive and negative effects. It helps utilities keep electric rates to Vermont consumers lower than they otherwise would be, but it also precludes the claim of 'renewable status' for existing generators using renewable fuels. All other states in New England have adopted a renewable portfolio standard (RPS) that requires utilities to purchase renewable energy and retire a certain amount of the associated RECs. Given that the current set of recommendations centers upon the important role of planning in the context of state energy goals and statutory targets, the Commission acknowledges the importance of addressing this issue.

Agriculture and Energy Considerations

Because of the large number of Vermont farms interested in pursuing energy generation, and the increasing number of manure digester projects that serve both energy and runoff reduction purposes, the Agency of Agriculture has identified several procedural issues which could provide incentives and improve the efficiency of the siting process to help on-farm energy projects, insofar as they enhance the economic viability of farms (including selling electricity to utilities).

- PSD should explore the possibility of spreading the costs of electrical integration of manure-digester projects among the ratepayer base (remaining cognizant of retail electric rates), given the multiple public benefits of manure management through anaerobic digestion that go beyond simple electric generation. This would provide a significant incentive for further development of on-farm distributed energy generation.
- Renewable energy projects should be allowed on conserved land when: i) the installation does not permanently commit a piece of prime agricultural soil or soils of statewide significance to the energy use either by virtue of costs of reversal or destruction of soil quality; ii) the installation does not severely threaten or eliminate the underlying farm's long term economic and agronomic viability as a farm.
- The PSB should adopt the framework currently under development by the Agency of Agriculture, PSD, and ANR to delegate responsibility for manure management systems in electric generation to the relevant state agencies under Sec. 248(b)(5).
- In cases (Tiers 3&4) where there is more than a *de minimus* impact on prime agricultural soils, soils of statewide significance or the project takes place on a farm as defined by the AAPs, the AAFM should become a statutory party.

Relationship between Act 250 and Section 248

As noted in this report, the Commission has recommended that electric generation siting approval remain with the revised Section 248 process. The Commission recognizes that new electric generation proposals on land subject to Act 250 permits may raise complications. The Commission encourages the appropriate state agencies to analyze and address these possible complications and/or jurisdictional issues.

Siting Issues around Stored Energy

Energy storage is one potential method that the grid can use to more finely match energy production to energy consumption, including "firming" of intermittent generation. The prime example of such storage is pumped storage and the extended pondage available from Hydro-Quebec. Increasing storage capability can increase efficiency and thereby lower the cost of energy production and facilitate the use of intermittent electric sources. Electricity *storage* may be a key component of any initiative to increase the true efficiency of the grid, particularly if there are more intermittent sources in the electricity mix. Currently, storage that produces electricity (pumped storage, Hydro-Quebec) are subject to PSB regulation, the Commission recommends that the PSD explore the potential siting implications of other large-scale storage as the renewable energy portfolio expands across the state.

Retail Price Impact of Energy

Vermont does not exist in energy isolation and there exists the distinct possibility that substitutions for electricity including fuel oil, natural gas, propane and wood may decline in price in both absolute and relative terms in the short

and medium term. The presence of a significant price disparity between retail electric rates and substitutions may have negative effects on companies responsible to serve electric customers. Of course, the converse is also a potential outcome where the cost of renewable generation declines with market transformation and the cost of fossil fuel and other energy could rise (for example with the appropriate cost of regulating environmental safeguards for fracking of natural gas). The point of this section is to underscore that price does matter both for businesses concerned with the performance in the next quarter and for those who value the longer-term cost of energy with externalities fully valued.

5. Conclusion and Next Steps

Based on the hundreds of documents, expert testimony, and public comments received over the past six months related to Vermont's electric generation siting process, the Commission has concluded that there is a need for the siting process under Section 248 to be revised to address a shift in the size, scope and pace of proposed projects over the last decade. In particular, the Commission acknowledges the need to move towards a process that is more open, accessible, and inclusive, while also providing greater clarity, predictability, and efficiency.

The Commission recognizes that the recommendations contained in this report provide *broad parameters* for more detailed work that will need to be carried out within and among the relevant agencies, the PSB, and the Legislature. This is commensurate with its role as a Commission, and the six-month time frame under which it worked.

Nonetheless, the Commission would like to point out that certain recommendations can begin immediately through administrative action, but may take an extended period to complete (e.g. state scenario planning and updating regional plans to be consistent with Vermont's legislated energy goals and the CEP). However, other recommendations could be implemented in the very short term and have immediate beneficial effect (e.g. hiring a Case Manager and implementing an electronic case management system at the PSB). Still others will require medium-term action, allowing the implementing agencies to have time to develop the details, establish rulemaking or pursue statutory changes (e.g. Simplified Tier structure). The Commission has provided a preliminary proposal to help establish a potential timeline for implementation in Appendix 2, which will need to be reviewed by the PSB, the relevant agencies and the Legislature. Once reviewed, the Commission recommends moving quickly on the simpler administrative actions and keeping the remaining Section 248 processes in place while the medium- and longer-term recommendations are completed.

In this context, the Commission is willing to reconvene or to be available, upon request, to the Administration and the Legislature as they work through the process

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Vermont Public Service Board.

(1996) PSB Docket 5823: In re Petition of GMP (Searsburg wind project)
(2006) PSB Docket 6911: In re Petition of EMDC (East Mountain Wind Project)

(2007) PSB Docket 7156: In re Amended Petition of UPC (Sheffield Wind)
(2008) Biennial Report on Renewable Energy
(2009) PSB Docket 7250: In re Amended Petition of Deerfield Wind (Searsburg expansion)
(2010) PSB Docket 7508: In re Petition of Georgia Mountain Community Wind
(2010) Biennial Report on Renewable Energy
(2011) PSB Docket 7628: In re Joint Petition of GMP et al. (Kingdom Community Wind,Lowell)
(2011) Study on Renewable Electricity Requirements
(2012) Biennial Report on Renewable Energy
(2012) Progress Toward Attaining SPEED Goals
(2013) Further Analysis and Report on Renewable Energy Requirements

Appendix 1: EGSPC Executive Order

STATE OF VERMONT

EXECUTIVE DEPARTMENT

EXECUTIVE ORDER NO. 10-12

[Governor's Energy Generation Siting Policy Commission]

WHEREAS, as set forth in the 2011 Comprehensive Energy Plan and statute, Vermont has recognized the need to increase its energy independence and resilience through the greater use of renewable energy in all sectors; and

WHEREAS, in the electricity sector, there has been broad support for local renewable energy generation; and

WHEREAS, the number and diversity of renewable electric generation installations – of all sizes and generation types – proposed to be sited in Vermont has grown substantially over the last decade and a half, and previously such installations were infrequent; and

WHEREAS, state-level review and approval of all electric generation project siting continues to be of utmost importance due to the interconnected electric grid, electric reliability requirements, and statewide infrastructure and planning needs, among other reasons; and

WHEREAS, based on requests and input from legislators and stakeholders, the Commissioner of the Department of Public Service has recommended that a commission be appointed to address concerns regarding electric generation siting processes and to address related recommendations set forth in the 2011 Comprehensive Energy Plan; and

WHEREAS, a group of independent individuals willing to engage with state agencies, legislators, stakeholders, and the broader public will inform the discussion regarding whether and how current statewide electric generation siting processes should be modified.

NOW, THEREFORE, BE IT RESOLVED that I, Peter Shumlin, by virtue of the authority vested in me as Governor of the State of Vermont, do hereby create the Governor's Energy Generation Siting Policy Commission as set forth below.

I. Composition, Appointments, and Process

The Commissioner of Public Service shall select and appoint five members of the public to the Commission.

The Commissioner of Public Service or his or her designee and the Secretary of the Agency of Natural Resources or his or her designee shall be additional, *ex officio* members of the Commission. The five members appointed by the Commissioner of Public Service may elect a chair and deputy chair. The Department of Public Service and Agency of Natural Resources shall provide administrative support to the Commission as requested. The Commission shall meet initially at the call of the Commissioner of Public Service, and thereafter at the call of its chair or deputy chair. The Commission also may request the assistance or advice of any stakeholder or expert individuals with interests in electric generation siting, and shall seek input and comment from the public at large.

II. Charge

The Commission shall provide the Governor and the chairs of the legislative committees House Natural Resources and Energy, Senate Natural Resources, House Commerce, and Senate Finance a written report by April 30, 2013 regarding best practices for the siting approval of electric generation projects and for public participation and representation in the siting process. The term "electric generation project" shall mean all electric generation facilities other than net metered and group net metered facilities.

The report shall provide recommendations regarding modifications or improvements that Commission believes should be made in Vermont, through legislation, Public Service Board rule, or otherwise, and shall specifically:

1. Compare the procedures (including timeline for review, substantive criteria and standards applied, and procedural mechanisms employed) used in Vermont for approval of siting for electric generation projects with state-level procedures used elsewhere, particularly in other states within New England's regional electric market;
2. Compare the role of and/or opportunity for public participation, public advocacy, and municipal, town, or regional planning body participation in Vermont's approval process for electric generation projects with state-level procedures used elsewhere, particularly in other states within New England's regional electric market;
3. Review alternative dispute resolution processes for electric generation project siting used elsewhere, particularly in other states within New England's regional electric market;
4. Review the coordination and timing of state-level permit issuance in Vermont for electric generation projects, and compare with state-level permit coordination and timing in place elsewhere, particularly in other states within New England's regional electric market;
5. Analyze whether Vermont's criteria for electric generation project siting approval adequately protects Vermont's lands, environmental resources, and cultural resources, both with respect to individual projects and with respect to cumulative impacts of multiple projects;
6. Analyze best practices for monitoring environmental impacts of approved and built facilities going forward, to allow for an iterative process over time based upon lessons learned; and
7. Consider whether the state should develop generic siting guidelines for developers of electric generation projects by technology, to aid permit process uniformity and provide guidance on environmental impacts, location, aesthetics and other common issues.

III. Effective Date

This Executive Order shall take effect upon signing and shall continue in full force and effect until further order by the Governor.

Dated October 2, 2012.

Peter Shumlin
Governor

Executive Order No. 10-12

Appendix 2: Proposed Timing of EGSPC Recommendations

The table below provides a first cut at assessing which of the Commission's recommendations could be implemented in the short term to begin addressing some of the important concerns raised regarding siting procedures. It also attempts to designate which of the recommendations will likely require funding (either budgetary, or by applicants through bill-back, filing fees or annual fees), rulemaking and legislative change.

Proposed Timing of EGSPC Recommendations				
Recommendation	Begin Implementation now	Funding implications	Rulemaking	Legislative Change
1. State Planning and Scenario Modeling	X	X		
2. RPC Planning	X			
3. RPC Planning Costs	X	X		
4. RPC Formal Party Status				X
5. Municipal plans substantial consideration				X
6. Simplified Tiers				X
7. Incentives within tiers				X
8. Establish a trigger point			X	
9. Earlier public notification				X
10. Increase public engagement requirements				X
11. RPC funding support during application period		X		
12. Hire Case Manager in PSB	X	X		
13. Electronic Case Management/Online Docketing	X	X		
14. Develop checklists for each tier	X			
15. Concurrent timing of ANR permit filing and CPG			X	
16. Timelines & performance standards – all parties			X	X
17. Overall CPG performance standards			X	X
18. Rebuttable presumption for ANR permits			X	
19. Improve PSB Website to create 'one-stop shop' for siting	X	X		
20. Update PSD Website	X			
21. Update enviro, health and other standards and guidelines	X			
22. Modify Section 248 re Act 250 consideration, costs and benefits				X
23. Ag Agency become statutory party				X
24. DOH review and guidelines on health impacts	X			
25. ANR and PSD guidelines and tools for cumulative impact	X			
26. All parties agree on 3rd party monitoring experts and assign agency responsibility for oversight	X	X		X
27. PSB 'pay attention' to list	X			
28. Consider and assign funding sources	X			X

Appendix 3: Summary of Current Siting Processes

Section 248 is the principal process by which electric generation facilities over 150 kW must be sited in Vermont. It requires companies to obtain approval – a Certificate of Public Good (CPG) - from the Public Service Board (PSB) before beginning site preparation or construction. The PSB is a quasi-judicial agency that is required to function in a manner similar to a court. It conducts evidentiary hearings and issues decisions that can be appealed to the Vermont Supreme Court. In addition to electric power companies, it also regulates electric transmission, telephone service providers, cable television providers, pipeline gas companies and some private water companies.

Board and Staff Composition: The PSB consists of a full-time Chair and two part-time Board Members, each of whom are appointed for a staggered 6-year term by the Governor. It is staffed by attorneys and experts (financial analysts, environmental analysts, engineers and policy analysts). For the majority of cases, the PSB assigns staff to serve as Hearing Officers. These officers preside over cases and prepare Proposals for Decisions (PFD) for the PSB's consideration and ultimate determination.

Communications with Parties: Due to the quasi-judicial nature of the PSB, certain types of communication between PSB members/staff and other persons, are prohibited by Vermont State Law. These are referred to as 'ex parte' communications:

> "members or employees of any agency assigned to render a decision or to make findings of fact and conclusions of law in a contested case shall not communicate, directly or indirectly, in connection with any issue of fact, with any person or party, nor; in connection with any issue of law with any party or his representative, except upon notice and opportunity for all parties to participate."[18]

Criteria: When determining whether to grant a CPG, the PSB considers whether the proposed project meets 10 statutory criteria. These include site-specific environmental criteria incorporated from Act 250, in addition to general issues such as need, reliability and economic benefit.[19]

Participants in the Process: There are two ways to participate in the 248 process: i) as a formal party; or ii) as a member of the public. Formal parties may provide testimony and participate in evidentiary hearings, pursuant to the PSB procedural rules regarding discovery and cross-examination [20]. Members of the public and organizations may speak at public hearings and send the Board written comments, but may not participate in evidentiary hearings. They can become formal parties by meeting criteria to become 'intervenors', and are granted party status by the PSB. Some entities are automatically formal parties to the 248 cases:

- The company that files the request for PSB approval ('the Petitioner')
- The Department of Public Service, which represents the public interest in cases before the PSB and is responsible for long-range utility planning for the state
- The Agency of Natural Resources, which manages the state's natural resources and oversees Vermont's environmental regulations

18 3 V.S.A. § 813

19 30 V.S.A. § 248,

20 PSB rules can be found on their website: http://psb.vermont.gov/statuesrulesandguidelines/currentrules

Notice: Certain state agencies and affected towns and local/regional planning commissions are required by statute to receive notice.[21] Plans for construction of facilities must be provided to the relevant municipal and RPCs at least 45 days prior to the date that the petition is filed with the Board.

1. Net Metering Review

The following aspects of Net Metering review are those that relate directly to the siting issues the Commission is considering. The PSB's full description of the net metering process can be found at:
http://psb.vermont.gov/utilityindustries/electric/backgroundinfo/netmetering

"Net metering system," means a facility for generation of electricity that is no more than 250 kW (AC) capacity; operates in parallel with facilities of the electric distribution system; is intended primarily to offset part or all of the customer's or group's own electricity requirements; is located on the customer's or a member of the group's premises; and employs a renewable energy source produced using a technology that relies on a resource that is being consumed at a harvest rate at or below its natural regeneration rate pursuant to 30 V.S.A. § 8002; or is a combined heat and power system with a capacity up to 20 kW that meets the definition of a combined heat and power facility under 10 V.S.A. § 6523(b)(2)

5.107 Conditional Waiver of 30 V.S.A § 248(b) Criteria (Revised: April 15, 2009)

Pursuant to 30 V.S.A. § 219a(a), which provides that the Board may waive the requirements of 30 V.S.A. § 248(b) that are not applicable to net metering systems, the Board conditionally waives the following criteria:

(A) For net metering systems which are installed on or in an existing structure or new home or business, all criteria under 30 V.S.A. § 248(b), with the exception of 30 V.S.A. § 248(b)(3) (stability and reliability).

(B) For wind turbines and other systems which are installed on, as, or within a new structure which is not a home or business:

1. All criteria under 30 V.S.A. § 248(b), with the exception of 30 V.S.A. §§ 248(b)(1)(orderly development), (3)(stability and reliability), (5)(environmental considerations), and (8)(outstanding resource waters).

2. With respect to 30 V.S.A. § 248(b)(5), all criteria and subcriteria, except for compliance with 10 V.SA. §§ 6086(a)1(B)(waste disposal), 1(D)(floodways),1(E)(streams), 1(F)(shorelines), 1(G)(wetlands), 4(soil erosion), 8(aesthetics,historic sites, natural areas), and 8(A)(necessary wildlife habitat).

5.108 Aesthetic Evaluation of Net Metered Projects

(A) The Board has adopted the Vermont Environmental Board's Quechee analysis for guidance in assessing the aesthetic impacts of net metered projects, including wind turbines. In determining whether a project raises a significant issue with respect to aesthetic criteria contained in 30 V.S.A. 248(b)(5), the Board is guided by the two-part test outlined below:

1. First a determination must be made as to whether a project will have an adverse impact on aesthetics and the scenic and natural beauty. In order to find that it will have an adverse impact, a project must be out of character with its surroundings. Specific factors used in making this evaluation include the nature of the project's surroundings, the compatibility of the project's design with those surroundings, the suitability of the project's colors and materials with the immediate environment, the visibility of the project, and the impact of the project on open space.

21 30 V.S.A. § 248(A)(4)(C)

2. The next step in the two-part test, once a conclusion as to the adverse effect of the project has been reached, is to determine whether the adverse effect of the project is "undue." The adverse effect is considered undue when a positive finding is reached regarding any one of the following factors:

a. Does the project violate a clear, written community standard intended to preserve the aesthetics or scenic beauty of the area?

b. Have the applicants failed to take generally available mitigating steps which a reasonable person would take to improve the harmony of the project with its surroundings?

c. Does the project offend the sensibilities of the average person? Is it offensive or shocking because it is out of character with its surroundings or significantly diminishes the scenic qualities of the area?

3. Analysis of whether a particular project will have an "undue" adverse effect on aesthetics and scenic or natural beauty is also significantly informed by the overall societal benefits of the project.

(B) With respect to the Board's review of an application for a single wind turbine under 150 feet in height, there shall be a rebuttable presumption that the wind turbine does not have an undue adverse aesthetic impact.

5.109 Certificates of Public Good

(A) Petitions for systems of 150 kW or less in capacity

1. Form and Content. A petition for a certificate of public good for a net metering system of 150 kW or less in capacity shall be filed with the Board by using the Public Service Board Net Metering Application Form and shall contain all of the information required by the instructions to that form.

2. Service of Petitions. The applicant shall provide copies of the completed Public Service Board Net Metering Application Form to the persons and organizations as indicated in the application form's instructions.

3. Hearings. In cases where the Board determines that a system raises a significant issue with respect to one or more of the substantive criteria applicable to the system, the Board may determine to hear evidence on the issue. In any decision resulting from such a hearing, the Board need only issue findings and conclusions on the criteria concerning which it determined to hold a hearing.

4. Approval. In cases where there are no objections or requests for hearing and the Board determines that the petition does not raise a significant issue, the Board will issue a certificate of public good following the review period as specified in the application form.

(B) Petitions for systems of greater than 150 kW in capacity

Petitions for systems greater than 150 kW in capacity shall be filed in accordance with the requirements of 30 V.S.A. § 248. The petition need address only those criteria applicable to the system under section 5.107. In cases where the system does not raise significant issues with respect to the applicable criteria, the petition may be filed under 30 V.S.A. § 248(j).

2. Review for renewable projects with a capacity of 2.2 MW or less - 30 V.S.A. § 8007

In 2010, the legislature added a new statute intended to streamline the 248 process for renewable plants with a capacity of 2.2 MW or less. The statute required that projects with a capacity of 150 kW or less would be processed in the same manner as net-metering systems (described above). For projects with a capacity between 150 kW and 2.2 MW, the legislature directed the PSB to develop standards and procedures: (1) shall waive the requirements of Section 248 that are not applicable to a plant; (2) may modify notice and hearing requirements; and (3) shall simplify the petition and review process as appropriate. The Board order implementing this provision can be found at: http://psb.vermont.gov/sites/psb/files/re_Order_implementing_8007_b_.pdf

§ 8007. Small renewable energy plants; simplified procedures

(a) The same application form, rules, and procedures that the board applies to net metering systems of 150 kilowatts (kW) or less under sections 219a and 248 of this title shall apply to the review under section 248 of this title of any renewable energy plant with a plant capacity of 150 kW or less and to the interconnection of such a plant with the system of a Vermont retail electricity provider. This requirement includes any waivers of criteria under section 248 of this title made pursuant to section 219a of this title.

(b) With respect to renewable energy plants that have a plant capacity that is greater than 150 kW and is 2.2 MW or less, the board shall establish by rule or order standards and procedures governing application for, and issuance or revocation of, a certificate of public good for such a plant under the provisions of section 248 of this title, and the interconnection of such a plant with the system of a Vermont retail electricity provider.

(1) In developing such rules or orders, the board:

(A) Shall waive the requirements of section 248 of this title that are not applicable to such a plant, including, for a plant that is not owned by a Vermont retail electricity provider, criteria that are generally applicable to such a provider.

(B) May modify notice and hearing requirements of this title as it deems appropriate.

(C) Shall simplify the petition and review process as appropriate.

(2) Notwithstanding 1 V.S.A. §§ 213 and 214, a petitioner whose petition under section 248 of this title is pending as of the effective date of a board rule or order under subsection (b) of this section may elect to apply the standards and procedures of such a rule or order to the pending petition if the petition pertains to a renewable energy plant with a plant capacity that is greater than 150 kW and is 2.2 MW or less. (Added 2009, No. 159 (Adj. Sess.), § 6, eff. June 4, 2010..)

3. Review process for projects of limited size and scope - 30 V.S.A. § 248(j)

Section 248(j) allows a more streamlined process for projects "of limited size and scope." The term limited size and scope is not defined in statute and is subject to a PSB determination. A petitioner files under Section 248(j), the Board can deny the request for review under 248(j) and require the project to be reviewed under the full procedures of Section 248. It is typical for Board staff to request further information on the petition. If the petition is accepted under 248(j), the Board issues notice to state, municipal, and regional entities and to adjoining landowners. The notice briefly describes the petition and sets a deadline for anyone to file comments on whether the petition raises a significant issue under the substantive criteria of Section 248(b). If there are no negative comments, and the Board decides that the petition raises no significant issue with respect to the substantive criteria, the Board will issue a decision based upon the written filings, without any public or technical hearing. If there are negative comments, the Board will make a determination as to whether the comments do actually raise a significant issue; if so, the PSB will set a prehearing conference and may, if it chooses, hold a technical hearing. The further process is confined to the criteria that have been identified as having raised a significant issue.

§ 248(j).

(j)(1) The board may, subject to such conditions as it may otherwise lawfully impose, issue a certificate of public good in accordance with the provisions of this subsection and without the notice and hearings otherwise required by this chapter if the board finds that:

(A) approval is sought for construction of facilities described in subdivision (a)(2) or (3) of this section;

(B) such facilities will be of limited size and scope;

(C) the petition does not raise a significant issue with respect to the substantive criteria of this section; and

(D) the public interest is satisfied by the procedures authorized by this subsection.

(2) Any party seeking to proceed under the procedures authorized by this subsection shall file a proposed certificate of public good and proposed findings of fact with its petition. The board shall give written notice of the proposed certificate to the parties specified in subdivision (a)(4)(C) of this section, to any public interest organization that has in writing requested notice of applications to proceed under this subsection and to any other person found by the board to have a substantial interest in the matter. Such notice shall be published on the board's website and shall request comment within the board's website and shall request comment within 28 days of the initial publication on the question of whether the petition raises a significant issue with respect to the substantive criteria of this section. If the board finds that the petition raises a significant issue with respect to the substantive criteria of this section, the board shall hear evidence on any such issue.

(3) The construction of facilities authorized by a certificate issued under this subsection shall not require the approval of voters of a municipality or the members of a cooperative, as would otherwise be required under subsection (c) of this section.

4. Most stringent level of review - 30 V.S.A. § 248

Section 248 sets forth:

(1) The jurisdiction trigger (site preparation or construction – Section 248(a)(2)(A));
(2) The minimum process for hearings and notice (public and technical hearings, notice to state agencies – Section 248(a)(4), and 45 day notice to municipal and regional planning commissions – Section 248(f));
(3) The substantive criteria for review (Section 248(b)), see below for details;
(4) The process for projects of limited size and scope (Section 248(j));
(5) Minimum filing requirements for petitions involving wind turbines (Section 248(o);
(6) Disclosure requirements for plants utilizing woody biomass (Section 248(p); and
(7) Various provisions related to: required votes for municipal and cooperative utilities (Section 248(c)); nuclear plants (Sections 248(e) and (m); natural gas facilities (Section 248(h)); review of power purchase agreements (Section 248(i)); emergency waivers of Section 248 requirements (Sections 248(k) and (l)); wireless communications on transmission facilities (Section 248(n)).

In addition, the Board has promulgated a rule relating to filing requirements for petitions filed under Section 248 associated with electric transmission and generation facilities. (Available at: http://psb.vermont.gov/sites/psb/files/rules/OfficialAdoptedRules/5400_248_Requirements.pdf.)

The typical process for review of Section 248 petitions involves:

(1) At least 45 days before petition is filed with the Board, the Petitioner files plans for the project with affected municipal and regional planning commissions
(2) Petitioner files application
(3) Clerk of the Board establishes a date for a prehearing conference, at which parties establish a schedule for the case
(4) Public hearing (which, pursuant to statute must be noticed on the PSB website at least 12 days before the public hearing, and must be held "in at least one county in which any portion of the construction of the facility is proposed to be located." Section 248(a)(4).

(5) Deadline for motions to intervene (although there is not statutory timeframe, the PSB typically sets the intervention deadline for one week after the public hearing to ensure that people are aware of the proceeding and the deadline for intervention)
(6) Parties file discovery
(7) Parties file prefiled testimony
(8) PSB holds a technical hearing
(9) If Hearing Officer case, the HO issues a proposal for decision; parties typically have ten calendar days to comment on the proposal for decision
(10) After reviewing proposal for decision and any comments, PSB issues final order.

Criteria of Section 248(b): Before the PSB issues a certificate of public good as required under subsection (a) of this section, it shall find that the purchase, investment or construction:

1. With respect to an in-state facility, will not unduly interfere with the orderly development of the region with due consideration having been given to the recommendations of the municipal and regional planning commissions, the recommendations of the municipal legislative bodies, and the land conservation measures contained in the plan of any affected municipality. However, with respect to a natural gas transmission line subject to board review, the line shall be in conformance with any applicable provisions concerning such lines contained in the duly adopted regional plan; and, in addition, upon application of any party, the board shall condition any certificate of public good for a natural gas transmission line issued under this section so as to prohibit service connections that would not be in conformance with the adopted municipal plan in any municipality in which the line is located;
2. Is required to meet the need for present and future demand for service 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, including but not limited to those developed pursuant to the provisions of subsection 209(d), section 218c, and subsection 218(b) of this title;
3. Will not adversely affect system stability and reliability;
4. Will result in an economic benefit to the state and its residents;
5. With respect to an in-state facility, will not have an undue adverse effect on esthetics, historic sites, air and water purity, the natural environment and the public health and safety, with due consideration having been given to the criteria specified in 10 V.S.A. §§1424a(d) and 6086(a)(1) through (8) and (9)(K);
6. With respect to purchases, investments, or construction by a company, is consistent with the principles for resource selection expressed in that company's approved least cost integrated plan;
7. Except as to a natural gas facility that is not part of or incidental to an electric generating facility, is in compliance with the electric energy plan approved by the department under section 202 of this title, or that there exists good cause to permit the proposed action;
8. Does not involve a facility affecting or located on any segment of the waters of the state that has been designated as outstanding resource waters by the water resources board, except that with respect to a natural gas or electric transmission facility, the facility does not have an undue adverse effect on those outstanding resource waters;
9. With respect to a waste to energy facility, is included in a solid waste management plan adopted pursuant to 24 V.S.A. § 2202a, which is consistent with the state solid waste management plan; and
10. Except as to a natural gas facility that is not part of or incidental to an electric generating facility, can be served economically by existing or planned transmission facilities without undue adverse effect on Vermont utilities or customers.

5. ANR Role in the Section 248 process

What follows is a summary of ANR's role in the electric generation siting process. ANR is required by law to conduct environmental review of all Sec. 248 applications.

- 30 V.S.A. § 248 (a)(4)(E): The agency of natural resources shall appear as a party in any proceedings held under this subsection, shall provide evidence and recommendations concerning any findings to be made under subdivision (b)(5) of this section, and may provide evidence and recommendations concerning any other matters to be determined by the board in such a proceeding

    - 30 V.S.A. § 248 (b)(5): with respect to an in-state facility, will not have an undue adverse effect on esthetics, historic sites, air and water purity, the natural environment and the public health and safety, with due consideration having been given to the criteria specified in 10 V.S.A. §§ 1424a(d) and 6086(a)(1) through (8) and (9)(K) and greenhouse gas impacts;

- ANR's specific responsibilities reside in providing evidence and recommendations regarding 'no undue adverse impact on:
    - Air and Water Quality
    - Headwaters, streams, wetlands, etc.
    - Historic Sites
    - Rare and Irreplaceable Natural Areas
    - Necessary Wildlife Habitat
    - Habitat Fragmentation
    - Endangered Species

  Applicants may not jeopardize or interfere with the public's use, enjoyment or access to public lands, facilities or services.

- In order to confirm 'No Undue Adverse Impact', ANR requires a comprehensive preconstruction resource assessment.
    - ANR reviews proposed site based on available data and provides applicant initial observations.
    - ANR staff work with applicant's consultants to design field studies and wildlife monitoring protocols to gather additional information about the site.
    - If a project is permitted, ANR may require post-construction monitoring to track actual impacts on wildlife and resource
- Process: Natural Resource Assessment may require more than two years of fieldwork. ANR requires this assessment prior to the filing of a petition. ANR staff have typically invested significant time and resources in reviewing a proposed sites well before a permit application is filed.
    - As information is gathered about a site, ANR shares any concerns or 'red flags' with applicant and informs them of resource attributes that potentially may be unduly impacted by the proposed project.
    - By assessing the resource values early in the process, ANR gives the applicant as much information possible to decide whether to go forward with the project, revisit the design, or explore an alternative site.
    - If a petition is filled, ANR participates fully in the proceedings and provides expert testimony per the request of the PSB.
    - In the course of the proceedings ANR may reach agreement with the applicant on certain measures or modifications to the project that minimize its impact to particular resource values.
    - *ANR would recommend the PSB adopt those measures as a condition of the CPG*.
    - If ANR believes a project poses an undue adverse impact to the natural environment that cannot be mitigated, it will recommend the PSB find against the petition on those grounds.
    - If a CPG is granted, the applicant may still need to obtain additional stand-alone permits from the Department of Environmental Conservation (DEC).

Appendix 4: Timeline of Vermont Renewable Legislation (1998-2012)

1998 Act 136 established net metering, allowing Vermonters with small renewable power sources to sell excess electricity to the utility (Non-farm <15kw; farm <100kw)

2000 Act 157, increased size of farm net metering
- Allowed farms to combine manure for electricity

2002 Act 145 increased farm net metering
- To 150 kw; exempts off grid systems from sales tax

2003 Act 69 created chapter on RE Programs
- Allowed electric consumers to invest in RE projects. Took the first step toward creation of a Renewable Portfolio Standard (RPS) mandating that every utility provide a minimum % of renewable power. Allowed purchase of RECs
- Created an incentive program for small-scale RE systems in homes and businesses.

2005 Act 61, first legislation to establish RE standards and the SPEED program to encourage *in-state* renewable electric generation (passed the House by a 94-35 margin)
- Allowed utilities to trade renewable energy credits (RECs) to other states in order to provide a market-based solution to jumpstart initial investment in RE.
- Required power providers to add enough RE sources to fulfill increased demand between 2005 and 2012
- Required PSD to hold hearings on new transmission proposals in each affected community, and to create a process for public involvement in development and siting of proposed wind energy facilities, and
- Required utilities to submit 10-yr transmission plans, favoring non-transmission alternatives (e.g. locally sourced power) where possible.

2006 Act 168, set Greenhouse Gas (GHG) Reduction Goals (adopted without dissent)
- From within state & outside state boundaries caused by use of energy in state; 25% by 2012, 50% by 2028, 75% by 2050
- Required ANR to develop Climate Change Action Plan

2006 Act 208, expanded net metering & amended SPEED (adopted without dissent)
- Required developing a process for engaging the public in power planning issues, focusing on supply choices facing VT post-2012, and helping communities develop local energy opportunities and climate change action plans
- Expanded list of projects eligible for CEDF funding

2008 Act 92 set the goal of producing 25% of total energy from *in-state* renewables by 2025; increased net metering
- set state goal of 20% of total statewide electric retail sales coming from SPEED (renewable) resources by 2017, when SPEED is due to expire
- amended Act 250 to exempt farm-based energy projects from Act 250 process
- cap on net metering raised to 250kw (farm) and 150kw (non-farm), allows use of group net metering
- created education tax on wind

2009 Act 45, The Vermont Energy Act of 2009; amended SPEED
- created Standard Offer to encourage development of RE by establishing default prices to allow RE developers to recover costs plus a decent rate of return on projects <2.2 MW.
- allowed 'appropriate' siting of wind on state lands
- barred local governments from adopting laws forbidding use of solar panels, clotheslines or other small RE projects

2010 Act 159, RE amendments
- simplified permit review and interconnection procedures for all renewables <150Kw, and simplified application and interconnection for 150kw-2.2MW by rule or order
- required PSB to write a report on the potential of an RPS program to replace or be added to SPEED.

- transfers appeals of RE permits from Environmental Court to PSB

2011 Act 47, The Vermont Energy Act of 2011, expanded net metering and SPEED
- raises net metering from 250kw to 500kw capacity,
- established one year expiration for non use of CPG for net metering
- established 20cents/kwh minus residential rate for solar for 10 years
-makes Standard Offer available to existing hydroelectric plants <2.2MW
- added Baseload Renewable Power portfolio

2012 Act 125, increased solar net metering, requires DPS to recommend ways to expand net metering
- from 5kw to 10kw for individual cap for home solar registration process

2012 Act 170, The Vermont Energy Act of 2012 amends SPEED and Standard Offer, enacts smart-metering
- 55% total renewables target by 2017; 75% total renewables target by 2032
- Expanded Standard Offer from 50 MW ceiling to 127.5 MW over next 10 years
- PSB and DPS must submit a report on potential RPS, and DPS must report on progress toward Comprehensive Energy Plan goal of 90% of all energy consumed in Vermont to be RE by 2050.

Appendix 5: Summary - 2004 VT Wind Energy Regulatory Policy Commission

The following is a summary of the 2004 VT Wind Energy Regulatory Policy Commission's recommendations and the status of their implementation (*in bold italics*):

1. Section 248 is the appropriate vehicle for siting commercial wind generation projects.

   Implemented.

2. To address the issue of overlapping jurisdiction, the Commission recommends the following statutory change to Section 248: When a wind generation project will occur on lands subject to the jurisdiction of Act 250, the Public Service Board (PSB) shall give due consideration to findings of fact and conclusions of law contained in any prior decision issued by a District Environmental Commission (DEC), the Environmental Board (EB) or the Environmental Court (EC). If a successful review of site preparation for, or construction of, a facility for wind generation requires the amendment, repeal or modification of any condition contained in a land use permit issued by a DEC, the EB or the EC, the PSB shall give due consideration to the relevant criteria of Act 250 and applicable case precedent and take whatever action is reasonably necessary, consistent with the general good of the state, to prevent undue adverse impacts from occurring as identified in the prior findings and conclusions of the DEC, EB or the EC. Any PSB decision shall supersede any prior decision of the DEC, the EB or the EC, but only to the extent that the proposed facility for wind generation has an impact on prior findings and conclusions.

   Not implemented.

3. The PSB should host a minimum of two public meetings in the project site region, one of which will be an information session before proceedings begin to inform concerned parties about the Section 248 process and the proposed wind project. The second meeting should convene later in the process, to receive additional public input on the project.

- *Not implemented as proposed; but, the PSB is more often having two public hearings to increase opportunities for the public to comment on a project.*

4. The PSB should increase an applicant's public notification requirements by requiring: 1) advertising advance notice in all towns that are wholly or partially within a radius of 10 miles of each proposed turbine; 2) initial and ongoing mailings to all municipal and regional planning commissions, and the town clerk within a 10 mile radius; and 3) ongoing mailings to all stakeholders that sign-up to be on a mailing list.

   Partially implemented. PSB Rule 5.403 requires notice be provided to all municipal planning commissions, municipal governments, and regional planning commissions for all towns wholly or partially within a radius of a minimum of ten miles of each proposed turbine. A member of the public or any municipal can sign up to be on the "interested person" list and will get Board orders and memorandum.

5. The PSB should increase the advance notice period for filing "plans for construction" to municipal and regional planning commissions from 45 days to a minimum of 60 days.

   Not implemented.

6. The PSB should develop requirements for what constitutes "plans for construction" for proposed wind generation projects, including but not limited to: identification of view shed impacts, project conceptual plans, general construction requirements, and plans for all new infrastructure related to the project.

   Implemented. PSB Rule 5.402 (A)(4) requires plans for construction include sufficient information to understand the overall proposed project, including identification and analysis of the aesthetic impact; project plans in as much detail as the petitioner reasonably can provide (including a schematic); a description of how equipment and materials will be transported to the site; and plans which indicate the approximate location of all proposed new infrastructure (e.g. transmission, substation, roads, etc.) relative to the existing conditions. In addition PSB Rule 5.403 (B)(3) requires the petition to include a view-shed analysis that includes an analysis of aesthetic impacts for a ten-mile radius from the proposed project site.

7. The PSB should implement measures to encourage developers to perform pre-planning and collaborative work with local stakeholders prior to initiating the Section 248 process. For example, applicants should be required to certify that they have

submitted their plans for construction, and have made a best effort to meet with all municipal and regional planning commissions (and state agencies).

Partially Implemented. PSB Rule 5.402(A) and 30 V.S.A. § 248(f) allow any municipal and regional planning commissions and municipal legislative bodies to waive the 45 day notice requirement which may encourage an applicant to enter into discussions with the local and regional bodies in order obtain a waiver. State agencies are not specifically mentioned in this rule. In practice, applicants certify that they have submitted the plans for construction to the local and regional bodies.

8. The PSB should continue to apply its practice of reasonable schedules and should track its performance with regard to adhering to schedules.

   Not implemented. In practice the original schedules are very frequently extended over the course of a proceeding in order to accommodate the needs of interevenors or the Department of Public Service and frustrating the developers.

9. The ANR has the responsibility and resources to participate in wind cases and the PSB should encourage their participation.

   Implemented. 30 V.S.A § 248 (4)(E) requires ANR to appear as a party and to provide evidence and recommendations.

10. The PSB should define "affected communities" to include all towns or cities that are wholly or partially located within a minimum 10-mile radius of any proposed turbine.

    Partially implemented. PSB Rule 5.403 requires notice be provided to all municipal planning commissions, municipal governments, and regional planning commissions for all towns wholly or partially within a radius of a minimum of ten miles of each proposed turbine.

11. The PSB should give due consideration to the land use and energy elements of "affected" municipal and regional plans as standard practice.

    Implemented. 30 V.S.A § 248 (b)(1) requires the PSB to give due consideration to land conservation measures contained in the plan of any affected municipality. In practice the land use and the energy elements are considered in the PSB's review of the orderly development of the region criteria.

12. The PSB should ensure that unique impacts and needs associated with wind generation projects are considered under existing Section 248 criteria, including: cumulative impacts of wind development; safety issues (for example, ice throw); FAA lighting; flicker; noise and low frequency noise; wildlife issues identified by ANR.

    Mostly implemented. The PSB Orders regarding wind projects address these issues, with the exception of the cumulative impacts of wind development.

13. The PSB should require wind developers to establish sufficient decommissioning funds, in an escrow account, so that sites will be restored to natural conditions if the projects are not repowered at the end of their useful life. Self-insurance is not adequate.

    Implemented.

14. The PSB and Department of Public Service (DPS) should increase public and local official education regarding the Section 248 process through the preparation of a citizen's guide and conduct in local public information meetings.

    Partially implemented. The citizen's guide was prepared and under PSB Rule 5.402 the applicant is required to reference the citizen's guide and its availability on the PSB website in its 45-day notice to the local and regional bodies and in its notice to the adjoining property owners. In practice, the Board brings copies of the citizen's guide to public hearings.

15. DPS should appoint an ombudsperson to serve as a point of contact for concerned parties in the Section 248 review process. The role of such an office might be to inform local officials and pro se parties about Section 248 process issues, filing requirements, etc.

    Partially implemented. The DPS appointed a Renewable Energy Development Manager who often serves in this function.

Appendix 6: Proposed Outline of Simplified 4-Tier System

The following four-tier system is simply an indicative first draft proposal to outline the broad parameters of a simpler, clearer system that provides:

- greater emphasis on public participation on a graduated basis as the projects become larger and more complex
- more predictable and transparent guidelines and timelines
- greater incentives for community driven projects

The description below is followed by a summary table, illustrating the graduated approach to each of the Tiers. The Commission acknowledges that additional work will need to be done by the relevant agencies to finalize the tier structure, content, guidelines and timelines in order to achieve the desired objectives most effectively.

Tiers

The following proposed Simplified 4-Tier System attempts to address many of the concerns raised over the course of the Commission's findings with respect to public participation, transparency, guidelines, predictability, timelines and incentives for community driven projects. It is understood that this is simply a guideline for the type of tier system to be developed and that further development will require additional input from PSB, PSD and ANR.

Creation of tiers provides more clear guidance for developers and interested parties. The tiers are ranked based on the capacity of the project; however the Commission recommends developing a set of criteria by which a project could get an expedited consideration within each tier, reducing the amount of time and/or litigation required to obtain a CPG. These 'Sliders' would incentivize projects that are either community-led or designated as high priority for a town or region. While the Tiered approach provides a range of procedural pathways, all generation projects must address the review criteria set forth in Section 248 (b)(5).

The petitioner would submit an application to the PSB requesting review under a specific tier. Each Tier would be accompanied by a new, expanded application form that includes a clear checklist of pre-file and filing requirements for that Tier, including any studies or resource assessments required by ANR. The application shall describe the impacts on the natural environment, the land use characteristics of the area surrounding the project site, and the zoning/planning for the project site. The request shall be submitted to the DPS, ANR, town & regional planning commissions, and adjoining landowners at the same time the request is submitted to the PSB. Any comments regarding the request shall be filed with the PSB within 10 days. The PSB shall make a determination within 21 days after receiving the request.

Clarification of the term "contested case": All Section 248, including net metering, applications are contested case proceedings. For legal purposes, contested case means that there is notice and an opportunity for hearing. This standard should not change; however, there should be clarification as to whether the process *requires* a hearing in all, or even most, cases.

<u>Tier 1 – Projects with a capacity of 500 kW or less</u>

Developers are required to submit an application form that includes:

- A description of the size and the location of the project, including any distribution line upgrades necessary to interconnect the project;
- Locator map, site plan and natural resource assessment, which at a minimum may be satisfied by the ANR Natural Resources Atlas.
- Certification that the project avoids any regulated natural resource impacts;
- Certification that applications for all necessary ANR permits have been filled.
- For projects greater than 150 kW, certification that it has completed the necessary steps contained in PSB Rule 5.500 (Interconnection Procedures for Proposed Electric Generation Resources).
- Attestation that project affirmatively meets all of the substantive criteria contained in Section 248(b)

DPS, ANR, Town, Regional Planning Commission, and adjoining landowners have 15 days after an application is deemed complete to file comments as to whether the project raises a significant issue. Within 30 days of receipt of the complete

application, the PSB shall determine whether the application raises a significant issue. If the PSB determines that the application does not raise a significant issue than a CPG shall be issued without further process (what is the appeal process for this determination, can any party still request a hearing?). If the PSB determines that a significant issue has been raised it shall hold a prehearing conference within three weeks of the date that it determines whether a significant issue has been raised.

Performance Standard: If no significant issues is raised, the CPG can be issued in as little as 30 days. If a significant issue is raised, the PSB shall make a final determination regarding the project within three months.

Note: *A new application form and checklist shall be developed for Tier 1 projects, in conjunction with ANR.

Tier 2 – Projects with a capacity between 500 kW and 2.2 MW

At least 45 days prior to submitting the petition to the PSB, developers must submit notice to all the parties included in Section 248. The notice shall provide preliminary plans showing the location of the project and a brief summary of the impacts of the proposed project.

Developers are required to submit an application form and prefiled testimony that explains how the project affirmatively meets each of the substantive criteria contained in Section 248(b). In addition, the application must describe the outreach efforts undertaken by the developer and include a certification that the developer has made good faith efforts to hold a meeting with the Selectboard and Regional Planning Commission, provided all copies of comments received and a description of how the petition has addressed these comments.

Within 14 days of receiving the petition, the PSB must make a written determination of whether the application is deemed complete. If the written determination is that the application is incomplete, the Board must include a list of the items required to make the application complete. If the filing is deemed complete, the PSB must hold a public hearing within 21 days and set a period of 28 days after the public hearing for comments regarding whether the project raises a significant issue with reference to the 248 criterion. PSB has 21 days to determine if a significant issue is raised. If a significant issue is not raised, by the PSB or ANR, the PSB will issue a CPG without further process. If a significant issue is raised, then the PSB will hold a prehearing conference within 21 days.

Performance Standard: If the PSB determines that no significant issue has been raised, the CPG can be issued in as little as 12 weeks. If a significant issue is raised, the PSB shall make a final determination regarding the project within a six-month period that begins to run from the date the PSB deems the application complete. For good cause shown, the PSB may extend the deadline for its final determination regarding the project.

Tier 3 – Projects with a capacity between 2.2 MW and 15 MW

At least 60 days prior to submitting the petition to the PSB, developers must submit notice to all the parties included in Section 248. The notice shall provide preliminary plans showing the location of the project and a brief summary of the impacts of the proposed project.

Developers are required to submit an application form and pre-filed testimony that explains how the project affirmatively meets each of the substantive criteria contained in Section 248(b). In addition, the application must include a certification that the developer has made good faith efforts to hold a meeting with the Selectboard and Regional Planning Commission, has provided all copies of comments received and a description of how the petition has addressed these comments.

Within 21 days of a petitioner filing a 248 petition, the Board shall issue a written determination of whether an application is deemed complete. If the application is deemed complete, the written determination shall set a schedule to include the date for a public hearing to be held within 21 Days, a deadline for motions to intervene set as two week after the public hearing, a deadline for responses to motions to intervene set as one week after the deadline for motions to intervene and a prehearing conference (to prevent confusion, this prehearing conference should be called a scheduling conference) to be held within 30 days after the public hearing.

Performance Standard: The PSB shall make a determination within nine months of its determination that the petition is complete that begins to run from the date the PSB deems the application complete. Criteria should be developed for making this

period shorter to incentivize community-led projects. For good cause shown, the PSB may extend the deadline for its final determination regarding the project. (ANR to develop additional language regarding this 'safety valve' as the timelines suggested herein may not be acceptable to the ANR in all cases).

Tier 4 – projects greater than 15 MW

At least 90 days prior to submitting the petition to the PSB, developers must submit notice to all the parties included in Section 248. The notice shall provide preliminary plans showing the location of the project and a brief summary of the impacts of the proposed project.

Developers are required to submit an application form and pre-filed testimony that explains how the project affirmatively meets each of the substantive criteria contained in Section 248(b). In addition, the application must include a certification that the developer has made good faith efforts to hold a meeting with the Selectboard and Regional Planning Commission, has provided all copies of comments received and a description of how the petition has addressed these comments. In addition, applicants would provide a Public Engagement Plan (PEP) to the PSB at least 150 days prior to the 90 days public notice. The PEP would be based on guidelines developed by DPS (using successful public engagement models such as VELCO and NY state). DPS would designate/contract a facilitator to work with each applicant to ensure the PEP is implemented effectively.

Within 21 days of a petitioner filing a 248 petition, the Board shall issue a written determination of whether an application is deemed complete. If the application is deemed complete, the written determination shall set a schedule to include the date for a public hearing to be held within 21 Days, a deadline for motions to intervene set as two week after the public hearing, a deadline for responses to motions to intervene set as one week after the deadline for motions to intervene and a prehearing conference (to prevent confusion, this prehearing conference should be called a scheduling conference) to be held within 30 days after the public hearing.

Performance Standard: The PSB shall make a determination within one year of its determination that the petition is complete that begins to run from the date the PSB deems the application complete. For good cause shown, the PSB may extend the deadline for its final determination regarding the project. (ANR to develop additional language regarding this 'safety valve' as the timelines suggested herein may not be acceptable to the ANR in all cases).

Proposed Simplified Tier System – Summary Table					
Tier	Size	Registration/Permit Process	Public Notice	Statutory Procedural Timelines	Statutory CPG Timeline
1	<500kw	Application Form* with: • Description of size & location of project, including any distribution line upgrades necessary to interconnect the project; • Completion of the ANR checklist, including a map of the project site from Biofinder and ANR Atlas • For projects >150 kW, certification that it completed the necessary steps in PSB Rule 5.500 (Interconnection Procedures for Proposed Electric Generation Resources). • Attestation that project affirmatively meets all of the substantive criteria contained in Section 248(b)	Notice at time of registration	If issue raised, hold pre-hearing conference within 21 days of the date that the PSB determines a significant issue has been raised.	Approved in 30 days, if no issues raised 3 months for final CPG determination
2	500kw-2.2MW	Application form* and pre-filed testimony with: • Explanation of how the project affirmatively meets each of the substantive criteria contained in Section 248(b). • Description of the outreach efforts undertaken by the developer • Certification that the developer has made good faith efforts to hold a meeting with the Selectboard(s) and RPC • Copies of all comments received and a description of how the petition has addressed these comments.	45 days prior to filing, Notice shall provide preliminary plans showing the location of the project and a brief summary of the impacts of the proposed project.	After filing: 14 days for PSB to 'deem complete' If complete, set schedule: + 28 days to raise issues re 248 criteria + 21 days for PSB to determine if significant issue is raised If no issue, CPG granted If issues, 21 days for a public hearing and scheduling a prehearing conference	Approved in 12 weeks, if no issues raised 6 months for final CPG determination, with extension if due cause is demonstrated
3	>2.2MW -15MW	Application form* and pre-filed testimony with: • Explanation of how the project affirmatively meets each of the substantive criteria contained in Section 248(b). • Description of the outreach efforts undertaken by the developer • Certification that the developer has made good faith efforts to hold a meeting with the Selectboard(s) and RPC • Copies of all comments received and a description of how the petition has addressed these comments.	60 days prior to filing Notice shall provide preliminary plans showing the location of the project and a brief summary of the impacts of the proposed project.	After filing: 21 days for PSB to 'deem complete' If complete, set schedule: + 21 days for public hearings + 14 days for motions to intervene + 7 days for responses to motions and a scheduling conference (+ 30 days after public hearing for scheduling conference)	9 months for final CPG determination, with extension if due cause is demonstrated
4	>15 MW	Application form* and pre-filed testimony with: • Explanation of how the project affirmatively meets each of the substantive criteria contained in Section 248(b). • Description of the outreach efforts undertaken by the developer • Certification that the developer has made good faith efforts to hold a meeting with the Selectboard(s) and RPC • Copies of all comments received and a description of how the petition has addressed these comments.	150 days prior to notice, applicant provides Public Engagement Plan to PSB, 90 days Notice shall provide preliminary plans showing the location of the project and a brief summary of the impacts of the proposed project.	After filing: 21 days for PSB to 'deem complete' If complete, set schedule: + 21 days for public hearings + 14 days for motions to intervene + 7 days for responses to motions and a scheduling conference (+ 30 days after public hearing for scheduling conference)	12 months for final CPG determination, with extension if due cause is demonstrated
*Application form templates & checklists for each Tier shall be developed by PSB in conjunction with ANR and reference any maps, studies or resource assessments ANR requires for that Tier.					

ANR Performance Standards

An example of the type of performance standards that the Commission is recommending for each the PSB (and other relevant agencies) in the siting process has recently been developed by the ANR. 30 V.S.A. Section 2822(g) requires the Secretary of Natural Resources to provide the General Assembly with an annual summary of activities in the permit programs managed by the Department of Environmental Conservation.

As part of this report, performance standards were established for the timely processing of applications for permits, licenses and registrations issued by the Department. The legislation also established fees for the Department's regulatory programs. The Table below provides a summary of ANR permits for electric generation siting with performance standard days that could be used in establishing certain statutory timelines.

One of the interesting aspects of this annual summary of activities is that they established a goal of having 90% of the permits/licenses issued meet their performance standard. The report identified how many actually met that standard and identified areas that hindered effectiveness. It followed this by delineating changes made to improve the process, indicating the staff and resources needed to make those changes.

Once the statutory timelines are identified for the Siting Process, a similar form of annual reporting should accompany it.

ANR Permit Type:	Performance Standard (days):
Wetland Permit	90
Stream Alteration Permit	40
Direct Discharge: General Permit	30
Direct Discharge: Individual Discharge Permit: New	150
Direct Discharge: Individual Discharge Permit: Renewal	95
Indirect Discharge: General Permit	30
Indirect Discharge: Greater than 10,000 gpd	120
Indirect Discharge: Greater than 10,000 gpd with Hearing	180
Indirect Discharge: Less than or equal to 10,000 gpd	90
Stormwater Individual Discharge Permit: New	90
Stormwater Individual & General Discharge Permits: Renewal	60
Stormwater General Permit: NOI (9003,9010, 9015, 9020)	40
Underground Injection Control Permit	90

Appendix 7: Other States Comparisons

Other New England States' Siting Policies and Procedures: Drawn from each State's Siting Agency presentation to the Vermont Energy Generation Siting Policy Commission.

In the following summary, background information on electricity siting is provided for each state in the New England electrical grid, and the state of New York. This is followed by information obtained from the siting agencies from each state as it relates to the specific charges of Vermont's Energy Generation Siting Policy Commission. The information is intended for use only as background to the Commission's deliberations. Presentations from each state's siting authority can be found at http://sitingcommission.vermont.gov/publications

BACKGROUND: Basic Information

1. Total MW installed/Ave # electric generation filings/yr (or most recent year)
   - VT: ~1,400 MW Total (620 MW Nuclear, 358 MW hydroelectric, 111 MW Wind, 84 MW biomass, 12 MW Solar); 16 dockets in 2012 (20 in 2010)
   - NH: ~4,100 MW Total (171 MW Wind), 10 sites; 10 filings since 1998
   - ME: ~3000 MW Total (768 MW biomass, 397 MW wind); 153 total sites; 2-6 filings/year
   - MA: ~16,000 MW Total (46 MW Wind); 100 total sites; 2-6 filings/year
   - RI: ~1,850 MW Total (2 MW Wind); no new electric generation filings in 14 years
   - CT: ~8,767 MW Total, 66 sites; average of 9 filings/year
   - NY: ~70,000 MW Total (1,440 MW installed Wind; 1000 MW more currently under review: 2 wind, 1 gas (no MW installed yet under Art 10); under previous Art X (expired 2002), 24 filings over 8 years (1998-2006), 80+ MW (all gas fired), resulting in 13 facility certifications, 2 applications withdrawn mid-process, 2 certification denials; Under interim SEQRA process (2002-2011), 32 wind project DEIS reviews in 5 years, 20 gas plant EIS reviews in 9 years, several wind projects stalled or were cancelled

2. Threshold for State Level Authority
   - VT: All electric generation above net metering and group net metering (150KW nonfarm, 250KW Farm)
   - NH: > 30 MW with opt-in for 5-30 MW
   - ME: > 100 KW (or > 20 acres for wind)
   - MA: > 100 MW (talking about reducing this for renewables), no opt-ins, no expedited process
   - RI: all 'major energy facilities' except for licenses issued by Dept of Environmental Management under the delegated authority of federal law Chapter 2-1 of the RI General Laws, or licenses issued by the Coastal Resources Management Council under Chapter 46-23.
   - CT: > 1 MW, no opt-ins (any electric generating facility using any fuel, but ***not including*** an emergency generating device or a facility (1) owned and operated by a private power producer; (2) which is a qualifying small power production facility or qualifying cogeneration facility under PURPA or a facility determined by the Council to be primarily for a producer's own use; AND (3) in the case of a facility using renewable energy sources, a generating capacity of <1 MW, and for facility utilizing cogeneration technology < 25 MW)
   - NY: >25 MW with opt-in provisions (projects previously in other state or local review pursuant to general SEQRA environmental impact review process; Generation facilities for on-site industrial-use; Repairs or replacements of existing facilities)

3. Siting Agency/Board (separate from PUC/PSB), members
   - VT: (NO) – Public Service Board (PSB) has 1 FT Chair, 2 PT Members, with input from Agency of Natural Resources
   - NH: (YES) - Site Evaluation Committee (SEC) has 16 members: Commissioner Dept. Environmental Services; Chair PUC; Director Water Division DES; Director Dept. Resources & Econ Development; Bureau Chief, Dept. HHS; Director

Fish & Game Dept.; Director Office Energy & Planning; Director Div. Parks & Recreation, DRED; Director Div of Forests & Lands, DRED; Director Air Resources Div., DES; Commissioner Dept. Transportation; Commissioner PUC (2); Staff Engineer, PUC; Director, Div. Historical Resources, Dept. Cultural Resources; Counsel for the Public, AG, Dept. of Justice)

- ME: (YES) – Department of Environmental Protection (DEP) coordinates identification of required permits (LURC for 'unorganized areas')
- MA: (YES) - Energy Facilities Siting Board (EFSB) is administratively part of Dept. of Public Utilities (DPU), has a 9 member board, chaired by Secretary, Energy & Environmental Affairs, includes DPU (2), EOHED, DEP, DOER and 3 public members (labor, environmental, energy)
- RI: (NO) PUC Energy Facility Siting Board (EFSB) has 3 members: Chair PUC = Chair of Board; Director of the Dept. of Environmental Management; Associate Director, Administration for Planning
- CT: (YES) – Siting Council (SC) (Dept. of Energy and Environmental Protection – DEEP) checks congruence with Integrated Resource Planning); 9-member per diem administrative council, 5 appointed by Governor, 1 by Senate, 1 by House, plus 2 designees from Environmental Protection and Public Utility Regulatory Authority;
- NY: (YES) – Permanent Siting Board (PSB) has chairs of 5 agencies (PSC, DEC, DOH, Econ Development, NYSERDA); Project Siting Boards are comprised of Permanent Board plus 2 Ad Hoc Members who are residents of 'host' municipality

4. Self Reported Strengths/Weaknesses, Recommendations
   - MA: STRENGTHS
     - Very active public participation in generation cases is the norm
     - Most project proponents take steps to listen to host communities and improve project designs before the applications are filed with the EFSB
     - EFSB can impose more stringent standards than otherwise applicable in federal, state and local permits
     - Review process for generation facilities is relatively timely – though it does not always meet the 12-month statutory timeframe
     - Very active involvement by Siting Board members
     - The EFSB process has historically been successful in approving gas-fired facilities that have gained community acceptance – with some notable exceptions
   - WEAKNESSES:
     - Scope of review since restructuring no longer includes need, costs, reliability or evaluation of alternative sites. The public still seems to perceive these topics as part of EFSB case review
     - The 100 MW threshold for EFSB review leaves out smaller generation facilities such as renewables and distributed generation. Some developers of such facilities believe that expanded EFSB jurisdiction would be helpful
     - Some developers would like to see more stringent timelines in cases that would have consequences if not met. However, in practice, many delays can be attributed to project changes, and delays by the applicant
     - Intervenors often have limited resources and find it difficult to retain skilled counsel and consultants
   - CT: STRENGTHS
     - Statewide uniformity of siting standards in 169 towns
   - WEAKNESSES:
     - Minimal enforcement authority statutorily tied to issuance of a certificate
   - NY:
   - STRENGTHS (remember this is new as of Aug 2012)
     - Schedule & timing requirements specified
     - Early & continuing public involvement opportunities
     - Intervenor funding enables local participation
     - Environmental Justice provisions address minority/low income groups
     - Public policy goals considered

    - Flexibility to address range of interests & issues
    - Over-ride of unreasonably restrictive local laws
- WEAKNESSES:
    - Determining acceptable impact standards?
- RECOMMENDATIONS:
    - Intervenor funding program administration
    - Specified use for qualified representation
    - Payments should be keyed to "deliverables" per schedule
    - Assure public access to information
    - Website access to all electronic files
    - Maintain key document files at public locations
    - Provide flexibility to utilize ADR
    - Use public outreach for rules development
    - Develop interest groups including: Generation developers; Municipal representatives; and Environmental groups

CHARGE I: Compare VT siting procedures with those used elsewhere, particularly within New England.

1. Timeline for review
    - VT - none
    - NH: as part of state-level permit coordination, agencies subject to deadlines for reports & final determinations; Committee decision must be w/in 9 months of when application is 'deemed complete' or 240 days for RE
    - ME: Varies based on permit(s) requirements
    - MA: 12-month timeline is specified in statute for EFSB cases, but there are no penalties or 'constructive approval' for non-compliance. No expedited process
    - RI:
    - CT: 6 months after the filing of an application; may be extended up to 1 year with applicant consent
    - NY: 12 months from complete application, can be extended with applicant consent. Expedited process: Public Involvement Plan schedule can be curtailed for good cause: Existing plant add-ons or mods.: decision within 6 mo. of application
2. Substantive criteria and standards
    - NH: mandatory evaluation criteria for wind (NRRI)
    - ME: mandatory evaluation criteria for wind (NRRI)
    - MA: Generation facilities required to demonstrate that environmental impacts and mitigation costs have been minimized. Need, project cost, reliability and alternative site reviews are NO LONGER required since restructuring. Have mandatory evaluation criteria for wind (NRRI), plus model ordinances to guide Local Governments. Siting Guidelines & Standards (see statutory authority):
        - Promulgates Technology Performance Standards for air emissions and use of water that provide presumptive acceptance of the generating technology proposed
        - Uses existing regulatory standards and guidelines of fed, state and local authorities; can impose more stringent requirements to achieve necessary mitigation
        - Can grant individual and comprehensive zoning exemptions per delegated authoritiy from the DPU under MGL c. 40A $3 if a project is 'reasonably necessary for the convenience or welfare of the public.' There is no size threshold for granting zoning exemptions. Has been used for small municipal wind facility on one occasion
        - Siting decisions apply other 'policies of the Commonwealth' specifically enacted to guide EFSB
    - CT: SC is charged with balancing the public need or public benefit for a facility with the need to protect the environment of the state in accordance with specific statutory and regulatory criteria. Public Need: exists if a facility is necessary for the reliability of the electric power supply of the state. Public Benefit: exists if a facility is necessary for

the reliability of the electric power supply of the state or for the development of a competitive market for electricity (electric generating facilities ONLY). The SC examines the nature of the probable environmental impact of the facility alone and cumulatively with other existing facilities, including specification of every significant adverse environmental effects, electromagnetic fields and conflict with the policies of the state. For Wind, there are mandatory evaluation criteria (NRRI), and working on developing new regulations on wind siting and zoning. There are *General Siting Guidelines*: i) Compliance with Environmental Protection Noise Control Regulations, Air Quality Standards and Water Quality Standards; ii) Conformity with a long-range plan for expansion of the electric power grid serving the state and interconnected systems; iii) Consistency with the Public Utility Environmental Standards Act and Best Management Practices

- NY: Law, rules & project scope establish application standards; Local ordinance evaluation; Waiver provision for unduly restrictive codes. *General Siting Guidelines* are not detailed; no setback standards specified; there is a study protocol for bird and bat studies in rules

3. Procedural mechanisms employed (agency, threshold, membership, one-stop shop, staffing, statutory authority)
   - NH: SEC has 'one-stop shop' jurisdiction for projects > 30 MW (otherwise local jurisdiction holds) but Committee has discretionary jurisdiction incl. over RE projects 5-30 MW (which can opt in); membership includes heads of state agencies & divisions; one-stop shop; no permanent staff or budget (keep a consultant on retainer)
     - Pros: one-stop shop, definitive timeframes, and flexibility identified by NH as strengths
     - Cons: lack of permanent staff/budget, lack of cumulative impacts analysis, and logistics of bringing together various state officials identified by NH as cons
   - ME: ombudsman
   - MA: EFSB has jurisdiction for projects >100 MW (but are discussing reduction of threshold for RE); 9 member board, chaired by Secretary Energy & Environmental Affairs, includes DPU (2), EOHED, DEP, DOER and 3 public members (labor, environmental, energy); has one-stop shop option that has never been requested; Staffing – DPU Siting Division (currently 11 positions) adjudicates cases, prepares and presents decisions for Board vote (or DPU approval if non-jurisdictional), advises EFSB or DPU commissioners; statutory authority specified in *MGL c. 164 $$69 G-S*; Regulations specified in 980 CMR 1.00-12.00
     - Pros: EFSB can impose more stringent standards than applicable in local, state or fed permits; very active public participation (project proponents listen to public and improve designs before filing with EFSB) timely review process; active involvement of Siting Board members
     - Cons: Scope of review no longer includes need, costs, reliability or evaluation of alternative sites (public would like this); 100 MW threshold leaves out many smaller facilities such as RE (many developers think expanded EFSB would be helpful); Some developers want to see more stringent timelines and penalties if not met (in practice, delays can be attributed to project changes by applicant); intervenors often have limited technical and financial resources for experts and counsel
   - CT: Siting Council (SC) has jurisdiction over projects > 1MW, solicits comments from state agencies once public hearing is scheduled on application. Staffing – one siting analyst assigned per project with oversight by a Supervising Siting Analyst. Statutory authority specified in Public Utilities Standards Act, CGS $16-50g. (Note: Energy Independence Act of 2005 CGS $16-50k . Notwithstanding the provisions of the Public Utility Environmental Standards Act, the Council shall, in the exercise of its jurisdiction over the siting of generating facilities, approve by declaratory ruling: i) Construction of a facility at a site where an electric generating facility operated prior to July 1, 2004; ii) Construction or location of any fuel cell, unless the Council finds a substantial adverse environmental effect OR of any customer-side distributed resources facility or grid-side distributed resources facility with a capacity of not more than 65 MW, as long as such facility meets air and water quality standards of the Dept. of Environmental Protection; and iii) Siting of any temporary generation solicited by the Public Utility Regulatory Authority)
     - Pros: Statewide uniformity of siting standards across 169 towns
     - Cons: Minimal enforcement authority statutorily tied to issuance of certificate or monitoring compliance
   - NY: Staffing: DPS, DEC; Statutory authority NYS Power Act of 2012 recreated the NYS Siting Board (prior jurisdicion elapsed 12/31/02); Article 10 Rules adopted Aug 2012; Public Service Law Article 10 gives SB responsibility for review of power projects of > 25MW

CHARGE II: Compare role/opportunity of public and towns with role elsewhere, particularly within New England

1. Role of/opportunity for public participation (Intervenor Funding)

- VT: 248 transmission dockets/VELCO participation methodology, 45 day notice, municipalities seek and are nearly always granted intervenor status.
- NH: counsel for the public appointed by the AG and is a full party to the proceedings; like Committee itself, w/Committee approval, may hire consultants at developer's expense, but no express intervenor funding
- MA: Very active public participation. Project proponents listen to public and improve designs BEFORE filing with EFSB. General public participates in public hearings that are held at the beginning of the proceeding in the project vicinity; can offer comments for the record. Notice of filing sent to neighbors, legislators and officials and published in local and area newspapers, posted in municipal offices and libraries; special outreach efforts made for Environmental Justice communities per state policy. Individuals and groups can also participate as 'limited participants' or 'full intervenors'. Cities/towns or RCs typically seek and are granted intervenor status. (Intervenors are ***not provided with any financial, legal or technical support*** for their cases) EFSB provides general guidance to all parties.
- CT: public opinion/evidence is captured as part of the deliberative process by: i) Party or intervenor status (evidentiary); ii) Public comments given orally at the public hearing; iii) Public comments given in writing before, during or after the public hearing. (For transmission and generating facilities, applicants must submit a ***municipal participation fee of $25,000*** for distribution by the State Treasurer to participating municipalities to defray expenses, including, but not limited to, costs of participation (experts, etc.))
- NY: Public Involvement Plan (PIP) under Title X is required 150 days before scoping phase; Public scoping is carried out with ***applicant-sponsored intervenor funding***; public statement hearings required early; party status with additional applicant-sponsored funds available. ***Funds for experts and legal representation*** for development of a record: Scoping Phase $350/MW up to $200,000; Application phase $1000/MW up to $400,000. Funds administered by Hearing Officers

2. Role of/opportunity for municipal/town/regional planning body participation

- NH: required to consider the views of municipal and regional planning commissions and municipal governing agencies (effectively automatic parties if desired)
- MA: Cities/towns or RCs typically seek and are granted intervenor status.
- CT: Applicants are statutorily required to consult with host municipalities for a period of not less than 60 days before filing an application with the Council, including, but not limited to, providing technical reports and participating in information sessions. Applicants are statutorily required to provide notice to town boards and commissions, RPCs and other potentially affected public and non-profit entities prior to filing the application with the SC, which includes publication in a newspaper of general circulation. Participation is the same as for general public (intervenor, oral or written comment at public hearing). For transmission and generating facilities, applicants must submit a ***municipal participation fee of $25,000*** for distribution by the State Treasurer to participating municipalities to defray expenses, including, but not limited to, costs of participation (experts, etc.)
- NY: Municipalities are parties upon filing of notice of interest ; Municipality seeking to enforce local laws must participate or is barred from enforcement authority; Municipalities nominate 2 Ad Hoc Siting Board members; have access to fund for intervenor assistance on a per-MW basis (see above)

CHARGE III: Review alternative dispute resolution (ADR) processes used elsewhere, particularly NE. (appeals)

- VT: No formal ADR
- NH: exists only informally
- MA: No formal ADR although parties are welcome to propose settlements to the EFSB, which is rare. In practice, facility applicants actively engage with host community officials and members of the public to discuss mitigation measures and other agreements that can lead to support or at least lack of active opposition. EFSB approval conditions can formalize agreements and commitments between project proponent and parties. (appeals of EFSB or DPU decisions made directly to the Supreme Judicial Court)

- ME: No formal ADR. Informal discussions with parties and DEP Project Manager can sometimes resolve issues.
- CT: No ADR. (Appeals: Any party or intervenor may file an administrative appeal within 45 days of Council decision in the Superior Court (UAPA). The Attorney General represents the agency in administrative appeals)
- NY: Hearing Examiner for pre-application scoping can mediate issues of study scope and methodology. Settlement Procedures can be utilized by agreement of parties: may request Settlement Judge (assigned by Office of Administrative Hearings and ADR) Intervenor funding available to parties. Does ADR work? PROS: Has been helpful in resolving complex cases/issues; Can help local parties/municipalities gain benefits; CONS: May extend review period; difficult to manage concurrent settlement and litigation tracks; Parties may need to conserve funds for litigation of some issues (appeals to NYS Supreme Court)

CHARGE IV: Review coordination and timing of state-level permit issuance in VT, and compare with elsewhere, particularly within New England.

- NH: coordinated across agencies, but issuance before or after "CPG" is determined on a case-by-case basis; as part of state-level permit coordination, agencies subject to deadlines for reports & final determinations; Committee decision must be w/in 9 months of acceptance of application or 240 days for RE
    - Pros: one-stop shop, definitive timeframes, and flexibility identified by NH as strengths
- ME: one-stop shop
- MA: EFSB approval is required in addition to other state and local permits and approvals; facilities are typically approved with conditions or withdrawn. An applicant can seek a 'Certificate of Environmental Impact and Public Interest', a one-stop composite permit of all state an local permits, but it has never been requested. EFSB must issue approval before other state agencies can issue construction permits; EFSB can coordinate hearings and procedures with other state and local agencies, but is rarely asked to do so or initiates this mechanism.
- NY: SB coordinates state level permit issuance with DEC (air, water), SPDES, RCRA; Siting Board denial effectively over-rides DEC permit issuance ; Other permits are issued as subsequent conditions to granting of Article 10 certification

CHARGE V: Analyze whether VT's siting criteria adequately protects VT's land, environmental resources, and cultural resources

1. With respect to individual projects

- ME: has strong quantitative and qualitative criteria for wetland, bird habitat, vernal pool; has setback & sound standards published (clear procedural steps & explicit standards for determining wind siting & zoning)
    - Pros: Strong transparent criteria for most environmental standards
    - Cons: Need stronger assessment of bird/bat impacts
- MA: EFSB issues an approval that allows other state agencies to issue construction permits; all other permits and approvals are issued by other federal, state and local authorities. MA Environmental Policy Act (MEPA) process usually occurs prior to or concurrent with EFSB review. EFSB is required to consider "local and regional cumulative health impacts" which can include multiple generation facilities as well as other contributors. MA permitting process generally viewed as very comprehensive and thorough and protective of the public. 100 MW threshold for EFSB review is too big to address land-based wind facilities and other small or distributed generation, although zoning exemptions can still be granted under DPU authority. Projects typically receive intensive review of air and wetlands impacts through MA DEP and local conservation commissions. Provides a recommended model for setback & sound standards for local govt (NRRI).
- CT: Statute requires SC to solicit comments from and consult with enumerated state agencies once a public hearing is scheduled on an application for a certificate for any jurisdictional facility. Applicants consult with the Dept of Energy and Environmental Protection (DEEP) prior to filing with the Council to discuss required permits. As as a condition of certificate issuance, the Council requires copies of other environmental permits to be submitted to the Council when issued by sister agencies. The DEEP issues other required environmental permits for air emissions, water discharges, etc. Interagency and municipal collaboration and consultation pursuant to statute adequately addresses all environmental concerns

- NY: Required permits: §401 Water Quality Cert. – by Board or DPS; Federally-delegated authority permits issued by DEC; Siting Board denial effectively over-rides DEC permit issuance. Other permits are issued as subsequent conditions to granting of Article 10 certification

2. With respect to cumulative impacts of multiple projects

- VT: Cumulative impact is included as a criterion in Section 248 to consider by the PSB in granting a CPG, but no formal methods have been established.
- NH: no formal method of measurement
- ME: No current standards exist, but cumulative scenic impacts are being considered as a review criterion for future wind projects; DEP has begun to develop some guidelines.
- MA: EFSB is required to consider "local and regional cumulative health impacts" which can include multiple generation facilities as well as other contributors.
- CT: by statute, the Council is required to find and determine the nature of the probable environmental impact of the facility alone and cumulatively with other existing facilities. The SC examines the nature of the probable environmental impact of the facility alone and cumulatively with other existing facilities, including specification of every significant adverse environmental effects, electromagnetic fields and conflict with the policies of the state
- NY: require cumulative indicators for air and visual impact in rules; others should be identified at scoping stage for analysis. Cumulative impact of all project components considered

CHARGE VI: Analyze best practices for monitoring environmental impacts of facilities going forward, to allow for an iterative process based on lessons learned

- VT: Monitoring is generally strong, funded by the developer. Developers must contribute to a decommissioning fund. Cumulative impact is included as a criterion to consider by the PSB in granting a CPG, but no formal methods have been established.
- NH: certificate conditions, environmental monitor, post-construction studies, reports & technical committees, ombudsman; time period depends; usually funded by developer
- ME: "Special Fee" by licensee or their contractor for lifetime monitoring of impact; 800-number for noise complaints
- MA: EFSB decisions typically include required periodic reporting. Significant project changes must be reported to the EFSB for review and approval. EFSB is authorized to levy a civil penalty when an applicant has violated any order of the Board. G.L. c. 164, § 69H. The maximum fine is $1,000 per day per violation, with a maximum civil penalty of $200,000 for any related series of violations. Post-decision site visits and inspections are infrequent; there is no specific budget for enforcement. Project owner/operator is required to notify the ESFB when the project fails to meet conditions specified in the approval decision. Complaints from local officials or members of the public are sometimes a means by which non-compliance with EFSB conditions is identified and enforced. (EFSB is required to consider "local and regional cumulative health impacts" which can include multiple generation facilities as well as other contributors.)
- CT: Certificates are issued with the condition that applicants file a Development and Management Plan ("D&M Plan") with the Council for approval that represents the final site plans consistent with the Council's decision on a proposed facility. Staff Siting Analysts monitor compliance during and after construction in accordance with the approved D&M Plan. Agency regulations require reports to be submitted at specific stages of construction, as well as a Final Report upon completion and operation. However, there is minimal enforcement authority. The SC examines the nature of the probable environmental impact of the facility alone and ***cumulatively*** with other existing facilities, including specification of every significant adverse environmental effects, electromagnetic fields and conflict with the policies of the state
- NY: Monitoring construction and operational compliance with permit conditions: DPS Compliance staff; DEC permits by DEC staff; Local enforcement as delegated by Siting Board. Compliance contingent with permit conditions. State agency staffing available, e.g., Dept. of Agriculture and Markets for agricultural lands impact mitigation. Building permits administered per NYS code requirements

Appendix 8: Public Engagement Plans - Examples

New York Public Involvement Plan
For Projects >25MW

Q. What is meant by the term "public involvement"?
A. "Public involvement" is the process of enabling the public to participate in decisions that may affect public health, safety and the environment. It is intended to be a proactive process that begins during the planning of a preliminary scoping statement before it is filed, and continues throughout the planning, pre-application, certification, compliance, construction, and operation processes.

Q. How is public involvement conducted?
A. At the earliest stage of the Article 10 process, applicants are required to prepare and begin implementing a Public Involvement Program. In addition, to ensure that the public and interested parties are fully assisted and advised in participating in the Article 10 process, an Office of Public Information Coordinator has been created within the New York State Department of Public Service.

Q. Is the public required to participate in the applicant's public involvement activities?
A. It is the Siting Board's policy to encourage public participation in the review of the applicant's proposal at the earliest opportunity so that public input can be considered.

Q. What are the purposes of a Public Involvement Program?
A. The purposes of a Public Involvement Plan include: (a) providing for an open exchange of information and ideas between the public and the applicant; (b) providing complete information on the application to the public; (c) providing timely notice to the public of important events; (d) providing meaningful public input to key decisions; (e) fostering the active, early and continuing involvement of interested or affected persons; (f) the solicitation of public comments, ideas, and local expertise; and (g) the identification of circumstances and impacts which may not have been known or anticipated by the applicant or government agencies.

Q. What are the elements of a Public Involvement Program plan?
A. The Public Involvement Program plan must include: (a) consultation with the affected agencies and other stakeholders; (b) pre-application activities to encourage stakeholders to participate at the earliest opportunity; (c) activities designed to educate the public as to the specific proposal and the Article 10 review process, including the availability of funding for municipal and local parties; (d) the establishment of a website to disseminate information to the public; (e) notifications; and (f) activities designed to encourage participation by stakeholders in the certification and compliance process. In addition, an applicant is expected to communicate with the public early in the pre-application process through the use of various means such as media coverage, direct mailings, fliers or newsletters. This should be done before any agreements on project stipulations have been made between the applicant and interested parties. In addition, the applicant is expected to hold public meetings, offer presentations to individual groups and organizations, number, Internet website, or a community advisory group are among the actions an applicant may take to establish its presence in the community. An applicant should disseminate information about its proposed project at meetings, in mass mailings and through local media.

Q. When does the Public Involvement Program plan have to be prepared?
A. Applicants must submit proposed Public Involvement Program plans in writing to the Department of Public Service for review as to their adequacy at least 150 days prior to the submittal of any preliminary scoping statement. For good cause, applicants may request a reduction in the minimum number of days to less than 150.

Q. What happens if the Department of Public Service (DPS) finds the Public Involvement Program plan to be inadequate?
A. DPS has 30 days after the date of the applicant's submittal to make written comments on the adequacy of the Public Involvement Program plan. If deemed inadequate, DPS will make specific written recommendations as to what measures are necessary to make the Public Involvement Program plan adequate. Thereafter, the applicant has 30 days to consider the measures recommended by DPS and, in a final written Public Involvement Program plan filed with the Secretary, shall as to each specific measure either revise the Public Involvement Program plan to incorporate the DPS recommendation, or provide a written explanation as to why the applicant is not incorporating the DPS recommendation.

Q. What is a Preliminary Scoping Statement?

A. A preliminary scoping statement is a written document to inform the Siting Board, other public agencies and the public that the applicant is contemplating making an Article 10 application. It is prepared by an applicant after consulting with the public, affected agencies, and other stakeholders. The term "consulting" in this context means providing information to and effective opportunities for input from the public, affected agencies, and other stakeholders, concerning the proposal.

Q. When does the Preliminary Scoping Statement have to be filed?

A. The preliminary scoping statement must be filed no less than 90 days before the date on which the applicant files its application for an Article 10 certificate. In addition, at least three days before the preliminary scoping statement is filed, the applicant must publish a public notice and summary of the preliminary scoping statement in local newspapers in the affected area and serve a copy of the notice and summary upon public officials and all persons who requested to receive such notices.

Q. What kind of information must be included in a Preliminary Scoping Statement?

A. The information that must be included falls into two major categories. The first category is a description of the proposed facility and its environmental setting. Among other things, the information provided must include the description of potential environmental and health impacts resulting from the construction and operation of the proposed facility; measures proposed to minimize environmental impacts; reasonable alternatives to the facility; and the identification of all other state and federal permits, certifications, or other authorizations needed for construction, operation or maintenance of the proposed facility. The second category is a description of the proposed studies or program of studies designed to evaluate potential environmental and health impacts that the applicant intends to include in its application for an Article 10 certificate. The description of the studies must include the extent and quality of information needed for the application to adequately address and evaluate each potentially significant adverse environmental and health impact, including existing and new information where required, and the methodologies and procedures for obtaining the new information. The preliminary scoping statement must also include an identification of any other material issues raised by the public and affected agencies during any consultation and the response of the applicant to those issues.

Q. What happens after the Preliminary Scoping Statement is filed?

A. Within 21 days after the filing of the preliminary scoping statement, any person, agency or municipality may submit comments on the preliminary scoping statement by serving such comments on the applicant and filing a copy with the secretary. Within 21 days after the closing of the comment period, the applicant shall prepare a summary of the material comments and its reply thereto, and file and serve its summary of comments and its reply in the same manner as it files and serves the preliminary scoping statement. Thereafter, it is expected that the applicant will work with interested parties to resolve any disagreements they may have about the sufficiency of the planned scope and methodology of studies to be included in the application.

Appendix 9: Energy Siting Guidelines Matrix

Guidelines to be updated, developed, and further studied – by Agency			
Existing ANR Guidance Documents to be updated and placed on improved PSB website:	ANR	PSD	DOH
ANR Natural Resources Conservation Procedure	X		
DFW Wildlife Habitat Impact Assessment Procedure	X		
Example language for deed restrictions	X		
Amphibian habitat conservation guidelines	X		
Indiana bat survey procedures and guidelines	X		
Mitigation guidelines for black bear habitat in Vermont	X		
VT ANR Policy to be applied in reviewing personal wireless service tower applications in Act 250	X		
DFW Procedure for Review and mitigation of impacts to wildlife and habitat associated with the development of wireless communication towers in Vermont	X		
Guidelines for the review and mitigation of impacts to white-tailed deer winter habitat in Vermont	X		
DFW procedure for protecting rare & irreplaceable natural areas and endangered species through Act 250	X		
Guidelines for protection and mitigation of impacts to great blue heron rookeries in Vermont	X		
Guidance for ANR Act 250 and Section 248 comments regarding riparian buffers	X		
DFW Wetland Habitat Protection Policy	X		
ANR Guidelines for the review and evaluation of potential natural resources impacts from utility-scale wind energy facilities in Vermont	X		
Guidelines for State-Significant Natural Community Designation	X		
Various DEC Rules: stormwater, wetlands, etc.	X		
New Guidance to be developed over the next 12 - 18 months:			
Solar facility fencing guidance for wildlife	X		
Procedure on Participation in Act 250 and Sec. 248 Regarding the use of Explosives and the Potential Impact on Groundwater	X		
Guidance for identifying and avoiding wetlands impacts from net-metered solar facilities	X		
Procedure for RINA determination	X		
Bird/Bat mortality monitoring procedure (so that we don't have to negotiate on a case-by-case basis?)	X		
Guidelines for controlling the introduction and spread of Invasive Species.	X		
Guidelines for conservation and protection of Rare Species	X		
Guidelines for safety during Blasting		X*	
Guidelines for setbacks for wind turbines		X*	
Noise Standards			X
New Guidance that may be useful in the siting of energy generation facilities, but may not be feasible to develop over the next 18 months due to lack of data or other constraints:			
Guidelines for protection and mitigation of impacts to high value forest and habitat blocks (fragmentation)	X		
Guidelines for protection and mitigation of impacts to high value habitat connectivity areas (wildlife corridors)	X		
Construction Standards for forest roads on UVA lands (i.e. max specs by road-use type to prevent over building logging roads that will eventually serve a development infrastructure)	X		
Guidance to minimize the footprint and overall natural resource impact from high elevation energy generation facilities through design and construction best practices	X		
GHG and other air pollutant emissions * The Commission believes it is appropriate for the PSB to open a docket/rulemaking on these topics	X		

Appendix 10: NRRI - National Best Practice for Wind Siting

National Regulatory Research Institute "Wind Energy & Wind-Park Siting and Zoning Best Practices and Guidance for States (Jan 2012)	
Criterion	Recommended Approach
Noise, sound, and infrasound	• Noise standards should allow some flexibility. • Noise standards should vary depending on the area's existing and expected land uses, taking into account the noise sensitivity of different areas (e.g., agricultural, commercial, industrial, residential). • Determine pre-construction compliance using turbine manufacturer's data and best available sound modeling practices. • Apply a planning guideline of 40 dBA as an ideal design goal and 45 dBA as an appropriate regulatory limit (following Hessler's proposed approach, 2011). • Allow participating land owners to waive noise limits. • Establish required procedures for complaint handling. • Identify circumstances that will trigger, and techniques to be used for: (a) mandatory sound monitoring; (b) arbitration; and (c) mitigation. • Do not regulate setback distance; regulate sound
Shadow flicker	• Restrict to not more than 30 hours per year or 30 minutes per day at occupied buildings. • Allow participating land owners to waive shadow-flicker limits. • Allow the use of operational practices and mitigation options for compliance. • Do not regulate setback distance; regulate the duration of shadow flicker.
Ice throw	• Authorize demonstrated ice control measures. • Require wind-park to provide insurance and escrow funds to ensure compensation for proven damages resulting from ice throw. • Do not regulate setback distance; regulate ice throw.
Wildlife and habitat exclusion zones	• Responsible wildlife protection agencies should use the best available scientific knowledge and data to determine exclusion and avoidance zones and appropriate buffers (that is, setback distances) beyond those zones. • Permits should specify required pre-, during-, and post-construction monitoring. • Permits should specify how mitigation requirements will be determined and what mitigation techniques will be considered. • Regulate setback distances as required by responsible wildlife protection agencies and do not authorize siting in exclusion and buffer zones.
Aesthetic requirements	• Require neutral paint color and minimal signage. • Require the minimum of nighttime lighting necessary to achieve FAA compliance. • Require that realistic visual impact assessments, accessible to the public, be included in wind park planning and applications. • Manage visual impact through setbacks and exclusions from critical competing land uses.
Critical competing land	• Map as excluded zones any special cultural, anthropological, "sacred" lands, and highly valued

uses	scenic vistas. • Apply reasonable setbacks from non-participating property lines, occupied buildings, scenic vistas, and transportation and utility rights-of-way. • Allow participating properties to at least partially waive setback requirements from property lines and occupied buildings, in writing.
Permit requirements for met towers, construction, and facility safety	• Predetermine requirements and simplify procedures for approving meteorological (met) towers. • Regulate heavy construction requirements the same as any other heavy construction project, using the regulatory permitting system (e.g., for stormwater, surface water, transportation, noise, and wetlands permits). • Check for all required approvals for potential interference with radio and TV reception or radar. Provide for testing and mitigation of radio and TV interference problems that do occur. • Regulate structural safety (against, e.g., tower tip-over or blade failure) through construction codes, combined with minimal setback requirements. • Regulate facility safety (e.g., preventing climbing towers, ensuring electrical safety, providing fencing around electrical gear).
Decommissioning	• Set clear requirements for what triggers and what constitutes decommissioning and restoration or reclamation. • Establish a decommissioning escrow fund, to ensure adequate resources will be available at the end of a project's useful life or in the event the development fails.
Dispute resolution and mitigation	• Establish procedures for dispute resolution and mitigation.

Appendix 11: How Projects are Modified under Section 248

The following cases illustrate how, under the current process, a project can be significantly modified from its original conception based on public and expert input both before and during the Section 248 Process.

Case Study #1: Sheffield Wind

The Sheffield Wind Project was originally proposed as twenty-six turbines (52 MW), with nineteen turbines to be located in the Town of Sheffield, and seven turbines in the town of Sutton. The project and its associated infrastructure had a footprint of approximately 120 acres and was located within approximately 3000 acres of active timberland.

The developer voluntarily revised the project twice during the 248 permitting process to respond to specific issues raised by intervening parties and state agencies. Based on concerns expressed by the Town of Sutton, the developer agreed to remove all seven turbines and associated infrastructure from the Town of Sutton.

In addition, to address concerns raised by ANR and other parties with respect to wildlife and natural resource impacts, the developer agreed to several project revisions. These included

(1) reducing the total number of turbines to sixteen and eliminating turbines on one ridgeline that was closer to residences;
(2) relocating infrastructure away from identified sensitive resources including bear habitat and wetlands;
(3) minimizing the project foot-print through the use of more expensive but less impactful construction techniques; and
(4) conservation of approximately 2700 acres around the project for the life of the project.

As a result of these changes, the final project footprint was reduced from 120 acres to approximately 64 acres.

Case Study #2: Charlotte Solar LLC

Charlotte Solar LLC sought to develop a 2.2 MW solar facility on Hinesburg Road in the Town of Charlotte, Vermont. The developer's 45-day notice proposed to site the solar facility close to the road, which was most efficient for interconnection. After the Town and others raised concerns about aesthetic impacts, the developer adjusted the project design, moving the proposed project several hundred feet from Hinesburg Road to reduce visibility of the project from the road.

During the 248 proceedings, the Town requested an additional shift in the project location away from the closest neighbors, and the developer accommodated this request by moving the project as far as possible without significantly impacting the production capacity of the array. The developer also made several other changes in response to the Town's concerns to reduce the visibility of the project. Finally, during the technical hearings in response to concerns raised by the PSD, the developer agreed to reduce the overall footprint of the project by 10% to further limit visual impacts.

Appendix 12: Other Background

What would it take to generate 5% of all energy used in the state?
Rough Scale of Electric Generation Technologies in Vermont

Vermont used 147 Trillion BTUs of energy in 2010 (30% heating, 36% transportation, 35% electricity). About 11% of this (16 TBTU) came from in-state renewable sources (60/40 split between electricity and heating with biomass).

What would it take to generate 5% of all energy used in the state?

NOTE: Neglect efficiency for now (changing the denominator), as the Commission is tasked to focus on supply. 5% of all energy is equivalent to about 14% of electricity.

Using *large wind* only: 288 MW (e.g. 96 3MW turbines), costing $800-$900 million

- 4.6 times the capacity of the Kingdom Community Wind project
- *small wind*: lower capacity factor => more than 3,000 *Northwind 100*-scale turbines

Using *solar* only: 576 MW (5.4 square miles), costing $2-$2.5 billion

- 262 2.2 MW standard-offer scale plants (slightly more than one per town, city, and gore in VT)

Using *small hydro* only: 173 MW

- Almost twice the PSD estimated capacity available from powering 300 of the 1200 existing dams

Using *biomass* (electrical generator) only: 139 MW

- Use addl. 1.1 million tons of fuel/year (state now uses 1.5 million tons/year total)
- Add *CHP*: Use half the waste heat to displace fossil fuel heating =>
  Get to 5% of state energy with 89 MW plant(s) using 750,000 tons/year

What about with efficient *natural gas combined cycle*?

Using Electrical generator only: 96 MW
Use 5 billion cubic feet of fuel/year (state now uses 8.6 bcf)
Emit 310,000 tons/year of CO_2
Add *CHP*: Use half the waste heat to displace fossil fuel heating =>
Get to 5% of state energy with 81 MW plant(s) using 4.3 bcf/year
(and emitting 260,000 tons/year of CO_2)

What about more imports from *HydroQuebec*?
New HQ contract is only 16 hours/day of approx. 220 MW (down from 24 hrs.).
Expanding to 24 hours/day would be 4.2% of state energy use.

Prepared by Public Service Department, Feb 2013.

WIND POWER: VERMONT PROJECTS

Vermont Commercial Wind Projects	Power Purchase Agreements (SPEED Resources)	Average Vermont Households Served	Jobs: Workers, Services & Businesses	Expected Annual Contribution to Vermont Education Fund	Annual Payments to Host Communities	Funds to neighboring, non-host towns	Decommission Funds
Sheffield Wind Project **Operating 10/ 2011** **40 MW Capacity**	BED, VEC, WEC	15,000 ≈ 16,000	60 businesses	$230,000/yr – 345,000/yr Based on output	$520,000/yr	N/A	$1,390,000
Kingdom Community Wind **Operating 11/2012** **63 MW Capacity**	GMP, VEC	24,000	100+ businesses	$558,000+/- per year. Based on output	$535,000/yr. Increases by $32,000 every 5 years.	Yes. $1/MWH of generation for first 10 years.	$6,100,000
Georgia Mountain Community Wind **Operating 12/2012** **10 MW Capacity**	BED	4,200	100+ local workers	$82,000/yr Based on output	$180,000/yr	N/A	$600,000
Searsburg Wind Farm **Operating 1997** **6 MW Capacity**	GMP	2,000	n/a	$93,243/yr (2012) Based on output	$26,353/yr (2012)	N/A	N/A
Deerfield Wind Project ***Permitted 2009*** ***30 MW Capacity***	*GMP*	*13,000*	*$2 million paid to local workers to date*	*$270,000/yr* *Based on output*	*$394,000/yr*		
TOTAL (Installed Projects)	119 MW Capacity	**≈46,200** Households powered by wind	260+ local businesses & workers engaged	$963,243 ANNUALLY contributions to Vermont Education Fund	$1,261,353+ ANNUALLY contributions to host communities	$1/ MWH Funds to neighboring non-host towns	$8,090,000 Decommission Funds

To REV's knowledge, while there have been several other projects proposed or initially researched, no other projects are currently moving forward.
Two other projects are *UNDER CONSIDERATION*:

- Meadowsend has an approved PSB MET-tower permit in Grafton/Windham.
- Seneca Mountain Wind is applying for a PSB MET-tower permit in Ferdinand/Brighton/Newark.
- A "MET-tower" is a temporary structure that supports meteorological data sensors at a height above ground to gather wind resource data which is used to evaluate whether the wind resource is strong and persistent enough to consider an evaluation of economically viable, wind powered electric generation.

Wind Power: Vermont Projects

	Land Use	Permits & Requirements	ANR Mitigation and PSB Compliance Requirements
Sheffield Wind Operating since 10/2011 7 Years to complete	Project Footprint: ≈20 acres Conserved Land: 2,700 acres	ISO-NE System Impact Study PSB Certificate of Public Good (Sec. 248) ANR Stormwater Construction Permit - Individual ANR Stormwater Operational Permit - Individual FAA Lighting Determinations AOT Transportation Permits Local Transportation Permits Army Corps General Permit	Reduced number of wind turbines & project design footprint Interpretive signs for Crystal Lake State Park Decommissioning plan Underground electrical lines Dust control & blasting plan Transportation Plan Land Conservation and habitat mitigation Operational curtailment for bat protection 2 year bird and bat mortality monitoring & curtailment study Annual reporting of bird or bat fatalities Sound limits & monitoring during first year- all seasons. Long-term, stably-priced Power Purchase Agreements with VT Utilities
Kingdom Community Wind Operating since 11/2011 4 years to complete	Project Footprint: 135 acres Conserved Land: 2,800 acres	ISO-NE Impact Study PSB Certificate of Public Good (Sec. 248) ANR Stormwater Construction Permit - Individual ANR Stormwater Operational Permit - Individual ANR Stormwater Construction for Transmission & Substations ANR Individual Wetland Permit ANR Individual Water Quality Permit Army Corps/ ANR Individual Permit FAA Lighting Determinations AOT Road and Oversized Load Permits	Land conserved for bear habitat, wetland mitigation and fragmentation impacts Decommissioning plan Dust control & blasting plan 5 year operational stormwater monitoring Sound limits and 2 year sound monitoring- all seasons 3 year bird fatality monitoring 1 year bat fatality monitoring 5 year water quality monitoring (off-site streams) 5 year non-native invasive species monitoring
Georgia Mountain Community Wind Operating since 12/31/2012 6 years to complete	Project Footprint: ≈35 acres Conserved Land in perpetuity: 108 acres	ISO- NE System Impact Study PSB Certificate of Public Good (Sec. 248) ANR Stormwater Construction Permit - general ANR Stormwater Operational Permit - general FAA Lighting Determinations AOT Transportation Permits Town Excess Weight Permits	Decommissioning plan Dust control & blasting plan Sound limits and 1 year sound monitoring- all seasons 3 year bat fatality monitoring 2 year bird fatality monitoring 10 year non-native invasive species monitoring
Searsburg Wind Operating since 1997 7 years to complete	Project Footprint: +/- 1.5 miles of road	ISO-NE System Impact Study PSB Certificate of Public Good AOT Transportation Permits	Restricted access to minimize bear impacts Annual reporting of site visitors DOE Energy reporting for 10 years and on-going outreach requirements
Deerfield Wind *Project concept began in 2004* *Permitted in 2009* *Yet to be constructed*	*Project Footprint: N/A* *Conserved Land: 144 acres*	*US Forest Service EIS* *USFS Special Use Permit* *ISO-NE System Impact Study* *PSB Certificate of Public Good (Sec. 248)* *ANR Water Quality Permit* *ANR Stormwater Construction Permit* *ANR Stormwater Operational Permit* *FAA Lighting Determinations* *AOT Road and Oversize Load Permits* *Town Oversized Load Permits*	*Limited breeding birds limited construction period* *Decommissioning plan* *2 year bat & avian monitoring* *Sound limits and 1 year sound monitoring- all seasons* *Long-term stably-prices Power Purchase Agreement with VT utilities Bear impact study; multi-year bear monitoring; Restricted personnel access and maintenance periods for Bear activity; Bear habitat mitigation*