



Senate Natural Resources and Energy Committee

Energy Facility Siting Testimony

Vermont League of Cities and Towns

Thursday, April 6, 2017

Thank you for the opportunity to testify about renewable energy planning at the local level under Act 174. With me today is Jared Cadwell, VLCT President and Chair of the Fayston selectboard.

We represent the 246 member cities and towns of the Vermont League of Cities and Towns. Additionally I serve as vice chair of the planning commission in my town and a member of the Central Vermont Regional Commission regional energy committee so I have a bit of perspective on the new energy planning process.

Cities and Towns Are Committed to Using Renewable Energy and Realizing Efficiencies.

In the last several years, cities and towns have partnered with private sector businesses on installing renewable energy facilities that serve municipal properties; been partners in net metering projects; and installed renewable energy and energy efficiency projects for facilities such as water treatment plants, municipal buildings, wastewater treatment facilities. Their energy committees have co-hosted efficiency and button-up programs throughout the state.

In 2010 the Town of Bennington completed installation of a turbine in its water supply facility that generates 15kW of net-metered electricity. The village electric utilities in Stowe and Hyde Park (two of 14 municipal electric departments) are building 2.7 MW of solar capacity that they will own. Last year Burlington Vermont announced that it had achieved the goal of being powered by 100 percent renewable energy. In 2014 the City of Winooski purchased four all electric cars for their municipal fleet.

How Are We Doing?

In the 2016 Comprehensive Energy Plan, Vermont's energy goals are to:

reduce total energy consumption per capita by 15 % by 2025 and more than 1/3 by 2050;

meet 25 % of the remaining energy need from renewable sources by 2025, 40% by 2035, and 90 % by 2050;

meet three end-use sector goals for 2025: 10 % renewable energy transportation; 30% renewable energy supplied buildings; and 67% renewable electric power.

(http://publicservice.vermont.gov/sites/dps/files/documents/Pubs_Plans_Reports/State_Plans/Comp_Energy_Plan/2015/2016CEP_ES_Final.pdf)

We are rapidly moving toward those goals. The Energy Action Network's Community Energy Dashboard gives an indication of the growth in renewable energy sites. Their website map indicates that in June 2016 there were 7,171 renewable electricity sites (of all sizes) in Vermont; in November 2016, there were 7,617, and in February 2017 there were 8,350. Of that number, 6,886 were solar facilities and 171 were wind.

According to the Community Energy Dashboard, renewable electricity capacity in June of 2016 was 1,047,096 kW and in March 2017 was 1,107,236 kW. According to the dashboard, more than 7,000 certificates of public good (CPGs) have been issued for solar PV sites in Vermont and a few more than 160 CPGs have been issued for wind facilities. Of that number, 1,676 were solar PV CPGs issued in 2016.

<http://www.vtenergydashboard.org/90-by-2050/detail/energy-atlas-stats>

Municipal and Regional Planning

A regional plan needs to conform to the State Comprehensive Energy Plan. In turn, municipal plans need to comply with the regional plan under Act 174. The municipal and regional planning standards were issued November 1. Guidance on the standards was issued March 2. The work-load to develop a municipal plan is time consuming, complicated, and with respect to some of the required elements such as transportation, almost meaningless. There is funding for regional commissions to help three towns in each commission accomplish the work of writing a compliant plan. Towns will not have compliant plans developed and approved for some time. In the meantime electric generation projects continue to be permitted. I have provided a copy of the standards for municipalities with this testimony. They are detailed, top-down and prescriptive.

The regional plan must address all renewable energy technologies. There is not the opportunity to say that a specific technology such as wind might be inappropriate for the area. The standards do not provide flexibility to incorporate or acknowledge that rapidly changing technology may significantly change the landscape both figuratively and literally. Nor do the standards acknowledge that there may be considerations other than renewable energy that municipal plans are required to address - maintenance of forest blocs, habitat connectivity, economic development, water quality, fragile areas, or housing needs.

The brass ring at the end of this process is that the Public Service Board will accord the town plan “substantial deference” in any Section 248 proceeding. We are not at all sure how the Public Service Board will handle that substantial deference.

VLCT Recommendations for Action

We urge you to amend Act 174 in four respects to make it more workable for regions and municipalities.

The standards should allow regions or municipalities to make a determination that an area is not suitable for a specific technology.

The requirement for municipalities to address transportation in their plan should be deleted. That is an issue that realistically needs to be addressed on a regional and state level. Likewise requiring a municipal plan to consistent with “the distributed renewable generation and energy transformation categories of resources to meet the requirements of the Renewable Energy Standard under 30 V.S.A. sections 8004 and 8005” seems unreasonable.

We urge you to amend Act 174 so that as towns and regions are developing their Act 174 compliant energy plans, the Public Service Board accords currently adopted municipal plans substantial deference. We are providing an amendment that would accomplish those changes.

Thank you for this opportunity to testify.

Karen Horn, Director Public Policy and Advocacy (khorn@vlct.org)



Municipal and Regional Energy Planning
VLCT Proposal of Amendment
April 6, 2017

24 V.S.A. § 4348a. Elements of a regional plan is amended to read:

(a) A regional plan shall be consistent with the goals established in section 4302 of this title and shall include the following:

...

(3) An energy element, which may include an analysis of resources, needs, scarcities, costs, and problems within the region across all energy sectors, including electric, thermal, and transportation; a statement of policy on the conservation and efficient use of energy and the development and siting of renewable energy resources; a statement of policy on patterns and densities of land use likely to result in conservation of energy; and an identification of potential areas for the development and siting of renewable energy resources and areas that are unsuitable for siting those resources or particular categories or sizes of those resources.

24 VSA § 4352. Optional determination of energy compliance; enhanced energy planning is amended to read:

(a) Regional plan. A regional planning commission may submit its adopted regional plan to the Commissioner of Public Service appointed under 30 V.S.A. § 1 for a determination of energy compliance. The Commissioner shall issue an affirmative determination on finding that the regional plan meets the requirements of subsection (c) of this section, ~~and allows for the siting in the region of all types of renewable generation technologies.~~

(b) Municipal plan. If the Commissioner of Public Service has issued an affirmative determination of energy compliance for a regional plan that is in effect, a municipal legislative body within the region may submit its adopted municipal plan to the regional planning commission for issuance of a determination of energy compliance. The regional planning commission shall issue an affirmative determination, signed by the chair of the regional planning commission, on finding that the municipal plan meets the requirements of subsection (c) of this section and is consistent with the regional plan.

(c) Enhanced energy planning; requirements. To obtain an affirmative determination of energy compliance under this section, a plan must:

(1) in the case of a regional plan, include the energy element as described in subdivision

4348a(a)(3) of this title;

(2) in the case of a municipal plan, include an energy element that has the same components as described in subdivision 4348a(a)(3) of this title for a regional plan and be confirmed under section 4350 of this title. Notwithstanding this requirement, the municipal planning commission may determine that analysis of transportation resources, needs, scarcities, costs and problems, are most effectively and efficiently addressed at the regional or state level and the municipal plan energy element will not address transportation. The energy element shall be considered complete for purposes of consideration for a determination of compliance;

(3) be consistent with the following, with consistency determined in the manner described under subdivision 4302(f)(1) of this title:

(A) Vermont's greenhouse gas reduction goals under 10 V.S.A. § 578(a);

(B) Vermont's 25 by 25 goal for renewable energy under 10 V.S.A. § 580;

(C) Vermont's building efficiency goals under 10 V.S.A. § 581;

(D) State energy policy under 30 V.S.A. § 202a and the recommendations for regional and municipal energy planning pertaining to the efficient use of energy and the siting and development of renewable energy resources contained in the State energy plans adopted pursuant to 30 V.S.A. §§ 202 and 202b (State energy plans); and

~~(E) the distributed renewable generation and energy transformation categories of resources to meet the requirements of the Renewable Energy Standard under 30 V.S.A. §§ 8004 and 8005; and~~

(4) meet the standards for issuing a determination of energy compliance included in the State energy plans.

(d) State energy plans; recommendations; standards.

(1) The State energy plans shall include the recommendations for regional and municipal energy planning and the standards for issuing a determination of energy compliance described in subdivision (c)(3) of this section.

(2) The recommendations shall provide strategies and options for regional planning commissions and municipalities to employ in meeting the goals and policies contained in statutes listed in subdivision (c)(3) of this section.

(3) The standards shall consist of a list of criteria for issuing a determination of energy compliance that ensure consistency with the goals and policies contained in the statutes listed in subdivision (c)(3) of this section and the recommendations developed pursuant to this subsection.

(4) In developing standards and recommendations under this subsection, the Commissioner of Public Service shall consult with all persons identified under 30 V.S.A. § 202(d)(1); the Secretaries of Agriculture, Food and Markets, of Commerce and Community Development, of Natural Resources, and of Transportation; and other affected persons.

(5) The Commissioner of Public Service shall provide the Commissioner of Housing and Community Development with a copy of the recommendations and standards developed under this subsection for inclusion in the planning and land use manual prepared pursuant to section 4304 of this title.

(e) Process for issuing determinations of energy compliance. Review of whether to issue a determination of energy compliance under this section shall include a public hearing noticed at least 15 days in advance by direct mail to the requesting regional planning commission or municipal legislative body, posting on the website of the entity from which the determination is requested, and publication in a newspaper of general publication in the region or municipality affected. The Commissioner or regional planning commission shall issue the determination in writing within two months of the receipt of a request for a determination. If the determination is negative, the Commissioner or regional planning commission shall state the reasons for denial in writing and, if appropriate, suggest acceptable modifications. The lack of an analysis of energy considerations related to transportation in a municipal plan shall not be a reason for making a negative determination. Submissions for a new determination that follow a negative determination shall receive a new determination within 45 days.

(f) Appeal. A regional planning commission aggrieved by an act or decision of the Commissioner of Public Service under this section may appeal to the Natural Resources Board established under 10 V.S.A. chapter 151 within 30 days of the act or decision. The provisions of 10 V.S.A. § 6024 regarding assistance to the Board from other departments and agencies of the State shall apply to this subsection. The Board shall conduct a de novo hearing on the act or decision under appeal and shall proceed in accordance with the contested case requirements of the Vermont Administrative Procedure Act. The Board shall issue a final decision within 90 days of the filing of the appeal.

(g) Municipality; determination from DPS; time-limited option. Until July 1, 2018, a municipality whose plan has been confirmed under section 4350 of this title may seek issuance of a determination of energy compliance from the Commissioner of Public Service if it is a member of a regional planning commission whose regional plan has not received such a determination.

(1) The Commissioner shall issue an affirmative determination of energy compliance for the municipal plan on finding that the plan meets the requirements of subsection (c) of this section. The lack of an analysis of energy considerations related to transportation in a municipal plan shall not be a reason for making a negative determination. The Commissioner's review of the municipal plan shall be for the purpose only of determining whether a determination of energy compliance should be issued because those

requirements are met.

(2) A municipality aggrieved by an act or decision of the Commissioner under this subsection may appeal in accordance with the procedures of subsection (f) of this section.

(h) Determination; time period. An affirmative determination of energy compliance issued pursuant to this section shall remain in effect until the end of the period for expiration or re-adoption of the plan to which it applies.

(i) Commissioner; consultation. In the discharge of the duties assigned under this section, the Commissioner shall consult with and solicit the recommendations of the Secretaries of Agriculture, Food and Markets, of Commerce and Community Development, of Natural Resources, and of Transportation. (Added 2015, No. 174 (Adj. Sess.), § 6, eff. June 13, 2016.)

30 VSA § 248 is amended to read:

(b) Before the Public Service Board 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:

(A) 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.

(B) With respect to a ground-mounted solar electric generation facility, the facility shall comply with the screening requirements of a municipal bylaw adopted under 24 V.S.A. § 4414(15) or a municipal ordinance adopted under 24 V.S.A. § 2291(28), and the recommendation of a municipality applying such a bylaw or ordinance, unless the Board finds that requiring such compliance would prohibit or have the effect of prohibiting the installation of such a facility or have the effect of interfering with the facility's intended functional use.

(C) With respect to an in-state electric generation facility, the Board shall give substantial deference to the land conservation measures and specific policies contained in a duly adopted regional and municipal plan that has received an affirmative determination of energy compliance under 24 V.S.A. § 4352. In this subdivision (C), "substantial deference" means that a land conservation measure or specific policy shall be applied in

accordance with its terms unless there is a clear and convincing demonstration that other factors affecting the general good of the State outweigh the application of the measure or policy. The term shall not include consideration of whether the determination of energy compliance should or should not have been affirmative under 24 V.S.A. § 4352.

The Board shall give substantial deference to land conservation measures and specific policies contained in a duly adopted municipal and regional plan until a new plan is adopted that has secured a determination of compliance or July 1, 2018, whichever comes first.

Energy Planning Standards for Municipal Plans

Instructions

Before proceeding, please review the requirements of Parts I and II below, as well as the Overview document. Submitting a Municipal Plan for review under the standards below is entirely voluntary, as enabled under [Act 174](#), the Energy Development Improvement Act of 2016. If a Municipal Plan meets the standards, it will be given an affirmative “determination of energy compliance,” and will be given “substantial deference” in the Public Service Board’s review of whether an energy project meets the orderly development criterion in the Section 248 process. Specifically, with respect to an in-state electric generation facility, the Board:

[S]hall give substantial deference to the land conservation measures and specific policies contained in a duly adopted regional and municipal plan that has received an affirmative determination of energy compliance under 24 V.S.A. § 4352. In this subdivision (C), “substantial deference” means that a land conservation measure or specific policy shall be applied in accordance with its terms unless there is a clear and convincing demonstration that other factors affecting the general good of the State outweigh the application of the measure or policy. The term shall not include consideration of whether the determination of energy compliance should or should not have been affirmative under 24 V.S.A. § 4352.

Municipal Plans should be submitted by the municipality’s legislative body to the Regional Planning Commission (RPC) if the Regional Plan has received an affirmative determination of energy compliance. If a Regional Plan has not received such a determination, until July 1, 2018¹, a municipality may submit its adopted and approved Municipal Plan to the Department of Public Service (DPS) for a determination of energy compliance (determination), along with the completed checklist below. After a Municipal Plan and completed checklist have been submitted to the RPC (or DPS), the RPC or DPS will schedule a public hearing noticed at least 15 days in advance by direct mail to the requesting municipal legislative body, on the RPC or DPS website, and in a newspaper of general publication in the municipality. The RPC or DPS shall issue a determination in writing within two months of the receipt of a request. If the determination is negative, the RPC or DPS shall state the reasons for the denial in writing and, if appropriate, suggest acceptable modifications. Submissions for a new determination following a negative determination shall receive a new determination within 45 days.

The plans that Municipalities submit must:

- Be adopted
- Be confirmed under 24 V.S.A. § 4350
- Include an energy element that has the same components as described in 24 V.S.A. § 4348a(a)(3)
- Be consistent with state energy policy (described below), in the manner described in 24 V.S.A. § 4302(f)(1)
- Meet all standards for issuing a determination of energy compliance (see below)

¹ These standards will be revised after July 1, 2018 to reflect that Municipal Plans should be submitted only to the Regional Planning Commissions – which will all have had an opportunity to seek a determination of energy compliance – from that point forward.

Municipalities are encouraged to consult with their reviewer (either their RPC or DPS) before undertaking the process of plan adoption, which may help in identifying any deficiencies or inconsistencies with the standards or other requirements that would be more difficult to remedy after a plan has gone through the formal adoption process.

The state’s Comprehensive Energy Plan (CEP) is revised on a 6-year basis. When the next CEP is published in 2022, it will include a revised set of standards, as well as Recommendations that are customized to regions and municipalities. The Recommendations that accompany this initial set of Standards represent a subset of recommendations from the 2016 CEP, which were not written with regions and municipalities specifically in mind. A Guidance document – which is expected to evolve as best practices from regions and municipalities emerge – will be published shortly after the Standards are issued. It will serve as the warehouse for relevant recommendations from the 2016 CEP, links to data sources, instructions on conducting analysis and mapping, and sample language/best practices. Once issued and until the 2022 CEP is published, this Guidance document will supplant the Recommendations document.

Affirmative determinations last for the life cycle of a revision of the Municipal Plan, and Municipal Plans that are submitted after the 2022 CEP is issued will be expected to meet the Standards that are issued at that time. Municipalities are encouraged to consult with their RPC or DPS regarding interim amendments that might affect any of the standards below, to discuss whether a new review is triggered.

If you wish to submit your Municipal Plan to your RPC or to DPS for a determination, please read closely the specific instructions at the start of each section below, and attach your Municipal Plan to this checklist.

Determination requests to an RPC (and any other questions) should be submitted to your RPC’s designated contact. Determination requests to DPS until July 1, 2018 – and only for municipalities whose Regions’ plans have not received an affirmative determination – should be submitted to:

PSD.PlanningStandards@vermont.gov.

Part I: Applicant Information		
The plan being submitted for review is a:	<input type="checkbox"/> Municipal Plan in a region whose regional plan has received an affirmative determination of energy compliance from the Commissioner of Public Service Please submit these plans to your RPC	<input type="checkbox"/> Municipal Plan in a region whose regional plan has <u>not</u> received a determination of energy compliance Until July 1, 2018, please submit these to the DPS. After July 1, 2018, this option ceases to exist.
Applicant:		
Contact person:		
Contact information:		
Received by:	Date:	

Part II: Determination Standards Checklist

The checklist below will be used to evaluate your plan's consistency with statutory requirements under Act 174, including the requirement to be adopted and approved, contain an enhanced energy element, be consistent with state energy policy, and meet a set of standards designed to ensure consistency with state energy goals and policies.

Please review and attach your plan (or adopted energy element/plan, along with supporting documentation) and self-evaluate whether it contains the following components. Use the Notes column to briefly describe how your plan is consistent with the standard, including relevant page references (you may include additional pages to expand upon Notes). If you feel a standard is not relevant or attainable, please check N/A where it is available and use the Notes column to describe the situation, explaining why the standard is not relevant or attainable, and indicate what measures your municipality is taking instead to mitigate any adverse effects of not making substantial progress toward this standard. If N/A is not made available, the standard must be met (unless the instructions for that standard indicate otherwise) and checked "Yes" in order to receive an affirmative determination. There is no penalty for checking (or limit on the number of times you may check) N/A where it is available, as long as a reasonable justification is provided in the Notes column.

Plan Adoption Requirement

[Act 174](#) requires that municipal plans be adopted and approved in order to qualify for a determination of energy compliance. In the near term, it is likely municipalities will revise and submit isolated energy plans or elements, particularly due to long planning cycles. Therefore, the plan adoption requirement can be met through an amendment to an existing plan in the form of an energy element or energy plan, as long as the amendment or plan itself is duly adopted as part of the municipal plan and incorporated by reference or appended to the underlying, full plan (i.e., is officially "in" the municipal plan), as well as approved for confirmation with the region. If this route is chosen, the municipality should also attach the planning commission report required for plan amendments under 24 V.S.A. § 4384, which should address the internal consistency of the energy plan/element with other related elements of the underlying plan (particularly Transportation and Land Use), and/or whether the energy plan/element supersedes language in those other elements. Standards 1 and 2 below must be answered in the affirmative in order for a plan to receive an affirmative determination of energy compliance.

<p>1. Has your plan been duly adopted and approved for confirmation according to 24 V.S.A. § 4350?</p>	<p><input type="checkbox"/> Yes. Adoption date: _____</p> <p>Confirmation date: _____</p>	<p><input type="checkbox"/> No</p>	
<p>2. Is a copy of the plan (or adopted energy element/plan, along with underlying plan and planning commission report addressing consistency of energy element/plan with other elements of underlying plan) attached to this checklist?</p>	<p><input type="checkbox"/> Yes</p>	<p><input type="checkbox"/> No</p>	

Energy Element Requirement

To obtain a determination of energy compliance, Act 174 requires municipalities to include an “energy element” that contains the same components described in 24 V.S.A. § 4348a(a)(3), which was revised through Act 174 to explicitly address energy across all sectors and to identify potential and unsuitable areas for siting renewable energy resources:

An energy element, which may include an analysis of resources, needs, scarcities, costs, and problems within the region across all energy sectors, including electric, thermal, and transportation; a statement of policy on the conservation and efficient use of energy and the development and siting of renewable energy resources; a statement of policy on patterns and densities of land use likely to result in conservation of energy; and an identification of potential areas for the development and siting of renewable energy resources and areas that are unsuitable for siting those resources or particular categories or sizes of those resources.

The standards below are generally organized to integrate each component of the enhanced energy element with related determination standards that evaluate the plan’s consistency with state goals and policies. **Energy element components are identified in bolded text.**

While municipalities may choose to primarily address energy used for heating, transportation, and electricity in the required energy element, they may also choose to address some of these components in related plan elements (e.g., Transportation and Land Use) and should indicate as much in the Notes column. To the extent an energy element is designed to comprehensively address energy, it should be complementary to and reference other relevant plan elements.

<p>3. Does the plan contain an energy element, that contains the same components described in 24 V.S.A. § 4348a(a)(3)? <i>Individual components of the energy element will be evaluated through the standards below.</i></p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Page: _____
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Consistency with State Goals and Policies Requirement

Act 174 states that regional and municipal plans must be consistent with the following state goals and policies:

- Greenhouse gas reduction goals under [10 V.S.A. § 578\(a\)](#) (50% from 1990 levels by 2028; 75% by 2050)
- The 25 x 25 goal for renewable energy under [10 V.S.A. § 580](#) (25% in-state renewables supply for all energy uses by 2025)
- Building efficiency goals under [10 V.S.A. § 581](#) (25% of homes – or 80,000 units – made efficient by 2020)
- State energy policy under [30 V.S.A. § 202a](#) and the recommendations for regional and municipal planning pertaining to the efficient use of energy and the siting and development of renewable energy resources contained in the [State energy plans](#) adopted pursuant to [30 V.S.A. §§ 202](#) and [202b](#)
- The distributed renewable generation and energy transformation categories of resources to meet the requirements of the Renewable Energy Standard under [30 V.S.A. §§ 8004](#) and [8005](#)

The standards in the checklist below will be used to determine whether a plan is consistent with these goals and policies. The standards are broken out by category. *Analysis and Targets* standards address how energy analyses are done within plans, and whether targets are established for energy conservation, efficiency, fuel switching, and use of renewable energy across sectors. *Pathways (Implementation Actions)* standards address the identification of actions to achieve the targets. *Mapping* standards address the identification of suitable and unsuitable areas for the development of renewable energy.

Municipalities may choose to incorporate the information necessary to meet the standards in their energy elements, and/or in other sections of their plans (many transportation items may fit best in the Transportation chapters of plans, for instance). However, plans must be internally consistent, and applicants should cross-reference wherever possible.

Analysis and Targets Standards

For the *Analysis & Targets* determination standards below, municipalities will be provided with analyses and targets derived from regional analyses and targets no later than April 30, 2017 (and likely much sooner). Municipalities may choose to rely on these “municipalized” analyses and targets to meet the standards in this section. Municipalities which elect to use the analysis and targets provided by a region will be presumed to have met the standards in this section. Alternatively, municipalities may develop their own custom analyses and targets or supplement the analyses and targets provided by the regions with specific local data; if this option is chosen, the analysis and targets must include all of the same components and meet the standards required of regions, as described below.

For municipalities that choose to undertake their own analysis and target-setting (and for regions), DPS is providing a guidance document to explain the expected level of detail in and data sources and methodologies available for meeting the standards (including areas where it is understood data at the municipal level is unavailable, and therefore not expected). Note that standards 5A-4E are all derived directly from requirements in Act 174 (with minor modifications to make them feasible) and must be met affirmatively in order for a municipal plan to receive an affirmative determination of energy compliance.

Targets set by regions and municipalities should be aligned with state energy policy (see the goals and policies listed above). Where targets (and efforts to reach them) depart significantly from state energy goals and policies, an explanation for how the plan otherwise achieves the intent of the state goal or policy should be provided. The guidance document also offers additional clarification on alignment with state goals and policies.

The analysis items below are intended to provide regions and municipalities with an overview of their current energy use, and with a sense of the trajectories and pace of change needed to meet targets, which can be translated into concrete actions in the *Pathways* standards below. Targets provide regions and municipalities with milestones or checkpoints along the way toward a path of meeting 90% of their total energy needs with renewable energy, and can be compared with the potential renewable energy generation from areas identified as potentially suitable in the *Mapping* standards exercise below to give regions and municipalities a sense of their ability to accommodate renewable energy that would meet their needs.

<p>4. Does your plan’s energy element contain an analysis of resources, needs, scarcities, costs, and problems within the municipality across all energy sectors (electric, thermal, transportation)?</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Page: _____
<p>5. Does your plan contain an analysis that addresses A-E below, either as provided by your Regional Planning Commission or as developed by your municipality? <i>Municipalities may meet this standard by using the analysis and targets provided by their regions, or by developing their own analyses and targets. If using the analysis & targets provided by your region, please answer “Yes-Region” and skip ahead to #6. If</i></p>	<input type="checkbox"/> Yes-Region <input type="checkbox"/> Yes-Custom	<input type="checkbox"/> No	Page: _____ Paragraph #: _____

<i>developing a custom analysis, please answer “Yes-Custom” and address 5A-5E separately, below.</i>			
A. Does the plan estimate current energy use across transportation, heating, and electric sectors?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Page: _____ Paragraph #: _____
B. Does the plan establish 2025, 2035, and 2050 targets for thermal and electric efficiency improvements, and use of renewable energy for transportation, heating, and electricity?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Page: _____ Paragraph #: _____
C. Does the plan evaluate the amount of thermal-sector conservation, efficiency, and conversion to alternative heating fuels needed to achieve these targets?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Page: _____ Paragraph #: _____
D. Does the plan evaluate transportation system changes and land use strategies needed to achieve these targets?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Page: _____ Paragraph #: _____
E. Does the plan evaluate electric-sector conservation and efficiency needed to achieve these targets?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Page: _____ Paragraph #: _____

Pathways (Implementation Actions) Standards

This section examines whether plans meet the Act 174 expectation that they include pathways and recommended actions to achieve the targets identified through the *Analysis and Targets* section of the Standards (above). Plans are expected to include or otherwise address all of the pathways (implementation actions) below; some actions may not be applicable or equally relevant to all applicants (small vs. large municipalities, for instance), in which case N/A may be checked (if available) and the justification provided in the Notes column. There is no penalty for choosing N/A one or more times, as long as a reasonable justification is provided in the Notes column, preferably including an explanation of how the plan alternatively achieves attainment of the targets should be included. If N/A is not provided as an option, the standard must be met, and “Yes” must be checked, in order for the plan to meet the requirements for a determination (unless the instructions particular to that standard indicate otherwise).

DPS will be issuing a guidance document in the near term providing potential implementation actions derived from the Comprehensive Energy Plan (relevant formal Recommendations as well as opportunities not specifically called out as Recommendations), from recent regional and municipal plans, and from other sources. The guidance document will be revised after the regions have compiled best practices from early municipalities pursuing energy planning to seek a determination of energy compliance, in the summer of 2017.

For the time being, we offer potential implementation action options for consideration as italicized text under each standard. Plans are encouraged to promote as diverse a portfolio of approaches as possible in each sector, or if not, to explain why they take a more targeted approach. Implementation actions may fit best in a holistic discussion contained within a plan’s energy element, though cross-referencing to other relevant plan elements is also acceptable.

Municipalities must demonstrate a commitment to achieving each standard in both policies and implementation measures in clear, action-oriented language.

6. Does your plan's energy element contain a statement of policy on the conservation and efficient use of energy?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Page: _____ Paragraph #: _____
A. Does the plan encourage conservation by individuals and organizations? <i>(Actions could include educational activities and events such as convening or sponsoring weatherization workshops, establishing local energy committees, encouraging the use of existing utility and other efficiency and conservation programs and funding sources, etc.)</i>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Page: _____ Paragraph #: _____
B. Does the plan promote efficient buildings? <i>(Actions could include promoting compliance with residential and commercial building energy standards for new construction and existing buildings, including additions, alterations, renovations and repairs; promoting the implementation of residential and commercial building efficiency ratings and labeling; considering adoption of stretch codes, etc.)</i>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Page: _____ Paragraph #: _____
C. Does the plan promote decreased use of fossil fuels for heating? <i>(Actions and policies could promote switching to wood, liquid biofuels, biogas, geothermal, and/or electricity. Suitable devices include advanced wood heating systems and cold-climate heat pumps, as well as use of more energy efficient heating systems; and identifying potential locations for, and barriers to, deployment of biomass district heating and/or thermal-led combined heat and power systems in the municipality)</i>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Page: _____ Paragraph #: _____
D. Does the plan demonstrate the municipality's leadership by example with respect to the efficiency of municipal buildings? <i>(Actions could include building audits and weatherization projects in schools and town offices, etc.)</i>	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A	Page: _____ Paragraph #: _____
E. Other (please use the notes section to describe additional approaches that your municipality is taking)	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A	Page: _____ Paragraph #: _____
7. Does your plan's energy element contain a statement of policy on reducing transportation energy demand and single-occupancy vehicle use, and encouraging use of renewable or lower-emission energy sources for transportation?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Page: _____ Paragraph #: _____
A. Does the plan encourage increased use of public transit? <i>(Actions could include participation in efforts to identify and develop new public transit routes, promote full utilization of existing routes, integrate park-and-rides with transit routes, etc.)</i>	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A	Page: _____ Paragraph #: _____
B. Does the plan promote a shift away from single-occupancy vehicle trips, through strategies appropriate to the municipality?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Page: _____ Paragraph #: _____

<i>(Actions could include rideshare, vanpool, car-sharing initiatives; efforts to develop or increase park-and-rides; enhancement of options such as rail and telecommuting; education; intergovernmental cooperation; etc.)</i>			
C. Does the plan promote a shift away from gas/diesel vehicles to electric or other non-fossil fuel transportation options through strategies appropriate to the municipality? <i>(Actions could include promoting the installation of electric vehicle charging infrastructure, providing education and outreach to potential users, supporting non-fossil fuel vehicle availability through outreach to vehicle dealers, etc.)</i>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Page: _____ Paragraph #: _____
D. Does the plan facilitate the development of walking and biking infrastructure through strategies appropriate to the municipality? <i>(Actions could include studying, planning for, seeking funding for, or implementing improvements that encourage safe and convenient walking and biking; adopting a "Complete Streets" policy, etc.)</i>	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A	Page: _____ Paragraph #: _____
E. Does the plan demonstrate the municipality's leadership by example with respect to the efficiency of municipal transportation? <i>(Actions could include purchasing energy efficient municipal and fleet vehicles when practicable, installing electric vehicle charging infrastructure, etc.)</i>	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A	Page: _____ Paragraph #: _____
F. Other (please use the notes section to describe additional approaches that your municipality is taking)	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A	Page: _____ Paragraph #: _____
8. Does your plan's energy element contain a statement of policy on patterns and densities of land use likely to result in conservation of energy?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Page: _____ Paragraph #: _____
A. Does the plan include land use policies (and descriptions of current and future land use categories) that demonstrate a commitment to reducing sprawl and minimizing low-density development? <i>(Actions could include adopting limited sewer service areas, maximum building sizes along highways, policies or zoning that require design features that minimize the characteristics of strip development [multiple stories, parking lot to the side or back of the store], and requirements that development in those areas be connected by means other than roads and cars; adopting a capital budget and program that furthers land use and transportation policies; etc.)</i>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Page: _____ Paragraph #: _____
B. Does the plan strongly prioritize development in compact, mixed-use centers when physically feasible and appropriate to the use of the development, or identify steps to make such compact development more	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A	Page: _____ Paragraph #: _____

feasible? <i>(Actions could include participating in the state designation program, such as obtaining state designated village centers, downtowns, neighborhoods, new town centers, or growth centers; exploration of water or sewage solutions that enable compact development; etc.)</i>			
C. Other (please use the notes section to describe additional approaches that your municipality is taking)	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A	Page: _____ Paragraph #: _____
9. Does your plan’s energy element contain a statement of policy on the development and siting of renewable energy resources?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
A. Does the plan evaluate (estimates of or actual) generation from existing renewable energy generation in the municipality? <i>Municipalities should be able to obtain this information from their regions.</i>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Page: _____ Paragraph #: _____
B. Does the plan analyze generation potential, through the mapping exercise (see <i>Mapping</i> standards, below), to determine potential from preferred and potentially suitable areas in the municipality? <i>Municipalities should be able to obtain this information from their regions.</i>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Page: _____ Paragraph #: _____
C. Does the plan identify sufficient land in the municipality for renewable energy development to reasonably reach 2050 targets for renewable electric generation, based on population and energy resource potential (from potential resources identified in the <i>Mapping</i> exercise, below), accounting for the fact that land may not be available due to private property constraints, site-specific constraints, or grid-related constraints? <i>If N/A, please describe how you are working with your regional planning commission to ensure overall regional objectives are achieved.</i>	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A	Page: _____ Paragraph #: _____
D. Does the plan ensure that any local constraints (locally designated resources or critical resources, from 12B and 12C under <i>Mapping</i> , below) do not prohibit or have the effect of prohibiting the provision of sufficient renewable energy to meet state, regional, or municipal targets? <i>If N/A, please describe how you are working with your regional planning commission to ensure overall regional objectives are achieved.</i>	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A	Page: _____ Paragraph #: _____
E. Does the plan include statements of policy to accompany maps (could include general siting guidelines), including statements of policy to accompany any preferred, potential, and unsuitable areas for siting generation (see 12 and 13 under <i>Mapping</i> , below)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Page: _____ Paragraph #: _____
F. Does the plan maximize the potential for renewable generation on preferred locations (such as the categories outlined under 12E in the <i>Mapping</i> standards, below)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A	Page: _____ Paragraph #: _____

<p>G. Does the plan demonstrate the municipality’s leadership by example with respect to the deployment of renewable energy? (Actions could include deploying renewable energy to offset municipal electric use, etc.)</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A	Page: _____ Paragraph #: _____
<p>H. Other (please use the notes section to describe additional approaches that your municipality is taking)</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A	Page: _____ Paragraph #: _____

Mapping Standards

Act 174 requires plans to identify potential areas for the development and siting of renewable energy resources and areas that are unsuitable for siting those resources or particular categories or sizes of those resources. It furthermore requires that the standards address the potential generation from the potential siting areas.

The *Mapping* standards lay out a sequence of steps for planners to examine existing renewable resources and to identify potential (and preferred) areas for renewable energy development, and to identify likely unsuitable areas for development, by layering constraint map layers on to raw energy resource potential map layers. The maps should help municipalities visualize and calculate the potential generation from potential areas, and compare it with the 2025, 2035, and 2050 targets from the *Analysis and Targets* standards to get a sense of the scale and scope of generation that could be produced within the region to meet the municipality’s needs. DPS will provide additional guidance to accompany the standards that fleshes out the steps, layers, and standards more fully.

Plans must include maps that address all of the standards below, unless N/A is provided as an option, in which case a compelling reason why the standard is not applicable or relevant should be provided in the Notes column. Regions must develop their own maps (already underway through support being provided to regions by DPS), and to then break out the maps for their municipalities, who can use their region-provided maps to meet the municipal *Mapping* standards (such “municipalization” work is being supported through a training & technical assistance contract between DPS and regions, and all regions must supply completed maps to their municipalities by April 30, 2017, though many are expected to do so much sooner).

Municipalities may choose to rely on the maps provided by the regions to meet the standards in this section. Those maps should be somewhat familiar to municipalities, who are expected to be consulted as regions develop their maps. Alternatively, municipalities may choose to undertake their own mapping, according to the same set of standards as regions. Additionally, municipalities are expected to work collaboratively with their regions and with neighboring municipalities to ensure compatibility between the final products.

The map and the text describing the policies or rules used to construct the map, as well as the text describing specific policies applicable to map features, should be complementary. That should help ensure that any “land conservation measures and specific policies” that might be given substantial deference in the context of a particular project review under 30 V.S.A. § 248 are clearly identifiable in the text, should a map lack sufficient clarity or granularity regarding the area in which a project is proposed.

<p>10. Does your plan contain one or more maps that address 11-13 below, as provided by your Regional Planning Commission or as developed by your municipality?</p>	<input type="checkbox"/> Yes-Region	<input type="checkbox"/> No	Page: _____ Paragraph #: _____
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<p><i>Municipalities may meet this standard by using the maps provided by their regions, or by developing their own maps. If using the maps provided by your region, please answer “Yes-Region” and skip ahead to #14. If developing custom maps, please answer “Yes-Custom” and address 11-13 separately, below.</i></p>	<input type="checkbox"/> Yes- Custom		
<p>11. Does the plan identify and map existing electric generation sources? Maps may depict generators of all sizes or just those larger than 15 kW, as long as information on generators smaller than 15 kW is summarized and provided or referenced elsewhere. It is expected that the best available information at the time of plan creation will be used. This information is available from the DPS.</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A	Page: _____ Paragraph #: _____
<p>12. Does the plan identify potential areas for the development and siting of renewable energy resources and the potential generation from such generators in the identified areas, taking into account factors including resource availability, environmental constraints, and the location and capacity of electric grid infrastructure? Maps should include the following (available from VCGI and ANR), and the resulting Prime and Secondary Resource Maps will together comprise “potential areas”:</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Page: _____ Paragraph #: _____
<p>A. Raw renewable energy potential analysis (wind and solar), using best available data layers (including LiDAR as appropriate)</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Page: _____ Paragraph #: _____
<p>B. Known constraints (signals likely, though not absolute, unsuitability for development based on statewide or local regulations or designated critical resources) to include:</p> <ul style="list-style-type: none"> • Vernal Pools (confirmed and unconfirmed layers) • DEC River Corridors • FEMA Floodways • State-significant Natural Communities and Rare, Threatened, and Endangered Species • National Wilderness Areas • Class 1 and Class 2 Wetlands (VSWI and advisory layers) • Regionally or Locally Identified Critical Resources <p><i>If areas are constrained for the development of renewable energy due to the desire to protect a locally designated critical resource (whether a natural resource or a community-identified resource), then the land use policies applicable to other forms of development in this area must</i></p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Page: _____ Paragraph #: _____

<p><i>be similarly restrictive; for this category, policies must prohibit all permanent development (and should be listed in the Notes column).</i></p> <p><i>These areas should be subtracted from raw renewable energy resource potential maps to form Secondary Resource Maps</i></p>			
<p>C. Possible constraints (signals conditions that would likely require mitigation, and which may prove a site unsuitable after site-specific study, based on statewide or regional/local policies that are currently adopted or in effect), including but not limited to:</p> <ul style="list-style-type: none"> • Agricultural Soils • FEMA Special Flood Hazard Areas • Protected Lands (State fee lands and private conservation lands) • Act 250 Agricultural Soil Mitigation areas • Deer Wintering Areas • ANR’s Vermont Conservation Design Highest Priority Forest Blocks (or Habitat Blocks 9 & 10, for plans using regional maps in regions whose plans will be submitted for adoption at the regional level by March 1, 2017) • Hydric Soils • Regionally or Locally Identified Resources <p><i>If locations are constrained for the development of renewable energy due to the desire to protect a locally designated resource (whether a natural resource or community-identified resource, like a view), then the land use policies applicable to other forms of development must be similarly restrictive (and should be listed in the Notes column).</i></p> <p><i>These areas should be subtracted from Secondary Resource Maps to form Prime Resource Maps.</i></p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Page: _____ Paragraph #: _____
<p>D. Transmission and distribution resources and constraints, as well as transportation infrastructure.</p> <p><i>(Including three-phase distribution lines, known constraints from resources such as Green Mountain Power’s solar map, known areas of high electric load, etc.)</i></p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Page: _____ Paragraph #: _____

<p>E. Preferred locations (specific areas or parcels) for siting a generator or a specific size or type of generator, accompanied by any specific siting criteria for these locations</p> <p><i>Narrative descriptions of the types of preferred areas in accompanying plan text are acceptable, though mapping of areas and especially specific parcels (to the extent they are known) is highly encouraged, to signal preferences to developers, particularly for locally preferred areas and specific parcels that do not qualify as a statewide preferred location under i. below.</i></p> <p><i>The locations identified as preferred must not be impractical for developing a technology with regard to the presence of the renewable resource and access to transmission/distribution infrastructure.</i></p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A	Page: _____ Paragraph #: _____
<p>i. Statewide preferred locations such as rooftops (and other structures), parking lots, previously developed sites, brownfields, gravel pits, quarries, and Superfund sites</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A	Page: _____ Paragraph #: _____
<p>ii. Other potential locally preferred locations</p> <p><i>For example, customer on- or near-site generation, economic development areas, unranked and not currently farmed agricultural soils, unused land near already developed infrastructure, locations suitable for large-scale biomass district heat or thermal-led cogeneration, potential locations for biogas heating and digesters, etc.</i></p> <p><i>These are particularly important to map if possible, as “a specific location in a duly adopted municipal plan” is one way for a net metering project to qualify as being on a preferred site.</i></p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A	Page: _____ Paragraph #: _____
<p>13. Does the plan identify areas that are unsuitable for siting renewable energy resources or particular categories or sizes of those resources?</p> <p><i>Either Yes or No (“No” if the plan chooses not to designate any areas as unsuitable) is an acceptable answer here. “Resources” is synonymous with “generators.”</i></p>	<input type="checkbox"/> Yes (“Yes” for A and B must also be selected below)	<input type="checkbox"/> No	Page: _____ Paragraph #: _____
<p>A. Are areas identified as unsuitable for particular categories or sizes of generators consistent with resource availability and/or land use policies in the regional or municipal plan applicable to other types of</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A (if no unsuita	Page: _____ Paragraph #: _____

<p>land development (answer only required if “Yes” selected above, indicating unsuitable areas have been identified)? <i>If areas are considered unsuitable for energy generation, then the land use policies applicable to other forms of development in this area should similarly prohibit other types of development. Please note these policies in the Notes column.</i></p>		<p>ble areas are identified)</p>	
<p>B. Does the plan ensure that any regional or local constraints (regionally or locally designated resources or critical resources, from 12b-12c above) identified are supported through data or studies, are consistent with the remainder of the plan, and do not include an arbitrary prohibition or interference with the intended function of any particular renewable resource size or type? <i>Please explain in the Notes column.</i></p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<p>Page: _____ Paragraph #: _____</p>
<p>14. Municipalities seeking a determination of energy compliance from the Department and not using their region’s maps only: Does the plan ensure that its approach, if applied regionally, would not have the effect of prohibiting any type of renewable generation technology in all locations?</p>	<input type="checkbox"/> Yes (also check Yes if seeking determination from region, or from DPS but using region-provided maps)	<input type="checkbox"/> No	<p>Page: _____ Paragraph #: _____</p>