

# Energy Planning Standards for Regional Plans

## Instructions

Before proceeding, please review the requirements of Parts I and II below, as well as the Overview document. Submitting a Regional Plan for review under the standards below is entirely voluntary, as enabled under [Act 174](#), the Energy Development Improvement Act of 2016. If a Regional 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*

Regional Plans may be submitted to the Department of Public Service (DPS) for a determination of energy compliance (determination), along with the completed checklist below. After a Regional Plan and completed checklist have been submitted to DPS, DPS will schedule a public hearing noticed at least 15 days in advance by direct mail to the requesting regional planning commission, on the DPS website, and in a newspaper of general publication in the region. The Commissioner of DPS shall issue a determination in writing within two months of the receipt of a request. If the determination is negative, the Commissioner 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 Regions submit must:

- Be adopted
- Include the energy element 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)

Regions are encouraged to consult with 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 Regional Plan, and Regional Plans that are submitted after the 2022 CEP is issued will be expected to meet the Standards that are issued at that time. Regions are encouraged to consult with 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 Regional Plan to DPS for a determination, please read closely the specific instructions at the start of each section below, and attach your Regional Plan to this checklist.

Determination requests and any other questions should be submitted to: [PSD.PlanningStandards@vermont.gov](mailto:PSD.PlanningStandards@vermont.gov).

Part I: Applicant Information	
<b>Applicant:</b>	Two Rivers-Ottawaquechee Regional Commission
<b>Contact person:</b>	Peter G. Gregory, AICP, Executive Director
<b>Contact information:</b>	pgregory@trorc.org 128 King Farm Road Woodstock, VT 05091
<b>Received by:</b> <small>Click here to enter text.</small>	<b>Date:</b> <small>Click here to enter text.</small>

## 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, 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 region 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 regional plans be adopted in order to qualify for a determination of energy compliance. In the near term, it is likely regions 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 regional plan and incorporated by reference or appended to the underlying, full plan (i.e., is officially “in” the regional plan). If this route is chosen, regions should also provide a memo that discusses 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.

1. Has your plan been duly adopted?	<input checked="" type="checkbox"/> Yes Adoption date: July 15, 2020	<input type="checkbox"/> No	Effective Date of August 19, 2020
2. Is a copy of the plan (or adopted energy element/plan, along with underlying plan and memo addressing consistency of energy element/plan with other elements of underlying plan) attached to this checklist?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Click here to enter text.

### Energy Element Requirement

To obtain a determination of energy compliance, Act 174 requires regions to include an “energy element,” revised through Act 174 to explicitly address energy across all sectors and to identify potential and unsuitable areas for siting renewable energy resources, as described in 24 V.S.A. § 4348a(a)(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.

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 regions 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><b>3. Does the plan contain an energy element, as described in 24 V.S.A. § 4348a(a)(3)?</b>  <i>Individual components of the energy element will be evaluated through the standards below.</i></p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Page:219-247
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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.

Regions 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 determination standards below, regions are expected to develop their own analysis (already underway through support being provided to regions by DPS), and to then break out the analysis for their municipalities, who can use their region-provided analysis to meet the municipal *Analysis & Targets* standards (such “municipalization” work is being supported through a contract between DPS and regions, and all regions must supply completed analyses to their municipalities by April 30, 2017, though many are expected to do so much sooner).

DPS is providing a guidance document to explain the expected level of detail in and data sources and methodologies available for meeting the *Analysis & Targets* standards below. Note that standards 4A-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 regional plan to receive an affirmative determination of energy compliance. Standard 5 is also required and addresses “municipalization” of analysis and targets; regions should check “Yes” if they have or if they have a plan to supply this information to their municipalities.

Targets set by regions 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 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 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 a sense of their ability to accommodate renewable energy that would meet their needs.

<b>4. Does your plan’s energy element contain an analysis of resources, needs, scarcities, costs, and problems within the region across all energy sectors (electric, thermal, transportation)?</b>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Page: 219-247 Notes: <b>Current Energy Use and Target data is based on modeling provided by the Vermont Energy Investment Corporation</b>
A. Does the plan estimate current energy use across transportation, heating, and electric sectors?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Page: Appendix K, page 297 Paragraph #: 1.A; 1.B; 1.C; 1.D Notes:
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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Page: Appendix K, page 297 Paragraph #: 1.E; 1.F; 1.G; 1.H; 1.I; 1.J; 1.K; 1.L Notes:
C. Does the plan evaluate the amount of thermal-sector conservation, efficiency, and conversion to alternative heating fuels needed to achieve these targets?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Page: Appendix K, page 297 Paragraph #: 1.G; 1.H 1.K Notes:
D. Does the plan evaluate transportation system changes and land use strategies needed to achieve these targets?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Page: Appendix K, page 297 1.M, 1.N. Energy CH Pgs 230-234. Chapter 3 (Land Use) and Chapter 4 (Transportation) provide additional backgroup and

			support. Regional Map #3 Future Land Use Areas. Paragraph #: Notes:
E. Does the plan evaluate electric-sector conservation and efficiency needed to achieve these targets?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Page: 226-229, Appendix K, page 297 1.1 Paragraph #: Notes: <a href="#">Click here to enter text.</a>
5. Has your region provided (or do you have a plan to provide) a breakout of the analyses and targets above to your municipalities? <i>Please explain your timeline for completing this task in the Notes column.</i>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Page: Appendix K, page 297 of RP, pages 7 to 16 in Appendix. Paragraph #: Notes: <a href="#">Detailed Analysis and Targets distributed to Towns on April 28, 2017. They can be found by clicking on a town at <a href="http://www.trorc.org/member-towns/">http://www.trorc.org/member-towns/</a> and under <a href="#">Other Projects/ maps Energy Planning Packet. Data and maps are updated for towns by request.</a></a>

### 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, unless N/A is provided as an option. 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 plan must meet the standard, 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 plans, and from other sources. For the time being, we offer potential starting points 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.

Regions 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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Page: 226-230, 232-234 Paragraph #: Notes:
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<p>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, supporting local energy committees, encouraging the use of existing utility and other efficiency and conservation programs and funding sources, etc.)</i></p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<p>Page: 229-230 Recommendations 1, 3, 4, 8, 9, 10, and 12. Page 233-234 Policies 1 and 6. 238-239 Thermal Strategies. 239-241 Recommendations. Paragraph #: <a href="#">Click here to enter text.</a> Notes:</p>
<p>B. Does the plan promote efficient buildings? <i>(Actions could include education on and promotion of 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; assistance to municipalities considering adopting stretch codes, etc.)</i></p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<p>Page: 234-238. 239-241 Thermal Energy Goals, Policies and Recommendations. Paragraph #: . Notes: <b>The Plan promotes efficient buildings through weatherization efforts for homes and business as well as promotes working with municipalities to weatherize town buildings.</b></p>
<p>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 region)</i></p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<p>Page: 234-241 Thermal Energy. 119 Working Landscape: Agriculture and Forestry Policy # 1 Paragraph #: Notes: <b>The Regional Plan promotes coordination with partners to help meet the target of the number of heat pumps in the region. The Regional Plan also promotes an increase in the use of efficient wood heat systems.</b></p>
<p>D. Other (please use the notes section to describe additional approaches that your region is taking)</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A	<p>Page: 238-239 Thermal Energy Strategies Paragraph #: Notes:</p>
<p>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?</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<p>Page: 230-234 Transportation and Land Use. 83, 98-103 Transportation Paragraph #: Notes:</p>
<p>A. Does the plan encourage increased use of public transit? <i>(Actions could include working with public transit providers and other stakeholders to identify and develop new public transit routes, promote full utilization of existing routes, integrate park-and-rides with transit routes, etc.)</i></p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<p>Page: 92-97 and 231-232 Paragraph #: Notes:</p>
<p>B. Does the plan promote a shift away from single-occupancy vehicle trips through strategies appropriate to the region? <i>(Actions could include facilitation of rideshare, vanpool, car-sharing initiatives; efforts to develop or increase park-and-rides; enhancement of</i></p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<p>Page: 230-234 Transportation and Land Use, 86-105 Transportation Chapter Paragraph #: Notes: <b>The CEP sets a goal of reducing single occupancy vehicle trips by 20% by 2030. This is</b></p>

<p><i>options such as rail and telecommuting; education; intergovernmental cooperation; or assistance with grants related to any of the above, etc.)</i></p>			<p><b>addressed through encouraging the use of carpooling and ridesharing through programs such as Go! Vermont as well as promoting dense growth in downtowns and villages. The RP helps meet this goal through actions that help identify park and ride locations in high priority.</b></p>
<p>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 region? <i>(Actions could include installing or promoting the installation of electric vehicle charging infrastructure, providing education and outreach to potential users, supporting electric and non-fossil fuel vehicle availability through outreach to vehicle dealers, etc.)</i></p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<p>Page: 230-232 Transportation and Land Use, page 83 Transportation Chapter, 92-99 Paragraph #: Notes: <b>The Regional Plan sets a goal for the percentage of vehicles in the region by the three target years of 2025, 2035, and 2050 to help meet the overall state goals. This is achieved through actions that encourage EV charging stations as well as education on electric vehicles.</b></p>
<p>D. Does the plan facilitate the development of walking and biking infrastructure through strategies appropriate to the region? <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></p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<p>Page: 100-102 Transportation Section Walking and Biking Paragraph #: Notes: <b>The RP address pathways to more bike and walk friendly infrastructure through planning policies such as “Complete Streets” as well as supporting programs such as Safe Routes to School.</b></p>
<p>E. Other (please use the notes section to describe additional approaches that your region is taking)</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<p>Page: Paragraph #: Notes:</p>
<p><b>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?</b></p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<p>Page: 78-79 Land Use and Transportation Goals, Policies, and Recommendations. 233-234 Transportation and Land Use Goals, Policies and Recommendations. See also Land Use Chapter page 29-68. Paragraph #: Notes:</p>
<p>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 promoting limited sewer service areas, maximum building sizes along highways, policies or zoning that require design features</i></p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<p>Page: See Land Use Chapter, Land Use Areas policies 29-68. Specifically pg 31 policy 2. Pages 78-79 in the Transportation Chapter. RP Map #3; Paragraph #: <a href="#">Click here to enter text.</a></p>



<p><i>that minimize the characteristics of strip development [multiple stories, parking lot to the side or back of the store], requirements that development in those areas be connected by means other than roads and cars, etc.)</i></p>			<p>Notes: <b>The RP has policies that commit to reducing sprawl and minimizing low density development by focusing development in high density land use areas such as regional centers, town centers, and village settlements. The RP Transportation Chapter also address the intersection of transportation and Land Use policies to help minimize strip development.</b></p>
<p>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 feasible? <i>(Actions could include promoting and assisting with municipal participation in the state designation programs; facilitating the exploration of water or sewage solutions that enable compact development; etc.)</i></p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<p>Page: See Land Use Chapter pages 29-68. Page 184 Utilities, Facilities and Service chapter Goal #2. Paragraph #: <a href="#">Click here to enter text.</a> Notes: <b>The RP includes policies in the appropriate land use areas to direct growth in growth centers, downtowns and villages. The RP Utilities and Facilities Chapter has policies that help promote water and sewer lines in higher density development.</b></p>
<p>C. Other (please use the notes section to describe additional approaches that your region is taking)</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<p>Page: Paragraph #: Notes:</p>
<p><b>9. Does your plan’s energy element contain a statement of policy on the development and siting of renewable energy resources?</b></p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<p>Notes: <b>Pages 241 – 245.</b></p>
<p>A. Does the plan evaluate (estimates of or actual) generation from existing renewable energy generation in the region, and break this information out by municipality?</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<p>Page: Appendix K pages 7 to 16. Paragraph #: Notes:</p>
<p>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 region, and break this information down by municipality?</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<p>Page: Appendix K pages 7 to 16 Paragraph #: Notes:</p>
<p>C. Does the plan identify sufficient land in the region 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?</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<p>Page: Appendix K pg 6 Paragraph #: <a href="#">Click here to enter text.</a> Notes: <b>Table 1P displays the large potential for renewable energy generation in the region. Table 1Q has the region’s target for renewable energy generation. Table 1R displays the surplus in land with generation potential over the region’s target.</b></p>

D. Does the plan ensure that any regional or local constraints (regionally or locally designated resources or critical resources, from 11B and 11C 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?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Page: Pages 242-243 Paragraph #: Notes: <b>The regional constraints do not prohibit or have the effect of prohibiting the provision of sufficient renewable energy to meet state, regional, or municipal targets.</b>
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 11 and 12 under <i>Mapping</i> , below)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Page: Pags 242- 245 Paragraph #: Notes: <b>The RP identifies preferred, unsuitable, and constraint locations for renewable energy generation. The RP does not identify any regionally preferred locations beyond the ones listed in statute.</b>
F. Does the plan maximize the potential for renewable generation on preferred locations (such as the categories outlined under 11E in the <i>Mapping</i> standards, below)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A	Page: 244-245 Paragraph #: Notes: <b>Towns are encouraged to identify locally preferred locations in their energy plans.</b>
G. Other (please use the notes section to describe additional approaches that your region is taking)	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Page: Paragraph #: Notes:

### 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. Lastly, it requires that – in order to receive an affirmative determination – regional plans allow for the siting in the region of all types of renewable generation technologies.

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 regions 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 region’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 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).			
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.			
10. Does the plan identify and map existing electric generation sources? <i>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.</i>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Page: Map 10: Existing Energy Generation for greater than 15kW. Appendix K summarizes generators smaller than 15kW. Paragraph #: Notes: <b>The Existing Energy Generation map identifies all renewable energy generation sites greater than 15 kW.</b>
11. <b>Does the plan identify potential areas for the development and siting of renewable energy resources</b> 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? <i>Maps should include the following (available from VCGI and ANR), and the resulting Prime and Secondary Resource Maps will together comprise “potential areas”:</i>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Page: Maps 11 through 14 Paragraph #: Notes: <b>The maps in the four energy potential maps (Biomass, Hydroelectric, Solar, Wind) were generated with data from state agencies that analyze resource availability, constraints and electric grid infrastructure.</b>
A. Raw renewable potential analysis (wind and solar), using best available data layers (including LiDAR as appropriate).	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Page: Maps 13 and 14. Paragraph #: Notes: <b>Maps use best available data from VCGI.</b>
B. Known constraints (signals likely, though not absolute, unsuitability for development based on statewide or local regulations or designated critical resources) to include: <ul style="list-style-type: none"> <li>• Vernal Pools (confirmed and unconfirmed layers)</li> <li>• DEC River Corridors</li> <li>• FEMA Floodways</li> <li>• State-significant Natural Communities and Rare, Threatened, and Endangered Species</li> <li>• National Wilderness Areas</li> <li>• Class 1 and Class 2 Wetlands (VSWI and advisory layers)</li> <li>• Regionally or Locally Identified Critical Resources</li> </ul> <i>If areas are constrained for the development of renewable</i>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Page: 242-243. Paragraph #: Notes: <b>The TRORC RP makes no distinction between known or possible constraints and simply combines both as constraints. Constraints are also listed on each map.</b>

<p><i>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 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"> <li>• Agricultural Soils</li> <li>• FEMA Special Flood Hazard Areas</li> <li>• Protected Lands (State fee lands and private conservation lands)</li> <li>• Act 250 Agricultural Soil Mitigation areas</li> <li>• Deer Wintering Areas</li> <li>• ANR's Vermont Conservation Design Highest Priority Forest Blocks (or Habitat Blocks 9 &amp; 10, for plans that will be submitted for adoption at the regional level by March 1, 2017)</li> <li>• Hydric Soils</li> <li>• Regionally or Locally Identified Resources</li> </ul> <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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<p>Page: 242-243 Paragraph #: Notes: <b>The TRORC RP makes no distinction between known or possible constraints and simply combines both as constraints. Possible constraints are also listed on each map.</b></p>
<p>D. Transmission and distribution resources and constraints, as well as transportation infrastructure. <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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<p>Page: Maps 10 through 14. Paragraph #: Notes: <b>The Existing Energy Generation Map identifies the location of 3 phase power and transmission lines throughout the region. In the Solar and Wind Energy Potential maps, there is</b></p>

			<b>an analysis of prime suitability of those resources within 1 mile of three-phase power.</b>
<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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A	<p>Page: 244-245</p> <p>Paragraph #:</p> <p>Notes: <b>Towns are encouraged to identify locally preferred locations in their energy plans.</b></p>
<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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A	<p>Page: 244-245</p> <p>Paragraph #:</p> <p>Notes: <b>See Above</b></p>
<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 (with the input of municipalities), 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 checked="" type="checkbox"/> N/A	<p>Page:</p> <p>Paragraph #:</p> <p>Notes:</p>
<p><b>12. Does the plan identify areas that are unsuitable for siting renewable energy resources or particular categories or sizes of those resources?</b></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 checked="" type="checkbox"/> Yes (“Yes” for A and B must also be selected below)	<input type="checkbox"/> No	<p>Page: 242 Unsuitable (Prohibited Locations), page 245 policy #3.</p> <p>Paragraph #:</p> <p>Notes:</p>

<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 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>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A (if no unsuitable areas are identified)	<p>Page: 242 Unsuitable (Prohibited Locations) and policy #3 on page 245; Page 66 Flood Resilience in Land Use Chapter.          Paragraph #:          Notes: <b>The Regional Plan has identified four areas that are unsuitable for energy generation ( Floodways, Class 1 Wetlands, National Wilderness Areas, unsuitable areas as identified in a duly adopted municipal plan.) Due to the significant danger and risk that floodways pose, development of all types is prohibited in this area. Class 1 wetlands are unsuitable for development as they are identified as “exceptional or irreplaceable in their contribuion to Vermont’s natural heritage.” While not explicitly stated in the Plan National Wilderness Areas are federally protected from development of any kind.</b></p>
<p>B. Does the plan ensure that any regional or local constraints (regionally or locally designated resources or critical resources, from 11B-11C 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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<p>Page: 242 Unsuitable (Prohibited Locations) and policy #3 on page 245; Page 66 Flood Resilience in Land Use Chapter.          Paragraph #:          Notes: <b>The background information that shape the policies above can be found throughout the Regional Plan and provides the background and rationale needed to determine unsuitable development locations.</b></p>
<p>13. Does the plan allow for the siting in the region of all types of renewable generation technologies?</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<p>Page: 243-245          Paragraph #:          Notes: <b>The RP allows for the siting of all types of renewable energy generation within the region and provides three different scenarios on how much land is needed with a diversified renewable energy generation portfolio.</b></p>
<p>14. Has your region provided (or do you have a plan to provide) a breakout of the map product(s) above to your municipalities? <i>Please explain your timeline for completing this task in the Notes column.</i></p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<p>Page:          Paragraph #:          Notes: <b>Maps distributed to Towns on April 28, 2017. They can be found by clicking on a town at</b></p>

			<a href="http://www.trorc.org/member-towns/">http://www.trorc.org/member-towns/</a> and under Other Projects/ Maps Energy Planning Packet. The data is updated by request of the municipality.
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