

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 its land conservation measures and specific policies will be given “substantial deference” in the Public Utility Commission’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 Commission:

[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 (PSD) for a determination of energy compliance (determination), along with the completed checklist below. After a Regional Plan and completed checklist have been submitted to the PSD, the PSD will schedule a public hearing noticed at least 15 days in advance by direct mail to the requesting regional planning commission, on the PSD website, and in a newspaper of general publication in the region. The Commissioner of the PSD 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 the PSD 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 2022 Comprehensive Energy Plan (CEP), published on January 14, 2022, includes several important updates to the Act 174 enhanced energy standards:

- A revised set of standards, presented in this document, updated to reflect current developments in state energy policy

- An updated suite of recommendations tailored specifically toward the work of the regions and municipalities. Unlike the set of recommendations published with the original standards, which were written prior to the passage of Act 174, these recommendations are included in the 2022 CEP itself.

In addition, a revised guidance document will be published within six months after the publication of the 2022 CEP to reflect new issues and best practices that have emerged from the regions and municipalities that have gone through an initial process of applying for a determination of energy compliance. This document will also include the recommendations for regions and municipalities outlined in the 2022 CEP.

Affirmative determinations are valid for the life cycle of a revision of the Regional and/or Municipal Plan. Plans submitted after the 2022 CEP is issued are expected to meet the updated Standards issued with the 2022 CEP, with the exception of plans for regions or municipalities who can demonstrate they had meaningfully initiated the planning process (ex. through proof of a publicly noticed meeting) before the 2022 CEP was published. Regions are encouraged to consult with the PSD regarding interim amendments that might affect any of the standards below, to discuss whether a new review is triggered. Plans approved under the previous Standards will not lose their existing determination of energy compliance as a result of new Standards being issued.

If you wish to submit your Regional Plan to the PSD 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.

Part I: Applicant Information	
Applicant:	Central Vermont Regional Planning Commission
Contact person:	Sam Lash
Contact information:	lash@cvregion.com 802-262-1053
Received by: Click or tap here to enter text.	Date: Click or tap here to enter text.

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. 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?	☐ Yes Adoption date: Click or tap here to enter text.	☒ No	This is the preliminary review along with the LURB pre-application. Our timeline is approximately for full board adoption in mid-October before final submission to LURB and PSD.
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?	☐ Yes	☒ No	The enhanced energy plan is incorporated into the Regional plan throughout, predominantly in chapter 3 Energy Element, Energy Supplement and Maps (Appendix B), as well as in the Utilities, Facilities, and Services Element (Chapter 5), Transportation Element (Chapter 4), Introduction (includes

			Statements & Policies to Guide Future Growth, Equitable Planning and Flood Resilience frameworks), and Environmental Benefits and Burdens Analysis (Appendix E). These are attached and a memo will be submitted for final review once adopted.
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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): <i>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.</i> 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.			
3. Does the plan contain an energy element, as described in 24 V.S.A. § 4348a(a)(3)? <i>Individual components of the energy element will be evaluated through the standards below.</i>	☒ Yes	☐ No	Page: Energy Element page 133-187 and supplement and maps starting page 292); Transportation 144-154; 160 (Bike/Ped; Climate Change&Vehicle Emissions; Goals & Policies); Utilities, Facilities & Services pages 166-179 includes Existing Electric Infrastructure (and Generation) as well as key challenges with our Electric Infrastructure; Land Use Policy Statement (Smart Growth) page 52-3 Paragraph: Click or tap here to enter text.

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 requirements under [10 V.S.A. § 578\(a\)](#) (26% from 2005 levels by 2025; 40% from 1990 levels by 2030; 80% from 1990 levels 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](#) (e.g., reduce fossil fuel consumption across all buildings by 10% by 2025)
- 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 or update their own analysis (which the PSD will support through regionalization of the modeling efforts conducted to support the 2022 CEP), and to then break out the analysis for their municipalities, who can use their region-provided analysis to meet the municipal *Analysis & Targets* standards. The PSD and regional planning commissions developed several guidance documents to explain the expected level of detail in and suggestions regarding data sources and methodologies available for meeting the *Analysis & Targets* standards below. These guidance documents can be retrieved from the following links:

- In 2017, the PSD developed two guidance documents, one for regional plans and one for municipal plans:
 - [Guidance for Regional Plans](#)
 - [Guidance for Municipal Plans](#)
- In addition, in 2019 the Northwest Regional Planning Commission, with input from all 11 RPCs in the state, created [a best practices and resources guide](#) for municipalities to use when undertaking enhanced energy planning.

The guidance developed by the PSD will be updated in 2022 to incorporate best practices that have emerged from the regions and municipalities who have completed an initial round of energy plans. 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.

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)? <i>Note: You may want to reference the guidance document, developed by Northwest Regional Planning Commission, with input from all 11 regional planning commissions, on best practices for conducting such an analysis, including examples and suggested units to use when developing analyses.</i>	☒ Yes	☐ No	Page: Click or tap here to enter text. Paragraph: Click or tap here to enter text. Notes: Energy Element pages 73-137; Utilities, Facilities, and Services Element includes an Energy Infrastructure Section pages 166-179; see also Transportation Element (138-165). Note discussion of Key Issues including sections “Energy Resilience, Reliability, and Independence;”, “Energy Conservation (and Reducing Future Electric Demand Growth)”, “Energy Justice and Accessibility”, “Economic Needs and Opportunities”, and “Land Use and Balancing Regional Priorities” pages 122-126.
A. Does the plan estimate current energy use across transportation, heating, and electric sectors? <i>As noted in the Guidance Document, plans meet this standard by transparently calculating estimated energy consumption by region by 1) transportation, 2) building heat, and 3) electricity consumption. More detailed support is available in Appendix A of the Guidance developed by the PSD.</i>	☒ Yes	☐ No	Page: 76-84 Section ‘Regional Energy Use Summary’ Paragraph: Click or tap here to enter text. Notes: A summary of energy use across all sector (page 76-77 ; Figure 3); residential heating fuel analysis (page 77-9, Tables 1&2; Supplement pages 6-17); commercial thermal page 80; electric sector analysis (page 82-84, supplement page 17); analysis of transportation costs and current EV registrations

			(page 80&82; supplement page 17). See also Utilities, Facilities, and Services Element Section Energy Infrastructure: Electricity pages 166-179
B. Does the plan establish targets for 2025, 2035, and 2050 for thermal efficiency improvements and use of renewable energy for heating and evaluate the amount of thermal-sector conservation, efficiency, and conversion to alternative heating fuels needed to achieve these targets?	☒ Yes	☐ No	Page: Section: Sector Targets starting page 84 Paragraph: Click or tap here to enter text. Notes: Weatherization Section page 84; residential weatherization targets page 86 table 7; Fuel-Switching Section page 88 including residential and commercial heat pump targets, and residential heat pump water heater targets (page 91); Section on Wood Heat page 91-92 custom target for new high efficiency cord wood heat Table 13 and supplement page 22-24. Full Regional LEAP targtes in supplement pages 30-37 including final residential thermal energy demand page 31, commercial and industrial energy demand targets page 33&34.
C. Does the plan establish targets for 2025, 2035, and 2050 for use of renewable energy for transportation and evaluate transportation system changes and land use strategies needed to achieve these targets?	☒ Yes	☐ No	Page: Section Transportation & Land Use; Community Scale Decarbonization begins on page 92 Paragraph: Click or tap here to enter text. Notes: discussion of transportation system changes and land use strategies pages 94-96; Transportationg sector targets are in the Transportation Chapter pages 141-168. Full Regional LEAP targets in supplement pages 30-37 including Passenger Car Final Energy Demand, Passenger Car EV and PHEV Stock, Light Truck Final Energy Demand, Light Duty Truck EV and PHEV Stock, Medium Duty Final Energy Demand, Heavy Duty Final Energy Demand, and Non-Road Final Energy Demand pages 35-37.
D. Does the plan establish 2025, 2035, and 2050 targets for electric efficiency improvements and use and renewable energy for electricity and evaluate electric-sector conservation and efficiency needed to achieve these targets?	☒ Yes	☐ No	Page: Click or tap here to enter text. Paragraph: Click or tap here to enter text. Notes: Supplement page 25&26 electric efficiency targets (program achievable electric efficiency savings Tables A-D); discussion integration into other targets and analyses see plan pages 83&84.

			Targets for Renewable Electricity Generation also page
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>	☒ Yes	☐ No	Page: Click or tap here to enter text. Paragraph: Click or tap here to enter text. Notes: Supplement page 5 mentions municipal disaggregation methodology, table of municipal current energy use (transportation light duty, residential thermal, commercial thermal, residential electric, and commercial electric) and resulting share of regional use and “disaggregation factor” is on page 35 of supplement. Page 2 and 6 of supplement note that full municipal breakouts will be made available throughout the summer of 2026 on the CVRPC website and updated with municipal customization as needed. Currently breakouts are shared with municipalities upon request (e.g. working on 6 municipal enhanced energy plans currently- targets have been provided to Worcester, East Montpelier, Waterbury, Moretown and more). Full “default” breakouts will be posted throughout summer 2026- municipal disaggregation is complete formatting into separate packets for each town remains). These include not only the breakout analyses and targets but also snapshots of “progress” where possible including pace of adoption re weatherization, heat pumps, heat pump hot water heaters, efficiency projects, and EV registrations. We are currently also working with towns to build out a “municipal use” baseline and tracking component.

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).

PSD will be updating its guidance documents in 2022 with potential implementation actions included in the 2022 Comprehensive Energy Plan, from existing regional plans that have received a determination of compliance, and from other sources. We also 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 policies, objectives, and implementation actions in clear, action-oriented language. Definitions of policies, objectives, and actions can be found on p. 52 of the [Vermont State Planning Manual Module 1](#).

6. Does your plan’s energy element contain policies or objectives on the conservation and efficient use of energy in buildings?	☒ Yes	☐ No	Page: 128-130 Paragraph: Click or tap here to enter text. Notes: Goal 2: Promote climate-ready, resiliency, and energy efficiency in the design, construction, renovation, operation, and retrofitting of systems for buildings and structures. Followed by 5 strategies pages 128-130. Also page 122 includes discussion of energy efficient building design, Building Energy Standards, etc.
A. Does the plan encourage conservation by individuals and organizations? <i>(Actions, objectives, and policies 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>	☒ Yes	☐ No	Page: 123, 127&128 Paragraph: Click or tap here to enter text. Notes: Section Energy Conservation (and Reducing Future Energy Demand Growth) page 123. Goal 1 is focused on the conservation of energy with 6 strategies under it pages 127 and 128.
B. Does the plan promote efficient and climate resilient buildings? <i>(Actions, objectives, and policies 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; identification of buildings and facilities that serve critical community functions, etc.)</i>	☒ Yes	☐ No	Page: 128-130 Paragraph: Click or tap here to enter text. Notes: Goal 2: Promote climate-ready, resiliency, and energy efficiency in the design, construction, renovation, operation, and retrofitting of systems for buildings and structures. Followed by 5 strategies pages 128-130. Also page 122 includes discussion of energy efficient building design, Building Energy Standards, etc.

C. Does the plan promote decreased use of fossil fuels for heating? <i>(Actions, objectives, and policies could promote switching to wood, liquid biofuels, biogas, geothermal, and/or electricity (e.g. beneficial electrification). 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>	☒ Yes	☐ No	Page: Click or tap here to enter text. Paragraph: Click or tap here to enter text. Notes: Goal 3 is focused on decreasing the use of fossil fuels for heating with 9 strategies following (pages 130-131). Furthermore cord wood heat, waste heat recovery, and geothermal are discussed throughout the plan as central to Central Vermont’s approach to the energy transition e.g. 120-122 Changes in Technology, Wood Heat Section 91-92 (and supplement 22-24), Community Decarbonization Inset page 93, pages 98, 116, etc.
D. Other (please use the notes section to describe additional approaches that your region is taking)	☐ Yes	☐ No ☒ N/A	Page: Click or tap here to enter text. Paragraph: Click or tap here to enter text. Notes: Click or tap here to enter text.
7. Does your plan’s energy element contain policies and objectives on reducing transportation energy demand and single-occupancy vehicle use, and encouraging use of renewable or lower-emission energy sources for transportation?	☒ Yes	☐ No	Page: Click or tap here to enter text. Paragraph: Click or tap here to enter text. Notes: Click or tap here to enter text.
A. Does the plan promote a shift away from single-occupancy vehicle trips through strategies appropriate to the region? <i>(Actions, objectives, or policies could include facilitation of rideshare, vanpool, car-sharing, or public transit initiatives; working with public transit providers and other stakeholders to identify and develop new public transit routes and promote full utilization of existing routes; efforts to develop or increase park-and-rides; enhancement of options such as rail and telecommuting; deployment of broadband to support remote services such as teleworking or telemedicine, education; intergovernmental cooperation; or assistance with grants related to any of the above, etc.)</i>	☒ Yes	☐ No	Page: 131-133 Paragraph: Click or tap here to enter text. Notes: Goal 4 Promote the shift away from single-occupancy vehicle trips to reduce congestion, impacts to local facilities, and support alternative options for transportation needs. Supported by 9 strategies including transportation demand management and ridesharing, transportation equity framework, commute alternatives, public transportation, etc. Additional policies and actions can be found in the transportation chapter.
B. 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, objectives, or policies could include developing a plan for preferred siting of charging infrastructure (ex. placement of fast or level two chargers), installing or promoting the installation of electric vehicle charging infrastructure, providing education and outreach to potential users,</i>	☒ Yes	☐ No	Page: 133-134 Paragraph: Click or tap here to enter text. Notes: Goal 5: Promote shift away from gas/diesel vehicles to electric or non-fossil fuel transportation options to reduce dependency on non-renewable fuel sources for transportation. Supported by 10 strategies including EV-ready land use regulations and building practices, working with state and

supporting electric and non-fossil fuel vehicle availability through outreach to vehicle dealers, etc.)			regional EV partners, supporting fleet conversion, supporting regional procurement to facilitate transition and more. Additional policies and actions can be found in the transportation chapter.
C. Does the plan facilitate the development of walking and biking infrastructure through strategies appropriate to the region? (Actions, objectives, or policies 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.)	☒ Yes	☐ No	Page: 135-136 Paragraph: Click or tap here to enter text. Notes: Goal 6: Facilitate the development of walking, biking, and rolling infrastructure to provide alternative and multi-modal transportation options for communities and to promote interconnection with the region’s transit systems. Supported by 6 strategies including technical and grant writing assistance, Vermont Health Equity Toolkit support, updating municipal road standards and complete street implementation, regional master planning and connection feasibility studies, etc.
D. Other (please use the notes section to describe additional approaches that your region is taking)	☐ Yes	☐ No ☒ N/A	Page: Click or tap here to enter text. Paragraph: Click or tap here to enter text. Notes: Click or tap here to enter text.
8. Does your plan’s energy element contain policies and objectives on patterns and densities of land use likely to result in conservation of energy and climate resilience?	☒ Yes	☐ No	Page: Land Use Policy Statement pages 53&54; see land use call-out box 94 (and section 92-96) Paragraph: Click or tap here to enter text. Notes: see discussion on land use pages 92-96; 126; Future Land Use Planning Areas 54-67; General Land Use Goals, Policies and Strategies pages 67-72
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? (Actions, objectives, or policies could include promoting wastewater infrastructure in planned growth areas, 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], requirements that development in those areas be connected by means other than roads and cars, policies or zoning that limits conversion and fragmentation of forest blocks and impacts to primary agricultural soils, etc.)	☒ Yes	☐ No	Page: see 8 above Paragraph: Click or tap here to enter text. Notes: Goal 1 in Land Use Goals (pages 67-69) and supporting strategies focuses on compact settlement via intentional growth area planning and smart growth principles implementation support, PUD, cluster or open space design for new residential and commercial developments and discouragement of sprawl; brownfield, TIF and other “downtown” revitalization and shared infrastructure program implementation; etc. See also Utilities,

			Facilities, and Services Elements including Wasterwater Goal and supporting policies pages 218 and 219 especially #6 top of page 219.
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, objectives, or policies 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; working with state agencies and local utilities to identify priority areas for EV charging, storage, and other resources to promote downtown economic and energy resilience; etc.)</i>	☒ Yes	☐ No	Page: See 8 above Paragraph: Click or tap here to enter text. Notes: Goal 1 in Land Use Goals (pages 67-69) and supporting strategies focuses on compact settlement via intentional growth area planning and smart growth principles implementation support, PUD, cluster or open space design for new residential and commercial developments and discouragement of sprawl; brownfield, TIF and other “downtown” revitalization and shared infrastructure program implementation; etc. See also Utilities, Facilities, and Services Elements including Wasterwater Goal and supporting policies pages 218 and 219 especially #6 top of page 219. See density addressed in Housing policies pages 262-264.
C. Other (please use the notes section to describe additional approaches that your region is taking)	☒ Yes	☐ No ☐ N/A	Page: Flood Resilience (Intro pages 26&27) and Climate resilience incorporated into Natural Systems and Working Lands Element, Future Use Element, Utilities, Facilities, and Services Element, Housing and the Economic Element. Paragraph: Click or tap here to enter text. Notes: Flood Resilience (Intro pages 26&27, incorporation into Natural Systems and Working Lands Element, Future Use Element, Utilities, Facilities, and Services Element, and the Economic Element. Climate Resilience and Healthy Communities integrated throughout as well including but not limited to Energy Element. See Healthy Communities Policies page 234; Housing Goals Policies and Stragegies pages 262-264. Community Resilience Hubs e.g. section on libraries on page 216, callout box page 124. Role of storage in emergency management and community resilience strategy g Goal 3 page 131.

9. Does your plan's energy element contain policies and objectives on the development and siting of renewable energy, storage, and transmission and distribution resources?	☒ Yes	☐ No	Page: Click or tap here to enter text. Paragraph: Click or tap here to enter text. Notes: see below; also Changes in Technology Section page 120-122 on storage
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?	☒ Yes	☐ No	Page: 174-178 Existing Generation Paragraph: Click or tap here to enter text. Notes: Goal 7 of Energy Element page 136 supported by 4 strategies; supplement page 38
B. Does the plan analyze generation potential, through the mapping exercise (see <i>Mapping</i> standards, below), from potentially suitable areas in the region, and break this information down by municipality?	☒ Yes	☐ No	Page: 137; 113-116; 116-120; Supplement Pages 38-49 Paragraph: Click or tap here to enter text. Notes: Goal 8 of Energy Element page 137 supported by 5 strategies; Goal 8 of Energy Element page 137 supported by 5 strategies; supplement pages 38-39; New Regional Renewable Energy Generation Potential & Targets Section pages 113-116; Grid Capacity and Infrastructure Needs Section 116-120; See especially Tables 18 & 19 on page 114
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?	☐ Yes	☐ No	Page: see above and especially pages 114-116 which include Tables on generational potential and land use impact; and supplement page 38-49 Connecting Incremental Renewable Energy Targets to Siting and Mapping Paragraph: Click or tap here to enter text. Notes: Goal 8 of Energy Element page 137 supported by 5 strategies; supplement; Tables 18&19 demonstrate there is sufficient land and rooftop area in the region to meet 2050 targets while supplement elaborates on methods to ensure confidence
D. Does the plan ensure that any regional or local constraints (regionally or 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?	☒ Yes	☐ No	Page: 100-110; supplement Paragraph: Click or tap here to enter text. Notes: 3 Regional Constraints are identified and discussed pages 100-110 and were incorporated into the mapping analyses and thus results from B and C above already account for this. Local constraints are

			checked during the municipal enhanced energy planning process, CVRPC is working to match existing EEP constraints and preferences with map layers and guiding EEPs in progress and in the future to ensure correlation with mappable layers to ensure integration into regional maps and analyses and ultimately compatibility with the regional plan and these standards. It is anticipated that this will be complete for our next update and all EEPs in progress and completed recently are in line with this.
E. Does the plan include policies and objectives to accompany maps (could include general siting guidelines), including policies and objectives to accompany any preferred, potential, and unsuitable areas for siting generation (see 12 and 13 under <i>Mapping</i> , below)?	☒ Yes	☐ No	Page: 101-112 (especially 106) Paragraph: Click or tap here to enter text. Notes: State and Regional Constraints provided in Table 14 and 15 on page 101, State and Regional Preferred Site (Types) and Regional Preferred Project Characteristics provided in Table 16 on page 103 (with preceding discussion page 102); followed by Local Siting and Regional Policy section pages 103-112. See call out box on page 111 for municipal roles.
F. Does the plan prioritize maximizing renewable generation on preferred locations (such as the categories outlined under 12E in the <i>Mapping</i> standards, below)?	☐ Yes	☐ No ☒ N/A	Page: Click or tap here to enter text. Paragraph: Click or tap here to enter text. Notes: understood to be inherent to the category of “preferred”; could add an action to support development of renewable generation on state, regional, and locally preferred locations, we do support municipally-driven projects which are inherently preferred as well.
G. Other (please use the notes section to describe additional approaches that your region is taking)	☒ Yes	☐ No ☐ N/A	Page: Click or tap here to enter text. Paragraph: Click or tap here to enter text. Notes: Discussion of ways to improve affordability and access to renewable energy include Resilience and Reliability discussions and policies page 117, Energy Resilience, Reliability, and Independence section page 122, Energy Justice and Accessibility Section page 124-126.

10. Does your plan’s energy element assess the potential equity impacts of the policies and objectives included to meet standards 6-9? <i>Such an assessment could consider, for example, what communities will be most impacted by the policy or objective, the distribution of benefits and burdens related to specific actions, whether actions will address existing inequities, or the extent to which communities were or will be consulted in the development of any programs or actions.</i>	☒ Yes	☐ No	Page: Click or tap here to enter text. Paragraph: Click or tap here to enter text. Notes: Energy Supplement begins with a Policy Frameworks Section 2-5. Equity impacts are discussed throughout the entire Energy Element, particular highlights are on pages 75, 77 (renters), 84-87 (weatherization and health inbacks, income-based programs and housing-stock challenges), 88-89 (fuel-switching and energy burdgen, income-based considerations and programming), 117 resilience and rural infrastructure gaps (costs & DER), Key Issues 122-126; Goal 1 Strategies a, b, e; Goal 3 Strategy g; Goal 4 Strategy b, e, f, h; Goal 5 Strategy f; Goal 6 Strategy a, b, c. in Energy Element. Also see Appendix E: Environmental Benefits and Burdens Analysis page 310.
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Mapping Standards

Act 174 requires plans to identify potential areas for the development and siting of renewable energy, storage, transmission, and distribution 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. The PSD 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, and to then break out the maps for their municipalities, who can use their region-provided maps to meet the municipal *Mapping* standards.

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. Policy language must be clear, unqualified, and create no ambiguity in relation to the specific area and the type of permissible development.

Consistent with the Climate Action Plan and Act 171 of 2016, the 2022 update to the Act 174 standards adds standard 12F to emphasize the value of forest lands in sequestering and storing carbon. By the 2028 update to the standards, the Department expects to incorporate Vermont Conservation Design priority interior forest and connectivity blocks into the possible constraints in standard 12C.

11. 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 PSD.</i>	☒ Yes	☐ No	Page: 169 Figure 12; pages 174-178 Tables 28-31 Paragraph: Click or tap here to enter text. Notes: Figure 12 CVRPC Distribution Utility Territory and Infrastructure includes existing hydroelectric generation, wind generation, and larger solar installations dependent on available data page 169. Table 28 on page 174 includes regional fossil fuel electricity generation (1 plant). Tables 29 and 30 include existing renewable energy generation by technology type and then broken down by project scale for solar pages 175&176 ; followed by a breakout of renewable energy generation and storage by town (table 31 page 177&178. Data was found to be most reliable from April 2024 DG Survey provided by PSD (updates since have sheered off prior projects arbitrarily). Note Staff also provide a summary of small-scale DER CPG applications monthly by town in Project Review Committee Packets and keep an updated inventory that we are working to get on to the CVRPC webpage to help towns track their progress towards targets understand potential impacts of planning policies, project implementation, etc.
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,	☒ Yes	☐ No	Page: Mapping analyses have been completed but maps have not been formatted into final versions. Placeholders can be found in the supplement along with methodology (Supplement Section

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>			Methodology: Municipal Energy Genration, Existing and Potential starting page 39. Placeholders include Prime and Secondary Resource Potential Maps for Solar and Wind; note potential hydroelectric sites based on previous state micro and pico hydro programs have also been integrated in generation scenarios tool and mapping. Paragraph: Click or tap here to enter text. Notes: Plan Section: Renewable Energy Resources and Siting Energy Infrastructure pages 96- 122 includes following sections to supporting mapping: New Renewable Generation (page 98), Siting: Known & Possible Constraints, Preferred Site Types and Project Characteristics (pages 99-110), Technology Type and Scale (pages 110-112), New Renewable Energy Generation Potential & Targets (pages 113-116), Grid Capacity and Infrastructure Needs (pages 116-120) and Changes in Technology (pages 120-121).
A. Raw renewable potential analysis (wind and solar), using best available data layers (including LiDAR as appropriate).	☒ Yes	☐ No	Page: See above (12.) Paragraph: Click or tap here to enter text. Notes: See 12 above for Wind and Solar potential resource area mapping and analyses. Note roof top solar energy potential by town is integrated into generations scenario tool and into regional and municipal maps but scale is too coarse to see unless zooming in on ArcGIS or high resolution pdf. Note that during enhanced energy planning with municipalities, insets reflecting intentional growth area roof-top potential are offered when discussing map customization, preferred site to parcel level identification, etc.
B. Known constraints (signals likely, though not absolute, unsuitability for development based on statewide or local regulations or designated critical resources) to include: • Vernal Pools from Vermont Center for Ecostudies (VCE; confirmed layers)	☒ Yes	☐ No	Page: for now see placeholders and section in supplement staring page 39 of supplement; energy element starting page 99 of plan Paragraph: Click or tap here to enter text.

• DEC River Corridors • FEMA Floodways • State-significant Natural Communities • Rare, Threatened, and Endangered Species • National Wilderness Areas • Class 1 and Class 2 Wetlands (VSWI and advisory layers) • Regionally or Locally Identified Critical Resources <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 be similarly restrictive; for this category, policies must prohibit all permanent development (and should be listed in the Notes column).</i> <i>These areas should be subtracted from raw renewable energy resource potential maps to form Secondary Resource Maps</i>			Notes: Known constraints are discussed in the energy element in Section Siting: Known & Possible Constraints, Preferred Site Types & Project Characteristics starting on page 99). Known Constraints are further discussed in the Energy supplement and are incorporated directly into the mapping exercise via the identification of prime and base resources areas which been developed including the removal of known constraint layers (placeholder maps showing wind and solar resource potential areas base and prime). Note on page 104-107 discussion of local constraints and unsuitable locations as well as additional local considerations, preferences and policies, and the implications of both on regional siting policy. A table will be included in the final supplement submitted for formal review that includes mappable local constraints and preferences, and CVRPC will be integrating these into the next plan update intended for 2027.
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: • Vernal Pools from VCE (potential and probable layers) • 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 • The following features from ANR's Vermont Conservation Design: ○ Interior Forest Blocks – Highest Priority ○ Connectivity Blocks – Highest Priority ○ Physical Landscape Blocks – Highest Priority ○ Surface Water and Riparian Areas – Highest Priority • Hydric Soils	☒ Yes	☐ No	Page: for now see placeholders and section in supplement starting page 39; and energy element section starting page 99 Paragraph: Click or tap here to enter text. Notes: Possible constraints are discussed in the energy element in Section Siting: Known & Possible Constraints, Preferred Site Types & Project Characteristics starting on page 99). Possible Constraints are further discussed in the Energy supplement and are incorporated directly into the mapping exercise via the identification of base resources areas which been developed including the removal of possible constraint layers (placeholder maps showing wind and solar resource potential areas base and prime). Note on page 104-107 discussion of local constraints and unsuitable locations as well as additional local considerations,

Regionally or Locally Identified Resources <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 viewshed), then the land use policies applicable to other forms of development must be similarly restrictive (and should be listed in the Notes column). These areas should be subtracted from Secondary Resource Maps to form Prime Resource Maps.</i>			preferences and policies, and the implications of both on regional siting policy. A table will be included in the final supplement submitted for formal review that includes mappable local constraints and preferences, and CVRPC will be integrating these into the next plan update intended for 2027.
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>	☒ Yes	☐ No	Page: for now see placeholders and section in supplement starting page 39; and energy element Grid Capacity and Infrastructure Needs Section 116-120 Paragraph: Click or tap here to enter text. Notes: Resource area potential maps include transmission, 3-phase and other distribution lines, as well as town roads and highways and intentional growth areas; final maps will also show substations and highlight constrained substations
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 <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. 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>	☒ Yes	☐ No ☐ N/A	Page: Click or tap here to enter text. Paragraph: Click or tap here to enter text. Notes: Preferred sites types and preferred project characteristics are summarized in section starting page 99; supplement will include table of local preferences as well; preferred sites can be mapped before formal submission and will be included in 2027 update.
i. Statewide preferred locations such as rooftops (and other structures), parking lots, previously developed sites, brownfields, gravel pits, quarries, and Superfund sites. <i>Note: These preferred locations align with the locations identified in the net metering rule 5.100. As of January 14, 2022 that rulemaking is currently active. Should the preferred locations identified in the rule</i>	☒ Yes	☐ No ☐ N/A	Page: Click or tap here to enter text. Paragraph: Click or tap here to enter text. Notes: see above E.

<i>change during that rulemaking, plans would be required to consider the updated preferred locations identified.</i>			
ii. Other potential locally preferred locations <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> <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>	☒ Yes	☐ No ☐ N/A	Page: Click or tap here to enter text. Paragraph: Click or tap here to enter text. Notes: Note on page 104-107 discussion additional local considerations, preferences and policies, and the implications of both on regional siting policy. A table will be included in the final supplement submitted for formal review that includes local constraints and preferences, and CVRPC will be integrating these into the next plan update intended for 2027 into mapping.
F. Does the plan (a) evaluate whether forest blocks or habitat connectors identified pursuant to 24 V.S.A. § 4348a(a)(2)(F) [for regional plans] and 24 V.S.A. § 4382(a)(2)(D) [for municipal plans] should be treated as possible constraints, and (b) ensure that land conservation measures and specific policies established for the development and siting of renewable energy resources incorporates consideration of the evaluation undertaken in part (a)?	☒ Yes	☐ No ☐ N/A	Page: page 106 Paragraph: Click or tap here to enter text. Notes: Forest Blocks and Habitat Connectors: CVRPC recognizes the importance of protecting forested lands as a key element of the regional environment. Forests play a crucial role in sequestering carbon from the atmosphere, and the state’s 2025 Climate Action Plan accordingly places significant emphasis on protecting forest blocks and habitat connectors to achieve statewide goals of greenhouse gas emissions reductions and carbon sequestration. Avoid development that fragments forest blocks and habitat connectors. Additional policies and actions in Natural Resources and Land Use Elements. Lastly, see Table 14 constraints page 101; working through locally specific blocks identified to ensure all adequately covered in existing constraints for inclusion in 2027 update.
13. Does the plan identify areas that are unsuitable for siting renewable energy resources or particular categories or sizes of those resources? 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.”	☒ Yes (“Yes” for A and B must also	☐ No	Page: 103-111 Paragraph: Click or tap here to enter text. Notes: Click or tap here to enter text.

	be select ed below)		
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 with similar impacts should similarly prohibit those other types of development. Please note these policies in the Notes column.</i>	☒ Yes	☐ No ☐ N/A (if no unsuitable areas are identified)	Page: 103-111 Paragraph: Click or tap here to enter text. Notes: Click or tap here to enter text.
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>	☒ Yes	☐ No	Page: 103-111 Paragraph: Click or tap here to enter text. Notes: explained in text (e.g. Forest blocks and habitat connections, development on wetlands, steep slopes and ridgelines, and hub height max of 125ft page 106; 108); constraints are included in the resource potential maps already (most redundantly covered by existing state and regional constraints and consistent across municipal plan or regional plan re all types of development) and thus do not significantly reduce the resource potential areas. Ongoing enhanced energy planning at the local levels integrates references to supporting plans, data, state priorities and programs, etc. and regional review ensures additional constraints are consistent with the municipal plan and regional as well with still meeting local and regional targets.
14. Does the plan allow for the siting in the region of all types of renewable generation technologies?	☒ Yes	☒ No	Page: Plan Section: Renewable Energy Resources and Siting Energy Infrastructure pages 96- 122; See Electric Power Goals pages 221-223 in Utilities,

			Facilities and Services Element e.g. policy 2 supporting development of renewable energy to meet region's needs and 3 re diversity of renewable energy sources. Goal 3 and supporting strategies pages 130-131. Paragraph: Click or tap here to enter text. Notes: see especially Table 17 for summary of CVRPC Siting Considerations and Distribution of Incremental Target by Technology Type pages 107-110. See also Future Land Use Element 50-72. Goal 1, Strategy c page 128; see discussion 98-99 new renewable energy generation. Electric Power Goals in Utilities, Facilities, and Services Element includes policies on the diversity of the region's future power supply (#3) on page 222.
15. 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>	☒ Yes	☐ No	Page: Click or tap here to enter text. Paragraph: Click or tap here to enter text. Notes: Maps are currently available by request and have been provided to towns (e.g. most recently East Montpelier and Worcester) working on enhanced energy plans. Templates for all towns are being created so the default maps ready for municipal customization can be posted and provided to municipalities via the CVRPC website by the end of 2026.