DRAFT Determination Standards for Energy Compliance

Instructions

Please review the requirements of Parts I-III below, as well as the Overview document. Regional Plans may be submitted to the Department of Public Service (DPS) for a determination of energy compliance (determination). Municipal Plans should be submitted by the municipality's legislative body to the Regional Planning Commission (RPC) if the Regional Plan has received an affirmative determination of energy compliance. If a Regional Plan has not received such a determination, until July 1, 2018, a municipality may submit its adopted and approved municipal plan to DPS for a determination. Please read the specific instructions at the start of each section below, and attach your regional or municipal plan to this checklist.

Determination requests to DPS should be submitted to: <u>PSD.PlanningStandards@vermont.gov</u>. Determination requests to an RPC should be submitted to your RPC's designated contact.

Part I: Applicant Information			
The plan being submitted for review is a:	□ Regional Plan	Municipal Plan in a region whose regional plan has received an affirmative determination of energy compliance from the Commissioner of Public Service	Municipal Plan in a region whose regional plan has <u>not</u> received a determination of energy compliance (This option is only available until July 1, 2018)
Is a copy of the plan attached to this checklist?	🗆 Yes		
Applicant:			
Contact person:			
Contact information:			
Received by:	Date:		

Part II: Enhanced Energy Element Checklist				
	Yes	No	Notes	
Energy Element Requirements				
Plan Adoption and Confirmation: <u>Act 174</u> requires that regional and municipation of energy compliance.	al plans be adopted – and i	municipal p	ans approved – in order to	
1. Has your plan been duly adopted and (for municipal plans only) approved for confirmation according to 24 V.S.A. § 4350?	☐ Yes. Adoption date:	🗆 No		
	Confirmation date (municipalities only):			
only):				
2. Does your plan's energy element contain an analysis of resources,				
across all energy sectors (electric, thermal, transportation)?				

Please see the "Analysis & Targets" Determination Standards below for guidance on what constitutes the basic components of such an analysis. As noted below, it is anticipated municipalities will generally be able to receive such an analysis from their region, but may also develop their own custom			
analysis that contains the required components.			
Electric Sector: resources, needs, scarcities, costs, problems	🗆 Yes	□ No	Page:
		□ N/A	Paragraph #:
Thermal Sector: resources, needs, scarcities, costs, problems	🗆 Yes	□ No	Page:
		□ N/A	Paragraph #:
Transportation Sector: resources, needs, scarcities, costs, problems	🗆 Yes	□ No	Page:
		□ N/A	Paragraph #:
3. Does your plan's energy element contain a statement of policy on the	🗆 Yes	🗆 No	Page:
conservation and efficient use of energy and the development and siting of		□ N/A	Paragraph #:
renewable energy resources?			
These policies should reflect the Determination Standards related to			
efficiency, generation, and mapping below.			
4. Does your plan's energy element contain a statement of policy on	🗆 Yes	□ No	Page:
patterns and densities of land use likely to result in conservation of		□ N/A	Paragraph #:
energy?			
E.g., smart growth development patterns, compact settlements, etc. This			
statement of policy must be consistent with the plan's land use element.			
5. Does your plan's energy element identify potential areas for the	🗆 Yes	□ No	Page:
development and siting of renewable energy resources and areas that are		□ N/A	Paragraph #:
unsuitable for siting those resources or particular categories or sizes of			
those resources?			
The Mapping standards below provide additional guidance for this			
exercise. "Categories" refers to specific technologies or applications of			
technologies (e.g. solar, rooftop solar, parking lot solar, ground-mounted			
solar), while "sizes" refers to specific size thresholds.			
Suitability (unsuitability chould take into account and be consistent with		1	
Suitubility/ulisuitubility should take into account and be consistent with			
policies stated elsewhere in a plan, such as the land use element.			

Part III: Determination Standards Checklist

Determination Standards

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

- Greenhouse gas reduction goals under <u>10 V.S.A. § 578(a)</u> (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 <u>10 V.S.A. § 581</u> (25% of homes or 80,000 units made efficient by 2020)
- State energy policy under <u>30 V.S.A. § 202a</u> 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 <u>State energy plans</u> adopted pursuant to <u>30 V.S.A. §§ 202</u> and <u>202b</u>
- The distributed renewable generation and energy transformation categories of resources to meet the requirements of the Renewable Energy Standard under <u>30 V.S.A. §§ 8004</u> and <u>8005</u>

The Determination Standards 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 and municipalities may choose to include the information necessary to meet the standards in their enhanced energy elements, 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.

Please review and attach the plan and 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. If you feel a standard is not relevant or attainable, please check n/a and use the Notes column to describe the situation, explaining why the standard is not relevant or attainable, and indicate what measures the region or municipality is taking instead to mitigate any adverse effects of not making substantial progress toward this standard.

	Yes	No (or n/a)	Notes
Analysis and Targets		11/ 4/	
Analysis and rangets			
For the analysis determination standards below, regions are expected to de	velop their own analysis, ar	in to preak	out the analysis for their
municipalities. Municipalities may choose to rely on these to meet the stan	aards in this section. Munic	ipalities wh	the house the analysis
standards in this section. Alternatively, municipalities may develop their out	or energy compliance will a	lomont the	a to have met the
ragions with specific local data: if this option is shown the applysis must in	clude all of the same comp	ennent the a	ired of regions as
described below. Some components of the analysis may not be applicable of	r relevant (particularly at th	nents requ	Level) depending on
availability or reliability of data: in that case N/A may be checked (if available)	le) and a rationale provider	d in the Not	es column
1 Does the plan include an analysis (estimate) of total current energy	\Box Yes (a-c all checked		
use across transportation heating and electric sectors?	helow unless N/A)		
use deross transportation, neuting, and electric sectors.			
a. Is the estimate of current heating/thermal energy usage	🗆 Yes	🗆 No	Page:
broken out by each 1) type of fuel and 2) sector		□ N/A	Paragraph #:
(residential, commercial, industrial, institutional) and is			
there a discussion of historical drivers and indicators of			
demand for heat energy in each sector?			
b. Is the estimate of current transportation energy usage	□ Yes	□ No	Page:
broken out by each 1) type of fuel (e.g., gasoline, diesel,		□ N/A	Paragraph #:
compressed natural gas, biofuels, electricity) and 2) type of			
transportation use (e.g., passenger-vehicle/light-duty,			
heavy-duty, mass transit, or off-highway) and is there a			
discussion of historical drivers and indicators of demand			
for transportation energy (e.g., number of registered			
vehicles, traffic volumes)?			
c. Does the plan break out total electric energy usage in the	□ Yes	□ No	Page:
region by each 1) municipality and 2) sector (residential,		□ N/A	Paragraph #:
commercial/industrial) and is there discussion of sources			
(from utility data) and a discussion of historical drivers and			
indicators of demand for electricity?			

2.	Does the plan establish 2025, 2035, and 2050 targets for energy	🗆 Yes	□ No	Page:
	conservation, efficiency, fuel-switching, and use of renewable			Paragraph #:
	energy for transportation, heating, and electricity?			
3.	Does the plan analyze (estimate) the amount of thermal-sector	🗆 Yes	□ No	Page:
	conservation, efficiency, and conversion to alternative heating			Paragraph #:
	fuels needed to achieve these targets?			
	a. Does the estimate quantify potential energy savings from	🗆 Yes	□ No	Page:
	building weatherization and efficiency improvements?		□ N/A	Paragraph #:
	b. Does the estimate quantify the amount of energy derived	🗆 Yes	□ No	Page:
	from new/converted alternative heating systems including		□ N/A	Paragraph #:
	biomass/biogas (cordwood, wood chips, pellets, and food,			
	agricultural, and other waste) and cold-climate heat			
	pumps, along with an estimate of the amount of energy			
	resource required for each (biomass, electricity, etc.)?			
	i. Does the analysis include modeled estimates of	🗆 Yes	🗆 No	Page:
	available and/or accessible low-grade wood		□ N/A	Paragraph #:
	volume and growth?			
	ii. Are key assumptions used in the modeling	🗆 Yes	□ No	Page:
	transparent and documented?		□ N/A	Paragraph #:
4.	Does the plan analyze (estimate) changes in transportation system	🗆 Yes	□ No	Page:
	energy usage required to achieve the 2025, 2035, and 2050			Paragraph #:
	targets?			
	a. Does the analysis consider the impact of land use patterns	🗆 Yes	□ No	Page:
	on transportation system energy use?		□ N/A	Paragraph #:
	b. Does the analysis consider changes in ridership of public	🗆 Yes	□ No	Page:
	transit and rail (local, intercity, and freight), biking and		□ N/A	Paragraph #:
	walking, and adoption of electric (and other alternative-			
	fueled) vehicles, along with an estimate of the amount of			
	electricity or other energy resource required to			
	accommodate these changes?			
5.	Does the plan analyze (estimate) the amount of electricity	🗆 Yes	□ No	Page:
	conservation and efficiency improvements needed to achieve the			Paragraph #:
	2025, 2035, and 2050 targets?			

a. Does due use a syste vehi	is the analysis include the net change in consumption to: (1) conservation and efficiency; and (2) increased attributable to conversions to alternative heating ems (i.e. heat pumps) and transportation (i.e. electric icles)?	□ Yes	□ No □ N/A	Page: Paragraph #:
b. Does ener swite	s the plan examine additional electricity or other rgy resources required to meet demand from fuel cching?	□ Yes	□ No □ N/A	Page: Paragraph #:
Pa	Pathways (Implementation Actions)			
Plans are expected to or relevant, in which explanation of how t	to include or otherwise address all of the pathways (imple in case N/A may be checked (if available) and the rationale the plan alternatively achieves attainment of the targets	ementation actions) below e provided in the Notes col should be included.	/; some acti lumn. If an	ons may not be applicable action is not selected, an
6. Does the pla achieve thes	an include pathways and recommended actions to se targets, informed by this analysis?			
a. Effic The and/ plan	ciency (Regions and Municipalities) approaches below should be reflected in the <u>policies</u> /or <u>implementation measures</u> of regional or municipal	 Yes (i-vi all checked Yes below, unless N/A) 	□ No	
	i. Encourage reduced energy use by individuals (e.g., educational activities and events such as weatherization workshops, establishing/supporting local energy committees, sponsoring weatherization workshops, encouraging the use of existing utility and other efficiency and conservation programs and funding sources, etc.)	□ Yes	□ No	Page: Paragraph #:
i	ii. Promote decreased use of fossil fuels for heating (e.g. through switching to wood, liquid biofuels, biogas, geothermal, and/or electricity in devices such as advanced wood heating systems and cold-climate heat pumps, and through use of more energy efficient heating systems)	□ Yes	□ No	Page: Paragraph #:

iii.	Promote efficient buildings	🗆 Yes	□ No	Page:
	(e.g. compliance with residential and commercial			Paragraph #:
	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; consideration of adopting stretch codes			
	by municipalities, and regional assistance to do			
	so)			
iv.	Support the expansion of biogas for heat,	🗆 Yes	🗆 No	Page:
	biomass district heating, and/or thermal-led		D N/A	Paragraph #:
	combined heat and power systems (within the			
	municipality or throughout the region)			
	(e.g. including identifying potential locations for,			
	and barriers to, deployment of such systems)			
V.	Municipalities only: Lead by example with	Yes (or N/A for	□ No	Page:
	respect to the efficiency of municipal buildings,	regions)	□ N/A	Paragraph #:
	vehicles, and infrastructure			
	(e.g. building audits and weatherization projects			
	in schools and town offices; purchasing energy			
	efficient municipal and fleet vehicles when			
	practicable, etc.)			
vi.	Other (please use the notes section to describe	🗆 Yes	□ No	Page:
	additional approaches that your region or		□ N/A	Paragraph #:
	municipality is taking)			
b. Transpo	rtation (Regions and Municipalities) Approaches	Yes (i-vii all checked	□ No	
below sł	nould be reflected in <u>policies</u> and/or	below, unless N/A)		
impleme	entation measures of regional or municipal plans.			
i.	Encourage increased use of public transit	🗆 Yes	□ No	Page:
	(e.g., through cooperation with public transit		□ N/A	Paragraph #:
	providers to identify and develop new public			
	transit routes and promote full utilization of			

				T
	existing routes, integrate park-and-rides with			
	transit routes, etc.)			
ii.	Promote a shift away from single-occupancy	🗆 Yes	🗆 No	Page:
	vehicle trips through strategies appropriate to			Paragraph #:
	the region or municipality			
	(e.g. rideshare, vanpool, car-sharing initiatives,			
	plans to develop or increase park-and-rides,			
	enhancement of options such as rail and			
	telecommuting, education, intergovernmental			
	cooperation, or assistance with grants related to			
	any of the above)			
iii.	Promote a shift away from gas/diesel vehicles to	🗆 Yes	🗆 No	Page:
	electric or other alternatively fueled			Paragraph #:
	transportation options through strategies			
	appropriate to the region or municipality			
	(e.g. installing or promoting the installation of			
	electric vehicle charging infrastructure, providing			
	education and outreach to potential users,			
	supporting alternative vehicle availability			
	through outreach to vehicle dealers)			
iv.	Facilitate the development of walking and biking	🗆 Yes	□ No	Page:
	infrastructure through strategies appropriate to			Paragraph #:
	the region or municipality			
	(e.g. studying, planning for, seeking funding for,			
	or implementing improvements that encourage			
	safe and convenient walking and biking)			
V.	Include land use policies (and purpose	🗆 Yes	□ No	Page:
	statements for land use districts where			Paragraph #:
	applicable) that demonstrate a commitment to			
	reducing sprawl and minimizing low-density			
	development.			
	(e.g. participating in state designation program,			
	such as obtaining state designated village			
	centers, downtowns, neighborhoods, new town			

centers, or growth centers; adopting a capitalbudget and program that furthers land use andtransportation policies)vi.Strongly prioritize development in compact,mixed-use centers when physically feasible and	□ Yes	□ No	Page:
appropriate to the use of the development, or identify steps to make such compact development more feasible. (e.g., exploration of water or sewage solutions that enable compact development, development of a new town center, etc.)			
vii. Other (please use the notes section to describe additional approaches that your region or municipality is taking)	□ Yes	□ No □ N/A	Page: Paragraph #:
c. Generation (Regions and Municipalities) Components i-v are items that must be identified in the plan text; other below should be reflected in <u>policies</u> and/or <u>implementation measures</u> of regional or municipal plans	 Yes (i-ix all checked below, unless N/A) 	□ No	
i. Identify existing electric generators in the region/municipality, actual or estimated generation from these systems, and existing electric load in the region/municipality (regions must break this information down by municipality)	□ Yes	□ No	Page: Paragraph #:
 Analyze generation potential, through mapping exercise (see Mapping standards, below), to determine potential from preferred and potentially suitable areas in the region/municipality (regions must break this information down by municipality) 	□ Yes	□ No	Page: Paragraph #:
iii. Compare generation potential with the analysis of generation needed to meet 2025, 2035, and 2050 targets for use of renewable energy for	□ Yes	□ No	Page: Paragraph #:

	transportation, heating, and electricity (from			
	Analysis and Targets standard #2, above)			
iv.	Identify sufficient land in the region/municipality	🗆 Yes	□ No	Page:
	for renewable energy development to			Paragraph #:
	reasonably reach 2025, 2035, and 2050 targets,			
	given that some of the land may not be available			
	due to private property constraints, site-specific			
	constraints, or grid-related constraints			
V.	Does the plan ensure that any regional or local	🗆 Yes	🗆 No	Page:
	constraints do not prohibit or have the effect of			Paragraph #:
	prohibiting the provision of sufficient renewable			
	energy to meet state, regional, or municipal			
	targets?			
vi.	Include statements of policy to accompany maps	🗆 Yes	□ No	Page:
	(could include general siting guidelines),		□ N/A	Paragraph #:
	including statements of policy to accompany the			
	identification of specific areas that are preferred			
	for siting generation			
vii.	Prioritize maximizing renewable generation on	🗆 Yes	🗆 No	Page:
	preferred locations (such as rooftops, parking		□ N/A	Paragraph #:
	lots, gravel pits, quarries, brownfields, town-			
	designated locations, and other potential locally			
	preferred locations such as customer on- or			
	near-site generation, economic development			
	areas, marginal farmlands, unused land near			
	already developed infrastructure, etc.) through			
	statements of policy			
viii.	Explore development of biogas/anaerobic	🗆 Yes	□ No	Page:
	digesters to manage food, agricultural, and other		□ N/A	Paragraph #:
	waste in support of statewide policies			
ix.	Other (please use the notes section to describe	🗆 Yes	🗆 No	Page:
	additional approaches that your region or		□ N/A	Paragraph #:
	municipality is taking)			

Mapping			
Plans are expected to include maps that address all of the standards below,	unless a compelling reason	is provided	d why the standard is not
applicable or relevant (if N/A is checked). Municipalities will generally be abl	e to use maps produced by	the region	s (which will have been
produced in consultation with municipalities); municipalities may also choos	e to undertake their own n	napping, bu	it are expected to work
collaboratively with their regions and neighboring municipalities to ensure co	ompatibility between the f	inal produc	ts. Where the graphic
representation of a map and the text describing the policies or rules used to	construct the map are in c	onflict, the	standards will be applied to
the text.			
In order to meet the mapping standards, both regions and municipalities m	nust meet each of the stan	dards set o	ut below (unless N/A is
available and checked). Municipalities which elect to use the regional map of	of a region whose plan has	received an	affirmative determination
of energy compliance will be presumed to have met the standards in this sec	tion:	1	
i. Does the plan identify and map existing electric	🗆 Yes	🗆 No	Page:
generation and renewable generators?			Paragraph #:
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.			
ii. Does the plan identify potential areas for the	🗆 Yes	🗆 No	Page:
development and siting of renewable energy			Paragraph #:
generators and the potential generation from			
such generators in the identified areas, taking			
into account factors including resource			
availability, environmental constraints, and the			
location and capacity of electric grid			
infrastructure? Maps should include the			
following:			
a. Base resource analysis (wind and solar),	🗆 Yes	□ No	Page:
using most up-to-date data layers			Paragraph #:
b. Potential/preferred locations for large-	🗆 Yes	□ No	Page:
scale biomass heating, including district		□ N/A	Paragraph #:
heating and thermal-led co-generation			
facilities.			
Biomass availability can also be			
considered.			

c. Locations of producers of food.	n Yes	□ No	
agricultural, and other waste and		□ N/A	
potential locations for biogas heating			
and digester-based or other related			
electric generation facilities			
d Known constraints (signals likely			Page
unsuitability for development based on			Paragranh #
statewide or local regulations or			
designated critical resources) to include:			
Vernal Pools			
River Corridors			
EEMA Eloodways			
State-significant Natural			
Communities and Pare Threatened			
and Endangered Species			
Transportation Infrastructure			
Fransportation initiastructure Fodoral Wildorpors Areas			
Federal Wilderness Areas Motionds			
Wetlands Designative and evaluate the talent if is all			
Regionally or Locally identified			
Critical Resource Areas			
If locations are constrained for the			
development of renewable energy due			
to the desire to protect a locally			
aesignatea 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 universally prohibit all			
permanent development of any kind			
(and should be listed in the Notes			
column).			

These areas should be subtracted from			
raw resource potential maps to form			
Base Resource Maps	~		
e. Potential constraints (signals conditions	🗆 Yes	□ No	Page:
that could, but that will not necessarily,			Paragraph #:
preclude development based on			
statewide or regional/local policies or			
preferences), including but not limited			
to:			
Agricultural Soils (prime +			
statewide = primary)			
FEMA Flood Zones			
Conserved Lands			
Deer Wintering Areas			
 ANR's Vermont Conservation 			
Design Highest Priority Forest			
Blocks			
Hydric Soils			
 Regionally or Locally Identified 			
Resource Areas			
If locations are constrained for the			
development of renewable energy due			
to the desire to protect a 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).			
These areas should be subtracted			
from Base Resource Maps to form			
Prime Resource Maps.			

	f.	Transmission and distribution resources	🗆 Yes	🗆 No	Page:
		and constraints			Paragraph #:
		(e.g. three-phase distribution lines,			
		known constraints from resources such			
		as Green Mountain Power's solar map,			
		areas of high electric load)			
	g.	Previously impacted areas (e.g. new or	🗆 Yes	🗆 No	Page:
		existing structures, parking lots,		□ N/A	Paragraph #:
		previously developed tracts,			
		brownfields, former landfills, Superfund			
		sites, gravel pits, quarries), to the extent			
		these areas or parcels are known.			
		This can also be accomplished in the			
		accompanying narrative.			
	h.	Locally preferred locations (specific	🗆 Yes	□ No	Page:
		areas or parcels) for siting a generator or		□ N/A	Paragraph #:
		a specific size or type of generator,			
		accompanied by any specific siting			
		criteria for these locations			
		(e.g. customer on- or near-site			
		generation, economic development			
		areas, marginal farmlands, unused land			
		near already developed infrastructure,			
		etc.)			
		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			
iii.	Does t	he plan identify areas, if any, that are	🗆 Yes	□ No	Page:
	unsuita	able for siting generation or particular		□ N/A	Paragraph #:
	catego	ries or sizes of generators?			
	a.	Are areas identified as unsuitable for	🗆 Yes	□ No	Page:
		particular categories or sizes of		□ N/A	Paragraph #:

generators consistent with resource availability and/or land use policies in the regional or municipal plan applicable to other types of land development? <i>Please note these policies in the Notes</i> <i>column.</i>			
 b. Does the plan ensure that any regional or local constraints identified are supported through data, are consistent with the remainder of the plan, and do not include an arbitrary prohibition of any particular renewable resource size or type? Please explain in the Notes column. 	□ Yes	□ No □ N/A	Page: Paragraph #:
iv. Regions only: does the plan allow for the siting in the region of all types of renewable generation technologies?	 Yes for regional plans (or n/a for municipal plans) 	🗆 No	
v. Municipalities seeking a determination of energy compliance from the Department only: does the plan ensure that its approach, if applied regionally, would not have the effect of prohibiting any type or scale of technology in all locations?	Yes (or n/a for regional plans or municipal plans seeking determinations from their regions)	□ No	