



Regional Plan Committee

February 4, 2025 at 4:00 pm

29 Main Street, Suite 4, Montpelier, VT 05602

To join Zoom meeting:

<https://us02web.zoom.us/j/87815276521?pwd=Mmw5U080SGpCTUFNVHZFSEtRQUlI0dz09>

Meeting ID: 878 1527 6521, Passcode: 783374

One tap mobile (929)436-2866 or 1(301)715-8592

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AGENDA

- | | |
|----------------|---|
| 4:00 pm | Adjustments to the Agenda |
| | Public Comment |
| 4:05 pm | Decision on Length of Meeting – 90 Minutes or 120 Minutes
(possible action) |
| 4:10 pm | Approval of Minutes (action)
October 2024, December 2024, and
January 2025 minutes |
| 4:15 pm | Community Outreach Survey (discussion) |
| 4:20 pm | Energy Chapter Decision Points – Siting (possible action) |
| 5:15 pm | Committee Members’ Comments (discussion) |
| 5:25 pm | Upcoming Meeting Topics (discussion) |
| 5:30 pm | Adjourn |

Next meeting: February 18, 2025

CENTRAL VERMONT REGIONAL PLANNING COMMISSION

Regional Plan Committee

Draft Minutes

October 15, 2024 4:00 – 5:30 pm

29 Main Street, Suite 4, Montpelier, VT 05602

Remote Access Via Zoom

Committee Members:

X	Alice Peal, Waitsfield Alternate Rep
	Alice Farrell, Barre Town Rep
X	Doug Greason, Waterbury Rep
X	Mike Miller, Montpelier Alternate Rep
X	John Brabant, Calais Rep

1
1 Staff: Christian Meyer, Brian Voigt, Will Pitkin, Eli Toohey, Niki Sabado, Pamela Sonn (in person)
2 Zoe Christiansen – East Montpelier Rep, Lee Cattaneo – Orange Rep, Bob Blodgett – Moretown Planning
3 Commission member

4 5 **Adjustment to the Agenda**

6 No adjustments.

7 8 **Public Comment**

9 No public comment.

10 11 **Approval of Minutes**

12 M. Miller moved to accept September 2024 draft meeting minutes, D. Greason seconded. All in favor,
13 motion carried.

14 15 **Discussion**

16 Act 181 Presentation

17 Staff presented on recent reforms to Act 250 and the State Community Investment Program (formerly
18 known as the State Designation Program). Topics included how current designated areas inform interim
19 Act 250 exemptions and the Regional Plan Future Land Use Map (FLU Map), then how the FLU Map
20 informs long-term Act 250 exemptions and the reformed designation program. Long-term Act 250
21 exemptions will use a tier-based system to determine Act 250 jurisdiction; the FLU Map land use
22 categories will determine areas' eligibility for tiers that receive Act 250 exemptions.
23

24
25 VAPDA established 10 land use categories that will now be standard across all Regional Plans' FLU Maps
26 statewide; VAPDA is still developing the methods by which FLU Maps define which areas fall under each
27 land use category.

28
29 The Land Use Review Board (LURB – currently known as the Natural Resources Board) will need to
30 approve the FLU Maps and possibly the entire Regional Plan. J. Brabant asked how much influence the
31 LURB will have in reviewing Regional Plans, whether there will be an appeals process if the LURB rejects

1 the Regional Plan and/or FLU Map, whether the LURB review will be just a yes or no determination or if
2 the LURB will supply corrections to rejected Regional Plans and/or FLU Maps. Discussion followed; staff
3 noted that many of the new rules are still being made over the next several years. Staff then highlighted
4 several ongoing questions and potential conflicts that Act 181 introduces.
5

6 A. Peal asked what Act 181 means for municipalities and how it might change municipalities' actions. A.
7 Peal also noted potential conflicts between the Act 250 exemptions and flood risk mitigation. M. Miller
8 noted that municipal regulations may ensure that development in floodplains can be done properly in a
9 way that does not increase flood risk and highlighted recent proposed developments in Montpelier that
10 have been delayed by Act 250 review. J. Brabant noted the benefits of Act 250 for areas downstream of
11 those that would be exempt.
12

13 W. Pitkin spoke about Act 121, The Flood Safety Act, and how that will shift river corridor and floodplain
14 regulation to the State, which may reduce the potential flood risk impacts of exempting areas from Act
15 250 review. He noted a loophole in which priority housing projects are exempt from Act 250 review
16 even in river corridors and floodplains. M. Miller is a member of the senate committee that will develop
17 the rules for statewide river corridor and floodplain regulation and will report back to the committee on
18 future updates.
19

20 A. Peal expressed concern that Act 181 and the statewide conversation about Act 250 review does not
21 sufficiently account for increased risk of flooding and other hazards due to climate change.
22

23 C. Meyer asked what the next steps were related to Act 181's reforms for the committee and for staff.
24

25 Z. Christiansen spoke about the high cost of developing new housing and questioned the value of
26 housing that is not affordable. She suggested other avenues of increasing housing stock, including
27 restricting short-term rentals and reoccupying existing vacant housing.
28

29 A. Peal and Z. Christiansen referenced the importance of certain populations, including homeless and
30 low-income, being housed closed to services.
31

32 M. Miller spoke about the challenges municipal officials have in developing municipal plans and
33 regulations to conform to the new rules, especially with so many details still to be determined. He
34 stated that Regional Planning Commissions can provide value through municipal technical assistance
35 that helps ensure municipal conformance with new requirements.
36

37 Z. Christiansen and C. Meyer spoke about additional needs and constraints for affordable housing
38 development, including sidewalks and public transit.
39

40 C. Meyer and N. Sabado provided further information on the timeline of the Regional Plan, specifically
41 the Land Use draft chapter. Outside factors include VAPDA's development of the methods to define the
42 land use categories in the FLU Map.
43

44 D. Greason stated that a key area will be where the Regional Plan's Land Use chapter goes beyond or

1 differs from simply meeting statutory requirements.

2

3 Draft Housing Chapter

4 Discussion began with written feedback that A. Peal previously provided. E. Toohey spoke about the
5 statewide and countywide housing targets in the VT Housing Needs Assessment that the VT Housing
6 Finance Authority and the VT Agency of Commerce and Community Development just published. E.
7 Toohey addressed factors that CVRPC is using to disaggregate countywide targets into municipal targets
8 for each member municipality.

9

10 Discussion included availability of housing data and gaps in that data, including in seasonal/second
11 homes and short-term rentals, and possible ways to gather more data to fill those gaps. Some towns in
12 VT, including Warren, have hired consultants to gather this data.

13

14 E. Toohey spoke about factors that CVRPC is considering using in its formula to disaggregate countywide
15 housing targets to the municipal level. Factors under consideration include school capacity, grocery
16 stores, access to healthcare, roads, public transit, water and wastewater infrastructure. Discussion
17 included affordable housing and how different demographics have different needs for housing locations.
18 J. Brabant spoke about what value Act 250 review has added to communities where previous housing
19 developments were sited and how areas that will be exempt from Act 250 review can ensure that
20 municipal review maintains those benefits.

21

22 M. Miller liked the housing continuum and suggested that affordable housing be restated as “subsidized
23 housing” and requested that the housing continuum include the additional category of congregate
24 housing, which may include dormitory-style housing or shared living situations.

25

26 Z. Christiansen began a discussion about the “build it and they will come” mentality in housing
27 development and the extent to which new housing development will translate into increased
28 permanent housing stock when short-term rentals are often more profitable. A Peal questioned the
29 future economic prospects of short-term rentals in relation to climate change, as ski areas see less snow
30 in the future. Discussion touched on the economic and impact of short-term rentals, possible short-term
31 rental regulation, and what CVRPC can do to encourage increased regulation at the state and municipal
32 levels.

33

34 A. Peal requested that previous written feedback on the Housing draft chapter be distributed to the
35 entire committee.

36

37 A. Peal moved to adjourn, J. Brabant seconded, all in favor, motion carried.

CENTRAL VERMONT REGIONAL PLANNING COMMISSION
Regional Plan Committee

Draft Minutes

December 17, 2024 4:00 – 5:30 pm

29 Main Street, Suite 4, Montpelier, VT 05602

Remote Access Via Zoom

Committee Members:

X	Alice Peal, Waitsfield Alternate Rep
	Alice Farrell, Barre Town Rep
X	Doug Greason, Waterbury Rep
X	Mike Miller, Montpelier Alternate Rep
X	John Brabant, Calais Rep

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Staff: Eli Toohey, Keith Cubbon, Christian Meyer, Will Pitkin, Niki Sabado (in person)

Adjustment to the Agenda

A. Peal adjusted agenda to move scheduling discussion before Infrastructure draft chapter review.

Public Comment

No public comment.

Approval of Minutes

Committee approved November draft minutes. Note: still need to approve October draft minutes, as those were not approved at the November meeting.

Discussion

Meeting began at 4:02pm.

Staff presented on the timeline of the new Regional Plan adoption process following changes in Act 181; Future Land Use (FLU) Map needs to be approved by the Land Use Review Board (LRB) by the end of 2025, will be much easier to have the LRB also adopt the entire Regional Plan at the same time, which means CVRPC will have to finish the Regional Plan by April 2025.

Discussion followed to which chapters will be reviewed in each of the coming months and how to involve full CVRPC Board of Commissioners and municipal planning commissions/selectboards in the review process. Committee agreed to meet twice per month for the first few months of 2025. Discussion also included when CVRPC will consult with member municipalities regarding FLU Map and housing targets and consistent formatting/structure across chapters.

Infrastructure draft chapter review: committee and staff discussed whether to split the chapter back into physical and social infrastructure or keep it as one chapter. Staff spoke on the drafting process and the statutory requirements. Committee agreed to stay with one chapter.

Committee discussed approach to aspiration and introduction for the combined chapter; M. Miller

1 presented feedback on specific parts of the chapter. Committee, K. Cubbon, and E. Toohey discussed the
2 goals and strategies of the draft chapter compared to those of the previous Regional Plan’s chapter
3 including ones related to flood issues and the use of directive language to give the Regional Plan more
4 influence in state permitting.
5

6 The committee discussed the strategy moving forward with the Energy Element and settled on an
7 Energy Chapter with an overview and a more detailed and technical Energy Plan. Committee members
8 requested drafts in Word documents. Committee discussed timing, requested drafts by 12/27.

9

10 Committee discussed schedule for future meetings, decided to meet first and third Tuesdays at 4pm.

11

12 M. Miller moved to adjourn, D. Greason seconded, all in favor.

13

14 A. Peal adjourned meeting.

15

16 Minutes taken by W. Pitkin

CENTRAL VERMONT REGIONAL PLANNING COMMISSION
Regional Plan Committee - Special Meeting
Draft Minutes

January 21, 2025 4:00 – 5:30 pm

29 Main Street, Suite 4, Montpelier, VT 05602
Remote Access Via Zoom

Committee Members:

X	Alice Peal, Waitsfield Alternate Rep
X	Alice Farrell, Barre Town Rep
X	Doug Greason, Waterbury Rep
X	Mike Miller, Montpelier Alternate Rep
X	John Brabant, Calais Rep

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Staff: Sam Lash, Christian Meyer, Will Pitkin, Niki Sabado (in person), Brian Voigt (remote)
Public: Lee Cattaneo, Orange Rep; Jay Pilliod, Moretown Energy Committee

A Peal Called the meeting to order at 4:01PM

Adjustment to the Agenda

A. Peal adjusted agenda to add discussion of the updated staff team supporting work on the plan and a discussion of a proposed staff developed survey and committee involvement. A. Peal recommended adding the items to follow the approval of minutes.

Public Comment

No public comment.

Approval of Minutes

Committee agreed to postpone approving October 2024 and December 2024 meeting minutes until February 2025 meeting.

Staff Support

A. Peal, D. Greason, and C. Meyer discussed the proposed new format for seeking committee review and input surrounding key decision points in the Regional Plan. B. Voigt will be joining the team and support managing and editing Regional Plan. The committee agreed to continue meeting twice per month for the next few months.

Regional Survey

N Sabado discussed outreach for the Regional Plan, namely in the form of a survey. Such a survey will help gather public input on priorities and support work to meet new requirements for public participation in Regional Plan development as introduced in 2024's Act 181. Staff will distribute a draft survey to the committee ASAP.

1 **Energy Chapter Decision Points Discussion**

2 S. Lash began discussion of residential thermal fuel switching targets and efficiency measures.

3

4 Committee discussed the merits of cord wood as a green/renewable/sustainable fuel source. Committee
5 approved S. Lash’s suggestion to add a thermal energy generation target related to high-efficiency cord
6 wood burning stoves. This will be an alternative approach more tailored to the realities of rural CVRPC
7 member towns. This alternative approach would replace low-efficiency wood-burning stoves with high-
8 efficiency cord wood-burning stoves, in addition to continuing to work add electric heat pumps.

9 Members highlighted that cord wood, like all other technologies, has drawbacks that we should not
10 overlook and that weatherization remains a priority.

11

12 S. Lash discussed issues involving renewable energy generation targets and the potential for CVRPC to
13 customize renewable energy generation targets from one technology source to the next. The committee
14 approved S. Lash’s suggested modifications to the state-standard renewable energy generation mix,
15 including upping the share of hydroelectric generation beyond that featured in the state-standard mix.
16 The committee discussed the feasibility of rooftop solar generation compared to ground-mounted solar
17 generation and supported a high share of renewable energy generation from rooftop solar to the extent
18 that it is practical.

19

20 J. Brabant suggested inviting utility representative(s) to discuss pros and cons of various renewable
21 energy generation technologies.

22

23 S. Lash will create several different options for renewable energy generation mixes (target share by
24 technology) for the committee to review and to help inform the committee’s recommendation.

25

26 M. Miller moved to adjourn, A. Farrell seconded, all in favor.

27

28 A. Peal adjourned meeting at 6:13 PM

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32 *Respectfully submitted by W. Pitkin*



MEMO

Date: January 29th, 2025

To: Regional Plan Committee

From: Sam Lash, Climate & Energy Planner

Re: Incremental Renewable Energy Generation Targets (Technology Types, Siting)

➡ **ACTION REQUESTED:** Discuss and confirm inputs for distribution of our Incremental Renewable Energy Generation Target across technology types (continued discussion from last meeting). Review regional constraints and consider identifying preferred locations.

Last meeting the committee discussed our Incremental Renewable Energy Generation Targets (a.k.a. new renewable energy generation target) and key inputs including how we distribute this target across technology types. *For a review of what the incremental renewable energy target is and its basic inputs, please see previous memo: https://centralvtplanning.org/wp-content/uploads/2025/01/25-01-21_RPC-Packet1.pdf*

Distribution of the Incremental Renewable Energy Target Across Technology Types

The incremental renewable energy target is how much additional renewable energy generation is needed to meet our regional share of 25% of the State’s energy use produced in-state. The limiting factor, when having this discussion is that different technologies and scales of technology have different land use and grid impacts for a given amount of installed capacity or energy production.

Incremental Renewable Energy Generation Target			
	2025	2035	2050
Updated Targets	26,957MWh (18.8MW)	97,196 MWh (67.7 MW)	163,094 MWh (113.6MW)

While the previous plan assessed the resource potential areas across technology types and determined preferences and policies regarding scale and technology type, it did not, as is required, distribute our target across the technology types (necessary to consider land use and grid impacts). The default provided by the Public Service Department is provided below, as are preliminary recommendations from last week’s discussion:

	Solar (Ground Mount)	Solar (Rooftop)	Wind	Hydro	Natural Gas	Biomass
Scenario 1: Defaults provided for CVRPC by the State:	65%	10%	25%	0%	0%	0%
Scenario 2: Updated Target Distribution	25%	50%	20%	5%	0%	0%
Scenario 3: Alternative Update 1	50%	25%	20%	5%	0%	0%

The solar targets in Scenario 2 (reviewed last meeting), were initially shifted to reflect the strong preliminary preference of minimizing land use impacts of ground-mount solar. However, it was noted that roof top and small-scale projects do increase costs overall and hasten costly grid infrastructure investment. Furthermore, at the last committee meeting, it was noted that given general building condition and age across our region, the 50% distribution was concerning to some- several alternatives and their impact are noted below:

Scenario 3 switches distribution of ground mount and rooftop so that 50% of the region’s generation would come from ground-mount and 25% rooftop solar. Note this shift results in a small (1MW) overall reduction in our overall target. This shift has two major impacts:

1. This lowers the overall number of municipalities where grid capacity issues related to rooftop solar are anticipated to be a concern. The number of towns with capacity or *headroom* concerns would drop from eight to four (Barre City, Montpelier, East Montpelier, and Waterbury are still flagged, while Duxbury, Calais, Middlesex, and Worcester are no longer flagged as a concern).
2. The other major impact is on land-use. Increasing our reliance on ground mount solar will double the footprint of ground mount arrays from an estimated 217 acres to 434 acres (0.04% to 0.08% of our region)

Other configurations were considered, see discussion below on reduced reliance on wind.

Municipal Customization:

Staff points out that this distribution is customizable by towns and simply used as a default. With approximately 1/3 of our towns currently or imminently updating their plans and pursuing enhanced energy plans, staff recommends that this continue to be a key decision point presented to all CVRPC towns (previous efforts dating to the first plan included little customization). This would ensure the next update to this input be informed directly via ground-up, locally-specific considerations.

Wholistic Energy Planning

Staff recommends ensuring energy generation is explicitly integrated into planning for housing targets and other development in our future land use chapter to ensure it is right-sized and can support our communities, to minimize development footprints on undeveloped land, and to maximize opportunities for community-scale energy projects that optimize efficiency and minimize long-term energy costs and burdens. It is important to ensure there is consistent messaging regarding the balance of priorities in flood mitigation, energy generation, and recreation, and minimizing or remediating negative ecological impacts of our infrastructure on our environment.

Wind

Under Scenario 2, wind was reduced from the default. However, staff also ran a variety of other scenarios, including one that maintained 50% rooftop, and shifted 10% from wind to ground mount solar (as discussed during the previous meeting). Note this shift resulted in a small increase (4.2M) in our overall target. However, when the difference in energy production was shifted from wind back to rooftop solar, the same concerns around grid capacity re-emerged (eight towns were again anticipated to have capacity concerns).

There are a limited number of small-scale wind turbines in Central Vermont and no projects established in recent years. While some municipalities and communities have expressed interest in wind to increase the resilience and reliability of their renewable energy portfolio (wind is stronger at night and during the winter and thus a complement to solar which is plentiful in the day and summer), there are also significant concerns regarding the ecosystem and aesthetic impacts of wind projects throughout the region as well as some strong opposition. Currently, a state-wide sound ordinance limits the siting of wind projects. Furthermore, analyses of locations with the proper conditions for wind generation in Vermont do not highlight Central Vermont as an attractive potential resource area for industrial wind. **However, further conversation around smaller-scale wind is warranted with those communities where significant prime and base resource potential exists, especially along the eastern portion of our region.** Further, new types of wind generation (such as roofline) or additional options at the household and community-scale may prompt the region to reconsider the general preference of other technology types in the coming years. **The potential to have a more diversified and reliable energy portfolio in our region is the main reason the recommended target is maintained at 20%.** Concerns around scale are suggested to be addressed through proximity constraints as addressed later in this memo.

Hydro

Given hydrogeneration makes up a significant portion of our existing generation, the committee considered, last meeting, the feasibility of promoting the optimization of existing projects and the establishment of new hydrogeneration (not limited to dams, could be pumped hydro, in-line, etc). It was agreed to leave the target low given the lack of state programming support, the high up-front costs, and the fact that many of our existing facilities are struggling with costly and lengthy FERC recertifications emphasizing that our region is at a crucial pivot point with this technology type. With future analyses, this distribution % may be adjusted up to reflect regional

emphasis on this technology type and scale of project, and/or may be adjusted down if current plants do go out of service and/or continue to face a lack of support or a means to relicense.

Natural gas

Currently no new natural gas fueled energy production is proposed. There is no natural gas infrastructure in our region and given the state's movement away from natural gas, it is unlikely any projects would be proposed or planned in our region.

Biomass

Currently no new biomass fueled energy production is proposed. We do not currently have this type of electric generation in our region; given the closure of the only plant in this category, it is assumed this is not a likely reliable source of future generation.

Understanding Grid Capacity

Staff is working with the Public Service Department to update the Generations Scenario Tool to ensure the 2024 Long Range Transmission Plan (LRTP) update is integrated into these analyses. It is important to note that based on the 2021 LRTP, Central Vermont is significantly constrained in meeting our incremental renewable energy target by transmission capacity, or *headroom*. In future updates, this is anticipated to improve. While regionally, Central Vermont has more than double the distribution headroom required to meet our 2050 incremental renewable energy generation target, this is not evenly accessible throughout our region. Notably, Cabot, Calais, Orange, Plainfield, Washington, and Williamstown may be unable to meet their share of the targets, requiring infrastructure investment, offset by other towns, and/or increased emphasis on reducing future electricity demand growth. Currently, the best estimate of needed grid investment to meet the demands of a network of dispersed energy generation (like rooftop solar) is roughly \$41 million. This number will be updated with the new LRTP, but it provides a magnitude of the level of investment needed that need to be kept in mind when we talk about the mix of technologies used to meet our renewable energy production goals.

Technology Mix Conclusion

More nuanced work is needed to balance conflicting priorities regarding cost (and to whom), land use impacts, historic and aesthetic considerations, technical conditions, and constraints presented by our existing infrastructure gaps. Ongoing energy planning at the municipal level will help us develop a clearer sense of where preferences and potential resource areas align, as well as the potential land use impacts of different scenarios.

Connecting Incremental Energy Targets to Siting and Mapping:

Assumptions and Background:

- Generation targets for renewable energy sources were derived from the Generation Scenarios Tool and based on an assumption of 25% in-state generation
- We confirm that we have more than enough resource potential to meet these targets- this is estimated in, and converted to MW from, resource potential areas in acres which are updated in the Generation Scenarios Tool based on the most recent CVRPC mapping exercise

- The mapping analyses integrates CVRPC regional constraints with the state’s known and possible constraints data, renewable wind and solar energy potential analyses, and rooftop solar analyses.

Resources:

- VCGI: <https://vcgi.vermont.gov/data-release/act-174-statewide-energy-planning-data-updated-known-and-possible-constraints>
- The Act 174 tab of the Planning Atlas: https://maps.vermont.gov/ACCD/Html5Viewer/index.html?viewer=PlanningAtlas&_gl=1*_3umr0*_ga*MTQ1NDExNjgzMy4xNzI1OTAyMjg4*_ga_V9WQH77KLW*MTczODE4MjA4Ni44MC4wLjE3MzgzODIxMzkuMC4wLjA.
- A very short summary of the technical considerations included in these raw resource potential areas (wind and solar) can be found on pages 28-29 of the Act 174 Guidance Document. https://publicservice.vermont.gov/sites/dps/files/documents/2024%20Guidance%20for%20Regional%20%26%20Municipal%20Enhanced%20Energy%20Planning%20Standards_0.pdf

Siting Renewable Energy Generation-

The following is a very brief treatment of only some components of ongoing analyses and conversations for the purpose of improving our regional approach and updating our regional plan.

Possible siting classifications related to energy infrastructure



Figure 4: the Spectrum between Unsuitable Areas and Preferred Locations

Unsuitable areas are those areas that a region has designated as unsuitable for a particular type or scale of energy development. It is important to bear in mind the distinction between known constraints, possible constraints, and unsuitable areas. Regions are allowed to add to the list of known and possible constraints, but also to designate unsuitable areas. It may be helpful to think of these designations in terms of a spectrum (see the figure above). Unsuitable areas are “no go” areas. Known constraints very likely represent an area where energy development does not make sense, pending a field verification of those resources or mitigation. Possible constraints are areas that might be developable, if certain constraints can be mitigated. Prime areas have no constraints, and preferred locations are those areas that a region has identified as where they would like to see development occur.

CVRPC's previous plan neither identified unsuitable nor preferred locations on the regional maps but did make it a goal to integrate locally-identified locations into mapping, which has been slow. While the previous plan did express strong preferences on scale, linking this argument with mapping will make it stronger.

See pages 38-46 in the [guidance doc](#) for more:

https://publicservice.vermont.gov/sites/dps/files/documents/2024%20Guidance%20for%20Regional%20%26%20Municipal%20Enhanced%20Energy%20Planning%20Standards_0.pdf).

Constraints and Preferred Sites:

Decision Points:

1. After we review RPC constraints it would be constructive to discuss identifying further preferred locations (instead of just the preferred site types below). Staff recommends reviewing #3 below before adding additional constraints.
2. Consider whether we leave our regional constraints as known constraints or if we should be framing them as unsuitable areas. Either way, these should figure into our region's plan-wide land use policies and strategies, rather than "singling out" renewable energy generation. We may further consider, like the Town of Essex for example, applying these only to projects of a certain scale and above (e.g., 500kW+).
3. Integrate local constraints and preferred sites into our regional mapping as a priority goal.

Constraints and Siting

Summary tables of current state known and possible constraints as well as preferred site types are provided below.

Indesignating constraints for the development of renewable energy due to the desire to protect a locally designated resource (whether a natural resource, like forests) or community-identified resource, state rule require that the land use policies applicable to other forms of development must be similarly restrictive

Table 27 Summary of **State** Known and Possible Constraints

State	
Known Constraints	Possible Constraints
<ul style="list-style-type: none"> ● Vernal Pools (confirmed) <ul style="list-style-type: none"> ● DEC River Corridors ● FEMA (Federal Emergency Management Agency) Floodways ● State-Significant Natural Communities and Rare, Threatened and Endangered Species ● National Wilderness Areas ● Class 1 and Class 2 Wetlands ● Regionally or Locally Identified Critical Resources 	<ul style="list-style-type: none"> ● Vernal Pools (potential and probable) <ul style="list-style-type: none"> ● (Prime) 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 (DWA) ● Highest Priority Interior Forest Blocks, Connectivity Blocks, Physical Landscape Blocks, Surface and Riparian Areas (ANR) ● Hydric Soils ● Regionally or Locally Identified Resources

See Supplement for Descriptions of State Known and Possible Constraints; Act 174 Planning Atlas for layer sources.

Table 28 Summary of **Regional** Possible Constraints

Regional Possible Constraints
<ul style="list-style-type: none"> ● Elevations Above 2500 ft: excludes rooftop and associated with existing development ● Slopes Greater than 25%: excludes rooftop and associated with existing development (unless presents new concerns for landslides) ● Municipal Owned Lands; excludes rooftop and associated with existing development ● 250ft Lake Shore Protection Buffers, excludes rooftop and hydroelectric facilities

State Preferred Sites	Additional Regional Preferences
<ul style="list-style-type: none"> • Rooftops and Impervious Surfaces (e.g. Parking Lots) • Gravel Pit, Quarry, or Similar Mineral Resource Extraction Site (Lawful and Reclaimed) • Brownfield Sites • Sanitary landfills • National Priorities List (e.g. Superfund Sites) • On same parcel or directly adjacent to customer allocated more than 50% of the net-metering system’s electrical output • A site identified in municipal plan or joint letter of support from municipality and RPC (Regional Planning Commission) 	<ul style="list-style-type: none"> • Proximity to use: density centers including designated downtowns, village centers, new town centers, growth centers, and neighborhood development areas; commercial and industrial areas; adjacent to large farms • Schools, Libraries, Municipal buildings facilities, and critical community spaces, • Solar Carports • Location served by existing roads and energy infrastructure (e.g. 3 phase) OR addresses existing gap • Designated a preferred site in Town Plan or by Town leadership (as consistent with broader planning)
<p>Preferred Regional Project Characteristics</p>	
<ul style="list-style-type: none"> • Minimize vegetation impact especially forest clearing and fragmentation; plant screen trees & pollinator habitats • Combined with storage; micro-grid potential or functions • Creates dual land use opportunities (e.g. agrivoltaics) • Includes design/build techniques that reduce embedded carbon of program (e.g. alternatives to concrete pylons) • Engage community in development process (early) • Local off-taker and/or community benefit agreement 	

Different towns have different preferences and different resources available in terms of technology type and scale (and preferences and resources available do not always match). Therefore to advance our regional approach to constraint, staff recommends integrating local constraints, unsuitable areas, and preferred locations into regional mapping as municipalities establish their own enhanced energy plans.

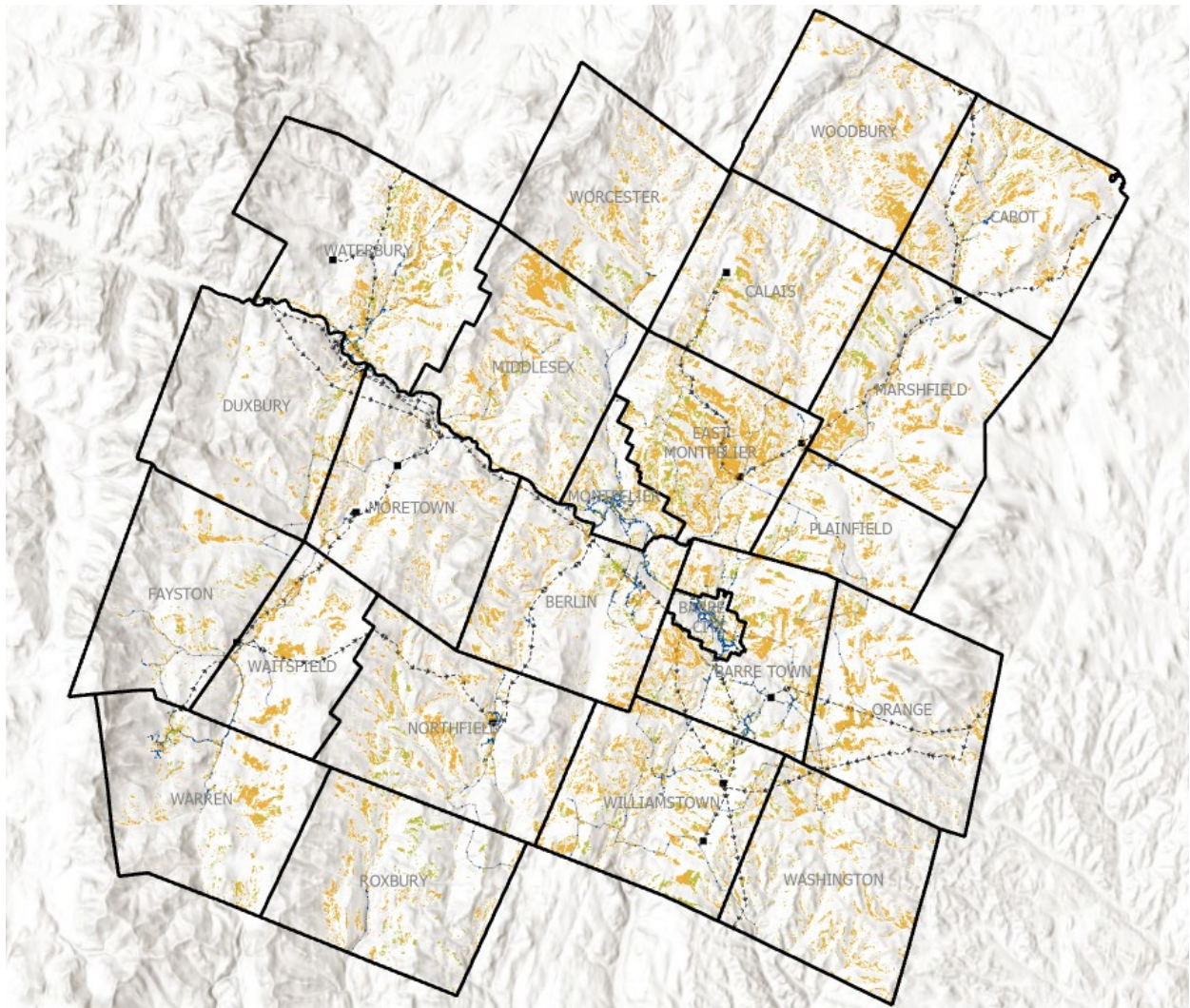
Mapping Resource Potential Areas- Solar & Wind

The following draft maps have been provided for the purposes of the Regional Plan Committee meeting and will be further formatted and refined for the plan.

Solar Potential Resource Areas:

Base Solar

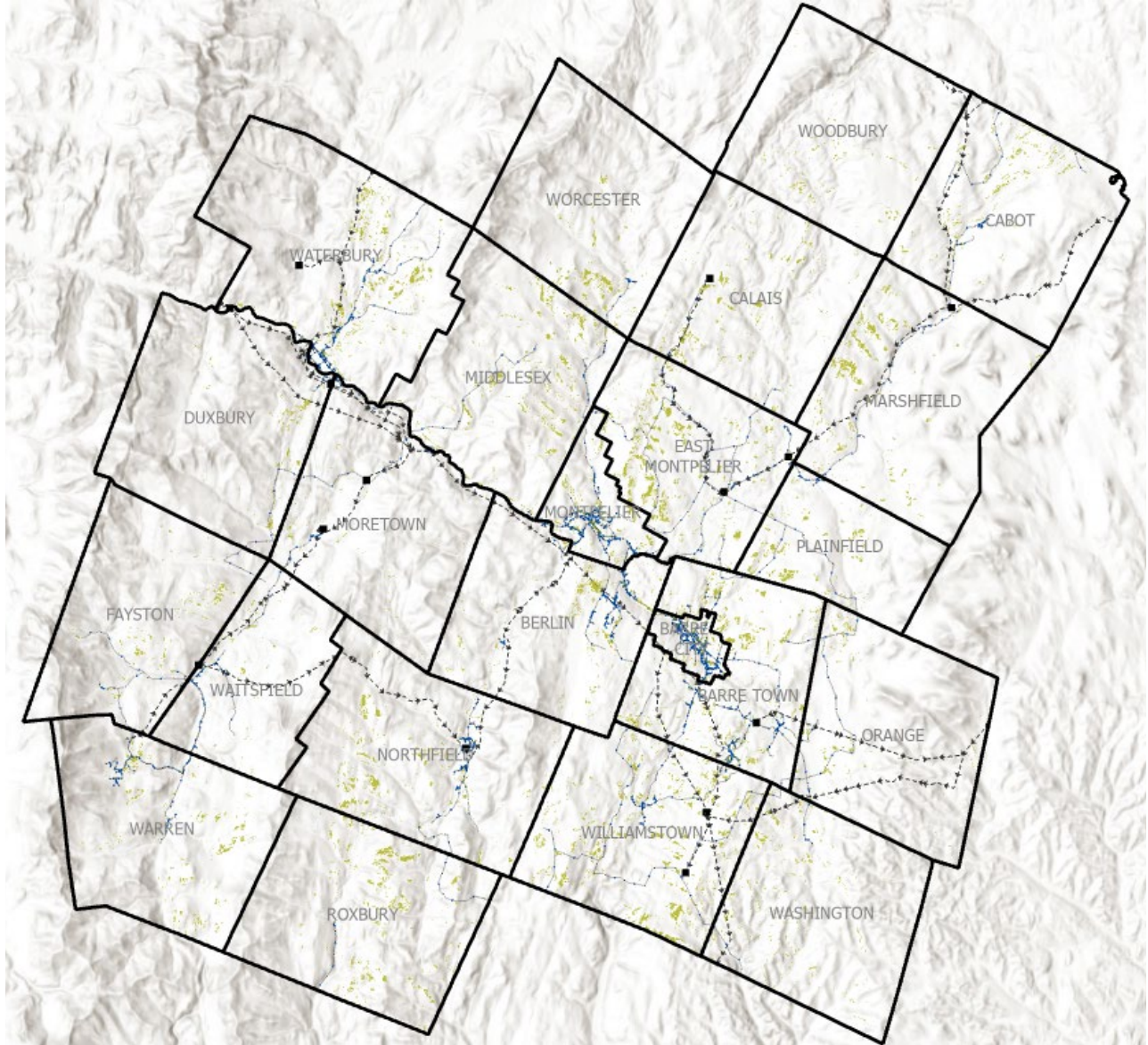
The following maps show solar potential resource areas. The orange areas represent base solar- those areas that have no state known constraints, no RPC constraints, but have one or more state possible constraints



While not clearly visible at this scale, black hashed lines represent transmission lines, blue lines are three-phase power, and black boxes show substations. Information about the grid is important because it demonstrates the variability of infrastructure from one town to the next.

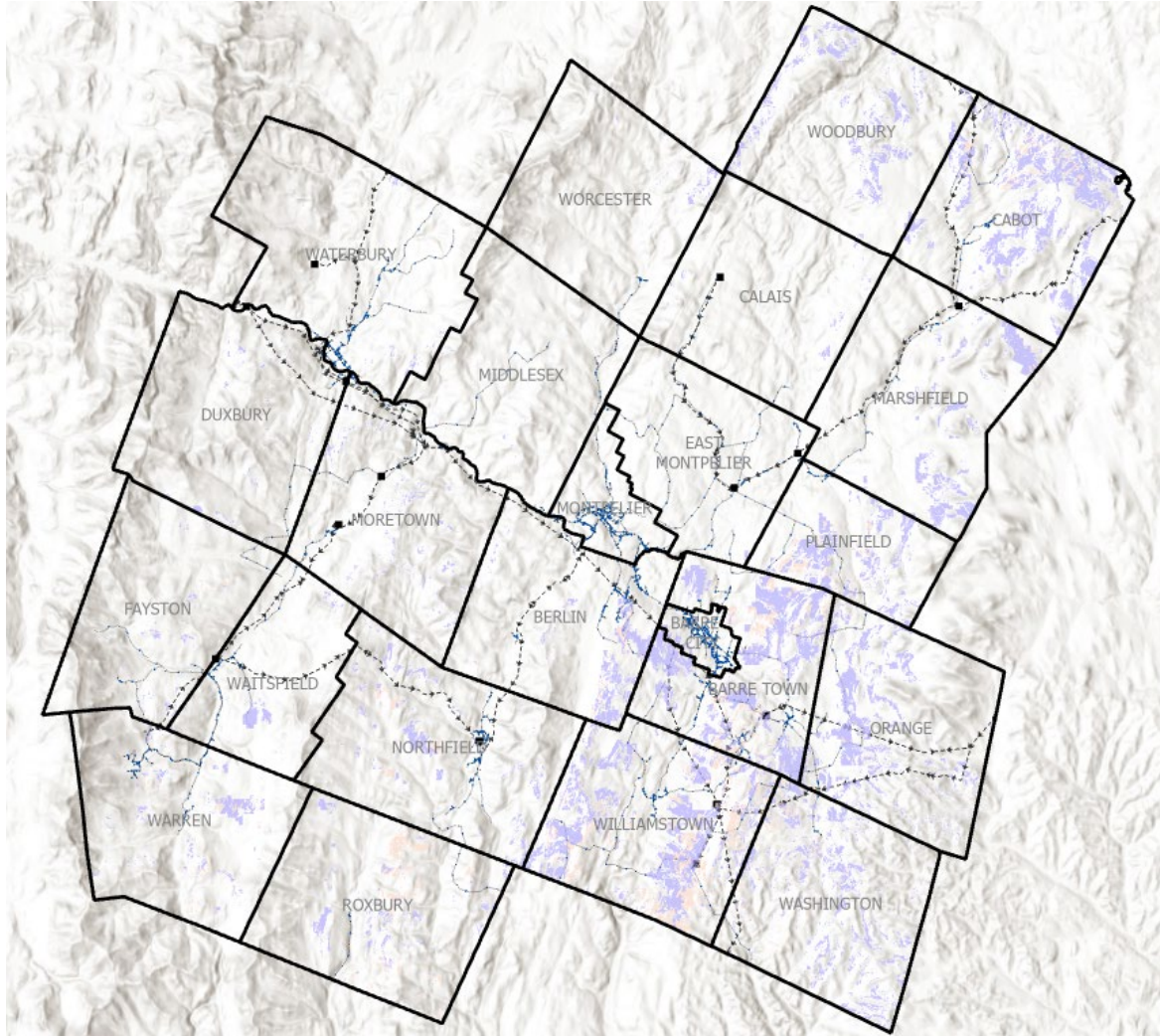
Prime Solar

The following map shows areas designated as prime solar in green. Areas defined as prime solar have no state known constraints, state possible constraints, nor RPC constraints (see map below showing just green)



Wind POTENTIAL RESOURCE AREAS:

This map identifies wind resource potential areas. Based on technical requirements and topography, prime wind, represented in pink, removes all state known and possible constraints as well as RPC constraints. Base wind, represented in purple, has no state known constraints nor RPC constraints but has one or more possible state constraints.



Potential Vs Targets

Using these very basic layers, we can see we have many times over the land resources we would need to meet our incremental renewable energy generation target.

Region-wide	Prime Solar (Acres)	Base Solar (Acres)	Prime Wind (Acres)	Base Wind (Acres)
Resource Potential Areas (Acres)	10,503	49,744	34,705	116,892
Possible (MW)	1500		867	
Targets (MW)	31*		16.5*	
Targets (Acres)	Approx 217**		Approx 165-660**	

*The targets will shift here based on the distribution across different technology types above.

**The Public Service Department's constants for acres/MW for the technology types were used for consistency. These constants significantly over estimate the acres needed and recommendations to amend these using Vermont specific data have been made and well-received. For ground mount this typically includes the array footprints plus the temporary staging area, buffer for shade management, etc.

While this analysis seems to indicate that there is ample space to reach our targets, in practice there are issues related to fragmentation and proximity to users that practically restricts our resources. Staff has identified important ways we could make these maps more useful for siting renewable energy generation. Namely, locate investment in proximity to demand and to existing infrastructure. **Staff recommends we consider, for projects of a certain scale and above (e.g.,+500kW), limiting the potential resource areas to within a mile of intentional growth areas (designation programs), 3-phase power, and transmission lines before adding further overall constraints.**

Approaching our resources through this filter would link scale and demand in a manner that the unfiltered maps neglect. The above recommendation is intended to provide a framework for identifying where this scale of projects could go preemptively so they are right-sized and appropriate for our communities, and we draw down some of that investment into our energy infrastructure where it is needed and supported. Only 23 projects out of the region's 2463 and counting renewable energy generation projects are 500kW and more, yet these 23 projects contribute 1/3 of our region's total nameplate generation. Staff anticipates that as the state continues to electrify and move towards 25% of demand produced by in-state renewable energy generation, it is important to consider and direct where these larger-scale projects may be located and how they fit into local and regional visioning of our communities