

Introduction

Energy change is coming to Vermont. The state is 43rd in per capita energy use but 13th in energy spending. Vermonters are good at conserving energy, but we pay more for it because the fossil fuels we use do not come from here. This cost is an important reason why Vermont's Comprehensive Energy Plan has a goal of getting 90% of our energy in 2050 from clean, renewable and, to a large degree, local sources.

This plan explains how Wallingford can play an active role in these changes. It seeks to let regional and statewide energy planners know that Wallingford takes these changes seriously and that residents are prepared to use energy effectively.

When the plan is accepted, the Rutland Regional Planning Commission (RRPC) will give Wallingford a Certificate of Energy Compliance. This certificate means that when the Public Utility Commission (PUC) rules on a proposed energy project, PUC will be required to give "substantial deference" to our preferences about where renewable energy projects can and cannot be built.

People concerned about the effect of renewable development on Wallingford's landscape, agriculture and historic villages will be pleased to find that meeting the state's energy goals will not be difficult. Less than one percent of Wallingford's land will need to be developed for energy production.

Every plan is a work in progress. We will revise the plan from time to time to respond to market forces new technology, and changes in public policy and opinion.

This plan will only be effective if it wins the assent and active involvement of the people of Wallingford. As you evaluate it, keep in mind that its purpose is to:

- give Wallingford a voice when the Public Utilities Commission rules on new energy projects in our town;
- protect historic, scenic, agricultural and recreational assets;
- assure that the benefits of a changed energy system are affordable and widely distributed.

These benefits include:

- predictable energy costs;
- improved transportation systems;
- more comfortable buildings;
- jobs and opportunities for local businesses;
- a new industry that broadens Wallingford's tax base;
- and local return on local energy investments.

The overall goal of this plan is to preserve a vibrant and sustainable Wallingford community.

— The Wallingford Energy Committee

Table of Contents

Introduction.....	1	Wind Turbines.....	8
Table of Contents.....	2	Hydroelectricity.....	8
Section 1: Why Wallingford Needs an Enhanced Energy Plan	3	Biomass.....	8
Section 2: Wallingford's Energy Progress to Date.....	3	Rooftop Residential Solar	8
Local Generation	3	Section 5: Land Use	9
Energy Efficiency.....	3	Preferred Sites:.....	9
Transportation assets:.....	4	Examples of Commercial Scale Preferred Sites	10
Section 3: Future Energy Use in Wallingford	4	Preferred Site Mapping:	11
Transportation Energy Conservation	4	Additional regional constraints. 11	
Electrifying the Fleet	5	Setbacks.....	12
Developing Long Distance Transportation	6	Section 6: Action Plan Outlines	12
Heating and Cooling	6	The Near Term (2022-2023)	12
Weatherization	6	Plan Approval	12
Heat Pumps	6	The Mid Term (2024–2030)	13
Wood and Pellets.....	6	Consider Hiring a Paid Energy Coordinator.	13
Liquid Biofuels	7	Mid-Term Action Items.....	14
Efficient Use of Electricity	7	Conservation	14
Section 4: Considerations for Making Local Energy	7	Electrification	16
Methods:	7	Land Use Planning.....	16
Comercial Scale Solar.....	7	On to 90 by 50 (2031 to 2050).....	16
		Potential Energy Mapping	17

Section 1: Why Wallingford Needs an Enhanced Energy Plan

Toward the end of its session in 2016, the Vermont legislature sponsored [H199](#) which required the Public Utility Commission to “conform to the municipal and regional plans for the area in which the facility is to be located.” [Act 174](#) gives municipalities the right to constrain decisions by the PUC if the municipality has an approved enhanced energy plan that shows, in detail, how the town can comply with the state energy plan.

Once our plan is approved by the selectboard, the voters of Wallingford and by the Rutland Regional Planning Commission, Wallingford will receive a Certificate of Energy Compliance. This certificate gives the town “substantial deference” before the PUC. The commission must defer to this energy plan when evaluating an energy project unless, in words that were added to [Section 248](#) as a result of Act 174, “there is a clear and convincing demonstration that other factors affecting the general good of the State outweigh [the town’s plan].”

On April 26, 2018, the Vermont Council of Rural Development (VCRD) convened a Community Visit Day in Wallingford. Over 100 residents attended a series of forums where VCRD staff helped people identify Wallingford’s assets and Wallingford’s challenges. Here is what we learned about each other.

- We value Wallingford’s rural character and the historic cores of our three villages.
- We value our recreational assets including Elfin Lake, the Wallingford Lodge, Stone Meadow Park, the recreation fields, the Green Mountain National Forest and its hiking and snowmobile trails (which include the Appalachian and Long Trails), Otter Creek and Wallingford Pond.
- We also admire the beauty of the Otter Creek Valley and the Green and Taconic mountainsides.

Section 2: Wallingford’s Energy Progress to Date

Local Generation

Current local energy generation assets in Wallingford include a photovoltaic array on the roof of the school, 46 residential solar electricity projects, a solar PV array across from Wallingford Crushed Stone’s quarry near the southern border of the town, and [an another array](#) on a former quarry off Creek Road. There is also a small residential wind turbine west of Route 7 near the north end of Hartsboro Road. There is no hydroelectric or biomass generation.

Taken together, these generation projects make more than 3,800 MWh/yr of electricity. This is in excess of Wallingford’s target for 2025 and is more than 25% of the town’s target production for 2050.

Energy Efficiency

Efficiency Vermont reports that there were 89 residential weatherization projects in Wallingford between 2014 and 2016. The Wallingford Energy Committee was instrumental in proposing and promoting a 2014 Wallingford Elementary School bond

which upgraded the school's ventilation system, made numerous improvements in the building's shell, and funded a solar array on the school roof. The Committee subsequently obtained a grant from Efficiency Vermont to install an energy dashboard to monitor electrical usage in the school. The committee also did energy audits on all of the municipal buildings, oversaw improvements in lighting and insulation for the town garage and is consulting with town officials on ways to improve the envelope of the town hall. The streets in Wallingford village have been lit with LEDs since 2011.

Transportation assets:

- Routes 7 and 140 are well maintained in all seasons.
- Two of the branches of Vermont's rail system run through Wallingford. The Green Mountain Railroad crosses the north east corner of the town on its way from Rutland to Bellows Falls and a second line links to Hoosick.
- The most successful form of mass transit in Wallingford is the school bus. The Town of Wallingford should discourage the use of private vehicles for school transportation and explore ways of revising bus routes to encourage walking.
- Marble Transit's The Bus service connects Wallingford to Manchester and to the Regional Transit Center in Rutland where passengers can connect to local and intercity bus network.

Section 3: Future Energy Use in Wallingford

The Rutland Regional Planning Commission (RRPC) collected data from a variety of sources and collaborated with the Vermont Energy Investment Corporation (VEIC) to create a regional energy model to identify targets for energy conservation and alternative energy generation. RRPC projects cutting the town's energy use essentially in half. VEIC also modeled the effects of conservation or "avoidance" that is, energy that does not need to be used because waste has been reduced without reducing the benefits of energy. Their model shows the effects of fuel switching, a shift away from gasoline, diesel, fuel oil and propane to wood, biomass and a portfolio of mostly local alternative resources. It also shows that electricity will play a larger relative role in the energy economy of the future.

VEIC's analysis was done regionally and does not completely track what happens on the town level. The broad strokes are the same, but the 27 towns in the Rutland region vary significantly.

Transportation Energy Conservation

Three frequently promoted conservation tactics include:

- The mass transit model (traditional public transportation)- this tactic would not suit the geography or population in Wallingford.
- Carpooling: Wallingford is not well suited to carpooling due to geography and lack of mass transit to connect to.

- Compact development: Topography mandates compact development in Wallingford. Townspeople favor additional retail development in Wallingford village. The Town of Wallingford should continue to revise zoning policies to put less reliance on zoning tools such as setbacks and minimum lot size which promote a suburban style of land use and focus on multi-family and compact housing within the villages.

Efforts should be made to find ways to reduce inefficient trips to Rutland or Ludlow. Examples include:

- Grocery delivery. Wallingford is too rural to make it feasible for stores to deliver groceries directly to customers' homes, but establishing a pickup location in town could meet many of our needs.
- Roundabouts. Modern roundabouts save fuel by reducing the need for cars and trucks to come to a full stop at intersections, eliminating left turns and the need for vehicles to cross in front of each other. Well-designed roundabouts also make it easier for pedestrians and bicycles to cross intersections.
 - The Town of Wallingford should encourage the VAOT to study the feasibility of converting the intersection of Routes 7 and 140 to a mini roundabout. An oval roundabout might also be a remedy for traffic congestion near Cumberland Farms.
- Bicycles and Walking. We endorse proposals in the Town Plan to develop "complete streets" in Wallingford.
- Telecommuting. As electronic meeting software and hardware become more capable and easier to use, the town should explore ways to conduct its business without requiring participants to drive to Town Hall.
- The Town of Wallingford should work with other towns and regulatory bodies to urge Marble Valley Regional Transit to [develop an app](#) which would track the movement of their busses so that riders would know when a bus is likely to arrive. We should also urge Marble Valley to develop a micro transit system, an IT-enabled van network with flexible routes and schedules to accommodate passenger requests.
- The Town of Wallingford should encourage the use of ride share apps and other methods of sharing vehicles to encourage more trips with more than one person per vehicle.

Electrifying the Fleet

VEIC projects that energy consumption in the transportation sector will, in fact, increase by a small amount. Recent developments have shown that it should be possible to wean heavy duty transportation away from fuel-burning engines. Current EVs have a range of 300 or more miles and a growing network of charging stations in Vermont. The Town of Wallingford should replace municipal vehicles such as school buses, snow plows and fire engines with electric versions. The lifecycle cost of ownership for electric

versions is close to that of conventional busses because of the lower cost of fuel and maintenance.

The Town of Wallingford should pursue funding to install EV charging stations within the town centers. There are several grants and other opportunities as companies look to expand their charging network.

Developing Long Distance Transportation

The Town of Wallingford should encourage the use of sustainable long-distance transportation by improving access to the following options:

- Cape Air flying out of RUT is the first airline customer for the Eviation Alice, a battery powered electric airplane. Cape Air plans to replace its fleet with the Alice starting in 2021 or 2022.
- [Amtrak](#) offers one train a day in each direction between Rutland and New York City. There have been proposals to reestablish passenger service on the western corridor rail line that runs through Wallingford. The Town of Wallingford should support efforts to upgrade the rail system to accommodate light commuter and passenger rail.
- [Vermont Translines](#) -The Town of Wallingford should endorse the Bennington County Regional Commission's call for Vermont Translines to be co-branded and co-reserved with Amtrak.

Heating and Cooling

After transportation, heating and cooling are the greatest user of energy in Wallingford. Avoidance or conservation is the key to meeting the state targets.

Weatherization:

- The Town of Wallingford should encourage weatherization by requiring compliance with Vermont's residential and nonresidential building codes for new construction and substantial renovation.
- The Town of Wallingford should work with its legislators to revisit [Act 89 of the 2013 legislature](#) to make an efficiency label on buildings mandatory.

Heat Pumps:

- A cold climate heat pump moves heat from outside into the home. While air sourced heat pumps do become less effective as the temperature drops below -10 or -15° F ground sourced heat pumps do not.
- The Town of Wallingford should encourage their installation through incentives and should transition town owned buildings to heat pumps with back up systems.

Wood and Pellets.

- About a quarter of Wallingford's buildings are heated either completely or mostly by cord wood or wood pellets. They are local and, when responsibly harvested, sustainable.

- The Town of Wallingford should create friendly business environments for the sales and service of heat pumps, wood stoves, pellet stoves, biomass furnaces, and biomass fuels within the town boundaries.

Liquid Biofuels

- Liquid biofuels can offer similar energy yields and can often be made from local resources.
- The Town of Wallingford should offer incentives to businesses exploring the development of locally produced liquid biofuels and invest in their use where appropriate.

Efficient Use of Electricity

- The Town of Wallingford should invest in upgraded electrical technology in all municipal buildings, to include (but not limited to) timers or motion sensors on lights, upgraded bulbs, and upgraded heating and cooling to eliminate the need for additional personal fans or heaters.
- The Town of Wallingford should work closely with the Water Treatment Plant to reduce their energy use.

Section 4: Considerations for Making Local Energy

In order to get substantial deference before the Public Utilities Commission, Wallingford has to show how we will achieve the state targets for energy efficiency. Luckily, Wallingford and the other cities and towns in Rutland County have a local energy generation potential that is far greater than what will be needed to meet the 90 by 50 goal.

- Wallingford's energy generation potential is in excess of five million megawatt hours per year (5,000 GWh/yr).
- Wallingford's portion of the generation needed to fulfill the state's comprehensive energy plan is less than 15 GWh/yr or 0.3% of the town's potential.
- If we were to exclude the production potential of utility scale wind, we are still left with a potential from solar electricity of 450 GWh/yr, about 30 times more than we need to generate to meet the 90 by 50 target.

Methods:

Commercial Scale Solar:

Photovoltaic systems are the preferred system. Photovoltaic generation has two important drawbacks. It has a large land use requirement of 5 to 10 acres of per megawatt of nameplate power. Storing electricity is a second challenge. The US Department of Energy has filed a notice of intent to [fund research on small scale pumped storage projects](#). We are optimistic this storage technology will improve.

Wind Turbines:

In mountainous regions, turbines need to be at or near the summit of a mountain. In Wallingford there are two suitable places: White Rocks and Bear Mountain. While RRPC has recommended focusing on smaller residential wind projects, the [Bennington County Regional Energy Plan](#) concluded that “the only realistic way [to develop significant wind resources] will be through some level of concentrated commercial-scale development.”

- The Town of Wallingford’s topography is not well suited to commercial scale wind production. The town should focus on photovoltaic generation.
- Small scale, community size projects should be considered if appropriately sited as technology improves.

Hydroelectricity

The state currently has 78 hydropower dams. The state has a [Small Hydropower Assistance Program](#) to help get approval for projects with limited resource impacts. The Town of Wallingford should invest in or support appropriate local Hydropower installations that generate local electricity.

Biomass

The Town of Wallingford should explore a combined heat and power facility at the school which would use the excess heat from a pellet-fired generator to heat both the school and Town Hall.

Rooftop Residential Solar

Generating the entire target with residential solar would require 2,500 to 3,500 4 MWh/yr arrays. There are only 1,000 or so houses in Wallingford. We could meet about 10% of the target with rooftop solar.

- It should be encouraged along with other installations.
- The Wallingford Crushed Stone and Wallingford Solar LLC solar PV projects generate about 25% of Wallingford’s 2050 goal. Meeting the remaining 10 – 11 GWh/yr with solar arrays would require 60 – 75 acres of developed solar at 150 MWh per year per acre.
 - This is less than 9% of the land in Wallingford that RRPC designates as “prime” solar, that is unshaded land with no known environmental constraints located less than one mile from an existing three phase electrical line.
 - It is less than 2% of the land RRPC designates as secondary solar.
 - Wallingford would need to designate more than 100 acres as suitable for solar development to account for landowner, neighborhood and developer preferences.

The 90 by 2050 target will be met with some combination of these modalities and with energy production technologies which are not yet apparent. The scenarios outlined in this document are not meant as practical plans but rather to provide a sense of scale and a basis for discussion about the impact of local generation.

Section 5: Land Use

The legislative compromise that became Act 174 of 2016 integrates energy planning with land use planning. This section addresses the land use consequences of these goals.

- Wallingford is currently generating nearly 4 GWh a year of mostly solar electricity.
- In the early 2030's, we will be tasked with additional generation. The 2035 shortfall is about 1 GWh/yr which will require five or six acres of additional solar generation.
- By 2050 the town will need to develop 40 to 50 additional acres of solar generation bringing the built total to 60 to 70 acres.
- The regional plan excludes utility scale wind in Rutland County.
- As we have seen, residential scale wind and solar are undoubtedly useful, but these technologies cannot generate the electricity the town and region will need, particularly once transportation and space heating are largely electrified.
- Photovoltaic arrays can do the job, particularly when complemented by battery storage. What remains is finding a way to level the summer versus winter variability of solar. Offshore wind and Canadian hydro may be helpful in bridging that gap.

Preferred Sites:

The Act 174 enhanced energy plan process asks municipalities to specify preferred and prohibited areas for energy development. Wallingford's preferred areas steer energy development to places that do not affect our valued assets. Our prohibited areas prevent energy development that would disrupt these assets.

- The Town of Wallingford will not unreasonably oppose energy development.
- We recognize its benefits and will assist property owners and developers in the responsible realization of energy development proposals.

These preferred sites are in agreement with regional standards for energy facility siting and development. They include:

- Land zoned as industrial either now or in the future; or land, regardless of its zoning, that is used for essentially industrial purposes such as the machinery and storage yards of large farms.
- Impermeable surfaces, that is, land that has been developed in ways that prevent the soil from absorbing water. This includes land covered in pavement such as parking lots. It also includes large structures with flat roofs

- such as the elementary school, the dollar store, the True Temper factory and the two buildings at the crossroads of School and Main streets.
- Former quarries or other previously developed land that is not currently in use or currently active sites that may be retired by 2050.
- Electrical infrastructure including substations and the rights of way for distribution or transmission.
- Land an owner wants to develop for generation, particularly large cleared parcels that are not visible from major roads.

Examples of Commercial Scale Preferred Sites

This is not an exhaustive list. *In addition, energy development will, of course, require landowner and neighborhood consent.*

- A 10 – 15 acre former quarry in South Wallingford between the railroad and the northern portion of Homer Stone Road.
- A former race track between Otter Creek and Hartsboro Road.
- The former creamery in East Wallingford.
- Hay fields or open land without residential buildings and not disrupting scenic vistas from frequently traveled roadways.

To be clear, the committee did not approach landowners to see whether they would welcome solar development.

The Town of Wallingford will oppose nonresidential scale energy development on:

- Land within the village centers of Wallingford, East Wallingford and South Wallingford plus a quarter mile buffer except for preferred sites as defined above. Small scale residential energy development can occur in these districts but will be prohibited on the primary facades or roof faces of historic buildings. Energy development which obstructs public viewing of historic buildings or sites is also prohibited.
- The Town Plan approved in 2018 also gives protected status to the Otter Creek Multiple Resources Area (Route 7 between Wallingford and South Wallingford) and the gateways to the town and to each of the three historic villages.
- Public recreational sites. Energy development shall be prohibited at the public beach and walking trails on Elfin Lake, on the ball fields, Stone Meadow, the Wallingford Lodge, hiking trails, bike trails, Wallingford Pond and others. Energy development could be considered on the southern portion of the ballfields.
- Scenic vistas visible from major rural thoroughfares. This includes routes 103, 140, 155 and the two-lane portions of route 7.
- Mountainsides and ridgelines.
- Other land which may be designated in the future.

Preferred Site Mapping:

- The constraint maps demonstrate just how constrained Wallingford's landscape is, particularly when compared to nearby towns. The only large areas of relatively unconstrained land are the high plateau near East Wallingford and the outskirts of the villages of Wallingford and South Wallingford.
- Some of our preferred locations are easy to map. There is not very much industrial land in Wallingford and it is in plain sight. The same is true of flat roofed buildings and the former creamery in East Wallingford.
- Finding former quarries and the industrial areas of larger farms means looking for signs of current or former development. Hay fields also have a distinctive appearance.
- We were able to find nearly 170 acres on almost fifty parcels that appear to be suitable for solar development and do not impinge on constrained land. This is almost three times what will be needed to generate the town's 2050 target of about 14.4 GWh/year. See page 17-20.

Additional regional constraints.

The advantage of these definitions is that they are easily understood and reflect the preferences of the Wallingford community. They do not, however, by themselves meet criteria necessary for the approval of this plan.

- Siting requirements need to be described unambiguously.
- They must not restrict energy development in ways more stringent than what applies to other kinds of development.
- The preferred and prohibited lands must reflect the environmental and public safety constraints that are published in [VCGI's Act 174 Map Server](#).

Act 174 requires that regions and municipalities map enough land to meet their generation goals. Mapping energy development has two goals:

- Finding land that is suitable for energy generation
- Avoiding land with "known" and "possible" public safety and environmental constraints.

Per allowances in Act 174 we chose to develop our own maps. We found it difficult to correlate generation potential on the maps provided by RRPC to specific properties and specific constraints.

- Our alternative mapping concept references detailed satellite images from Google Earth, the parcel maps for Wallingford and exactly the same database of constraints that VCGI used in creating its maps. This allows us to evaluate actual parcels and the relationship of these parcels to housing, forests and scenic corridors.

- There is a remarkably consistent correlation between Wallingford’s natural language description of where it would not be appropriate to site solar generation and the mapped constraints of the VCGI database.
- The legal definition of our municipal prohibited sites is that Wallingford will insist that proposed energy developments must not impinge on public safety and environmental constraints unless the Vermont Agency of Natural Resources determines that the constraint does not, in fact, exist on the property. The natural language statement of Wallingford’s preference provides a context for this legal definition.
- The Public Utility Commission needs to consider both our maps and the state maps, along with site visits.

Setbacks.

Setback regulations preserve the suburban character of residential development, they are not so useful in rural settings. Farmers can extend pastures and crop fields to the fence line. If solar is a 21st century crop, similar land use with appropriate site planning and aesthetic considerations and should be allowed.

Section 6: Action Plan Outlines

This section is practical. It describes specific actions to create a new energy economy. These actions address four different topics:

- Avoidance or conservation. These include simple things like turning off lights (or more widespread use of technologies which turn off lights when we forget). Avoidance also includes complex actions such as designing LEED buildings.
- Electrification of transportation, space heating and of other tasks such as farming, construction, yard work, water heating and clothes drying.
- Land use planning and local energy development.
- Managing change: coordinating the activities that make change happen.

Because of its focus on specific action, this section of the energy plan is likely to need revision and course correction on an annual or biennial basis. These action items are recommendations. No final decisions on policy or action have been made.

The Near Term (2022-2023)

Plan Approval

The initial duty of the Wallingford Energy Committee is to work with the Wallingford Planning Commission, the region, the Selectboard and the people of Wallingford to get this plan approved so that the town receives a Certificate of Energy Compliance.

This will involve review and revision by the energy committee followed by preliminary review by RRPC to verify that the plan does not contain items that would preclude its approval.

The committee will then work with the Wallingford Planning Commission to follow this up with community forums to publicize the plan and get community feedback. Based on what we learn at the public hearings we submit a revision of the plan for review and approval by the Selectboard and, following Selectboard approval, submit the plan for formal review by RRPC. Finally, the plan will be put to a public vote.

Subsequent steps include:

- Enforce building energy codes.
- Promote compliance with the Vermont Residential Building Energy Code and Vermont Commercial Building Energy Standards.
- Compliance is, however based on self-certification. Because there has been little enforcement, compliance has been spotty.
- Projects in Wallingford require a zoning permit and Wallingford should make this a three-step process:
 - Issue a permit to start construction.
 - Issue a certificate of occupancy when the project is complete.
 - An energy compliance certificate is filed in the land records.
- Work with Wallingford's communications task force to establish and maintain a multimodal communications system to keep Wallingford residents involved in the energy transformation process.
- Begin a dialog with our legislators to advocate for a sustained, statewide energy conservation marketing and educational program.
- Partner with the Planning Commission to advance the energy goals in the town plan.

The Mid Term (2024–2030)

With the energy plan completed and approved, our primary goal should be to maintain and develop the structures created in the near term.

Consider Hiring a Paid Energy Coordinator.

This plan will be more successful if lead by a paid town employee. Energy coordinators are authorized by 24 V.S.A. § 1131. Initial funding sources for this position includes energy savings by The Town of Wallingford, State funding, and attracting and securing appropriate commercial energy projects that build the overall tax base. Continued funding for this position is easily secured by:

- In addition to the Uniform Capacity Tax that the state levies on larger solar plants, municipalities can also tax solar plants with a capacity greater than 50 kW. The Town Assessor's Office reports that the Wallingford Solar LLC project is paying \$130,000 a year to the town. The Town of Wallingford should direct those monies as needed to fund this position.

- The 15GWh/year of generating capacity we are expected to install by 2050 is a new industry for Wallingford. We propose that a substantial portions of these new revenues be devoted such things as funding a full time energy coordinator, creating a program to assist low income residents with weatherization, adding electrical vehicles to the municipal fleet, and subsidizing charging stations for electric vehicles.
- The process of working with landowners (and their neighbors) to identify sites for energy development will need elaboration and securing profitable and appropriate commercial projects for that land.

Above all, the entire community needs to be involved: municipal agencies, boards and administrators; extra-municipal bodies such as the task forces that came out of the VCRD Community Visit process; businesses, particularly those that are locally owned; professionals and educators; Rotary and the two Masonic temples; churches; environmental and conservation organizations; political party organizations and clubs; in short, any organization active in Wallingford. As electric vehicles become more widely sold and used, the town should also partner with dealers and other EV advocates.

This plan will need to be updated after the release by the state of revised Comprehensive Energy Plans in 2022 and 2028.

Mid-Term Action Items

Conservation

- Weatherization. Coordinate with and promote Efficiency Vermont programs and the state weatherization assistance program for low-income households. Put links to these programs on the town website.
- Incorporate weatherization and energy efficiency projects into the town capital budget.
- Co-sponsor weatherization workshops for homes and businesses with Efficiency Vermont.
- Conduct a second round of building energy audits for municipal structures.
- Encourage residents to hire Efficiency Excellence Network (EEN) contractors when completing energy efficiency projects by including links to the EEN on municipal websites.
- Building Codes. Promote the use of Vermont's residential building energy label and score.
- Provide energy code and energy efficiency program information when residents apply for municipal land use permits that include alterations or construction of a building.
- Financing for Building Upgrades. Encourage utilities to offer customers the option of making alternative energy or weatherization project loan payments on their utility bills.

- Implement PACE financing of residential energy projects.
- Work with the town government and lobby the state government to make investments in building efficiency or alternative energy production not count as increases in assessed value.
- Complete Streets. Advocate for complete streets, that is, streets designed not just for motor vehicles but also for pedestrians, bicyclists and other lower speed users.
 - Mitigate impediments to walking and biking. Consider rerouting pedestrian and walking traffic. For example, a light duty bridge over Otter Creek from North End Drive could lead to a path alongside farm fields and then to Creek Road.
 - Wallingford should also work with Clarendon to explore ways to put in a bike path from Clarendon Road (Route 7B) over the Mill River to Middle Road thus creating a safe bicycle route to and from Rutland. The town should also work with Clarendon to pave the gravel portion of Creek Road and establish a bike lane all the way to Rutland. Other candidates for bike routes are Waldo Lane and Hartsboro Road.
 - Encourage the adoption of pedal assist electric bikes which automatically assist with hills and allow riders to go farther with the same effort.
 - Explore whether it would be possible to increase vehicle efficiency by converting the intersection of Routes 140 and 7 from traffic light control to a mini-roundabout. Roundabouts might also be useful at the intersections of Railroad Street with Depot Street and with Florence Avenue, and also at the intersections near Cumberland Farms.
 - One way to make these complete street and traffic calming amenities fit on Main Street might be to make it one way northbound with southbound traffic diverted to Railroad Street via Maple Street and Florence Avenue. This rerouting of Route 7 would effectively halve the traffic that currently uses Main Street. It also could stimulate development of Wallingford's town center by creating a second main street which could be a site for additional businesses and multifamily dwellings. These changes would require the town to take control of these portions of the Route 7 corridor.
- Encourage telecommuting for town employees and members of town committees and boards. Telecommuting could also be a way to attract new residents thus stimulating demand for new housing and new businesses.

Electrification

- Increase the use of alternative sources for heating in municipal buildings by working to replace older fossil-fired heating systems with high-efficiency, cold-climate heat pumps, geothermal heat, or advanced wood heating systems including wood-fired district heat or wood fired cogeneration. This should include life-cycle cost-benefit analysis studies that consider the cost of replacement relative to energy savings and environmental benefits.
- Promote the Drive Electric Vermont webpage.
- Contact local vehicle dealers to encourage them to offer EV and fuel-efficient vehicles by both sale and lease.
- Encourage regional media and chambers of commerce to provide positive visibility for supplying EVs.
- Replace municipal vehicles of all types with electrical versions.
- Provide charging stations at gas stations and at publicly owned locations such as the school parking lot. Explore working with private companies to develop stations at public facilities.
- Plan, advocate for, and consider requiring the installation of electric vehicle charging infrastructure as part of new or redevelopment, especially for developments subject to Act 250.
- Encourage residents to replace devices using internal combustion engines with battery powered versions. Put on a yard work fair demonstrating electric mowers, trimmers and chain saws.

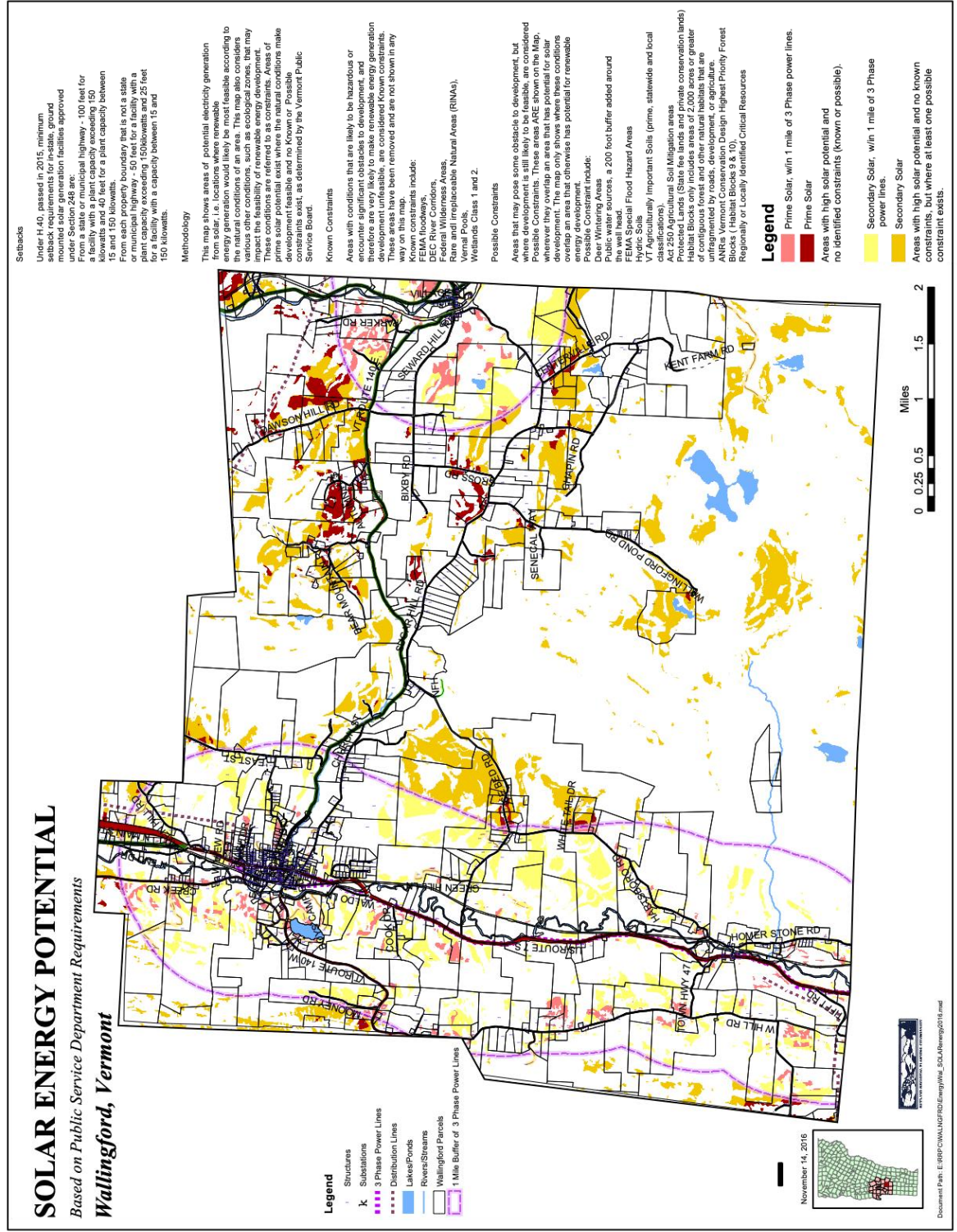
Land Use Planning

- Support for solar systems sited on the built environment by participating in Section 248 proceedings when appropriate projects are being proposed for preferred areas.
- Support updates to municipal building standards and educate residents about state energy codes that promote incorporation of solar photovoltaics for new construction and major renovations.

On to 90 by 50 (2031 to 2050)

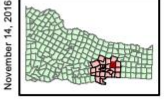
It is difficult to predict the arc of adoption of an energy economy based on efficiency and the use of local energy. Market forces may accelerate the adoption of alternative generation so that the 90% goal is reached well before 2050. On the other hand, change may happen in fits and starts. Given this level of uncertainty, it is hard to specify exactly what steps will need to be taken by which actors. It is assumed that this plan will be revisited frequently and as those various forces become obvious.

Potential Energy Mapping



Wallingford, Vermont

 Rare and Irreplaceable Natural Areas (RINAs)



Wallingford, Vermont



Prime Woody Biomass, with 1 mile of
3 Phase power lines

Prime Woody Biomass

Areas with high woody biomass potential and
no identified constraints (known or possible).

Secondary Woody Biomass, with 1 mile of
3 Phase power lines.

Secondary Woody Biomass

Areas with high woody biomass potential and
no known constraints, but where at least one
possible constraint exists.

WIND ENERGY POTENTIAL

Based on Public Service Department Requirements

Wallingford, Vermont

Methodology

This map shows areas of potential electricity generation from wind, i.e. locations where renewable energy generation would likely be most feasible according to the natural conditions of an area. This map also considers known constraints that may impact the feasibility of renewable energy development. These conditions are referred to as constraints. Areas of prime wind potential exist where the natural conditions make development feasible and no known or Possible constraints exist, as determined by the Vermont Public Service Board.

Known Constraints

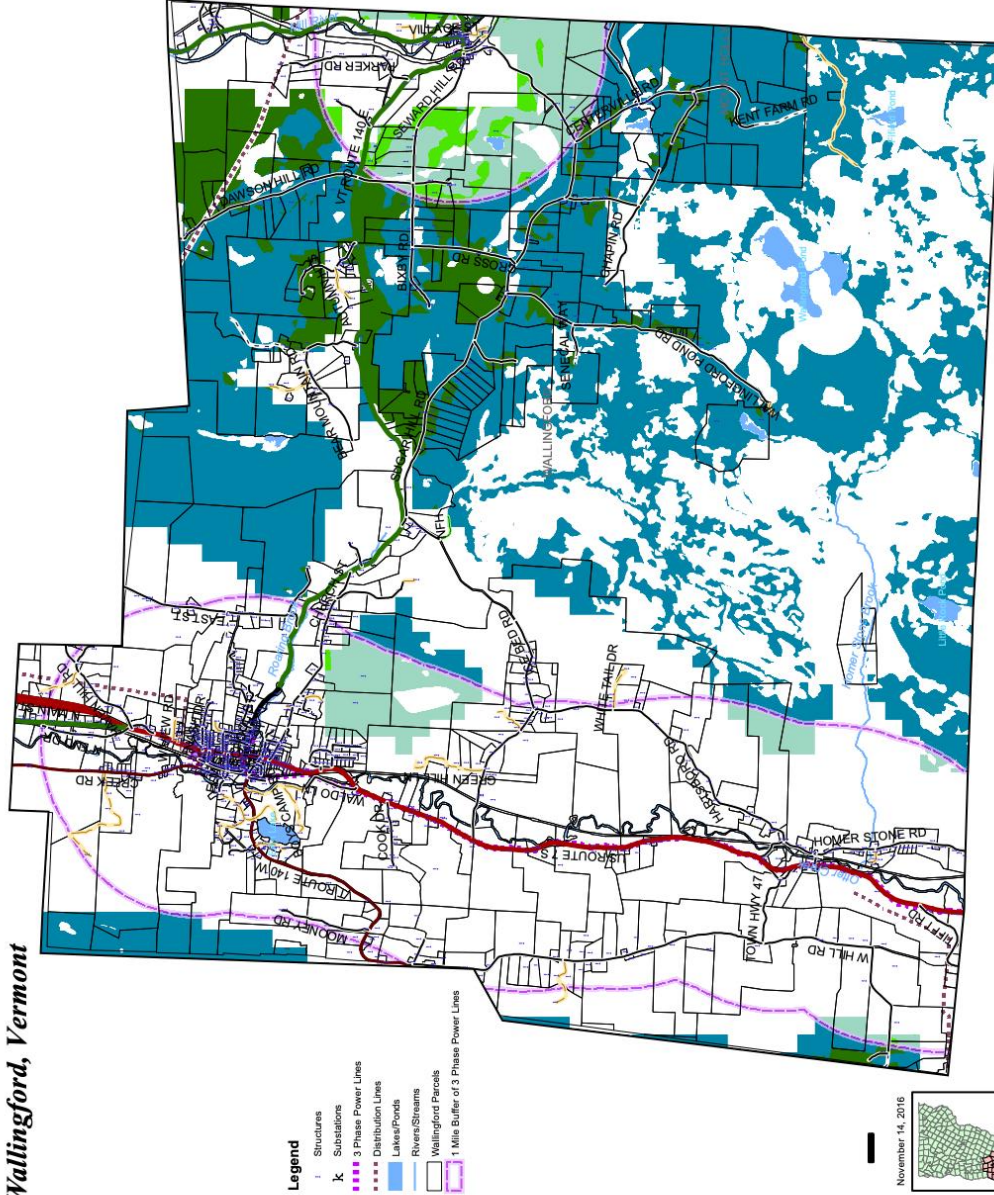
Areas with conditions that are likely to be hazardous or encounter significant obstacles to development, and therefore are very likely to make renewable energy generation development unfeasible, are considered Known constraints. These areas have been removed and are not shown in any of the maps on this map. Known constraints include:
FEMA floodways,
DEC River Corridors,
Federal Wilderness Areas,
State-designated Replaceable Natural Areas (RNAs),
Vernal Pools,
Wetlands Class 1 and 2.

Possible Constraints

Areas that may pose some obstacle to development, but where development is still likely to be feasible, are considered Possible Constraints. These areas ARE shown on the Map, wherever they overlap an area that has potential for solar development. The map only shows where these conditions exist, and not where they otherwise have potential for renewable energy development.
Possible Constraint include:
Deer Wintering Areas
Public water sources, a 200 foot buffer added around
FEMA Flood Hazard Areas
Hydric Soils
VT Agriculturally Important Soils (prime, statewide and local classifications)
Act 250 Agricultural Soil Mitigation areas
Habitat Blocks only includes areas of 2,000 acres or greater of contiguous forest and other natural habitats that are unfragmented by roads, development, or agriculture.
ANRA Vermont Conservation Design Highest Priority Forest Lands (Habitat Blocks only)
Regionally or Locally Identified Critical Resources

Legend

- Prime Wind, within 1 mile of 3 Phase power lines.
- Prime Wind
- Areas with high wind potential and no identified constraints (known or possible).
- Secondary Wind, within 1 mile of 3 Phase power lines.
- Secondary Wind
- Areas with high wind potential and no known constraints, but where at least one possible constraint exists.



November 14, 2016

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