

PUBLIC NOTICE by the Brandon Planning Commission

**Brandon's Planning Commission will hold a Public Hearing
on MONDAY, JULY 15, 2019, at 6:00 pm,
at the Brandon Public Library (4 Franklin Street)**

to discuss and receive Public comments on its proposal to amend the current Energy section (pages 22- 27) of the Town Plan (adopted 2/22/2016) and replace with Enhanced Energy Plan provisions. The purpose for this amendment is to clarify and detail the Town's long term energy policy, and to achieve "substantial deference" consideration in any VT reviews of applications for new alternative energy generation facilities.

Copies of the current Town Plan and the proposed Enhanced Energy Plan to amend and become part of the Town Plan, are available for review at Town Offices (49 Center St.) or the Town website: *townofbrandon.com* .

(posted on 6/14/2019)



CURRENT ENERGY SECTION Brandon Town Plan (adopted 2/22/2016)

ENERGY

24. V.S.A. § 4382 (9) *An energy plan, including an analysis of energy resources, needs, scarcities, costs and problems within the municipality, a statement of policy on the conservation of energy, including programs, such as thermal integrity standards for buildings, to implement that policy, a statement of policy on the development of renewable energy resources, a statement of policy on patterns and densities of land use likely to result in conservation of energy.*

Introduction

Energy costs and the environmental impacts of energy production both within and beyond our region have made energy an important issue and a planning priority. The Rutland Region is a net importer of energy, making awareness of energy sources, supply, and consumption patterns an essential component of thoughtful development. Recent attempts to bring a gas pipeline through Rutland County were abandoned, limiting energy resources to those already available. Why should we mention this as we had nothing to do with it.

Accomplishment

The Town has replaced streetlights with LED's to promote energy and cost savings.

Goals

- To address to the fullest extent possible at the municipal level, the needs of the community, while promoting conservation, as well as patterns and densities of land and energy use to promote a healthy, affordable, and resilient Brandon.
- Become a zero-net-energy municipality by 2020.
- To protect Brandon's nonrenewable historic and scenic resources while contributing to the State's goal of a renewable energy future.

Policies

- Because of the need to increase local resilience and sustainability, the Town's policy is to prefer local distributed generation & net metering supply to imported base-load utility generation in building a modernized energy infrastructure that meets demand.
- The Town will maximize use of available nonprofit, governmental, and private resources and incentives to modernize Brandon's energy infrastructure.
- The Town will weatherize, retrofit buildings, and install energy generation technology, maximizing use of available nonprofit, governmental, and private resources. Especially, make public buildings models of energy efficiency.
- Because Brandon's classic, historic pattern of concentrated development surrounded by farm and forest not only protects our rural history, but also enhances our economy and

- b. Large projects shall be located in areas below the horizon from public and private vantage points and adhere, at a minimum, to the setback requirements set forth in Act 56 and all other applicable law.
 - c. Where not screened by topography or buildings, solar projects shall include screening consisting of native plantings that will reach a height sufficient to hide them from view within five years of installation. Existing vegetation shall be maximally utilized for such purposes.
 - d. Gateways. Because Brandon's tourism economy depends on its historic development pattern and the aesthetics derived from that pattern, large projects shall not be sited within the viewshed of drivers on Route 73 or Route 7.
9. Working lands. Recognizing the irreplaceability of Brandon's prime agricultural lands (primary agricultural soils as mapped by the U.S. Natural Resource Conservation Service), solar projects shall be sited to avoid conversion of such lands to solar or wind energy production. Solar projects shall also minimize clear-cutting of mature timberland.
 10. Fish & game; habitat connectivity. Hunting, fishing, and passive wildlife enjoyment are important to Brandon's history, lifestyle, and economy. So as to avoid adverse impacts on wildlife populations and human activities dependent on them, solar projects shall be located outside of critical habitat connectivity areas (see Semi-Regional Habitat Connectivity Map) or if located within critical habitat connectivity areas, shall not involve fencing or other permanent structures that the Vermont Agency of Natural Resources determines would interfere with the movement of wide-ranging mammals and other wildlife through such areas. Solar project developers shall demonstrate avoidance or mitigation of impact on rare, threatened, or endangered species, including amphibians, reptiles, and fish.
 11. Adaptive reuse. Reuse of brownfields, grayfields, and previously disturbed areas (such as quarries, but not including agricultural fields) is preferred, but the preference shall not be applied when other criteria listed in this subsection are not met.
 12. Decommissioning. Solar project developers shall present a satisfactory decommissioning plan, bond, or both.

Analysis

Energy resources

According to the *Rutland Regional Plan*, nearly 40 percent of the energy consumed in Vermont comes from electricity. In Brandon, Green Mountain Power (GMP) services electric customers through its Middlebury district office. The right-of-way for the main transmission line of 46,000 volts runs north-south along US Route 7. Vermont Electric Power Company (VELCO) maintains a larger 115 kVolt line and a 345 kVolt line that runs through the western part of town. The lines provide power to the Burlington area through the Middlebury substation. There are two local distribution substations. One is near Otter Valley Union High School and serves the school and nearby homes while the second is located on Walnut Street and provides over 16,000 volts of

electricity to the rest of Brandon, Forest Dale, Goshen and Leicester. The "North West Reliability Project" 354 kVolt line runs parallel to the older 115 kVolt transmission line.

Sector	Percent of Total (2005)	Percent of Total (2012)
Electricity Production	40	40
Transportation	32	38
Residential	30	29
Commercial	19	18
Industrial	18	15

*Energy Information Administration, State Energy Data. Available:
http://www.eia.doe.gov/emeu/states/state.html?g_state_a=vt&g_state=VERMONT*

Figure 3 Vermont Statewide Trends and Data

GMP's power is purchased mainly through long-term contracts with Hydro-Quebec (45%).¹² This is a stable, reliable, base-load power source. Smaller amounts of electricity are purchased from domestic hydro (47%), nuclear (7%), wood (2%), GMP's Cow Power (methane, 0.1%), and other sources.¹³

Conservation & Distributed Generation

Brandon is unlikely in the near term to achieve zero-net-energy townwide, given the current state of technology and the costs associated with upgrades. Nonetheless, based on a review of the Vermont Energy Atlas, Brandon does have some energy-production resources:

Solar: Brandon's geography lends itself well to small (residential, farm, or business) and community solar installations. It is anticipated that the growth of solar energy's popularity in Vermont will be mirrored in Brandon.

Microhydro: Brandon may have opportunities for small-scale hydropower ("microhydro") installations on the Neshobe River and Otter Creek, both of which have lengthy courses through town.

Bioenergy: Brandon has a thriving, small-scale firewood industry and has potential for switchgrass or similar biomass development. Biomass

Geothermal: Brandon has some, though as-yet unquantified, geothermal potential.

¹² <http://www.greenmountainpower.com/fuel-mix/>

¹³ Vermont Department of Public Service Fuel Price Report for March 2008. Available: <http://publicservice.vermont.gov/pub/fuel-price-report/08march.pdf>

Unlike some of our neighboring towns, Brandon possesses very limited potential for wind generation, and almost no suitable areas for large-scale wind-farm development.

Needs

Residential Heating

Almost a third of Vermont’s total energy demand is for heating purposes and nearly 60 percent of the heating fuel used in the state is No.2 heating oil.¹⁴ In Brandon, over two-thirds of homes are heated with oil. According to the Census, the majority of the housing units use fuel oil as the major heating source; however, that number has decreased from over 73 percent in the year 2000. Propane and wood are also popular choices, with other fuel sources not widely used.

Recent booms in oil and natural gas production - resulted in falling prices in 2014, and prices are expected to remain steady in the short term. Still, heat insecurity remains a real and painful problem for many families, who often live in housing with outdated heating equipment and little or no effective insulation.

Source	Homes (2000)	Percent (2000)	Homes (2013)	Homes (2013)
Fuel oil, kerosene, etc.	1151	73.2	1114	67.5
Bottled, tank, or LP gas	197	12.5	250	15.2
Wood	127	8.1	215	13
Electricity	60	3.8	17	1
Utility gas	18	1.1	8	0.5
Other fuel	7	0.4	37	2.2
Coal or coke	6	0.4	9	0.5
Unknown	6	0.4	0	0
Solar energy	0	0.0	0	0

Sources: U.S. Census 2000; 2009-2013 American Community Survey 5-year estimates

Figure 4 House Heating Fuel: Brandon

Transportation

Transportation is a significant source of energy use in the Rutland Region and Vermont as a whole, due to our rural nature. Assuming Brandon’s energy use can be approximated by state trends, Brandon’s transportation needs make up about one third of total energy consumption (see state data above). Cutting costs for transportation will mean promoting the use of more

¹⁴ <https://www.uvm.edu/pss/vtcrops/?Page=energycrops.html>

efficient and alternative-energy vehicles, reducing trips out of town, encouraging pedestrian-friendly development, and developing public transportation options.

With the growth of public transportation being offered by the Marble Valley Regional Transit District (MVRTD or, "The Bus") in the Rutland region in conjunction with Addison County Transit from Middlebury, citizens are being given an opportunity to reduce energy consumption. As demonstrated by the results of the Community Survey administered by the Planning Commission in 2008, Brandon residents are strongly in favor of these measures: increasing pedestrian infrastructure, encouraging bike paths, and ride-share/park-n-ride programs.

In addition, the data show an alternative to the commute: working from home, which increased from just 2.5 percent in 2000 to 8.2 percent in 2015.

	Number (2000)	Percent (2000)	Number (2015)	Percent (2015)
Car, truck, or van – drove alone	1511	80.8	1374	73.8
Car, truck, or van – carpooled	215	11.5	223	11.9
Worked at home	47	2.5	149	8.2
Walked	90	4.8	111	6.1
Mean travel time to work (minutes)	24.8	(x)	24.1	
Public transportation (including taxicab)	0	0	0	0
Other means	8	0.4	0	0

Source: U.S. Census

Figure 5 Brandon Residents Commuting to Work: workers 16 years and over

Conservation

Conservation measures recommended by EfficiencyVermont and by the *Regional Plan* include the installation of energy-saving compact fluorescent light bulbs and green building practices. In addition to proper insulation and weatherization, building design can help reduce energy costs through south-facing windows to save on heating and off-peak thermal energy storage to save on cooling costs.¹⁵

¹⁵ Rutland Regional Plan, Adopted April 15, 2008.

Action Steps

- The Select Board will establish and empower a Town Energy Committee to assess community values and provide draft revisions to the Energy section of this Plan.
- The Town Manager will report on the feasibility and costs of power generation on municipal buildings.
- The Town will retrofit municipal buildings for energy efficiency to the maximum extent possible by adhering to the highest industry standards.
- The Planning Commission will incorporate best practices associated with Vermont state energy standards for new construction and remodeling projects into the regulatory framework .
- The Town will continue to promote commuter carpooling by maintaining Park-and-Ride areas at Estabrook Field and in the newly acquired municipal lot next to Town Hall.
- The Town will continue to support of public transit service along the US Route 7 corridor through annual appropriations to The Bus.
- The Town will implement working-landscape friendly zoning regulations to maximize the wise use of our biomass resources.
- The Town will work with private landlords to promote weatherization as part of Vermont's "Button Up" campaign.
- Enforce 23 V.S.A. § 1110, which prohibits idling of motor vehicles.
- Establish one or more solar-powered electric-car-charging stations in the Central Business District and Forest Dale through state Electric Charging Station grants.