Appendix A: Municipal Energy Use and Targets

I. RESIDENTIAL AND COMMERCIAL THERMAL (TABLES A & B)

Methodology for Residential Estimates

Vermont's regional planning commissions have been tasked with developing reasonable estimates for local consumption across the transportation, heating, and electric energy sectors. While these estimates use best available data, they should not be considered a unit-by-unit audit of energy use. Rather, they serve as a starting point for better understanding our region's current energy use patterns, the cost drivers, and what we need to do to achieve long-range energy goals. All energy data in our estimates are expressed in *British Thermal Units* (BTUs) and millions of BTUs (MMBTUs) in order to allow for comparison between different energy types.

According to the Department of Public Service, residences in New England use somewhere about 45,000 to 80,000 BTUs of heat energy per square foot annually, averaging statewide at about 110 MMBTUs per residence per year for space and water heating. Space heating is by far the biggest use, and older building stock can require significantly more energy to heat.

Here are the steps NVDA used to develop estimates for the Northeast Kingdom.

1: Determine total square footage of housing by tenure.

NVDA used Census Bureau data from the American Community Survey 5-Year Estimates 2011-2015 (ACS), as well as the American Housing Survey, New England Division (AHS) to determine the total square footage of housing stock for *owner-occupied* and *renter-occupied* units. (On average, renter occupied units tend to be smaller than owner-occupied units.) Total square footage of housing stock was determined using the average number of persons per household, multiplied by the median square footage per person, multiplied by the number of households.

Datum	Avg. # persons per household, owner occupied	X	Median square feet per person	X	Total households, owner-occupied	=	Total square feet
Source	ACS		AHS		ACS		
Example (Caledonia County)	2.54	X	772	X	9,047	=	17,740,081

2: Determine heating source as a percentage of all square footage.

We then applied primary heating fuels as a percentage of all housing units to determine total square footage that the fuel was being used to heat.

House heating fuel is categorized on the ACS questionnaire as follows in the box below:

Utility Gas: This category includes gas piped underground from a central system to serve the neighborhood. The only utility in Vermont that delivers gas in this manner (i.e. natural gas) is Vermont Gas, and its service area is well outside of our region. A small number of ACS respondents indicated that they heated with "utility gas." It is most likely that they confused this source with bottled, tank or LP gas. We therefore made adjustments to account for this error.
Bottled, Tank, or LP Gas- This category includes liquid propane gas stored in bottles or tanks that are refilled or exchanged when empty. This is the second largest source of heat for renter-occupied homes, and third for owner-occupied.
Electricity -This category includes electricity that is generally supplied by means of above or underground electric power lines. Census data does not distinguish between types of electric heat (e.g. resistance vs. heat pumps).
Fuel Oil, Kerosene, etc. -This category includes fuel oil, kerosene, gasoline, alcohol, and other combustible liquids. This category (oil) is the leading source of heat in the region.
Coal or coke -This category includes coal or coke that is usually distributed by truck. Some households in our region use anthracite in stove, furnaces, and boilers.
Wood -This category includes purchased wood, wood cut by household members on their property or elsewhere, driftwood, sawmill or construction scraps, or the like. Wood is the second largest source of heat in the region for owner-occupied homes.
Solar Energy -This category includes heat provided by sunlight that is collected, stored, and actively distributed to most of the rooms.
Other Fuel -This category includes all other fuels not specified elsewhere. This category very likely consists of non-fossil fuel sources, but it is difficult to make further assumptions.

For example:

- Of the 9,047 owner-occupied homes in Caledonia County, 4,623 of those units are primarily heated with fuel oil, accounting for 51.1% of all owner-occupied units.
- 51.1%% of all owner-occupied square footage in Caledonia County is 9,065,148 sq. ft.

3: Account for the age of the housing stock.

The Northeast Kingdom has a significant number of pre-1940 housing units, which, according to the Department of Public Service, are likely to be "leaky" and poorly insulated with heat energy intensities closer to, if not greater than, 80,000 BTUs per square foot.

For example:

- Of the 9,047 owner-occupied units in Caledonia County, 2,730 units were built prior to 1940, accounting for 30.2% of all owner-occupied housing stock.
- Of the 9,065,148 sq. ft. of owner-occupied housing heated with fuel oil, 30.2% of that square footage (2,735,476 sq. ft.) will require 80,000 Btus per square foot. The remainder of the total square footage (6,329,672 sq. ft.) will require 45,000 Btu per square foot.

4: Convert to units of fuel and determine cost.

Finally we converted total BTUs into standard measurements of the respective fuel types using the conversion chart below and determined the total cost using the Vermont Fuel Price Report of November 2016. (Cost per "short ton" of anthracite coal came from Black Rock Coal in Montpelier.) Please note that ACS data does not account for wood pellet use, which is fairly prevalent in this region. If your municipality wishes to account for pellet use, we have provided conversion and cost information in the table below.

Fuel	Standard Unit	BTUs	Cost per unit
Utility gas	Cubic foot	1,025	$1.41
Bottled tank or LP gas (propane)	Gallon	91,333	$2.54
Electricity	Kilowatt hour	3,412	$0.15

Fuel oil, kerosene, etc.	Gallon (oil)	139,000	$2,23
Coal or coke	Short ton	19,590,000	$370.00
Wood	Cord	20,000,000	$227.00
Wood pellets	Ton	16,400,000	$275.00

5: Determine energy use for seasonal units.
While the Northeast Kingdom has a fairly high number of vacation homes, there is no corresponding ACS data on heating sources. The Department of Public Service guidelines suggest that on average, seasonal homes account for about 5% of the thermal energy used in a year-round home. (For example, a seasonal camp may not have a central heating system, but it still may use propane to heat the water, and have a woodstove or fireplace for unseasonably cool nights.)

The percentage may be higher for communities with seasonal populations who use their properties throughout the winter. For estimation purposes, we assigned 5% to seasonal units in all communities except for Burke and Jay, which were assigned 10%. Here is the formula for calculating MMBTUs for seasonal units:

Number of seasonal units (ACS)	X	Average MMBTUs per Owner-Occupied Unit	X	5% (or 10%)	=	Total MMBTUs Seasonal

Caveats:

- ACS data is not a hard count. Rather, it is based on random sampling over a multi-year period. Nevertheless, it is the best data available on residential heating. From this data we can confirm that fuel oil and wood are the most prevalent heating sources for residential units in the Northeast Kingdom, although wood is less likely to be used in renter-occupied units.
- ACS data identify only one primary source of heating. In reality many residences use two or more resources.

Methodology for Commercial Estimates

This table uses a worksheet created by the Department of Public Service, which uses data from the Vermont Department of Labor's Economic and Labor Market Information web site: http://www.vtlmi.info. The worksheet determines the municipality's share of the regional commercial building stock and applies assumptions from by the Energy Information Institute's Survey of Commercial Uses. The estimate does not include industrial uses, which are highly variable.

II. TRANSPORTATION ESTIMATES (TABLE C)

This data was developed using the Department of Public Service's worksheet. The total number of vehicles comes from American Community Survey (ACS) 5-Year Estimates. Average annual VMTs is an NVDA estimate, which accounts for longer-than-average commutes and more incidental trips in the rural region. Total vehicle miles travelled assumes an average fuel economy of 22 miles per gallon. Registered EVs was determined by the Vermont Energy Investment Corporation and uses the Dept. of Public Service's average of 7,000 VMTs per EV annually.

III. ELECTRICITY ESTIMATES (TABLE D)

Efficiency Vermont has compiled three years of data, as provided by utilities serving the region.

IV. THERMAL EFFICIENCY TARGETS (TABLE E)

Targets for thermal efficiency of residential and commercial structures were determined using the Department of Public Service worksheet. Targets are based on a methodology developed by the regional Long-range Energy Alternatives Planning (LEAP) analysis. Residential targets use the mean MMBTUs for occupied households in the municipality, which were calculated by NVDA. Commercial targets use the data from the Vermont Department of Labor. Data in this table represent the percentages of municipal households and commercial establishments that will need to be weatherized in the target years. The targets are cumulative.

Targets assume a 6% increase in number of housing units/commercial establishments over each period. Weatherization projects are assumed to achieve an average of 25% reduction in MMBTUs for residential units and 20% for commercial establishments, although some weatherization projects can actually achieve deeper savings.

V. THERMAL FUEL SWITCHING, RESIDENTIAL & COMMERCIAL TARGETS (TABLE F)

Targets for thermal efficiency of residential and commercial structures were determined using the same Department of Public Service worksheet. Targets are based on a methodology developed by the regional Long-range Energy Alternatives Planning (LEAP) analysis and are cumulative. As with thermal efficiency targets, these targets assume a 6% increase in number of housing units/commercial establishments over each period.

VI. ELECTRICAL EFFICIENCY TARGETS (TABLE G)

Electricity use is expected to increase dramatically by 2050 so demand-side management and upgrades, such as hardwiring, lighting fixtures, and appliances is also an important part of this scenario, especially since electricity is replacing other fuel-burning thermal applications. Data in this table displays a target for increased electricity efficiency and conservation during the target years. These targets were developed using the Department of Public Service worksheet, which incorporates the regional LEAP analysis. The targets are cumulative. While an individual upgrade project, could result in anywhere from 50 kW to 1000 kW, we assumed an average of 400 kW. Actual utility customer counts were not available, so these targets were developed by multiplying the projected number of households by 1.5 (to account for the fact that there are generally more customers than households).

VII. FUEL SWITCHING, TRANSPORTATION TARGETS (TABLE H)

This table displays a target for switching from fossil fuel-based vehicles to biodiesel-powered vehicles. This target is calculated using Department of Public Service worksheet which incorporates the Regional LEAP data and the American Community Survey data (estimated number of vehicles per town). Projected number of vehicles in the area is estimated to be roughly commensurate with projections of population and households. Estimates assume a gradual increase in EV fuel economy from 3 kwh per mile to 4 kwh per mile by 2050. The targets are cumulative.

Albany

2015 Population estimates: **912**

Land (in acres) **24,947**

Population density: **23.4**/square mile

A. Residential Thermal Use

Total Households (HHs): **391**

Total owned: **347**, Avg. HH Size: **2.3**, Percentage built before 1940: **32**

Total rented: 44, Avg. HH Size: **1.91**, Percentage built before 1940: **34%**

Total vacant units for recreational or seasonal use: **67**

Total use for all occupied HHs: **59,739 MMBTUs**

Mean MMBTU per HH: **152**

Total use for all seasonal HHs: **535 MMBTUs**

Total cost for all occupied HHs: **$503,235**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	20	21,850	gallons	5%	6%	0%	11%
Electricity	1	29,244	kWh	0%	0.3%	0%	1%
Fuel Oil	125	87,417	gallons	32%	34%	16%	39%
Wood	235	1,094	cords	60%	58%	77%	49%
Coal/Coke	---	-	tons	0%	0%	0%	0%
Other	10	-		3%	2%	7%	-

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**7**
Average annual heating load per building:	**1,270 MMBTUs**
Estimated total heat energy consumption:	**8,887 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**735**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**10,290,000**
Fossil Fuel:	**425,632 gallons 51,612 MMBTUs**	Ethanol:	**42,095 gallons 3,566 MMBTUs**	Total:	**55,178 MMBTUs $1,052,386**
Registered EVs as of January 2017:	**1 (8MMBTUs annually)**				

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	613,887	2,095
Residential	2,786,156	9,506
Total	3,400,043	11,601
Average Residential Usage	5,780	19.72

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	414	439	466
% of households to be weatherized	16%	27%	27%
# of households to be weatherized	68	119	127
Estimated # of commercial establishments	7	8	8
% of commercial establishments to be weatherized	3%	5%	10%
# of commercial establishments to be weatherized	0	0	1

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	173	141	102
% of households with wood heat systems	42%	32%	22%
New efficient wood heat systems in commercial establishments	1	1	1
% commercial establishments with wood heat systems	20%	14%	8%
New heat pumps in residential units	51	108	137
% of households with heat pumps	12%	25%	29%
Estimated commercial establishments with heat pumps	0	1	1
% of commercial establishments with heat pumps	4%	7%	9%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	622	659	699
% of customers to upgrade electrical equipment	24%	36%	49%
# of customers to upgrade electrical equipment	149	234	343

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	831	935	1,052
Number of vehicles powered by electricity	87	278	599
% of vehicles powered by electricity	10%	30%	57%
Number of vehicles using bio-fuel blends	593	407	71
% of vehicles using bio-fuel blends	71%	44%	7%

Barnet

2015 Population estimates: **1,674**

Land (in acres) **27,840**

Population density: **38.5**/square mile

A. Residential Thermal Use

Total Households (HHs): **618**

Total owned: **500**, Avg. HH Size: **2.66**, Percentage built before 1940: **33.2**

Total rented: **118**, Avg. HH Size:**2.54**, Percentage built before 1940: **69.1**

Total vacant units for recreational or seasonal use: **281**

Total use for all occupied HHs: **94,354 MMBTUs**

Mean MMBTU per HH: **153**

Total use for all seasonal HHs: **2,310 MMBTUs**

Total cost for all occupied HHs: **$1,102,684**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	118	135,288	gallons	19.1%	15.2%	35.6%	31.2%
Electricity	3	102,231	KwH	0.5%	0.6%	0.0%	1.4%
Fuel Oil	260	206,499	gallons	42.1%	42.2%	41.5%	41.8%
Wood	220	1,235	cords	35.6%	38.6%	22.9%	25.4%
Coal/Coke	3	18	tons	0.5%	0.6%	0.0%	0.3%
Other		-		2.3%	2.8%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**18**
Average annual heating load per building:	**876 MMBTUs**
Estimated total heat energy consumption:	**15,762 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**1,280**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**17,920,000**
Fossil Fuel:	**733,091 gallons 88,894 MMBTUs**	Ethanol:	**81,445 gallons 6,900 MMBTUs**	Total:	**95,794 MMBTUs $1,832,727**
Registered EVs as of January 2017:	**4 (32 MMBTUs annually)**				

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	2,148,794	7,332
Residential	6,002,384	20,480
Total	8,151,178	27,812
Average Residential Usage	6,266	21.38

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	655	694	736
% of households to be weatherized	19%	31%	32%
# of households to be weatherized	125	218	233
Estimated # of commercial establishments	19	20	21
% of commercial establishments to be weatherized	5%	8%	14%
# of commercial establishments to be weatherized	1	2	3

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	320	262	190
% of households with wood heat systems	49%	38%	26%
New efficient wood heat systems in commercial establishments	3	3	5
% commercial establishments with wood heat systems	14%	17%	22%
New heat pumps in residential units	95	200	254
% of households with heat pumps	15%	29%	35%
Estimated commercial establishments with heat pumps	1	2	3
% of commercial establishments with heat pumps	5%	10%	13%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	983	1,042	1,104
% of customers to upgrade electrical equipment	28%	42%	57%
# of customers to upgrade electrical equipment	275	432	634

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	1,284	1,445	1,625
Number of vehicles powered by electricity	161	513	1,105
% of vehicles powered by electricity	11%	32%	60%
Number of vehicles using bio-fuel blends	1,096	753	131
% of vehicles using bio-fuel blends	76%	46%	7%

Barton

2015 Population estimates: **2,674**

Land (in acres) **28,388**

Population density: **60.3**/square mile

A. Residential Thermal Use

Total Households (HHs): **1,074**

Total owned:**803**, Avg. HH Size: **2.47**, Percentage built before 1940: **39.9%**

Total rented:**272**, Avg. HH Size:, **2.46** Percentage built before 1940: **34.9%**

Total vacant units for recreational or seasonal use: **211**

Total use for all occupied HHs: **140,046 MMBTUs**

Mean MMBTU per HH: **130**

Total use for all seasonal HHs: **1,552 MMBTU**

Total cost for all occupied HHs: **$1,891,290**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	144	154,301	gallons	13.4%	11.8%	18.0%	20.7%
Electricity	49	1,326,256	kWh	4.6%	3.2%	8.5%	10.5%
Fuel Oil	585	425,427	gallons	54.4%	53.5%	57.0%	50.2%
Wood	285	1,512	cords	26.5%	30.3%	15.4%	18.1%
Coal/Coke	4	23	tons	0.4%	0.5%	0.0%	0.4%
Other	7	--		0.7%	0.6%	0.7%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**78**
Average annual heating load per building:	**878 MMBTUs**
Estimated total heat energy consumption:	**68,505 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**1,841**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**25,744,000**
Fossil Fuel:	**1,066,106 gallons 129,275 MMBTUs**	Ethanol:	**105,439 gallons 8,932 MMBTUs**	Total:	**138,207 MMBTUs $2,635,977**
Registered EVs as of January 2017: 9		**(72 MMBTUs annually)**			

D. Electricity Energy Use

Usage in 2016	kWh	MMBTUs
Commercial & Industrial	10,350,698	35,317
Residential	14,602,190	49,823
Total	24,952,888	85,139
Average Residential Usage	5,834	19.91

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	1,138	1,207	1,279
% of households to be weatherized	22%	36%	36%
# of households to be weatherized	247	429	459
Estimated # of commercial establishments	83	88	93
% of commercial establishments to be weatherized	5%	8%	14%
# of commercial establishments to be weatherized	4	7	13

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	636	523	379
% of households with wood heat systems	56%	43%	30%
New efficient wood heat systems in commercial establishments	12	15	21
% commercial establishments with wood heat systems	14%	17%	22%
New heat pumps in residential units	189	399	506
% of households with heat pumps	17%	33%	40%
Estimated commercial establishments with heat pumps	5	8	12
% of commercial establishments with heat pumps	5%	10%	13%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	1,708	1,810	1,919
% of customers to upgrade electrical equipment	27%	40%	55%
# of customers to upgrade electrical equipment	462	726	1,064

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	2,081	2,341	2,634
Number of vehicles powered by electricity	270	861	1,854
% of vehicles powered by electricity	13%	37%	70%
Number of vehicles using bio-fuel blends	1,835	1,262	221
% of vehicles using bio-fuel blends	88%	54%	8%

Bloomfield

2015 Population estimates: **217**

Land (in acres) **25,771**

Population density: **5.4**/square mile

A. Residential Thermal Use

Total Households (HHs): **105**

Total owned: **87**, Avg. HH Size: **2.14**, Percentage built before 1940: **28.7%**

Total rented:**18**, Avg. HH Size:**2.0**, Percentage built before 1940: **61.1%**

Total vacant units for recreational or seasonal use: **87**

Total use for all occupied HHs: **12,715 MMBTUs**

Mean MMBTU per HH: **121**

Total use for all seasonal HHs: **550 MMBTUs**

Total cost for all occupied HHs: **$139,658**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	10	9,959	gallons	9.5%	11.5%	0.0%	18.1%
Electricity	0	-	KwH	0.0%	0.0%	0.0%	0.0%
Fuel Oil	53	32,867	gallons	50.5%	49.4%	55.6%	52.5%
Wood	42	181	cords	40.0%	39.1%	44.4%	29.4%
Coal/Coke	0	-	tons	0.0%	0.0%	0.0%	0.0%
Other	0	-		0.0%	0.0%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**2**
Average annual heating load per building:	**531 MMBTUs**
Estimated total heat energy consumption:	**1,063 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**191**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**2,674,000**
Fossil Fuel:	**110,606 gallons 13,412 MMBTUs**	Ethanol:	**10,939 gallons 927 MMBTUs**	Total:	**14,339 MMBTUs $273,477**
Registered EVs as of January 2017: 0		**(0 MMBTUs annually)**			

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	N/A	N/A
Residential	709,599	2,421
Total	709,599	2,421
Average Residential Usage	5,069	17.29

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	111	118	125
% of households to be weatherized	18%	29%	29%
# of households to be weatherized	20	34	37
Estimated # of commercial establishments	2	2	2
% of commercial establishments to be weatherized	8%	13%	23%
# of commercial establishments to be weatherized	0	0	1

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	51	41	30
% of households with wood heat systems	45%	35%	24%
New efficient wood heat systems in commercial establishments	1	1	1
% commercial establishments with wood heat systems	24%	29%	38%
New heat pumps in residential units	15	32	40
% of households with heat pumps	13%	27%	32%
Estimated commercial establishments with heat pumps	0	0	1
% of commercial establishments with heat pumps	9%	16%	22%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	167	177	188
% of customers to upgrade electrical equipment	21%	31%	42%
# of customers to upgrade electrical equipment	35	54	80

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	215	242	272
Number of vehicles powered by electricity	20	64	139
% of vehicles powered by electricity	9%	27%	51%
Number of vehicles using bio-fuel blends	137	94	17
% of vehicles using bio-fuel blends	64%	39%	6%

Brighton

2015 Population estimates: **1,186**

Land (in acres): **34,780**

Population density: **21.8/square mile**

A. Residential Thermal Use

Total Households (HHs): **408**

Total owned: **272**, Avg. HH Size: **2.33**, Percentage built before 1940: **43.8%**

Total rented: **142**, Avg. HH Size: **2.39**, Percentage built before 1940: **37.3%**

Total vacant units for recreational or seasonal use: **448**

Total use for all occupied HHs: **50,491 MMBTUs**

Mean MMBTU per HH: **122**

Total use for all seasonal HHs: **3,270 MMBTUs**

Total cost for all occupied HHs: **$1,513,288**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	42	46,403	gallons	10.1%	12.5%	5.6%	7.8%
Electricity	0	--	kWh	0.0%	0.0%	0.0%	0.0%
Fuel Oil	253	163,393	gallons	61.1%	49.3%	83.8%	24.1%
Wood	109	561	cords	26.3%	34.6%	10.6%	8.4%
Coal/Coke	4	22	tons	1.0%	1.5%	0.0%	0.5%
Other	0	--		0.0%	0.0%	0.0%	--

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**36**
Average annual heating load per building:	**863 MMBTUs**
Estimated total heat energy consumption:	**31,075 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**665**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**9,310,000**
Fossil Fuel:	**385,095 gallons 46,695 MMBTUs**	Ethanol:	**38,086 gallons 3,226 MMBTUs**	Total:	**49,923 MMBTUs $952,159**
Registered EVs as of January 2017: 0	**(0 MMBTUs annually)**				

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	2,209,532	7,539
Residential	3,750,970	12,798
Total	5,960,502	20,337
Average Residential Usage	4,377	14.93

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	432	458	486
% of households to be weatherized	20%	33%	34%
# of households to be weatherized	88	153	164
Estimated # of commercial establishments	38	40	43
% of commercial establishments to be weatherized	5%	8%	14%
# of commercial establishments to be weatherized	2	3	6

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	226	185	134
% of households with wood heat systems	52%	40%	28%
New efficient wood heat systems in commercial establishments	6	7	10
% commercial establishments with wood heat systems	15%	18%	23%
New heat pumps in residential units	67	142	180
% of households with heat pumps	15%	31%	37%
Estimated commercial establishments with heat pumps	2	4	6
% of commercial establishments with heat pumps	6%	10%	14%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	649	688	729
% of customers to upgrade electrical equipment	24%	36%	50%
# of customers to upgrade electrical equipment	157	246	361

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	738	830	934
Number of vehicles powered by electricity	92	292	629
% of vehicles powered by electricity	12%	35%	67%
Number of vehicles using bio-fuel blends	623	428	75
% of vehicles using bio-fuel blends	84%	52%	8%

Brownington

2015 Population estimates: **961**

Land (in acres): **18,149**

Population density: **33.9/square mile**

A. Residential Thermal Use

Total Households (HHs): **406**

Total owned: **363**, Avg. HH Size: **2.46**, Percentage built before 1940: **16.8%**

Total rented: **43**, Avg. HH Size: **2.51**, Percentage built before 1940: **0.0%**

Total vacant units for recreational or seasonal use: **104**

Total use for all occupied HHs: **52,056 MMBTUs**

Mean MMBTU per HH: **128**

Total use for all seasonal HHs: **698 MMBTUs**

Total cost for all occupied HHs: **$548,970**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	26	26,170	gallons	6.4%	6.3%	7.0%	12.1%
Electricity	0	--	KwH	0.0%	0.0%	0.0%	0.0%
Fuel Oil	222	147,592	gallons	54.7%	54.8%	53.5%	60.0%
Wood	147	676	cords	36.2%	35.8%	39.5%	27.9%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	11	--		2.7%	3.0%	0.0%	--

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**9**
Average annual heating load per building:	**941 MMBTUs**
Estimated total heat energy consumption:	**8,471 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**839**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**11,746,000**
Fossil Fuel:	**485,857 gallons 58,915 MMBTUs**	Ethanol:	**48,052 gallons 4,070 MMBTUs**	Total:	**62,985 MMBTUs $1,201,295**
Registered EVs as of January 2017: 0		**(0 MMBTUs annually)**			

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	N/A	N/A
Residential	2,098,749	7,161
Total	2,098,749	7,161
Average Residential Usage	9,008	30.73

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	430	456	484
% of households to be weatherized	20%	34%	34%
# of households to be weatherized	88	153	164
Estimated # of commercial establishments	10	10	11
% of commercial establishments to be weatherized	4%	7%	13%
# of commercial establishments to be weatherized	0	1	1

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	192	156	113
% of households with wood heat systems	40%	31%	21%
New efficient wood heat systems in commercial establishments	1	2	2
% commercial establishments with wood heat systems	13%	16%	21%
New heat pumps in residential units	57	119	151
% of households with heat pumps	12%	23%	28%
Estimated commercial establishments with heat pumps	0	1	1
% of commercial establishments with heat pumps	5%	9%	12%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	646	684	725
% of customers to upgrade electrical equipment	22%	33%	46%
# of customers to upgrade electrical equipment	162	255	374

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	948	1,067	1,200
Number of vehicles powered by electricity	95	303	652
% of vehicles powered by electricity	10%	28%	54%
Number of vehicles using bio-fuel blends	64	53	42
% of vehicles using bio-fuel blends	68%	42%	6%

Brunswick

2015 Population estimates: **117**

Land (in acres): **16,104**

Population density: **4.6/square mile**

A. Residential Thermal Use

Total Households (HHs): **36**

Total owned: **32**, Avg. HH Size: **2.38**, Percentage built before 1940: **21.9%**

Total rented: **4**, Avg. HH Size: **3.25**, Percentage built before 1940: **50.0%**

Total vacant units for recreational or seasonal use: **45**

Total use for all occupied HHs: **4,469 MMBTUs**

Mean MMBTU per HH: **124**

Total use for all seasonal HHs: **279 MMBTUs**

Total cost for all occupied HHs: **$51,563**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	0	--	gallons	0.0%	0.0%	0.0%	0.0%
Electricity	0	--	KwH	0.0%	0.0%	0.0%	0.0%
Fuel Oil	26	18,179	gallons	72.2%	71.9%	75.0%	78.6%
Wood	10	49	cords	27.8%	28.1%	25.0%	21.4%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	0	--		0.0%	0.0%	0.0%	--

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**n/a**
Average annual heating load per building:	**n/a MMBTUs**
Estimated total heat energy consumption:	**n/a MMBTUs**

C. Transportation Energy Use

Total vehicles:	**77**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**1,064,000**
Fossil Fuel:	**44,011 gallons 5,337 MMBTUs**	Ethanol:	**4,353 gallons 369 MMBTUs**	Total:	**5,705 MMBTUs $108,000**
Registered EVs as of January 2017: 1	**(8 MMBTUs annually)**				

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	N/A	N/A
Residential	291,662	995
Total	291,662	995
Average Residential Usage	5,609	19.14

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	38	40	43
% of households to be weatherized	21%	34%	34%
# of households to be weatherized	8	14	15
Estimated # of commercial establishments	--	--	--
% of commercial establishments to be weatherized	--	--	--
# of commercial establishments to be weatherized	--	--	--

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	20	17	12
% of households with wood heat systems	53%	41%	28%
New efficient wood heat systems in commercial establishments	--	--	--
% commercial establishments with wood heat systems	--	--	--
New heat pumps in residential units	6	13	16
% of households with heat pumps	16%	31%	37%
Estimated commercial establishments with heat pumps	--	--	--
% of commercial establishments with heat pumps	--	--	--

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	57	61	64
% of customers to upgrade electrical equipment	25%	36%	50%
# of customers to upgrade electrical equipment	14	22	32

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	87	97	110
Number of vehicles powered by electricity	8	26	56
% of vehicles powered by electricity	9%	27%	51%
Number of vehicles using bio-fuel blends	56	38	7
% of vehicles using bio-fuel blends	64%	39%	6%

Burke

2015 Population estimates: **1,722**

Land (in acres): **21,573**

Population density: **51.1/square mile**

A. Residential Thermal Use

Total Households (HHs): **608**

Total owned: **479**, Avg. HH Size: **2.58**, Percentage built before 1940: **29.9%**

Total rented: **152**, Avg. HH Size: **2.18**, Percentage built before 1940: **26.3%**

Total vacant units for recreational or seasonal use: **400**

Total use for all occupied HHs: **81,380 MMBTUs**

Mean MMBTU per HH: **129**

Total use for all seasonal HHs: **5,995 MMBTUs**

Total cost for all occupied HHs: **$992,434**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	88	93,899	gallons	13.9%	13.8%	14.5%	24.0%
Electricity	27	462,914	kWh	4.3%	0.0%	17.8%	7.0%
Fuel Oil	287	201,202	gallons	45.5%	44.7%%	48.0%	45.2%
Wood	198	1,039	cords	31.4%	37.0%	13.8%	23.8%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0
Other	8	--		1.3%	1.7%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**45**
Average annual heating load per building:	**621 MMBTUs**
Estimated total heat energy consumption:	**27,961 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**1,185**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**16,534,000**
Fossil Fuel:	**751,545 gallons 82,930 MMBTUs**	Ethanol:	**67,639 gallons 5,730 MMBTUs**	Total:	**88,660 MMBTUs $1,690,977**
Registered EVs as of January 2017: 4		**(32 MMBTUs annually)**			

D. Electricity Energy Use

Usage in 2016	kWh	MMBTUs
Commercial & Industrial	9,256,201	31,582
Residential	10,305,482	35,162
Total	19,561,683	66,744
Average Residential Usage	9,986	34.07

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	641	680	721
% of households to be weatherized	23%	38%	38%
# of households to be weatherized	148	258	276
Estimated # of commercial establishments	48	51	54
% of commercial establishments to be weatherized	7%	11%	20%
# of commercial establishments to be weatherized	3	6	10

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	383	316	229
% of households with wood heat systems	60%	47%	32%
New efficient wood heat systems in commercial establishments	10	12	17
% commercial establishments with wood heat systems	20%	24%	32%
New heat pumps in residential units	114	241	306
% of households with heat pumps	18%	36%	43%
Estimated commercial establishments with heat pumps	4	7	10
% of commercial establishments with heat pumps	8%	14%	19%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	962	1,020	1,081
% of customers to upgrade electrical equipment	30%	44%	61%
# of customers to upgrade electrical equipment	286	449	658

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	1,333	1,500	1,687
Number of vehicles powered by electricity	167	533	1,147
% of vehicles powered by electricity	13%	36%	68%
Number of vehicles using bio-fuel blends	1,135	781	137
% of vehicles using bio-fuel blends	85%	52%	8%

Canaan

2015 Population estimates: **936**

Land (in acres): **21,174**

Population density: **28.3/square mile**

A. Residential Thermal Use

Total Households (HHs): **450**

Total owned: **362**, Avg. HH Size: **2.54**, Percentage built before 1940: **30.9%**

Total rented: **88**, Avg. HH Size: **1.89**, Percentage built before 1940: **38.6%**

Total vacant units for recreational or seasonal use: **136**

Total use for all occupied HHs: **60,321 MMBTUs**

Mean MMBTU per HH: **134**

Total use for all seasonal HHs: **1,016 MMBTUs**

Total cost for all occupied HHs: **$644,324**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	17	20,377	gallons	3.8%	4.7%	0.0%	8.0%
Electricity	0	--	kWh	0.0%	0.0%	0.0%	0.0%
Fuel Oil	275	192,176	gallons	61.1%	58.8%	70.5%	66.5%
Wood	143	723	cords	31.8%	33.4%	25.0%	25.5%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	15	--		3.3%	3.0%	4.5%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**14**
Average annual heating load per building:	**1,098 MMBTUs**
Estimated total heat energy consumption:	**15,369 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**840**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**11,760,000**
Fossil Fuel:	**486,436 gallons 58,985 MMBTUs**	Ethanol:	**48,109 gallons 4,075 MMBTUs**	Total:	**63,060 MMBTUs $1,202,727**
Registered EVs as of January 2017: 0		**(0 MMBTUs annually)**			

D. Electricity Energy Use

Usage in 2016	kWh	MMBTUs
Commercial & Industrial	7,351,526	25,083
Residential	2,824,878	9,638
Total	10,176,404	34,722
Average Residential Usage	5,164	17.62

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	477	506	536
% of households to be weatherized	21%	35%	35%
# of households to be weatherized	101	175	187
Estimated # of commercial establishments	15	16	17
% of commercial establishments to be weatherized	4%	6%	11%
# of commercial establishments to be weatherized	1	1	2

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	259	213	154
% of households with wood heat systems	54%	42%	29%
New efficient wood heat systems in commercial establishments	2	2	3
% commercial establishments with wood heat systems	11%	14%	18%
New heat pumps in residential units	77	163	206
% of households with heat pumps	16%	32%	38%
Estimated commercial establishments with heat pumps	1	1	2
% of commercial establishments with heat pumps	4%	8%	11%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	716	758	804
% of customers to upgrade electrical equipment	27%	40%	56%
# of customers to upgrade electrical equipment	194	305	448

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	945	1,063	1,196
Number of vehicles powered by electricity	114	363	780
% of vehicles powered by electricity	12%	34%	65%
Number of vehicles using bio-fuel blends	772	531	93
% of vehicles using bio-fuel blends	82%	50%	8%

Charleston

2015 Population estimates: **997**

Land (in acres): **24,662**

Population density: **25.9/square mile**

A. Residential Thermal Use

Total Households (HHs): **460**

Total owned: **348**, Avg. HH Size: **2.23**, Percentage built before 1940: **24.4%**

Total rented: **112**, Avg. HH Size: **2.39**, Percentage built before 1940: **21.4%**

Total vacant units for recreational or seasonal use: **184**

Total use for all occupied HHs: **57,497 MMBTUs**

Mean MMBTU per HH: **125**

Total use for all seasonal HHs: **1,282 MMBTUs**

Total cost for all occupied HHs: **$613,723**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	52	51,169	gallons	11%	14%	4%	21%
Electricity	11	200,238	kWh	2%	0%	10%	5%
Fuel Oil	186	109,510	gallons	40%	35%	57%	40%
Wood	211	923	cords	46%	51%	29%	34%
Coal/Coke	--	--	tons	0%	0%	0%	0%
Other	--	--	--	0%	0%	0%	--

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**13**
Average annual heating load per building:	**929 MMBTUs**
Estimated total heat energy consumption:	**12,075 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**878**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**12,292,000**
Fossil Fuel:	**508,422 gallons 61,653 MMBTUs**	Ethanol:	**50,285 gallons 4,260 MMBTUs**	Total:	**65,913 MMBTUs $1,257,136**
Registered EVs as of January 2017: 1	**(8 MMBTUs annually)**				

D. Electricity Energy Use

Usage in 2016	kWh	MMBTUs
Commercial & Industrial	1,139,007	3,886
Residential	2,916,899	9,952
Total	4,055,906	13,839
Average Residential Usage	5,392	18.40

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households			
% of households to be weatherized			
# of households to be weatherized			
Estimated # of commercial establishments			
% of commercial establishments to be weatherized			
# of commercial establishments to be weatherized			

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	222	182	132
% of households with wood heat systems	46%	35%	24%
New efficient wood heat systems in commercial establishments	2	2	3
% commercial establishments with wood heat systems	14%	16%	21%
New heat pumps in residential units	66	139	176
% of households with heat pumps	14%	27%	32%
Estimated commercial establishments with heat pumps	1	1	2
% of commercial establishments with heat pumps	5%	9%	13%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	731	775	822
% of customers to upgrade electrical equipment	21%	32%	44%
# of customers to upgrade electrical equipment	157	246	361

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	989	1,112	1,252
Number of vehicles powered by electricity	92	292	629
% of vehicles powered by electricity	9%	26%	50%
Number of vehicles using bio-fuel blends	623	428	75
% of vehicles using bio-fuel blends	63%	39%	6%

Concord

2015 Population estimates: **1,214**

Land (in acres): **34,209**

Population density: **22.7/square mile**

A. Residential Thermal Use

Total Households (HHs): **534**

Total owned: **434**, Avg. HH Size: **2.14**, Percentage built before 1940: **22.6%**

Total rented: **103**, Avg. HH Size: **2.64**, Percentage built before 1940: **42.7%**

Total vacant units for recreational or seasonal use: **281**

Total use for all occupied HHs: **61,323 MMBTUs**

Mean MMBTU per HH: **114**

Total use for all seasonal HHs: **1,658 MMBTUs**

Total cost for all occupied HHs: **$1,061,358**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	49	46,593	gallons	9.1%	10.6%	2.9%	11.2%
Electricity	3	68,884	kWh	0.6%	0.0%	2.9%	1.0%
Fuel Oil	304	186,523	gallons	56.6%	53.7%	68.9%	39.2%
Wood	160	687	cords	29.8%	30.9%	25.2%	14.7%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	18	--	--	3.4%	4.1%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**16**
Average annual heating load per building:	**977 MMBTUs**
Estimated total heat energy consumption:	**15,636 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**936**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**13,076,000**
Fossil Fuel:	**540,871 gallons 65,585 MMBTUs**	Ethanol:	**53,493 gallons 4,531 MMBTUs**	Total:	**70,117 MMBTUs $1,337,318**
Registered EVs as of January 2017: 2	**(16 MMBTUs annually)**				

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	976,503	3,332
Residential	4,271,819	14,575
Total	5,248,321	17,907
Average Residential Usage	5,788	19.75

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	566	600	636
% of households to be weatherized	21%	35%	36%
# of households to be weatherized	121	211	226
Estimated # of commercial establishments	17	18	19
% of commercial establishments to be weatherized	1	1	2
# of commercial establishments to be weatherized	566	600	636

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	313	257	186
% of households with wood heat systems	55%	43%	29%
New efficient wood heat systems in commercial establishments	2	3	4
% commercial establishments with wood heat systems	93	196	249
New heat pumps in residential units	16%	33%	39%
% of households with heat pumps	1	2	2
Estimated commercial establishments with heat pumps	313	257	186
% of commercial establishments with heat pumps	55%	43%	29%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	849	900	954
% of customers to upgrade electrical equipment	24%	35%	49%
# of customers to upgrade electrical equipment	201	316	463

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	1,055	1,187	1,336
Number of vehicles powered by electricity	117	375	806
% of vehicles powered by electricity	11%	32%	60%
Number of vehicles using bio-fuel blends	798	549	96
% of vehicles using bio-fuel blends	76%	46%	7%

Coventry

2015 Population estimates: **1,049**

Land (in acres): **17,783**

Population density: **37.8/square mile**

A. Residential Thermal Use

Total Households (HHs): **413**

Total owned: **335**, Avg. HH Size: **2.69**, Percentage built before 1940: **12.8%**

Total rented: **78**, Avg. HH Size: **2.28**, Percentage built before 1940: **20.5%**

Total vacant units for recreational or seasonal use: **16**

Total use for all occupied HHs: **50,407 MMBTUs**

Mean MMBTU per HH: **122**

Total use for all seasonal HHs: **107 MMBTUs**

Total cost for all occupied HHs: **$672,714**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	90	97,436	gallons	21.8%	24.5%	10.3%	36.8%
Electricity	0	--	kWh	0.0%	0.0%	0.0%	0.0%
Fuel Oil	205	134,847	gallons	49.6%	45.4%	67.9%	44.7%
Wood	114	549	cords	27.6%	29.0%	21.8%	18.5%
Coal/Coke	0	--	tons	20.0%	0.0%	0.0%	0.0%
Other	4	--	--	1.2%	1.2%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**12**
Average annual heating load per building:	**1,087 MMBTUs**
Estimated total heat energy consumption:	**13,045 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**813**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**11,382,000**
Fossil Fuel:	**470,801gallons 57,089 MMBTUs**	Ethanol:	**46,563 gallons 3,944 MMBTUs**	Total:	**61,033 MMBTUs $1,164,068**
Registered EVs as of January 2017: 1		**(8 MMBTUs annually)**			

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	2,658,684	9,071
Residential	3,386,548	11,555
Total	6,045,232	20,626
Average Residential Usage	7,041	24.02

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	438	464	492
% of households to be weatherized	24%	40%	40%
# of households to be weatherized	107	186	199
Estimated # of commercial establishments	13	13	14
% of commercial establishments to be weatherized	0	1	2
# of commercial establishments to be weatherized	4%	6%	11%

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	277	229	166
% of households with wood heat systems	63%	49%	34%
New efficient wood heat systems in commercial establishments	1	2	3
% commercial establishments with wood heat systems	12%	14%	18%
New heat pumps in residential units	82	175	222
% of households with heat pumps	19%	38%	45%
Estimated commercial establishments with heat pumps	1	1	2
% of commercial establishments with heat pumps	4%	8%	11%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	657	696	738
% of customers to upgrade electrical equipment	29%	42%	59%
# of customers to upgrade electrical equipment	188	295	432

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	916	1,030	1,159
Number of vehicles powered by electricity	110	350	753
% of vehicles powered by electricity	12%	34%	65%
Number of vehicles using bio-fuel blends	745	512	90
% of vehicles using bio-fuel blends	81%	50%	8%

Craftsbury

2015 Population estimates: **1,168**

Land (in acres): **25,316**

Population density: **29.7/square mile**

A. Residential Thermal Use

Total Households (HHs): **456**

Total owned: **399**, Avg. HH Size: **2.37**, Percentage built before 1940: **30%**

Total rented: **57**, Avg. HH Size: **3.04**, Percentage built before 1940: **44%**

Total vacant units for recreational or seasonal use: **233**

Total use for all occupied HHs: **67,976 MMBTUs**

Mean MMBTU per HH: **149**

Total use for all seasonal HHs: **1,789 MMBTUs**

Total cost for all occupied HHs: **$708,484**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	55	60,197	gallons	12%	12%	16%	22%
Electricity	6	178,934	kWh	1%	1.5%	0%	4%
Fuel Oil	175	125,668	gallons	38%	36%	54%	40%
Wood	217	1,095	cords	48%	50%	30%	35%
Coal/Coke	--	--	tons	0%	0%	0%	0%
Other	3	--	--	1%	1%	0%	--

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**25**
Average annual heating load per building:	**759 MMBTUs**
Estimated total heat energy consumption:	**18,975 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**906**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**12,628,000**
Fossil Fuel:	**524,656 gallons 63,619 MMBTUs**	Ethanol:	**51,889 gallons 4,389 MMBTUs**	Total:	**68,015 MMBTUs $1,291,500**
Registered EVs as of January 2017: 3		**(24 MMBTUs annually)**			

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	518,525	1,769
Residential	1,819,477	6,208
Total	2,338,002	7,977
Average Residential Usage	3,198	10.91

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	483	512	543
% of households to be weatherized	20%	33%	33%
# of households to be weatherized	96	168	179
Estimated # of commercial establishments	30	31	33
% of commercial establishments to be weatherized	6%	10%	18%
# of commercial establishments to be weatherized	2	3	6

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	247	203	147
% of households with wood heat systems	51%	40%	27%
New efficient wood heat systems in commercial establishments	5	7	10
% commercial establishments with wood heat systems	18%	22%	29%
New heat pumps in residential units	73	155	196
% of households with heat pumps	15%	30%	36%
Estimated commercial establishments with heat pumps	2	4	6
% of commercial establishments with heat pumps	18%	22%	29%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	725	769	815
% of customers to upgrade electrical equipment	29%	42%	58%
# of customers to upgrade electrical equipment	207	325	476

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	1,019	1,147	1,290
Number of vehicles powered by electricity	121	386	830
% of vehicles powered by electricity	12%	34%	64%
Number of vehicles using bio-fuel blends	821	565	99
% of vehicles using bio-fuel blends	81%	49%	8%

Danville

2015 Population estimates: **2,203**

Land (in acres): **39,051**

Population density: **36.1/square mile**

A. Residential Thermal Use

Total Households (HHs): **891**

Total owned: **811**, Avg. HH Size: **2.46**, Percentage built before 1940: **31.8%**

Total rented: **80**, Avg. HH Size: **2.55**, Percentage built before 1940: **42.5%**

Total vacant units for recreational or seasonal use: **304**

Total use for all occupied HHs: **132,539 MMBTUs**

Mean MMBTU per HH: **149**

Total use for all seasonal HHs: **2,364 MMBTUs**

Total cost for all occupied HHs: **$1,463,350**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	93	102,097	gallons	10.4%	9.1%	23.8%	17.7%
Electricity	23	664,058	kWh	2.6%	21.%	7.5%	6.8%
Fuel Oil	398	294,742	gallons	44.7%	42.9%	62.5%	44.9%
Wood	371	1,970	cords	41.6%	45.1%	6.3%	30.6%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	6	--		0.7%	0.7%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**44**
Average annual heating load per building:	**786 MMBTUs**
Estimated total heat energy consumption:	**34,595 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**1,842**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**25,690,000**
Fossil Fuel:	**1,167,727 gallons 128,854 MMBTUs**	Ethanol:	**105,095 gallons 8,903 MMBTUs**	Total:	**137,756 MMBTUs $2,627,386**
Registered EVs as of January 2017: 7	**(56 MMBTUs annually)**				

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	3,450,910	11,775
Residential	7,965,301	27,178
Total	11,416,211	38,952
Average Residential Usage	6,455	22.02

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	944	1,001	1,061
% of households to be weatherized	19%	30%	31%
# of households to be weatherized	175	305	326
Estimated # of commercial establishments	47	49	52
% of commercial establishments to be weatherized	5%	9%	15%
# of commercial establishments to be weatherized	2	4	8

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	448	366	265
% of households with wood heat systems	47%	37%	25%
New efficient wood heat systems in commercial establishments	7	10	13
% commercial establishments with wood heat systems	16%	19%	25%
New heat pumps in residential units	133	279	355
% of households with heat pumps	14%	28%	33%
Estimated commercial establishments with heat pumps	3	5	8
% of commercial establishments with heat pumps	6%	11%	15%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	1,417	1,502	1,592
% of customers to upgrade electrical equipment	26%	39%	54%
# of customers to upgrade electrical equipment	375	590	864

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	2,072	2,331	2,623
Number of vehicles powered by electricity	219	700	1,506
% of vehicles powered by electricity	11%	30%	57%
Number of vehicles using bio-fuel blends	1,491	1,025	179
% of vehicles using bio-fuel blends	72%	44%	7%

Derby

2015 Population estimates: **4,464**

Land (in acres): **36,751**

Population density: **77.7/square mile**

A. Residential Thermal Use

Total Households (HHs): **1,981**

Total owned: **1,563**, Avg. HH Size: **2.34**, Percentage built before 1940: **20.8%**

Total rented: **434**, Avg. HH Size: **1.95**, Percentage built before 1940: **51.6%**

Total vacant units for recreational or seasonal use: **339**

Total use for all occupied HHs: **214,946 MMBTUs**

Mean MMBTU per HH: **108**

Total use for all seasonal HHs: **2,043 MMBTUs**

Total cost for all occupied HHs: **$2,771,337**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	185	161,522	gallons	9%	7%	19%	15%
Electricity	22	549,899	kWh	1%	1%	1%	3%
Fuel Oil	1,281	796,196	gallons	64%	62%	71%	64%
Wood	416	1,951	cords	21%	26%	2%	16%
Coal/Coke	43	163	tons	2%	1%	6%	2%
Other	34	--	--	2%	2%	--	--

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**117**
Average annual heating load per building:	**760 MMBTUs**
Estimated total heat energy consumption:	**88,876 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**6,413**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**89,782,000**
Fossil Fuel:	**3,713,710 gallons 450,319 MMBTUs**	Ethanol:	**367,290 gallons 31,113 MMBTUs**	Total:	**481,432 MMBTUs $9,182,250**
Registered EVs as of January 2017: 7		**56 (MMBTUs annually)**			

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	25,055,454	85,489
Residential	14,528,516	49,571
Total	39,583,970	135,061
Average Residential Usage	5,976	20.39

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	2,100	2,226	2,359
% of households to be weatherized	23%	38%	38%
# of households to be weatherized	487	848	907
Estimated # of commercial establishments	124	131	139
% of commercial establishments to be weatherized	5%	9%	16%
# of commercial establishments to be weatherized	7	12	22

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	1,261	1,041	754
% of households with wood heat systems	60%	47%	32%
New efficient wood heat systems in commercial establishments	21	26	36
% commercial establishments with wood heat systems	17%	20%	26%
New heat pumps in residential units	374	794	1,008
% of households with heat pumps	18%	36%	43%
Estimated commercial establishments with heat pumps	8	15	22
% of commercial establishments with heat pumps	6%	11%	16%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	3,150	3,339	3,539
% of customers to upgrade electrical equipment	24%	36%	50%
# of customers to upgrade electrical equipment	762	1,197	1,754

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	7,223	8,125	9,141
Number of vehicles powered by electricity	445	1,421	3,057
% of vehicles powered by electricity	6%	17%	33%
Number of vehicles using bio-fuel blends	3,026	2,081	364
% of vehicles using bio-fuel blends	42%	26%	4%

East Haven

2015 Population estimates: **288**

Land (in acres): **23,870**

Population density: **7.7/square mile**

A. Residential Thermal Use

Total Households (HHs): **116**

Total owned: **113**, Avg. HH Size: **2.3**, Percentage built before 1940: **11.5%**

Total rented: **9**, Avg. HH Size: **2.44**, Percentage built before 1940: **66.7%**

Total vacant units for recreational or seasonal use: **28**

Total use for all occupied HHs: **15,124 MMBTUs**

Mean MMBTU per HH: **124**

Total use for all seasonal HHs: **182 MMBTUs**

Total cost for all occupied HHs: **$392,601**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	14	13,344	gallons	11.5%	12.4%	0.0%	8.6%
Electricity	0	--	kWh	0.0%	0.0%	0.0%	0.0%
Fuel Oil	46	28,646	gallons	37.7%	36.3%	55.6%	16.3%
Wood	56	244	cords	45.9%	49.6%	0.0%	14.1%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	0	--	--	0.0%	0.0%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**5**
Average annual heating load per building:	**511 MMBTUs**
Estimated total heat energy consumption:	**2,554 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**218**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**3,038,000**
Fossil Fuel:	**125,663 gallons 15,238 MMBTUs**	Ethanol:	**12,428 gallons 1,053 MMBTUs**	Total:	**16,291 MMBTUs $310,705**
Registered EVs as of January 2017: 1	**(8 MMBTUs annually)**				

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	N/A	N/A
Residential	836,038	2,853
Total	836,038	2,853
Average Residential Usage	6,147	20.97

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	123	130	138
% of households to be weatherized	24%	40%	40%
# of households to be weatherized	30	52	56
Estimated # of commercial establishments	5	6	6
% of commercial establishments to be weatherized	0	1	1
# of commercial establishments to be weatherized	5%	8%	14%

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	78	65	47
% of households with wood heat systems	63%	50%	34%
New efficient wood heat systems in commercial establishments	1	2	2
% commercial establishments with wood heat systems	25%	30%	39%
New heat pumps in residential units	23	49	63
% of households with heat pumps	19%	38%	45%
Estimated commercial establishments with heat pumps	1	1	1
% of commercial establishments with heat pumps	9%	17%	23%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	184	196	207
% of customers to upgrade electrical equipment	31%	45%	63%
# of customers to upgrade electrical equipment	56	89	130

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	249	280	315
Number of vehicles powered by electricity	33	105	227
% of vehicles powered by electricity	13%	38%	72%
Number of vehicles using bio-fuel blends	224	154	27
% of vehicles using bio-fuel blends	90%	55%	9%

Glover

2015 Population estimates: **1,089**

Land (in acres): **24,659**

Population density: **28.3/square mile**

A. Residential Thermal Use

Total Households (HHs): **473**

Total owned: **396**, Avg. HH Size: **2.21**, Percentage built before 1940: **31.6%**

Total rented: **77**, Avg. HH Size: **1.29**, Percentage built before 1940: **42.9%**

Total vacant units for recreational or seasonal use: **287**

Total use for all occupied HHs: **64,017 MMBTUs**

Mean MMBTU per HH: **135**

Total use for all seasonal HHs: **2,180 MMBTUs**

Total cost for all occupied HHs: **$619,248**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	43	43,138	gallons	9%	10%	4%	18%
Electricity	11	308,286	kWh	2%	2.8%	0%	7%
Fuel Oil	159	88,768	gallons	34%	28%	65%	32%
Wood	254	1,146	cords	54%	58%	31%	42%
Coal/Coke	3	15	tons	1%	1%	0%	1%
Other	3	--	--	1%	1%	0%	--

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**12**
Average annual heating load per building:	**911 MMBTUs**
Estimated total heat energy consumption:	**10,936 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**798**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**11,172,000**
Fossil Fuel:	**462,115 gallons 56,036 MMBTUs**	Ethanol:	**45,704 gallons 3,872 MMBTUs**	Total:	**59,907 MMBTUs $1,142,591**
Registered EVs as of January 2017: 3	**(24 MMBTUs annually)**				

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	1,606,873	5,483
Residential	4,219,566	14,397
Total	5,826,439	19,880
Average Residential Usage	5,844	19.94

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	501	531	563
% of households to be weatherized	18%	30%	30%
# of households to be weatherized	92	160	171
Estimated # of commercial establishments	13	13	14
% of commercial establishments to be weatherized	5%	7%	13%
# of commercial establishments to be weatherized	1	1	2

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	235	192	139
% of households with wood heat systems	47%	36%	25%
New efficient wood heat systems in commercial establishments	2	2	3
% commercial establishments with wood heat systems	14%	17%	22%
New heat pumps in residential units	70	146	186
% of households with heat pumps	14%	28%	33%
Estimated commercial establishments with heat pumps	1	1	2
% of commercial establishments with heat pumps	5%	9%	13%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	752	797	845
% of customers to upgrade electrical equipment	24%	35%	49%
# of customers to upgrade electrical equipment	179	281	412

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	901	1,014	1,140
Number of vehicles powered by electricity	105	334	719
% of vehicles powered by electricity	12%	33%	63%
Number of vehicles using bio-fuel blends	711	489	86
% of vehicles using bio-fuel blends	79%	48%	7%

Granby

2015 Population estimates: **85**

Land (in acres): **24,843**

Population density: **2.2/square mile**

A. Residential Thermal Use

Total Households (HHs): **39**

Total owned: **36**, Avg. HH Size: **2.28**, Percentage built before 1940: **5.6%**

Total rented: **4**, Avg. HH Size: **3.25**, Percentage built before 1940: **100%**

Total vacant units for recreational or seasonal use: **58**

Total use for all occupied HHs: **5,822 MMBTUs**

Mean MMBTU per HH: **146**

Total use for all seasonal HHs: **386 MMBTUs**

Total cost for all occupied HHs: **$163,934**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	2	1,809	gallons	5.0%	5.6%	0.0%	2.8%
Electricity	2	48,435	kWh	5.0%	5.6%	0.0%	4.4%
Fuel Oil	9	53,350	gallons	22.5%	25.0%	0.0%	7.3%
Wood	26	117	cords	65.0%	61.1%	100.0%	16.2%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	0	--	--	0.0%	0.0%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**2**
Average annual heating load per building:	**887 MMBTUs**
Estimated total heat energy consumption:	**1,775 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**40**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**560,000**
Fossil Fuel:	**23,164 gallons 2,809 MMBTUs**	Ethanol:	**2,291 gallons 194 MMBTUs**	Total:	**3,003 MMBTUs $57,273**
Registered EVs as of January 2017: 0		**(0 MMBTUs annually)**			

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	N/A	N/A
Residential	251,680	859
Total	251,680	859
Average Residential Usage	4,576	15.61

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	41	44	46
% of households to be weatherized	16%	26%	26%
# of households to be weatherized	7	11	12
Estimated # of commercial establishments	2	2	2
% of commercial establishments to be weatherized	5%	8%	14%
# of commercial establishments to be weatherized	0	0	0

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	17	14	10
% of households with wood heat systems	41%	31%	21%
New efficient wood heat systems in commercial establishments	0	0	0
% commercial establishments with wood heat systems	0	0	0
New heat pumps in residential units	5	10	13
% of households with heat pumps	12%	24%	28%
Estimated commercial establishments with heat pumps	0	0	0
% of commercial establishments with heat pumps	0	0	0

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	62	66	70
% of customers to upgrade electrical equipment	23%	34%	47%
# of customers to upgrade electrical equipment	14	22	33

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	45	51	57
Number of vehicles powered by electricity	8	26	57
% of vehicles powered by electricity	18%	52%	100%
Number of vehicles using bio-fuel blends	56	39	7
% of vehicles using bio-fuel blends	125%	77%	12%

Greensboro

2015 Population estimates: **742**

Land (in acres): **25,311**

Population density: **18.8/square mile**

A. Residential Thermal Use

Total Households (HHs): **322**

Total owned: **281**, Avg. HH Size: **2.29**, Percentage built before 1940: **30.6%**

Total rented: **41**, Avg. HH Size: **2.32**, Percentage built before 1940: **56.1%**

Total vacant units for recreational or seasonal use: **488**

Total use for all occupied HHs: **41,358 MMBTUs**

Mean MMBTU per HH: **128**

Total use for all seasonal HHs: **3,301 MMBTUs**

Total cost for all occupied HHs: **$519,484**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	54	56,638	gallons	16.8%	17.1%	14.6%	27.7%
Electricity	6	158,974,	kWh	1.9%	1.4%	4.9%	4.6%
Fuel Oil	151	101,932	gallons	46.9%	43.4%	70.7%	43.8%
Wood	109	532	cords	33.9%	37.4%	9.8%	23.2%
Coal/Coke	2	10	tons	0.6%	0.7%	0.0%	0.7%
Other	0	--	--	0.0%	0.0%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**27**
Average annual heating load per building:	**784 MMBTUs**
Estimated total heat energy consumption:	**21,163 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**618**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**8,652,000**
Fossil Fuel:	**357,878 gallons 43,396 MMBTUs**	Ethanol:	**33,395 gallons 2,998 MMBTUs**	Total:	**36,394 MMBTUs $884,864**
Registered EVs as of January 2017: 2	**(16 MMBTUs annually)**				

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	890,481	3,038
Residential	1,511,728	5,158
Total	2,402,209	8,196
Average Residential Usage	3,475	11.86

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	341	362	384
% of households to be weatherized	19%	31%	32%
# of households to be weatherized	65	114	121
Estimated # of commercial establishments	29	30	32
% of commercial establishments to be weatherized	5%	9%	15%
# of commercial establishments to be weatherized	2	3	5

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	167	137	99
% of households with wood heat systems	49%	38%	26%
New efficient wood heat systems in commercial establishments	5	6	8
% commercial establishments with wood heat systems	16%	19%	25%
New heat pumps in residential units	50	104	132
% of households with heat pumps	15%	29%	35%
Estimated commercial establishments with heat pumps	2	3	5
% of commercial establishments with heat pumps	6%	11%	15%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	512	543	575
% of customers to upgrade electrical equipment	24%	35%	48%
# of customers to upgrade electrical equipment	121	190	278

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	698	785	883
Number of vehicles powered by electricity	71	225	485
% of vehicles powered by electricity	10%	29%	55%
Number of vehicles using bio-fuel blends	480	330	58
% of vehicles using bio-fuel blends	69%	42%	7%

Groton

2015 Population estimates: **1,005**

Land (in acres): **35,227**

Population density: **18.3/square mile**

A. Residential Thermal Use

Total Households (HHs): **380**

Total owned: **314**, Avg. HH Size: **2.93**, Percentage built before 1940: B

Total rented: **66**, Avg. HH Size: **1.61**, Percentage built before 1940: **33.3%**

Total vacant units for recreational or seasonal use: **279**

Total use for all occupied HHs: **61,288 MMBTUs**

Mean MMBTU per HH: **161**

Total use for all seasonal HHs: **2,564 MMBTUs**

Total cost for all occupied HHs: **$739,819**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	70	98,308	gallons	18.4%	21.0%	6.1%	33.8%
Electricity	4	52,943	kWh	1.1%	0.0%	6.1%	1.1%
Fuel Oil	161	126,148	gallons	42.4%	36.9%	68.2%	38.0%
Wood	132	823	cords	34.7%	37.9%	19.7%	25.2%
Coal/Coke	13	88	tons	3.4%	4.1%	0.0%	1.9%
Other	0	--		0.0%	0.0%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**16**
Average annual heating load per building:	**580 MMBTUs**
Estimated total heat energy consumption:	**9,285 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**772**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**10,794,000**
Fossil Fuel:	**446,479 gallons 54,140 MMBTUs**	Ethanol:	**44,157 gallons 3,741 MMBTUs**	Total:	**57,880 MMBTUs $1,103,932**
Registered EVs as of January 2017: 1	**(8 MMBTUs annually)**				

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	541,021	1,846
Residential	3,179,617	10,849
Total	3,720,637	12,695
Average Residential Usage	5,128	17.50

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	403	427	453
% of households to be weatherized	18%	30%	30%
# of households to be weatherized	73	127	136
Estimated # of commercial establishments	17	18	19
% of commercial establishments to be weatherized	7%	12%	21%
# of commercial establishments to be weatherized	1	2	4

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	186	152	110
% of households with wood heat systems	46%	36%	24%
New efficient wood heat systems in commercial establishments	4	5	7
% commercial establishments with wood heat systems	22%	26%	34%
New heat pumps in residential units	55	116	147
% of households with heat pumps	14%	27%	33%
Estimated commercial establishments with heat pumps	1	3	4
% of commercial establishments with heat pumps	8%	15%	21%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	604	640	679
% of customers to upgrade electrical equipment	28%	41%	57%
# of customers to upgrade electrical equipment	169	266	390

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	869	977	1,099
Number of vehicles powered by electricity	99	316	679
% of vehicles powered by electricity	11%	32%	62%
Number of vehicles using bio-fuel blends	672	462	81
% of vehicles using bio-fuel blends	77%	47%	7%

Guildhall

2015 Population estimates: **256**

Land (in acres): **21,107**

Population density: **7.8/square mile**

A. Residential Thermal Use

Total Households (HHs): **109**

Total owned: **96**, Avg. HH Size: **1.96**, Percentage built before 1940: **27.1%**

Total rented: **13**, Avg. HH Size: **2.15**, Percentage built before 1940: **46.2%**

Total vacant units for recreational or seasonal use: **56**

Total use for all occupied HHs: **12,335 MMBTUs**

Mean MMBTU per HH: **113**

Total use for all seasonal HHs: **329 MMBTUs**

Total cost for all occupied HHs: **$131,167**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	6	5,225	gallons	5.5%	5.2%	7.7%	10.1%
Electricity	2	48,320	kWh	1.8%	2.1%	0.0%	5.5%
Fuel Oil	57	32,680	gallons	52.3%	50.0%	69.2%	55.6%
Wood	41	166	cords	37.6%	39.6%	23.1%	28.8%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	3	--	--	2.8%	3.1%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**4**
Average annual heating load per building:	**1,669 MMBTUs**
Estimated total heat energy consumption:	**6,675 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**195**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**2,730,000**
Fossil Fuel:	**112,923 gallons 13,693 MMBTUs**	Ethanol:	**11,168 gallons 946 MMBTUs**	Total:	**14,639 MMBTUs $279,205**
Registered EVs as of January 2017:		**(MMBTUs annually)**			

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	286,282	977
Residential	848,330	2,895
Total	1,134,611	3,871
Average Residential Usage	6,576	22.44

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	116	122	130
% of households to be weatherized	19%	30%	31%
# of households to be weatherized	21	37	40
Estimated # of commercial establishments	4	4	5
% of commercial establishments to be weatherized	2%	4%	7%
# of commercial establishments to be weatherized	0	0	0

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	55	45	32
% of households with wood heat systems	47%	37%	25%
New efficient wood heat systems in commercial establishments	0	0	1
% commercial establishments with wood heat systems	16	34	43
New heat pumps in residential units	14%	28%	33%
% of households with heat pumps	0	0	0
Estimated commercial establishments with heat pumps	55	45	32
% of commercial establishments with heat pumps	47%	37%	25%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	173	184	195
% of customers to upgrade electrical equipment	20%	30%	41%
# of customers to upgrade electrical equipment	35	55	80

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	219	247	278
Number of vehicles powered by electricity	20	65	140
% of vehicles powered by electricity	9%	26%	50%
Number of vehicles using bio-fuel blends	139	95	17
% of vehicles using bio-fuel blends	63%	39%	6%

Hardwick

2015 Population estimates: **2,937**

Land (in acres): **24,741**

Population density: **76/square mile**

A. Residential Thermal Use

Total Households (HHs): **1,180**

Total owned: **803**, Avg. HH Size: **2.37**, Percentage built before 1940: **41.6%**

Total rented: **377**, Avg. HH Size: **2.66**, Percentage built before 1940: **31.6%**

Total vacant units for recreational or seasonal use: **89**

Total use for all occupied HHs: **146,373 MMBTUs**

Mean MMBTU per HH: **124**

Total use for all seasonal HHs: **647 MMBTUs**

Total cost for all occupied HHs: **$2,149,671**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	261	274,431	gallons	22.1%	20.5%	25.5%	32.4%
Electricity	72	1,557,286	KwH	6.1%	0.0%	19.1%	10.9%
Fuel Oil	554	388,619	gallons	46.9%	46.1%	48.8%	40.3%
Wood	293	1,552	cords	24.8%	33.4%	6.6%	16.4%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	0	--		0.0%	0.0%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**98**
Average annual heating load per building:	**712 MMBTUs**
Estimated total heat energy consumption:	**69,817 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**2,048**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**28,322,000**
Fossil Fuel:	**1,287,364 gallons 142,055 MMBTUs**	Ethanol:	**115,863 gallons 9,815 MMBTUs**	Total:	**151,870 MMBTUs $2,896,568**
Registered EVs as of January 2017:25	**(199 MMBTUs annually)**				

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	2,660,839	9,079
Residential	4,095,309	13,973
Total	6,756,148	23,052
Average Residential Usage	2,938	10.02

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	1,251	1,326	1,405
% of households to be weatherized	22%	37%	37%
# of households to be weatherized	278	484	518
Estimated # of commercial establishments	104	110	117
% of commercial establishments to be weatherized	6%	9%	17%
# of commercial establishments to be weatherized	6	10	20

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	718	591	429
% of households with wood heat systems	57%	45%	30%
New efficient wood heat systems in commercial establishments	18	23	32
% commercial establishments with wood heat systems	18%	21%	28%
New heat pumps in residential units	213	451	573
% of households with heat pumps	17%	34%	41%
Estimated commercial establishments with heat pumps	7	13	19
% of commercial establishments with heat pumps	7%	12%	17%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	1,876	1,989	2,108
% of customers to upgrade electrical equipment	26%	39%	54%
# of customers to upgrade electrical equipment	497	781	1,145

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	2,277	2,562	2,882
Number of vehicles powered by electricity	290	927	1,995
% of vehicles powered by electricity	13%	36%	69%
Number of vehicles using bio-fuel blends	1,975	1,358	237
% of vehicles using bio-fuel blends	87%	53%	8%

Holland

2015 Population estimate: **610**

Land (in acres): **24,279**

Population density: **15.8/square mile**

A. Residential Thermal Use

Total Households (HHs): **282**

Total owned: **261**, Avg. HH Size: **2.4**, Percentage built before 1940: **13.0%**

Total rented: **21**, Avg. HH Size: **1.95**, Percentage built before 1940: **33.3%**

Total vacant units for recreational or seasonal use: **133**

Total use for all occupied HHs: **38,718 MMBTUs**

Mean MMBTU per HH: **137**

Total use for all seasonal HHs: **905 MMBTUs**

Total cost for all occupied HHs: **$353,614**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	17	15,465	gallons	6.0%	5.0%	19.0%	11.1%
Electricity	0	--	kWh	0.0%	0.0%	0.0%	0.0%
Fuel Oil	108	70,010	gallons	38.3%	39.5%	23.8%	44.2%
Wood	150	666	cords	53.2%	52.9%	57.1%	44.8%
Coal/Coke	4	19	tons	1.4%	1.5%	0.0%	2.0%
Other	3	--	--	1.1%	1.1%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**3**
Average annual heating load per building:	**2,162 MMBTUs**
Estimated total heat energy consumption:	**6,486 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**548**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**7,762,000**
Fossil Fuel:	**317,342 gallons 38,481 MMBTUs**	Ethanol:	**31,385 gallons 2,659 MMBTUs**	Total:	**41,139 MMBTUs $784,636**
Registered EVs as of January 2017:0	**(0 MMBTUs annually)**				

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	1,920,877	6,554
Residential	2,127,357	7,259
Total	4,048,234	13,813
Average Residential Usage	5,483	18.71

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	299	317	336
% of households to be weatherized	19%	32%	32%
# of households to be weatherized	58	101	108
Estimated # of commercial establishments	3	3	4
% of commercial establishments to be weatherized	2%	3%	6%
# of commercial establishments to be weatherized	0	0	0

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	149	122	89
% of households with wood heat systems	50%	39%	26%
New efficient wood heat systems in commercial establishments	0	0	0
% commercial establishments with wood heat systems	6%	7%	9%
New heat pumps in residential units	44	93	118
% of households with heat pumps	15%	29%	35%
Estimated commercial establishments with heat pumps	0	0	0
% of commercial establishments with heat pumps	2%	4%	5%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	448	475	504
% of customers to upgrade electrical equipment	26%	38%	53%
# of customers to upgrade electrical equipment	115	181	265

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	621	699	786
Number of vehicles powered by electricity	67	215	462
% of vehicles powered by electricity	11%	31%	59%
Number of vehicles using bio-fuel blends	457	314	55
% of vehicles using bio-fuel blends	74%	45%	7%

Irasburg

2015 Population estimates: **1,127**

Land (in acres): **26,095**

Population density: **27.6/square mile**

A. Residential Thermal Use

Total Households (HHs): **521**

Total owned: **435**, Avg. HH Size: **2.28**, Percentage built before 1940: **20.2%**

Total rented: **86**, Avg. HH Size: **3.0**, Percentage built before 1940: **15.1%**

Total vacant units for recreational or seasonal use: **71**

Total use for all occupied HHs: **64,562 MMBTUs**

Mean MMBTU per HH: **124**

Total use for all seasonal HHs: **465 MMBTUs**

Total cost for all occupied HHs: **$696,499**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	36	32,599	gallons	6.9%	3.9%	22.1%	11.9%
Electricity	7	188,068	kWh	1.3%	1.6%	0.0%	4.1%
Fuel Oil	276	175,666	gallons	53.0%	51.5%	60.5%	56.2%
Wood	189	854	cords	36.3%	40.0%	17.4%	27.8%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	13	--	--	2.5%	3.0%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**16**
Average annual heating load per building:	**897 MMBTUs**
Estimated total heat energy consumption:	**14,347 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**989**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**13,846,000**
Fossil Fuel:	**572,721 gallons 69,448 MMBTUs**	Ethanol:	**56,643 gallons 4,798 MMBTUs**	Total:	**74,246 MMBTUs $1,416,068**
Registered EVs as of January 2017:2	**(16 MMBTUs annually)**				

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	3,469,569	11,838
Residential	3,498,840	11,938
Total	6,968,409	23,776
Average Residential Usage	7,155	24.41

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	552	585	621
% of households to be weatherized	20%	33%	34%
# of households to be weatherized	112	195	208
Estimated # of commercial establishments	17	18	19
% of commercial establishments to be weatherized	5%	8%	14%
# of commercial establishments to be weatherized	1	1	3

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	287	236	171
% of households with wood heat systems	52%	40%	28%
New efficient wood heat systems in commercial establishments	2	3	4
% commercial establishments with wood heat systems	14%	17%	22%
New heat pumps in residential units	85	180	228
% of households with heat pumps	15%	31%	37%
Estimated commercial establishments with heat pumps	1	2	2
% of commercial establishments with heat pumps	5%	9%	13%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	828	878	931
% of customers to upgrade electrical equipment	24%	36%	49%
# of customers to upgrade electrical equipment	200	314	460

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	1,115	1,254	1,411
Number of vehicles powered by electricity	117	372	801
% of vehicles powered by electricity	10%	30%	57%
Number of vehicles using bio-fuel blends	793	545	95
% of vehicles using bio-fuel blends	71%	43%	7%

Jay

2015 Population estimate: **560**

Land (in acres) **21,766**

Population density: **16.5/square mile**

A. Residential Thermal Use

Total Households (HHs): **276**

Total owned: **211**, Avg. HH Size: **2.28**, Percentage built before 1940: **10.9%**

Total rented: **65**, Avg. HH Size: **3.15** Percentage built before 1940: **10.8%**

Total vacant units for recreational or seasonal use: **345**

Total use for all occupied HHs: **31,063 MMBTUs**

Mean MMBTU per HH: **113**

Total use for all seasonal HHs: **4,271 MMBTUs**

Total cost for all occupied HHs: **$415,295**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	89	79,617	gallons	32.2%	24.2%	58.5%	48.7%
Electricity	0	--	kWh	0.0%	0.0%	0.0%	0.0%
Fuel Oil	94	56,187	gallons	34.1%	34.8%	41.5%	30.2%
Wood	90	387	cords	32.6%	42.7%	0.0%	21.1%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	3	--	--	1.1%	1.4%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**14**
Average annual heating load per building:	**1,028 MMBTUs**
Estimated total heat energy consumption:	**14,392 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**586**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**8,204,000**
Fossil Fuel:	**339,347 gallons 41,149 MMBTUs**	Ethanol:	**33,562 gallons 2,843 MMBTUs**	Total:	**43,992 MMBTUs $839,045**
Registered EVs as of January 2017:0	**(0 MMBTUs annually)**				

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	17,255,443	58,876
Residential	3,581,641	12,221
Total	20,837,084	71,096
Average Residential Usage	4,744	16.19

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	293	310	329
% of households to be weatherized	29%	47%	48%
# of households to be weatherized	84	147	157
Estimated # of commercial establishments	15	16	17
% of commercial establishments to be weatherized	4%	7%	12%
# of commercial establishments to be weatherized	1	1	2

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	221	185	134
% of households with wood heat systems	76%	60%	41%
New efficient wood heat systems in commercial establishments	2	2	3
% commercial establishments with wood heat systems	12%	15%	19%
New heat pumps in residential units	66	141	179
% of households with heat pumps	22%	45%	54%
Estimated commercial establishments with heat pumps	1	1	2
% of commercial establishments with heat pumps	5%	8%	11%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	439	465	493
% of customers to upgrade electrical equipment	31%	46%	64%
# of customers to upgrade electrical equipment	137	215	315

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	659	742	834
Number of vehicles powered by electricity	80	255	548
% of vehicles powered by electricity	12%	34%	66%
Number of vehicles using bio-fuel blends	543	373	65
% of vehicles using bio-fuel blends	82%	50%	8%

Kirby

2015 Population estimates: **497**

Land (in acres): **15,832**

Population density: **76/square mile**

A. Residential Thermal Use

Total Households (HHs): **162**

Total owned: **147**, Avg. HH Size: **2.71**, Percentage built before 1940: **19.7%**

Total rented: **17**, Avg. HH Size: **1.78**, Percentage built before 1940: **17.6%**

Total vacant units for recreational or seasonal use: **44**

Total use for all occupied HHs: **25,742 MMBTUs**

Mean MMBTU per HH: **157**

Total use for all seasonal HHs: **374 MMBTUS**

Total cost for all occupied HHs: **$229,940**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	10	9,804	gallons	6.1%	4.8%	17.6%	10.8%
Electricity	2	26,431	KwH	1.2%	0.0%	11.8%	1.7%
Fuel Oil	65	45,399	gallons	39.6%	36.1%	70.6%	44.0%
Wood	81	440	cords	49.4%	55.1%	0.0%	43.4%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	4	--		2.4%	2.7%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**4**
Average annual heating load per building:	**530 MMBTUs**
Estimated total heat energy consumption:	**2,120 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**337**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**4,718,000**
Fossil Fuel:	**214,455 gallons 23,664 MMBTUs**	Ethanol:	**19,301 gallons 1,635 MMBTUs**	Total:	**25,299 MMBTUs $482,523**
Registered EVs as of January 2017:0	**(0 MMBTUs annually)**				

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	95,917	327
Residential	3,586,802	12,238
Total	3,682,719	12,565
Average Residential Usage	16,084	54.88

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	172	182	193
% of households to be weatherized	18%	30%	31%
# of households to be weatherized	32	55	59
Estimated # of commercial establishments	4	4	5
% of commercial establishments to be weatherized	8%	13%	23%
# of commercial establishments to be weatherized	0	1	1

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	81	66	48
% of households with wood heat systems	47%	36%	25%
New efficient wood heat systems in commercial establishments	1	1	2
% commercial establishments with wood heat systems	24%	29%	38%
New heat pumps in residential units	24	51	64
% of households with heat pumps	14%	28%	33%
Estimated commercial establishments with heat pumps	0	1	1
% of commercial establishments with heat pumps	9%	16%	23%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	258	273	289
% of customers to upgrade electrical equipment	28%	42%	58%
# of customers to upgrade electrical equipment	73	114	167

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	380	428	481
Number of vehicles powered by electricity	42	135	292
% of vehicles powered by electricity	11%	32%	61%
Number of vehicles using bio-fuel blends	289	198	35
% of vehicles using bio-fuel blends	76%	46%	7%

Lemington

2015 Population estimates: **101**

Land (in acres): **22,613**

Population density: **2.9/square mile**

A. Residential Thermal Use

Total Households (HHs): **65**

Total owned: **58**, Avg. HH Size: **2.28**, Percentage built before 1940: **27.6%**

Total rented: **7**, Avg. HH Size: **2.43**, Percentage built before 1940: **28.6%**

Total vacant units for recreational or seasonal use: **19**

Total use for all occupied HHs: **7,197 MMBTUs**

Mean MMBTU per HH: **111**

Total use for all seasonal HHs: **110 MMBTUs**

Total cost for all occupied HHs: **$96,056**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	4	4,213	gallons	62.%	6.9%	0.0%	11.1%
Electricity	0	--	kWh	0.0%	0.0%	0.0%	0.0%
Fuel Oil	49	32,400	gallons	75.4%	72.4%	100.0%	75.2%
Wood	12	58	cords	18.5%	20.7%	0.0%	13.6%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	0	--	--	0.0%	0.0%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**n/a**
Average annual heating load per building:	**n/a MMBTUs**
Estimated total heat energy consumption:	**n/a MMBTUs**

C. Transportation Energy Use

Total vehicles:	**107**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**1,498,000**
Fossil Fuel:	**61,963 gallons 7,514 MMBTUs**	Ethanol:	**6,128 gallons 519 MMBTUs**	Total:	**8,033 MMBTUs $153,205**
Registered EVs as of January 2017: 0		**(0 MMBTUs annually)**			

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	N/A	N/A
Residential	389,081	1,328
Total	389,081	1,328
Average Residential Usage	5,404	18.44

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	69	73	77
% of households to be weatherized	20%	33%	34%
# of households to be weatherized	14	24	26
Estimated # of commercial establishments	--	--	--
% of commercial establishments to be weatherized	--	--	--
# of commercial establishments to be weatherized	--	--	--

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	36	30	21
% of households with wood heat systems	52%	41%	28%
New efficient wood heat systems in commercial establishments	--	--	--
% commercial establishments with wood heat systems	--	--	--
New heat pumps in residential units	11	23	29
% of households with heat pumps	16%	31%	37%
Estimated commercial establishments with heat pumps	--	--	--
% of commercial establishments with heat pumps	--	--	--

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	103	110	116
% of customers to upgrade electrical equipment	22%	32%	44%
# of customers to upgrade electrical equipment	22	35	52

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	120	135	152
Number of vehicles powered by electricity	13	42	90
% of vehicles powered by electricity	11%	31%	59%
Number of vehicles using bio-fuel blends	89	61	11
% of vehicles using bio-fuel blends	74%	45%	7%

Lowell

2015 Population estimates: **852**

Land (in acres): **36,083**

Population density: **15.1/square mile**

A. Residential Thermal Use

Total Households (HHs): **300**

Total owned: **257**, Avg. HH Size: **2.51**, Percentage built before 1940: **26.1%**

Total rented: **49**, Avg. HH Size: **3.08**, Percentage built before 1940: **36.7%**

Total vacant units for recreational or seasonal use: **148**

Total use for all occupied HHs: **43,347 MMBTUs**

Mean MMBTU per HH: **142**

Total use for all seasonal HHs: **1,093 MMBTUs**

Total cost for all occupied HHs: **$489,436**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	46	52,092	gallons	15.0%	16.3%	8.2%	27.0%
Electricity	2	61,476	KwH	0.7%	0.8%	0.0%	1.9%
Fuel Oil	127	93,306	gallons	41.5%	41.2%	42.9%	42.5%
Wood	117	599	cords	38.2%	38.5%	36.7%	27.8%
Coal/Coke	2	11	tons	0.7%	0.8%	0.0%	0.8%
Other	6	--		2.0%	2.3%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**7**
Average annual heating load per building:	**1,496 MMBTUs**
Estimated total heat energy consumption:	**10,472 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**583**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**8,162,000**
Fossil Fuel:	**337,610 gallons 40,938 MMBTUs**	Ethanol:	**33,390 gallons 2,828 MMBTUs**	Total:	**43,767 MMBTUs $834,750**
Registered EVs as of January 2017:		**(MMBTUs annually)**			

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	1,587,873	5,418
Residential	2,732,323	9,323
Total	4,320,196	14,741
Average Residential Usage	6,537	22.30

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	318	337	357
% of households to be weatherized	20%	34%	34%
# of households to be weatherized	65	113	121
Estimated # of commercial establishments	7	8	8
% of commercial establishments to be weatherized	3%	5%	8%
# of commercial establishments to be weatherized	0	0	1

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	167	137	99
% of households with wood heat systems	53%	41%	28%
New efficient wood heat systems in commercial establishments	1	1	1
% commercial establishments with wood heat systems	8%	10%	13%
New heat pumps in residential units	50	105	133
% of households with heat pumps	16%	31%	37%
Estimated commercial establishments with heat pumps	0	0	1
% of commercial establishments with heat pumps	3%	6%	8%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	477	506	536
% of customers to upgrade electrical equipment	28%	42%	58%
# of customers to upgrade electrical equipment	135	213	312

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	660	743	836
Number of vehicles powered by electricity	79	252	543
% of vehicles powered by electricity	12%	34%	65%
Number of vehicles using bio-fuel blends	537	370	65
% of vehicles using bio-fuel blends	81%	50%	8%

Lunenburg

2015 Population estimates: **1,281**

Land (in acres): **29,184**

Population density: **28.1/square mile**

A. Residential Thermal Use

Total Households (HHs): **570**

Total owned: **448**, Avg. HH Size: **2.49**, Percentage built before 1940: **29.2%**

Total rented: **128**, Avg. HH Size: **2.03**, Percentage built before 1940: **53.9%**

Total vacant units for recreational or seasonal use: **169**

Total use for all occupied HHs: **72,485 MMBTUs**

Mean MMBTU per HH: **126**

Total use for all seasonal HHs: **1,180 MMBTUs**

Total cost for all occupied HHs: **$1,598,776**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	95	95,724	gallons	16.5%	14.1%	25.0%	15.2%
Electricity	0	--	kWh	0.0%	0.0%	0.0%	0.0%
Fuel Oil	303	211,506	gallons	52.6%	52.9%	51.6%	29.5%
Wood	153	762	cords	26.6%	28.8%	18.8%	10.8%
Coal/Coke	4	22	tons	0.7%	0.9%	0.0%	0.5%
Other	15	--	--	2.6%	2.7%	2.3%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**15**
Average annual heating load per building:	**1,649 MMBTUs**
Estimated total heat energy consumption:	**24,736 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**1,099**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**15,386,000**
Fossil Fuel:	**636,421 gallons 77,172 MMBTUs**	Ethanol:	**62,943 gallons 5,332 MMBTUs**	Total:	**82,504 MMBTUs $1,573,568**
Registered EVs as of January 2017: 0		**(0 MMBTUs annually)**			

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	701,342	2,393
Residential	4,428,774	15,111
Total	5,130,116	17,504
Average Residential Usage	5,929	20.23

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	604	640	679
% of households to be weatherized	20%	33%	33%
# of households to be weatherized	121	211	226
Estimated # of commercial establishments	16	17	18
% of commercial establishments to be weatherized	0	1	1
# of commercial establishments to be weatherized	604	640	679

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	311	256	185
% of households with wood heat systems	52%	40%	27%
New efficient wood heat systems in commercial establishments	1	2	2
% commercial establishments with wood heat systems	92	195	247
New heat pumps in residential units	15%	30%	36%
% of households with heat pumps	0	1	1
Estimated commercial establishments with heat pumps	311	256	185
% of commercial establishments with heat pumps	52%	40%	27%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	906	961	1,018
% of customers to upgrade electrical equipment	25%	36%	50%
# of customers to upgrade electrical equipment	222	349	512

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	1,236	1,391	1,565
Number of vehicles powered by electricity	130	415	892
% of vehicles powered by electricity	11%	30%	57%
Number of vehicles using bio-fuel blends	883	607	106
% of vehicles using bio-fuel blends	71%	44%	7%

Lyndon

2015 Population estimates: **5,907**

Land (in acres): **25,405**

Population density: **148.8/square mile**

A. Residential Thermal Use

Total Households (HHs): **2,281**

Total owned: **1,465**, Avg. HH Size: **2.36**, Percentage built before 1940: **17.0%**

Total rented: **825**, Avg. HH Size **2.24**:, Percentage built before 1940: **51.2%**

Total vacant units for recreational or seasonal use: **58**

Total use for all occupied HHs: **222,747 MMBTUs**

Mean MMBTU per HH: **97**

Total use for all seasonal HHs: **326 MMBTUs**

Total cost for all occupied HHs: **$3,448,849**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	449	385,078	gallons	19.6%	11.4%	34.2%	28.4%
Electricity	37	878,087	KwH	1.6%	1.2%	2.3%	3.8%
Fuel Oil	1469	899,165	gallons	64.1%	65.8%	61.2%	58.1%
Wood	308	1,419	cords	13.4%	20.4%	1.1%	9.3%
Coal/Coke	18	74	tons	0.8%	0.5%	1.2%	0.3%
Other	0	--		0.0%	0.0%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**144**
Average annual heating load per building:	**822 MMBTUs**
Estimated total heat energy consumption:	**118,360 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**3,784**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**52,780,000**
Fossil Fuel:	**2,183,173 gallons 264,729 MMBTUs**	Ethanol:	**215,918 gallons 18,290 MMBTUs**	Total:	**283,020 MMBTUs $5,397,955**
Registered EVs as of January 2017: 14		**(111 MMBTUs annually)**			

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	16,973,338	57,913
Residential	22,813,876	77,841
Total	39,787,214	135,754
Average Residential Usage	9,975	34.04

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	2,418	2,563	2,717
% of households to be weatherized	29%	48%	49%
# of households to be weatherized	709	1,233	1,318
Estimated # of commercial establishments	153	162	172
% of commercial establishments to be weatherized	5%	8%	15%
# of commercial establishments to be weatherized	8	13	25

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	1,863	1,556	1,128
% of households with wood heat systems	77%	61%	42%
New efficient wood heat systems in commercial establishments	23	30	41
% commercial establishments with wood heat systems	15%	18%	24%
New heat pumps in residential units	553	1,187	1,507
% of households with heat pumps	23%	46%	55%
Estimated commercial establishments with heat pumps	9	17	25
% of commercial establishments with heat pumps	6%	10%	14%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	3,627	3,844	4,075
% of customers to upgrade electrical equipment	27%	41%	56%
# of customers to upgrade electrical equipment	996	1,565	2,295

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	4,273	4,807	5,408
Number of vehicles powered by electricity	582	1,858	3,999
% of vehicles powered by electricity	14%	39%	74%
Number of vehicles using bio-fuel blends	3,959	2,722	476
% of vehicles using bio-fuel blends	93%	57%	9%

Maidstone

2015 Population estimates: **203**

Land (in acres): **20,560**

Population density: **6.3/square mile**

A. Residential Thermal Use

Total Households (HHs): **109**

Total owned: **93**, Avg. HH Size: **1.87**, Percentage built before 1940: **18.3%**

Total rented: **16**, Avg. HH Size: **2.25**, Percentage built before 1940: **0%**

Total vacant units for recreational or seasonal use: **227**

Total use for all occupied HHs: **11,069 MMBTUs**

Mean MMBTU per HH: **102**

Total use for all seasonal HHs: **1,223 MMBTUs**

Total cost for all occupied HHs: **$126,235**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	19	13,590	gallons	17.4%	12.9%	43.8%	27.3%
Electricity	3	58,183	kWh	2.8%	2.2%	6.3%	6.9%
Fuel Oil	40	20,833	gallons	36.7%	39.8%	18.8%	36.8%
Wood	45	161	cords	41.3%	43.0%	31.3%	28.9%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	2	--	--	1.8%	2.2%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**4**
Average annual heating load per building:	**1,864 MMBTUs**
Estimated total heat energy consumption:	**7,457 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**192**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**2,688,000**
Fossil Fuel:	**111,185 gallons 13,482 MMBTUs**	Ethanol:	**10,996 gallons 932 MMBTUs**	Total:	**14,414 MMBTUs $274,909**
Registered EVs as of January 2017: 0		**(0 MMBTUs annually)**			

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	193,849	661
Residential	1,019,919	3,480
Total	1,213,768	4,141
Average Residential Usage	3,682	12.56

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	116	122	130
% of households to be weatherized	21%	35%	36%
# of households to be weatherized	25	43	46
Estimated # of commercial establishments	4	4	5
% of commercial establishments to be weatherized	0	0	0
# of commercial establishments to be weatherized	0	0	0

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	64	52	38
% of households with wood heat systems	55%	43%	29%
New efficient wood heat systems in commercial establishments	0	0	0
% commercial establishments with wood heat systems	0	0	0
New heat pumps in residential units	19	40	51
% of households with heat pumps	16%	33%	39%
Estimated commercial establishments with heat pumps	0	0	0
% of commercial establishments with heat pumps	0	0	0

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	173	184	195
% of customers to upgrade electrical equipment	21%	31%	43%
# of customers to upgrade electrical equipment	36	57	83

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	216	243	273
Number of vehicles powered by electricity	21	68	145
% of vehicles powered by electricity	10%	28%	53%
Number of vehicles using bio-fuel blends	144	99	17
% of vehicles using bio-fuel blends	67%	41%	6%

Morgan

2015 Population estimates: **739**

Land (in acres): **21,839**

Population density: **21.7/square mile**

A. Residential Thermal Use

Total Households (HHs): **285**

Total owned: **241**, Avg. HH Size: **2.13**, Percentage built before 1940: **14.9%**

Total rented: **44**, Avg. HH Size: **2.41**, Percentage built before 1940: **61.4%**

Total vacant units for recreational or seasonal use: **503**

Total use for all occupied HHs: **31,033 MMBTUs**

Mean MMBTU per HH: **109**

Total use for all seasonal HHs: **2,767 MMBTUs**

Total cost for all occupied HHs: **$410,903**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	71	63,918	gallons	24.9%	26.1%	18.2%	39.5%
Electricity	2	48,413	KwH	0.7%	0.8%	0.0%	1.8%
Fuel Oil	119	70,165	gallons	41.8%	39.8%	52.3%	38.1%
Wood	91	374	cords	31.9%	32.4%	29.5%	20.6%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	2	--		0.7%	0.8%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**8**
Average annual heating load per building:	**505 MMBTUs**
Estimated total heat energy consumption:	**4,041 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**528**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**7,392,000**
Fossil Fuel:	**305,760 gallons 121,259 MMBTUs**	Ethanol:	**30,240 gallons 2,562 MMBTUs**	Total:	**39,638 MMBTUs $756,000**
Registered EVs as of January 2017: 0	**(0 MMBTUs annually)**				

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	471,092	1,607
Residential	2,712,634	9,256
Total	3,183,726	10,863
Average Residential Usage	3,943	13.45

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	302	320	339
% of households to be weatherized	26%	42%	42%
# of households to be weatherized	77	135	144
Estimated # of commercial establishments	8	9	10
% of commercial establishments to be weatherized	8%	13%	24%
# of commercial establishments to be weatherized	1	1	2

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	202	167	121
% of households with wood heat systems	67%	52%	36%
New efficient wood heat systems in commercial establishments	2	3	4
% commercial establishments with wood heat systems	25%	30%	40%
New heat pumps in residential units	60	128	162
% of households with heat pumps	20%	40%	48%
Estimated commercial establishments with heat pumps	1	2	2
% of commercial establishments with heat pumps	10%	17%	24%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	453	480	509
% of customers to upgrade electrical equipment	27%	39%	54%
# of customers to upgrade electrical equipment	120	189	277

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	594	668	752
Number of vehicles powered by electricity	70	225	483
% of vehicles powered by electricity	12%	34%	64%
Number of vehicles using bio-fuel blends	478	329	58
% of vehicles using bio-fuel blends	81%	49%	8%

Newark

2015 Population estimates: **576**

Land (in acres): **23,833**

Population density: **15.5/square mile**

A. Residential Thermal Use

Total Households (HHs): **226**

Total owned: **193**, Avg. HH Size: **2.1**, Percentage built before 1940: **18.7%**

Total rented: **33**, Avg. HH Size: **2.52**, Percentage built before 1940: **12.1%**

Total vacant units for recreational or seasonal use: **306**

Total use for all occupied HHs: **26,951 MMBTUs**

Mean MMBTU per HH: **119**

Total use for all seasonal HHs: **1,927 MMBTUs**

Total cost for all occupied HHs: **$262,641**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	47	39,599	gallons	20.8%	17.1%	42.4%	34.4%
Electricity	0	--	KwH	0.0%	0.0%	0.0%	0.0%
Fuel Oil	71	41,331	gallons	31.4%	32.1%	27.3%	31.5%
Wood	108	440	cords	47.8%	50.8%	30.3%	34.1%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	0	--		0.0%	0.0%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**3**
Average annual heating load per building:	**1,909 MMBTUs**
Estimated total heat energy consumption:	**5,726 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**384**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**5,376,000**
Fossil Fuel:	**222,371 gallons 26,964 MMBTUs**	Ethanol:	**21,993 gallons 1,863 MMBTUs**	Total:	**28,827 MMBTUs $549,818**
Registered EVs as of January 2017: 0	**(0 MMBTUs annually)**				

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	226,466	773
Residential	5,246,765	17,902
Total	5,473,231	18,675
Average Residential Usage	12,433	42.42

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	240	254	269
% of households to be weatherized	22%	36%	36%
# of households to be weatherized	52	90	97
Estimated # of commercial establishments	3	3	4
% of commercial establishments to be weatherized	2%	4%	6%
# of commercial establishments to be weatherized	0	0	0

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	134	110	80
% of households with wood heat systems	56%	43%	30%
New efficient wood heat systems in commercial establishments	--	--	--
% commercial establishments with wood heat systems	--%	--%	--%
New heat pumps in residential units	40	84	107
% of households with heat pumps	17%	33%	40%
Estimated commercial establishments with heat pumps	--	--	--
% of commercial establishments with heat pumps	--	--	--

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	359	381	404
% of customers to upgrade electrical equipment	25%	37%	51%
# of customers to upgrade electrical equipment	89	140	205

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	448	504	567
Number of vehicles powered by electricity	52	166	358
% of vehicles powered by electricity	12%	33%	63%
Number of vehicles using bio-fuel blends	354	244	43
% of vehicles using bio-fuel blends	79%	48%	8%

Newport City

2015 Population estimates: **4,442**

Land (in acres): **4,881**

Population density: **582.4/square mile**

A. Residential Thermal Use

Total Households (HHs): **1,786**

Total owned: **1,017**, Avg. HH Size: **2.32**, Percentage built before 1940: **47.3%**

Total rented: **769**, Avg. HH Size: **2.13**, Percentage built before 1940: **59.8%**

Total vacant units for recreational or seasonal use: **185**

Total use for all occupied HHs: **188,637 MMBTUs**

Mean MMBTU per HH: **106**

Total use for all seasonal HHs: **1,207 MMBTUs**

Total cost for all occupied HHs: **$2,902,465**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	232	224,748	gallons	13.0%	10.6%	16.1%	19.7%
Electricity	60	1,413,480	kWh	3.4%	1.6%	5.7%	7.3%
Fuel Oil	1,272	843,030	gallons	71.2%	69.4%	73.6%	64.8%
Wood	200	1,056	cords	11.2%	17.4%	3.0%	8.3%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	22	--		1.2%	1.0%	1.6%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**209**
Average annual heating load per building:	**756 MMBTUs**
Estimated total heat energy consumption:	**158,061 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**2,541**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**35,574,000**
Fossil Fuel:	**1,471,470 gallons 121,259 MMBTUs**	Ethanol:	**145,530 gallons 12,838 MMBTUs**	Total:	**190,756 MMBTUs $3,638,250**
Registered EVs as of January 2017: 8		**64 (MMBTUs annually)**			

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	32,186,539	109,820
Residential	11,746,732	40,080
Total	43,933,271	149,900
Average Residential Usage	5,517	18.83

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	1,893	2,007	2,127
% of households to be weatherized	26%	43%	44%
# of households to be weatherized	498	866	926
Estimated # of commercial establishments	222	235	249
% of commercial establishments to be weatherized	5%	9%	16%
# of commercial establishments to be weatherized	12	21	40

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	1,299	1,078	781
% of households with wood heat systems	69%	54%	37%
New efficient wood heat systems in commercial establishments	37	47	65
% commercial establishments with wood heat systems	17%	20%	26%
New heat pumps in residential units	385	823	1,044
% of households with heat pumps	20%	41%	49%
Estimated commercial establishments with heat pumps	14	26	39
% of commercial establishments with heat pumps	6%	11%	16%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	2,840	3,010	3,191
% of customers to upgrade electrical equipment	27%	40%	55%
# of customers to upgrade electrical equipment	757	1,190	1,744

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	2,868	3,226	3,629
Number of vehicles powered by electricity	442	1,412	3,040
% of vehicles powered by electricity	15%	44%	84%
Number of vehicles using bio-fuel blends	2,426	2,069	362
% of vehicles using bio-fuel blends	85%	64%	10%

Newport Town

2015 Population estimates: **2,248**

Land (in acres): **27,881**

Population density: **51.6/square mile**

A. Residential Thermal Use

Total Households (HHs): **708**

Total owned: **619**, Avg. HH Size: **2.48**, Percentage built before 1940: **21.1%**

Total rented: **89**, Avg. HH Size: **2.67**, Percentage built before 1940: **3.4%**

Total vacant units for recreational or seasonal use: **149**

Total use for all occupied HHs: **92,999 MMBTUs**

Mean MMBTU per HH: **131**

Total use for all seasonal HHs: **1,034 MMBTUs**

Total cost for all occupied HHs: **$1,097,238**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	88	97,649	gallons	12.4%	13.9%	2.2%	22.6%
Electricity	6	179,868	KwH	0.8%	1.0%	0.0%	2.5%
Fuel Oil	366	251,520	gallons	51.7%	49.4%	67.4%	51.1%
Wood	236	1,151	cords	33.3%	33.8%	30.3%	23.8%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	12	--		1.7%	0.0%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**36**
Average annual heating load per building:	**511 MMBTUs**
Estimated total heat energy consumption:	**18,405 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**1,363**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**19,082,000**
Fossil Fuel:	**789,301 gallons 95,709 MMBTUs**	Ethanol:	**78,063 gallons 6,613 MMBTUs**	Total:	**102,322 MMBTUs $1,951,568**
Registered EVs as of January 2017: 1	**(8 MMBTUs annually)**				

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	2,163,946	7,383
Residential	5,784,349	19,736
Total	7,948,295	27,120
Average Residential Usage	6,870	23.44

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	750	796	843
% of households to be weatherized	21%	34%	34%
# of households to be weatherized	156	271	290
Estimated # of commercial establishments	38	40	43
% of commercial establishments to be weatherized	8%	13%	24%
# of commercial establishments to be weatherized	3	5	10

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	400	329	238
% of households with wood heat systems	53%	41%	28%
New efficient wood heat systems in commercial establishments	9	12	17
% commercial establishments with wood heat systems	25%	30%	39%
New heat pumps in residential units	119	251	318
% of households with heat pumps	16%	32%	38%
Estimated commercial establishments with heat pumps	4	7	10
% of commercial establishments with heat pumps	9%	17%	10%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	1,126	1,193	1,265
% of customers to upgrade electrical equipment	26%	39%	54%
# of customers to upgrade electrical equipment	295	463	678

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	1,538	1,730	1,946
Number of vehicles powered by electricity	172	549	1,182
% of vehicles powered by electricity	11%	32%	61%
Number of vehicles using bio-fuel blends	1,170	805	141
% of vehicles using bio-fuel blends	76%	47%	7%

Norton

2015 Population estimates: **160**

Land (in acres): **24,809**

Population density: **4.1/square mile**

A. Residential Thermal Use

Total Households (HHs): **76**

Total owned: **65**, Avg. HH Size: **2.0**, Percentage built before 1940: **32.3%**

Total rented: **11**, Avg. HH Size:**1.55**, Percentage built before 1940: **36.4%**

Total vacant units for recreational or seasonal use: **146**

Total use for all occupied HHs: **8,574 MMBTUs**

Mean MMBTU per HH: **113**

Total use for all seasonal HHs: **898 MMBTUs**

Total cost for all occupied HHs: **$94,801**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	4	3,808	gallons	5.3%	6.2%	0.0%	10.2%
Electricity	2	38,461	KwH	2.6%	1.5%	9.1%	6.1%
Fuel Oil	41	23,189	gallons	53.9%	50.8%	72.7%	54.5%
Wood	29	122	cords	38.2%	41.5%	18.2%	29.2%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	0	--		0.0%	0.0%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**7**
Average annual heating load per building:	**549 MMBTUs**
Estimated total heat energy consumption:	**3,840 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**128**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**1,792,000**
Fossil Fuel:	**74,124 gallons 8,988 MMBTUs**	Ethanol:	**7,331 gallons 621 MMBTUs**	Total:	**9,609 MMBTUs $183,273**
Registered EVs as of January 2017: 0		**(0 MMBTUs annually)**			

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	360,059	1,229
Residential	682,230	2,328
Total	1,042,289	3,556
Average Residential Usage	3,629	12.38

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	81	85	91
% of households to be weatherized	21%	34%	34%
# of households to be weatherized	17	29	31
Estimated # of commercial establishments	7	8	8
% of commercial establishments to be weatherized	1	1	2
# of commercial establishments to be weatherized	81	85	91

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	43	35	25
% of households with wood heat systems	43	35	25
New efficient wood heat systems in commercial establishments	2	2	3
% commercial establishments with wood heat systems	13	27	34
New heat pumps in residential units	16%	31%	37%
% of households with heat pumps	1	1	2
Estimated commercial establishments with heat pumps	43	35	25
% of commercial establishments with heat pumps	43	35	25

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	121	128	136
% of customers to upgrade electrical equipment	22%	33%	46%
# of customers to upgrade electrical equipment	27	42	62

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	144	162	182
Number of vehicles powered by electricity	16	50	108
% of vehicles powered by electricity	11%	31%	59%
Number of vehicles using bio-fuel blends	107	73	13
% of vehicles using bio-fuel blends	74%	45%	7%

Peacham

2015 Population estimates: **740**

Land (in acres): **30,539**

Population density: **15.5/square mile**

A. Residential Thermal Use

Total Households (HHs): **299**

Total owned: **261**, Avg. HH Size: **2.63**, Percentage built before 1940: **41.4%**

Total rented: **38**, Avg. HH Size: **1.68**, Percentage built before 1940: **57.9%**

Total vacant units for recreational or seasonal use: **215**

Total use for all occupied HHs: **47,991 MMBTUs**

Mean MMBTU per HH: **161**

Total use for all seasonal HHs:

Total cost for all occupied HHs: **$529,030**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	36	34,498	gallons	12.0%	6.9%	47.4%	16.6%
Electricity	6	212,376	KwH	2.0%	2.3%	0.0%	6.0%
Fuel Oil	130	110,327	gallons	43.5%	47.5%	15.8%	46.5%
Wood	127	720	cords	42.5%	43.3%	36.8%	30.9%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	0	--		0.0%	0.0%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**6**
Average annual heating load per building:	**3,522 MMBTUs**
Estimated total heat energy consumption:	**2,135 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**626**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**8,764,000**
Fossil Fuel:	**362,511 gallons 43,958 MMBTUs**	Ethanol:	**35,853 gallons 3,037 MMBTUs**	Total:	**46,995 MMBTUs $896,318**
Registered EVs as of January 2017: 0	**(0 MMBTUs annually)**				

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	271,889	928
Residential	2,903,500	9,907
Total	3,175,388	10,834
Average Residential Usage	6,178	21.08

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	317	336	356
% of households to be weatherized	16%	26%	26%
# of households to be weatherized	50	87	93
Estimated # of commercial establishments	6	7	7
% of commercial establishments to be weatherized	--%	--%	--%
# of commercial establishments to be weatherized	--%	--%	--%

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	127	104	75
% of households with wood heat systems	40%	31%	21%
New efficient wood heat systems in commercial establishments	0	0	0
% commercial establishments with wood heat systems	--%	--%	--%
New heat pumps in residential units	38	79	100
% of households with heat pumps	12%	24%	28%
Estimated commercial establishments with heat pumps	0	0	0
% of commercial establishments with heat pumps	--%	--%	--%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	475	504	534
% of customers to upgrade electrical equipment	24%	36%	50%
# of customers to upgrade electrical equipment	116	182	267

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	704	792	891
Number of vehicles powered by electricity	68	216	466
% of vehicles powered by electricity	10%	27%	52%
Number of vehicles using bio-fuel blends	10%	27%	52%
% of vehicles using bio-fuel blends	0%	0%	0%

Ryegate

2015 Population estimates: **1,136**

Land (in acres): **23,600**

Population density: **30.8/square mile**

A. Residential Thermal Use

Total Households (HHs): **447**

Total owned: **372**, Avg. HH Size: **2.48**, Percentage built before 1940: **41.1%**

Total rented: **75**, Avg. HH Size: **2.48**, Percentage built before 1940: **26.7%**

Total vacant units for recreational or seasonal use: **77**

Total use for all occupied HHs: **60,955 MMBTUs**

Mean MMBTU per HH: **136**

Total use for all seasonal HHs: **571 MMBTUs**

Total cost for all occupied HHs: **$826,650**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	101	113,397	gallons	22.6%	20.7%	32.0%	34.8%
Electricity	7	178,179	KwH	1.6%	0.8%	5.3%	3.2%
Fuel Oil	211	161,139	gallons	47.2%	47.3%	46.7%	43.5%
Wood	121	660	cords	27.1%	29.3%	16.0%	18.1%
Coal/Coke	3	17	tons	0.7%	0.8%	0.0%	0.3%
Other	4	--		0.9%	1.1%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**12**
Average annual heating load per building:	**518 MMBTUs**
Estimated total heat energy consumption:	**6,219 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**800**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**11,200,000**
Fossil Fuel:	**463,273 gallons 56,176 MMBTUs**	Ethanol:	**45,818 gallons 3,881 MMBTUs**	Total:	**60,057 MMBTUs $1,145,455**
Registered EVs as of January 2017: 0		**(0 MMBTUs annually)**			

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	1,310,707	4,472
Residential	4,243,943	14,480
Total	5,554,650	18,952
Average Residential Usage	6,878	23.47

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	474	502	532
% of households to be weatherized	20%	33%	33%
# of households to be weatherized	95	165	177
Estimated # of commercial establishments	13	13	14
% of commercial establishments to be weatherized	8%	13%	23%
# of commercial establishments to be weatherized	1	2	3

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	244	200	145
% of households with wood heat systems	51%	40%	27%
New efficient wood heat systems in commercial establishments	3	4	6
% commercial establishments with wood heat systems	24%	29%	39%
New heat pumps in residential units	72	153	194
% of households with heat pumps	15%	30%	36%
Estimated commercial establishments with heat pumps	1	2	3
% of commercial establishments with heat pumps	9%	16%	23%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	711	753	799
% of customers to upgrade electrical equipment	26%	39%	54%
# of customers to upgrade electrical equipment	187	293	430

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	900	1,013	1,139
Number of vehicles powered by electricity	109	348	749
% of vehicles powered by electricity	12%	34%	66%
Number of vehicles using bio-fuel blends	0%	0%	1%
% of vehicles using bio-fuel blends	0%	0%	0%

Sheffield

2015 Population estimates: **692**

Land (in acres): **21,003**

Population density: **21.1/square mile**

A. Residential Thermal Use

Total Households (HHs): **260**

Total owned: **228**, Avg. HH Size: **2.4**, Percentage built before 1940: **23.2%**

Total rented: **32**, Avg. HH Size: **2.91**, Percentage built before 1940: **50.0%**

Total vacant units for recreational or seasonal use: **91**

Total use for all occupied HHs: **36,821 MMBTUs**

Mean MMBTU per HH: **142**

Total use for all seasonal HHs: **672 MMBTUs**

Total cost for all occupied HHs: **$390,043**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	39	40,933	gallons	15.0%	11.8%	37.5%	26.7%
Electricity	0	--	KwH	0.0%	0.0%	0.0%	0.0%
Fuel Oil	104	72,793	gallons	40.0%	38.2%	53.1%	41.6%
Wood	111	545	cords	42.7%	47.4%	9.4%	31.7%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	6	--		2.3%	2.6%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**2**
Average annual heating load per building:	**887 MMBTUs**
Estimated total heat energy consumption:	**1,775 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**515**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**7,196,000**
Fossil Fuel:	**297,653 gallons 36,093 MMBTUs**	Ethanol:	**29,438 gallons 2,494 MMBTUs**	Total:	**38,587 MMBTUs $735,955**
Registered EVs as of January 2017: 1	**(8 MMBTUs annually)**				

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	433,199	1,478
Residential	2,658,131	9,070
Total	3,091,330	10,548
Average Residential Usage	8,154	27.82

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	276	292	310
% of households to be weatherized	17%	28%	28%
# of households to be weatherized	47	81	87
Estimated # of commercial establishments	2	2	2
% of commercial establishments to be weatherized	--%	--%	--
# of commercial establishments to be weatherized	0	0	0

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	118	97	70
% of households with wood heat systems	43%	33%	23%
New efficient wood heat systems in commercial establishments	0	0	1
% commercial establishments with wood heat systems	35	74	93
New heat pumps in residential units	13%	25%	30%
% of households with heat pumps	0	0	0
Estimated commercial establishments with heat pumps	118	97	70
% of commercial establishments with heat pumps	43%	33%	23%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	413	438	464
% of customers to upgrade electrical equipment	23%	34%	47%
# of customers to upgrade electrical equipment	95	149	218

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	579	652	733
Number of vehicles powered by electricity	55	177	381
% of vehicles powered by electricity	10%	27%	52%
Number of vehicles using bio-fuel blends	0%	0%	1%
% of vehicles using bio-fuel blends	0%	0%	0%

St. Johnsbury

2015 Population estimates: **7,442**

Land (in acres): **23,585**

Population density: **201.9/square mile**

A. Residential Thermal Use

Total Households (HHs): **3,174**

Total owned: **1,922**, Avg. HH Size: **2.65**, Percentage built before 1940: **44.1%**

Total rented: **1,252**, Avg. HH Size: **1.71**, Percentage built before 1940: **58.8%**

Total vacant units for recreational or seasonal use: **72**

Total use for all occupied HHs: **368,671 MMBTUs**

Mean MMBTU per HH: **116**

Total use for all seasonal HHs: **558 MMBTUs**

Total cost for all occupied HHs: **$5,095,215**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	471	421,219	gallons	14.8%	9.4%	23.2%	21.0%
Electricity	63	1,124,686	KwH	2.0%	0.3%	4.6%	3.3%
Fuel Oil	2,128	1,465,034	gallons	67.0%	65.0%	70.2%	64.1%
Wood	434	2,597	cords	13.7%	21.3%	2.0%	11.6%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	78	--		2.5%	4.1%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**298**
Average annual heating load per building:	**704 MMBTUs**
Estimated total heat energy consumption:	**209,842 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**5,050**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**70,336,000**
Fossil Fuel:	**3,197,091 gallons 352,785 MMBTUs**	Ethanol:	**287,738 gallons 24,374 MMBTUs**	Total:	**377,160 MMBTUs $7,193,455**
Registered EVs as of January 2017: 26		**(207 MMBTUs annually)**			

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	57,726,084	196,961
Residential	19,773,135	67,466
Total	77,499,219	264,427
Average Residential Usage	6,084	20.76

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	3,364	3,566	3,780
% of households to be weatherized	22%	37%	37%
# of households to be weatherized	756	1,316	1,407
Estimated # of commercial establishments	316	335	355
% of commercial establishments to be weatherized	6%	10%	17%
# of commercial establishments to be weatherized	19	32	61

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	1,952	1,609	1,166
% of households with wood heat systems	58%	45%	31%
New efficient wood heat systems in commercial establishments	57	72	100
% commercial establishments with wood heat systems	18%	22%	28%
New heat pumps in residential units	579	1,228	1,558
% of households with heat pumps	17%	34%	41%
Estimated commercial establishments with heat pumps	22	40	60
% of commercial establishments with heat pumps	7%	12%	17%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	5,047	5,349	5,670
% of customers to upgrade electrical equipment	25%	37%	51%
# of customers to upgrade electrical equipment	1,264	1,987	2,913

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	5,711	6,424	7,227
Number of vehicles powered by electricity	739	2,359	5,076
% of vehicles powered by electricity	13%	37%	70%
Number of vehicles using bio-fuel blends	0%	0%	1%
% of vehicles using bio-fuel blends	0%	0%	0%

Stannard

2015 Population estimates: **224**

Land (in acres): **8,129**

Population density: **17.6/square mile**

A. Residential Thermal Use

Total Households (HHs): **94**

Total owned: **76**, Avg. HH Size: **2.68**, Percentage built before 1940: **15.8%**

Total rented: **18**, Avg. HH Size: **4.0**, Percentage built before 1940: **22.8%**

Total vacant units for recreational or seasonal use: **18**

Total use for all occupied HHs: **15,471 MMBTUs**

Mean MMBTU per HH: **165**

Total use for all seasonal HHs: **152 MMBTUs**

Total cost for all occupied HHs: **$143,758**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	15	17,169	gallons	16.0%	19.7%	0.0%	30.3%
Electricity	0	--	KwH	0.0%	0.0%	0.0%	0.0%
Fuel Oil	25	18,841	gallons	26.6%	18.4%	61.1%	29.2%
Wood	49	256	cords	52.1%	55.3%	38.9%	40.4%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	5	--		5.3%	6.6%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**2**
Average annual heating load per building:	**202 MMBTUs**
Estimated total heat energy consumption:	**404 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**189**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**2,646,000**
Fossil Fuel:	**109,448 gallons 13,272 MMBTUs**	Ethanol:	**10,825 gallons 917 MMBTUs**	Total:	**14,189 MMBTUs $270,614**
Registered EVs as of January 2017: 0		**(0 MMBTUs annually)**			

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	N/A	N/A
Residential	606,618	2,070
Total	606,618	2,070
Average Residential Usage	5,833	19.90

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	100	106	112
% of households to be weatherized	20%	32%	33%
# of households to be weatherized	20	34	36
Estimated # of commercial establishments	2	2	2
% of commercial establishments to be weatherized	20%	33%	60%
# of commercial establishments to be weatherized	0	1	1

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	50	41	30
% of households with wood heat systems	50%	39%	27%
New efficient wood heat systems in commercial establishments	1	2	3
% commercial establishments with wood heat systems	15	31	40
New heat pumps in residential units	15%	30%	36%
% of households with heat pumps	1	1	2
Estimated commercial establishments with heat pumps	50	41	30
% of commercial establishments with heat pumps	50%	39%	27%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	149	158	168
% of customers to upgrade electrical equipment	31%	46%	64%
# of customers to upgrade electrical equipment	46	73	107

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	213	239	269
Number of vehicles powered by electricity	27	87	186
% of vehicles powered by electricity	13%	36%	69%
Number of vehicles using bio-fuel blends	0%	0%	1%
% of vehicles using bio-fuel blends	0%	0%	0%

Sutton

2015 Population estimates: **1,023**

Land (in acres): **24,633**

Population density: **26.6/square mile**

A. Residential Thermal Use

Total Households (HHs): **395**

Total owned: **359**, Avg. HH Size: **2.38**, Percentage built before 1940: **20.6%**

Total rented: **36**, Avg. HH Size: **3.92**, Percentage built before 1940: **30.6%**

Total vacant units for recreational or seasonal use: **91**

Total use for all occupied HHs: **52,196 MMBTUs**

Mean MMBTU per HH: **132**

Total use for all seasonal HHs: **596 MMBTUs**

Total cost for all occupied HHs: **$611,562**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	54	57,253	gallons	13.7%	13.9%	11.1%	23.8%
Electricity	3	84,352	KwH	0.8%	0.8%	0.0%	2.1%
Fuel Oil	188	131,796	gallons	47.6%	46.8%	55.6%	48.1%
Wood	140	679	cords	35.4%	35.7%	33.3%	25.2%
Coal/Coke	7	34	tons	1.8%	1.9%	0.0%	0.9%
Other	3	--		0.8%	0.8%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**6**
Average annual heating load per building:	**1,838 MMBTUs**
Estimated total heat energy consumption:	**11,029 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**802**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**11,214,000**
Fossil Fuel:	**463,852 gallons 56,246 MMBTUs**	Ethanol:	**48,875 gallons 3,886 MMBTUs**	Total:	**60,132 MMBTUs $1,146,886**
Registered EVs as of January 2017: 1	**(8 MMBTUs annually)**				

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	2,098,830	7,161
Residential	3,505,262	11,960
Total	5,604,092	19,121
Average Residential Usage	7,985	27.24

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	419	444	470
% of households to be weatherized	20%	33%	33%
# of households to be weatherized	83	145	155
Estimated # of commercial establishments	6	7	7
% of commercial establishments to be weatherized	--%	-%	-%
# of commercial establishments to be weatherized	0	0	0

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	213	175	127
% of households with wood heat systems	51%	39%	27%
New efficient wood heat systems in commercial establishments	0	1	1
% commercial establishments with wood heat systems	7%	8%	11%
New heat pumps in residential units	63	134	169
% of households with heat pumps	15%	30%	36%
Estimated commercial establishments with heat pumps	0	0	0
% of commercial establishments with heat pumps	--%	--%	--%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	628	666	706
% of customers to upgrade electrical equipment	25%	37%	52%
# of customers to upgrade electrical equipment	158	249	365

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	902	1,015	1,142
Number of vehicles powered by electricity	92	295	635
% of vehicles powered by electricity	10%	29%	56%
Number of vehicles using bio-fuel blends	0%	0%	1%
% of vehicles using bio-fuel blends	0%	0%	0%

Troy

2015 Population estimates: **1,608**

Land (in acres): **23,341**

Population density: **44.1/square mile**

A. Residential Thermal Use

Total Households (HHs): **650**

Total owned: **564**, Avg. HH Size: **2.28**, Percentage built before 1940: **33.0%**

Total rented: **89**, Avg. HH Size: **2.88**, Percentage built before 1940: **68.5%**

Total vacant units for recreational or seasonal use: **136**

Total use for all occupied HHs: **82,191 MMBTUs**

Mean MMBTU per HH: **126**

Total use for all seasonal HHs: **875 MMBTUs**

Total cost for all occupied HHs: **$1,076,020**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	103	112,083	gallons	15.8%	16.1%	13.5%	26.5%
Electricity	3	86,475	kWh	0.5%	0.0%	3.4%	1.2%
Fuel Oil	365	260,808	gallons	55.9%	53.5%	70.8%	54.1%
Wood	171	850	cords	26.2%	28.7%	10.1%	17.9%
Coal/Coke	2	10	tons	0.3%	0.0%	2.2%	0.3%
Other	6	--		0.9%	1.1%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**26**
Average annual heating load per building:	**775 MMBTUs**
Estimated total heat energy consumption:	**20,139 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**1,158**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**16,212,000**
Fossil Fuel:	**670,587 gallons 81,315 MMBTUs**	Ethanol:	**66,322 gallons 5,618 MMBTUs**	Total:	**86,993 MMBTUs $1,658,045**
Registered EVs as of January 2017: 2	**(16 MMBTUs annually)**				

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	4,202,641	14,339
Residential	5,534,878	18,885
Total	9,737,519	33,224
Average Residential Usage	6,613	22.56

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	689	730	774
% of households to be weatherized	19%	31%	31%
# of households to be weatherized	130	225	241
Estimated # of commercial establishments	28	29	31
% of commercial establishments to be weatherized	5%	9%	16%
# of commercial establishments to be weatherized	1	3	5

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	331	271	197
% of households with wood heat systems	48%	37%	25%
New efficient wood heat systems in commercial establishments	4	6	8
% commercial establishments with wood heat systems	16%	20%	25%
New heat pumps in residential units	98	207	263
% of households with heat pumps	14%	28%	34%
Estimated commercial establishments with heat pumps	2	3	5
% of commercial establishments with heat pumps	6%	11%	15%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	1,034	1,096	1,161
% of customers to upgrade electrical equipment	23%	34%	47%
# of customers to upgrade electrical equipment	236	371	543

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	1,305	1,468	1,652
Number of vehicles powered by electricity	138	440	947
% of vehicles powered by electricity	11%	30%	57%
Number of vehicles using bio-fuel blends	938	645	113
% of vehicles using bio-fuel blends	72%	44%	7%

Unified Towns & Gores

2015 Population estimates: **59**

Land (in acres): **103,831**

Population density: **0.04/square mile**

A. Residential Thermal Use

Total Households (HHs): **21**

Total owned: **21**, Avg. HH Size:**2.25** , Percentage built before 1940: **0%**

Total rented: **0**, Avg. HH Size:**N/A**, Percentage built before 1940: **N/A**

Total vacant units for recreational or seasonal use: **337**

Total use for all occupied HHs: **2,658 MMBTUs**

Mean MMBTU per HH: **127**

Total use for all seasonal HHs: **2,132 MMBTUs**

Total cost for all occupied HHs: **$25,244**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	4	3,423	gallons	19.0%	19.0%	n/a	34.4%
Electricity	0	--	kWh	0.0%	0.0%	n/a	0.0%
Fuel Oil	4	2,249	gallons	19.0%	19.0%	n/a	19.9%
Wood	13	51	cords	61.9%	61.9%	n/a	45.7%
Coal/Coke	0	--	tons	0.0%	0.0%	n/a	0.0%
Other	0	--	--	0.0%	0.0%	n/a	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**n/a**
Average annual heating load per building:	**n/a MMBTUs**
Estimated total heat energy consumption:	**n/a MMBTUs**

C. Transportation Energy Use

Total vehicles:	**77**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**1,064,000**
Fossil Fuel:	**44,011 gallons 5,337 MMBTUs**	Ethanol:	**4,353 gallons 369 MMBTUs**	Total:	**5,705 MMBTUs $108,818**
Registered EVs as of January 2017: 1		**(8 MMBTUs annually)**			

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	-	-
Residential	169,487	578
Total	169,487	578
Average Residential Usage	2,387	8.14

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	22	24	25
% of households to be weatherized	24%	40%	40%
# of households to be weatherized	5	9	10
Estimated # of commercial establishments	--	--	--
% of commercial establishments to be weatherized	--	--	--
# of commercial establishments to be weatherized	--	--	--

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	14	12	8
% of households with wood heat systems	63%	49%	34%
New efficient wood heat systems in commercial establishments	--	--	--
% commercial establishments with wood heat systems	--	--	--
New heat pumps in residential units	4	9	11
% of households with heat pumps	19%	37%	45%
Estimated commercial establishments with heat pumps	--	--	--
% of commercial establishments with heat pumps	--	--	--

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	33	35	38
% of customers to upgrade electrical equipment	29%	44%	60%
# of customers to upgrade electrical equipment	10	15	23

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	53	59	67
Number of vehicles powered by electricity	2	6	13
% of vehicles powered by electricity	4%	10%	19%
Number of vehicles using bio-fuel blends	13	9	2
% of vehicles using bio-fuel blends	24%	15%	2%

Victory

2015 Population estimates: **60**

Land (in acres): **27,572**

Population density: **1.4/square mile**

A. Residential Thermal Use

Total Households (HHs): **41**

Total owned: **39**, Avg. HH Size: **2.08**, Percentage built before 1940: **23.1%**

Total rented: **2**, Avg. HH Size: **3.5**, Percentage built before 1940: **0%**

Total vacant units for recreational or seasonal use: **43**

Total use for all occupied HHs: **5,781 MMBTUs**

Mean MMBTU per HH: **141**

Total use for all seasonal HHs: **310 MMBTUs**

Total cost for all occupied HHs: **$51,913**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	8	7,306	gallons	19.5%	15.4%	100.0%	35.7%
Electricity	0	--	kWh	0.0%	0.0%	0.0%	0.0%
Fuel Oil	6	3,679	gallons	14.6%	15.4%	0.0%	15.8%
Wood	26	111	cords	63.4%	++.7%	0.0%	48.4%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	1	--	--	2.4%	2.6%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**n/a**
Average annual heating load per building:	**n/a**
Estimated total heat energy consumption:	**n/a**

C. Transportation Energy Use

Total vehicles:		Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**574,000**
Fossil Fuel:	**23,743 gallons 2,879 MMBTUs**	Ethanol:	**2,348 gallons 199 MMBTUs**	Total:	**3,078 MMBTUs $58,705**
Registered EVs as of January 2017:		**(MMBTUs annually)**			

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	N/A	N/A
Residential	276,638	944
Total	276,638	944
Average Residential Usage	3,790	12.93

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	43	46	49
% of households to be weatherized	20%	34%	34%
# of households to be weatherized	9	15	17
Estimated # of commercial establishments	--	--	--
% of commercial establishments to be weatherized	--	--	--
# of commercial establishments to be weatherized	--	--	--

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	23	19	14
% of households with wood heat systems	52%	41%	28%
New efficient wood heat systems in commercial establishments	--	--	--
% commercial establishments with wood heat systems	--	--	--
New heat pumps in residential units	7	14	18
% of households with heat pumps	16%	31%	37%
Estimated commercial establishments with heat pumps	--	--	--
% of commercial establishments with heat pumps	--	--	--

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	65	69	73
% of customers to upgrade electrical equipment	28%	41%	57%
# of customers to upgrade electrical equipment	18	28	42

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	46	52	58
Number of vehicles powered by electricity	11	34	72
% of vehicles powered by electricity	23%	65%	124%
Number of vehicles using bio-fuel blends	72	49	9
% of vehicles using bio-fuel blends	155%	95%	15%

Walden

2015 Population estimates: **925**

Land (in acres): **24,962**

Population density: **23.7/square mile**

A. Residential Thermal Use

Total Households (HHs): **384**

Total owned: **339**, Avg. HH Size: **2.58**, Percentage built before 1940: **14.2%**

Total rented: **45**, Avg. HH Size: **2.73**, Percentage built before 1940: **37.8%**

Total vacant units for recreational or seasonal use: **143**

Total use for all occupied HHs: **54,795 MMBTUs**

Mean MMBTU per HH: **143**

Total use for all seasonal HHs: **1,066 MMBTUs**

Total cost for all occupied HHs: **$588,131**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	65	66,937	gallons	1.69%	14.2%	37.8%	28.9%
Electricity	0	--	KwH	0.0%	0.0%	0.0%	0.0%
Fuel Oil	141	98,305	gallons	36.7%	36.0%	42.2%	37.3%
Wood	178	876	cords	46.4%	49.9%	20.0%	33.8%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	0	--		0.0%	0.0%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**3**
Average annual heating load per building:	**1,648 MMBTUs**
Estimated total heat energy consumption:	**4,945 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**709**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**9,926,000**
Fossil Fuel:	**410,575 gallons 49,786 MMBTUs**	Ethanol:	**40,606 gallons 3,440 MMBTUs**	Total:	**53,226 MMBTUs $1,015,159**
Registered EVs as of January 2017: 0		**0 (MMBTUs annually)**			

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	151,054	515
Residential	2,978,353	10,162
Total	3,129,407	10,678
Average Residential Usage	5,244	17.89

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	407	431	457
% of households to be weatherized	21%	34%	35%
# of households to be weatherized	85	148	158
Estimated # of commercial establishments	3	3	4
% of commercial establishments to be weatherized	3%	4%	7%
# of commercial establishments to be weatherized	0	0	0

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	218	179	130
% of households with wood heat systems	54%	42%	28%
New efficient wood heat systems in commercial establishments	0	0	0
% commercial establishments with wood heat systems	--%	--%	--%
New heat pumps in residential units	65	137	174
% of households with heat pumps	16%	32%	38%
Estimated commercial establishments with heat pumps	0	0	0
% of commercial establishments with heat pumps	--%	--%	--%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	611	647	686
% of customers to upgrade electrical equipment	29%	42%	59%
# of customers to upgrade electrical equipment	174	274	402

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	798	897	1,009
Number of vehicles powered by electricity	102	325	700
% of vehicles powered by electricity	13%	36%	69%
Number of vehicles using bio-fuel blends	0%	0%	1%
% of vehicles using bio-fuel blends	0%	0%	0%

Waterford

2015 Population estimates: **1,278**

Land (in acres): **25,464**

Population density: **32.1/square mile**

A. Residential Thermal Use

Total Households (HHs): **532**

Total owned: **499**, Avg. HH Size: **2.82**, Percentage built before 1940: **14.2%**

Total rented: **33**, Avg. HH Size: **2.0**, Percentage built before 1940: **9.1%**

Total vacant units for recreational or seasonal use: **72**

Total use for all occupied HHs: **76,224 MM BTUs**

Mean MMBTU per HH: **143**

Total use for all seasonal HHs: **536 MM BTUs**

Total cost for all occupied HHs: **$894,265**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	79	94,116	gallons	14.8%	15.8%	0.0%	26.7%
Electricity	0	--	KwH	0.0%	0.0%	0.0%	0.0%
Fuel Oil	262	194,095	gallons	49.2%	47.3%	78.8%	48.4%
Wood	184	980	cords	34.6%	35.5%	21.2%	24.9%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	7	--	-	1.3%	1.4%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**15**
Average annual heating load per building:	**821 MMBTUs**
Estimated total heat energy consumption:	**12,318 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**1,027**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**14,378,000**
Fossil Fuel:	**594,726 gallons 72,116 MMBTUs**	Ethanol:	**58,819 gallons 4,983 MMBTUs**	Total:	**77,098 MMBTUs $1,470,477**
Registered EVs as of January 2017:		**(MMBTUs annually)**			

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	2,029,941	6,926
Residential	4,400,707	15,015
Total	6,430,649	21,941
Average Residential Usage	7,409	25.28

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	564	598	634
% of households to be weatherized	21%	35%	35%
# of households to be weatherized	121	210	224
Estimated # of commercial establishments	16	17	18
% of commercial establishments to be weatherized	5%	8%	15%
# of commercial establishments to be weatherized	1	1	3

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	310	255	185
% of households with wood heat systems	55%	43%	29%
New efficient wood heat systems in commercial establishments	2	3	4
% commercial establishments with wood heat systems	15%	18%	24%
New heat pumps in residential units	92	195	247
% of households with heat pumps	16%	33%	39%
Estimated commercial establishments with heat pumps	1	2	3
% of commercial establishments with heat pumps	6%	10%	14%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	846	897	950
% of customers to upgrade electrical equipment	29%	44%	60%
# of customers to upgrade electrical equipment	249	391	573

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	1,155	1,300	1,462
Number of vehicles powered by electricity	145	464	998
% of vehicles powered by electricity	13%	36%	68%
Number of vehicles using bio-fuel blends	0%	0%	1%
% of vehicles using bio-fuel blends	0%	0%	0%

Westfield

2015 Population estimates: 5**18**

Land (in acres): **25,608**

Population density: **12.9/square mile**

A. Residential Thermal Use

Total Households (HHs): **217**

Total owned: **191**, Avg. HH Size: **2.46**, Percentage built before 1940: **11.0%**

Total rented: **26**, Avg. HH Size: **2.5**, Percentage built before 1940: **38.5%**

Total vacant units for recreational or seasonal use: **117**

Total use for all occupied HHs: **27,949 MMBTUs**

Mean MMBTU per HH: **129**

Total use for all seasonal HHs: **798 MMBTUs**

Total cost for all occupied HHs: **$350,555**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	62	59,844	gallons	28.6%	25.1%	53.8%	43.4%
Electricity	7	148,424	KwH	3.2%	0.0%	26.9%	6.4%
Fuel Oil	58	37,975	gallons	26.7%	27.7%	19.2%	24.2%
Wood	87	404	cords	40.1%	45.5%	0.0%	26.1%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	0	--		1.4%	1.6%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**7**
Average annual heating load per building:	**384 MMBTUs**
Estimated total heat energy consumption:	**2,691 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**450**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**6,300,000**
Fossil Fuel:	**260,951 gallons 31,599 MMBTUs**	Ethanol:	**25,773 gallons 2,183 MMBTUs**	Total:	**33,782 MMBTUs $644,318**
Registered EVs as of January 2017: 2	**(16 MMBTUs annually)**				

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	991,231	3,382
Residential	1,954,730	6,670
Total	2,945,961	10,052
Average Residential Usage	6,052	20.65

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	230	244	258
% of households to be weatherized	21%	34%	35%
# of households to be weatherized	48	84	89
Estimated # of commercial establishments	7	8	8
% of commercial establishments to be weatherized	11%	18%	32%
# of commercial establishments to be weatherized	1	1	3

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	124	102	74
% of households with wood heat systems	54%	42%	28%
New efficient wood heat systems in commercial establishments	2	3	4
% commercial establishments with wood heat systems	33%	40%	53%
New heat pumps in residential units	37	78	98
% of households with heat pumps	16%	32%	38%
Estimated commercial establishments with heat pumps	1	2	3
% of commercial establishments with heat pumps	13%	22%	32%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	345	366	388
% of customers to upgrade electrical equipment	26%	38%	53%
# of customers to upgrade electrical equipment	89	140	205

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	509	572	644
Number of vehicles powered by electricity	52	166	358
% of vehicles powered by electricity	10%	29%	56%
Number of vehicles using bio-fuel blends	354	244	43
% of vehicles using bio-fuel blends	70%	43%	7%

Westmore

2015 Population estimates: **340**

Land (in acres): **24,048**

Population density: **9.0/square mile**

A. Residential Thermal Use

Total Households (HHs): **173**

Total owned: **158**, Avg. HH Size: **2.06**, Percentage built before 1940: **19.0%**

Total rented: **15**, Avg. HH Size: **1.87**, Percentage built before 1940: **46.7%**

Total vacant units for recreational or seasonal use: **436**

Total use for all occupied HHs: **18,428 MMBTUs**

Mean MMBTU per HH: **107**

Total use for all seasonal HHs: **2,425 MMBTUs**

Total cost for all occupied HHs: **$239,453**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	36	31,541	gallons	20.8%	20.9%	20.0%	33.5%
Electricity	2	48,144	KwH	1.2%	1.3%	0.0%	3.0%
Fuel Oil	76	42,718	gallons	43.9%	40.5%	80.0%	39.8%
Wood	56	230	cords	32.4%	35.4%	0.0%	21.8%
Coal/Coke	3	13	tons	1.7%	1.9%	0.0%	1.9%
Other	--	--		0.0%	0.0%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**5**
Average annual heating load per building:	**568 MMBTUs**
Estimated total heat energy consumption:	**2,841 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**305**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**4,270,000**
Fossil Fuel:	**176,623 gallons 21,417 MMBTUs**	Ethanol:	**17,468 gallons 1,480 MMBTUs**	Total:	**22,897 MMBTUs $436,705**
Registered EVs as of January 2017: 0		**0 (MMBTUs annually)**			

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	N/A	N/A
Residential	328,681	1,121
Total	328,681	1,121
Average Residential Usage	3,960	13.51

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	183	194	206
% of households to be weatherized	23%	38%	39%
# of households to be weatherized	43	74	80
Estimated # of commercial establishments	5	6	6
% of commercial establishments to be weatherized	7%	12%	21%
# of commercial establishments to be weatherized	0	1	1

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	111	91	66
% of households with wood heat systems	60%	47%	32%
New efficient wood heat systems in commercial establishments	1	2	2
% commercial establishments with wood heat systems	22%	27%	35%
New heat pumps in residential units	33	70	88
% of households with heat pumps	18%	36%	43%
Estimated commercial establishments with heat pumps	0	1	1
% of commercial establishments with heat pumps	9%	15%	21%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	725	769	815
% of customers to upgrade electrical equipment	9%	13%	19%
# of customers to upgrade electrical equipment	66	103	151

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	343	386	434
Number of vehicles powered by electricity	38	122	263
% of vehicles powered by electricity	11%	32%	61%
Number of vehicles using bio-fuel blends	261	179	31
% of vehicles using bio-fuel blends	76%	46%	7%

Wheelock

2015 Population estimates: **799**

Land (in acres): **25,613**

Population density: **20/square mile**

A. Residential Thermal Use

Total Households (HHs): **324**

Total owned: **279**, Avg. HH Size: **2.77**, Percentage built before 1940: **8.6%**

Total rented: **45**, Avg. HH Size: **1.98**, Percentage built before 1940: **8.9%**

Total vacant units for recreational or seasonal use: **105**

Total use for all occupied HHs: **45,706 MMBTUs**

Mean MMBTU per HH: **141**

Total use for all seasonal HHs: **809 MMBTUs**

Total cost for all occupied HHs: **$463,813**

Fuel Type: Space Heating	HHs	Total annual avg. use		% Use: (All HHs)	% of Use: Owned	%of Use: Rented	% of Cost (All HHs)
Tank/LP/etc. Gas	45	41,467	gallons	13.9%	10.8%	33.3%	22.7%
Electricity	0	--	KwH	0.0%	0.0%	0.0%	0.0%
Fuel Oil	127	86,809	gallons	39.2%	39.1%	40.0%	41.7%
Wood	148	726	cords	45.7%	48.7%	26.7%	35.6%
Coal/Coke	0	--	tons	0.0%	0.0%	0.0%	0.0%
Other	4	--		1.2%	1.4%	0.0%	0.0%

B. Commercial Thermal Energy Use

Estimated number of commercial buildings, per Vt. Dept. of Labor:	**2**
Average annual heating load per building:	**235 MMBTUs**
Estimated total heat energy consumption:	**469 MMBTUs**

C. Transportation Energy Use

Total vehicles:	**611**	Avg. annual vehicle miles travelled (VMTs) per vehicle:	**14,000**	Total annual VMTs:	**8,554,000**
Fossil Fuel:	**353,825 gallons 42,904 MMBTUs**	Ethanol:	**34,994 gallons 2,964 MMBTUs**	Total:	**45,869 MMBTUs $874,841**
Registered EVs as of January 2017:0		**0 (MMBTUs annually)**			

D. Electricity Energy Use

Usage in 2016	KWh	MMBTUs
Commercial & Industrial	200,479	684
Residential	2,909,430	9,927
Total	3,109,909	10,611
Average Residential Usage	8,409	28.69

E. Thermal Residential and Commercial Efficiency Targets

	2025	2035	2050
Estimated number of households	343	364	386
% of households to be weatherized	21%	34%	34%
# of households to be weatherized	71	124	132
Estimated # of commercial establishments	2	2	2
% of commercial establishments to be weatherized	18%	29%	52%
# of commercial establishments to be weatherized	0	1	1

F. Thermal Fuel-Switching, Residential & Commercial Targets

	2025	2035	2050
New efficient wood heat systems in residences	183	150	109
% of households with wood heat systems	53%	41%	28%
New efficient wood heat systems in commercial establishments	1	2	2
% commercial establishments with wood heat systems	55%	67%	91%
New heat pumps in residential units	54	115	146
% of households with heat pumps	16%	32%	38%
Estimated commercial establishments with heat pumps	0	1	1
% of commercial establishments with heat pumps	21%	37%	54%

G. Electrical Efficiency Targets

	2025	2035	2050
Estimated # of customers	515	546	579
% of customers to upgrade electrical equipment	28%	42%	58%
# of customers to upgrade electrical equipment	145	227	333

H. Fuel-Switching, Transportation Targets

	2025	2035	2050
Projected number of light-duty vehicles in the area, by year	687	773	870
Number of vehicles powered by electricity	84	270	580
% of vehicles powered by electricity	12%	35%	67%
Number of vehicles using bio-fuel blends	0%	0%	1%
% of vehicles using bio-fuel blends	0%	0%	0%

Appendix B: Municipal Energy Generation, Existing and Potential

I. EXISTING REWABLE ENERGY GENERATION

Table A is a summary of all existing renewable energy generation in the Northeast Kingdom, broken out by municipality. This information comes from the Energy Action Network's Community Energy Dashboard: https://www.vtenergydashboard.org/energy-atlas

II. NEW NET GENERATION TARGETS AND GENERATION POTENTIAL

The region's target for new net generation in 18,680 MWh. Municipal generation targets are based on each municipality's share of the region's population. Existing generation identified in Section I do not count toward this target. The regional target for new solar generation by the year 2050 ranges from 246.1 MW to 377.2 MW. There are no new generation targets for wind.

This analysis uses maps are produced by NVDA and, with relatively few exceptions, evaluates only prime areas (no constraints). Rooftop solar is calculated at 10% of residential structures (including seasonal residences); 10% of all small commercial structures, and 3% of all large commercial structures. Estimates assumed 4kw capacity for residential, 20 kW for small commercial, and 200 kW for large commercial. For ground-mounted solar, this estimate assumes a conservative 60 acres per 1 MW of ground mounted solar to account for contingencies, such as property owners not interested in leasing their land, interconnection costs that may be too high in some areas, and unsuitability of certain sites after site-specific investigation.

Given the regionally designated constraints on lands with an elevation of 2,000 feet or more, NVDA is not planning for additional utility scale wind. Wind generation capacity is calculated assuming an average output of 9.5 kW (residential) and is based on average capacity of existing installations in the region. NVDA's capacity analysis assumes a conservative average of 9.5 kW per every 25 acres of prime residential-scale wind, in order to account for contingencies, such as property owners not interested in leasing their land, interconnection costs that may be too high in some areas, and unsuitability of certain sites after site-specific evaluation. For towns that have no prime acreage for wind, capacity is determined by calculating 9.5 kW for every 75 acres of land with potential constraints. These towns are noted in italics.

Methane generation estimates were based on data from the Vermont Farm to Plate Atlas, as well as local knowledge of dairy farming in the area. Hydro estimates were based on a capacity study based on existing dams only.

This estimate assumes no locally designated restraints, which may reduce generation capacity. Nevertheless, our analysis found that potential generation significantly exceeded new net generation targets, and that each municipality had sufficient land was available for solar and wind development.

I. EXISTING REWABLE ENERGY GENERATION

Note: The following municipalities have no data for existing renewable energy generation: Brunswick, Granby, Jay, Victory, and the Unified Towns and Gores.

Albany

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Solar	142 Lost Nation Road	Ground-mounted PV: Fixed Rack	3838	4.600	5.641
Solar	28 Goddard Lot Road	Roof-Mounted PV		3.000	3.679
Solar	3112 Barton Rd	Roof-Mounted PV		6.000	7.358
Solar	652 Kingdom Rd	Roof-Mounted PV		3.000	3.679
Solar	73 Page Pond Road	Roof-Mounted PV		1.400	1.717
Solar	874 Burbank Rd	Ground-mounted PV: Fixed Rack	162	5.900	7.236
Solar		Ground-mounted PV: Fixed Rack		5.000	6.132
			Total Solar Generation Capacity	**28.9**	**35.443**
Wind	1711 Lafont Road	Small Wind	659	9.500	16.644
Wind	3614 Creek Road	Small Wind	544	9.500	16.644
			Total Wind Generation Capacity	**19.00**	**33.288**

Barnet

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Hydro	Connecticut River	Hydropower		157,000.000	351,000.000
Hydro	Passumpsic River	Hydropower		2,900.000	11,293.000
Hydro	Stevens River	Hydropower		490.000	1,814.000
			Total Hydro Generation Capacity	**160,390.00**	**364,107.000**
Solar	1083 County Hill Rd	Roof-Mounted PV		5.200	6.377
Solar	1417 Joes Brook Rd	Hot Water			-
Solar		Roof-Mounted PV		3.800	4.660
Solar	154 S Main St	Roof-Mounted PV		3.000	3.679

Solar	1740 US-5	Roof-Mounted PV		8.400	10.302
Solar	1770 Joe's Brook Road	Ground-mounted PV: Fixed Rack	7118	150.000	183.960
Solar	193 Somerhill Road	Roof-Mounted PV		5.000	6.132
Solar	221 McLam Lane	Roof-Mounted PV		3.800	4.660
Solar	2742 US Route 5 South	Ground-mounted PV: Fixed Rack	6937	150.000	183.960
Solar	2916 Joe's Brook Rd	Roof-Mounted PV		20.000	24.528
Solar	3352 West Barnet Road	Roof-Mounted PV		3.800	4.660
Solar	364 Gilkerson Lane	Ground-mounted PV: Tracker	3888	10.000	12.264
Solar	372 Pearlmont Road	Ground-mounted PV: Fixed Rack	6379	8.000	9.811
Solar	399 Wild Leek Lane	Roof-Mounted PV		2.700	3.311
Solar	506 Tripp Ln	Ground-mounted PV: Tracker	1598	4.200	5.445
Solar	521 Denio Road	Ground-mounted PV: Fixed Rack	7476	5.000	6.132
Solar	530 Laird Road	Hot Water			-
Solar	764 Whitehall Road	Ground-mounted PV: Fixed Rack	837	3.900	4.783
Solar	77 Stevenson Road	Roof-Mounted PV		7.600	9.321
Solar	804 County Hill Rd	Ground-mounted PV: Fixed Rack	2352	8.200	10.056
Solar	875 Morrison Hill Rd	Roof-Mounted PV		7.500	9.198
Solar	1420 Kitchel Hill Rd	Roof-Mounted PV		0.600	0.736
Solar	3119 Garland Hill	Roof-Mounted PV		6.500	7.972
			Total Solar Generation Capacity	**417.2**	**511.948**

Barton

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Hydro	Clyde River	Hydropower		**1,400.000**	**4,210.000**
Solar	1369 Glover Rd	Ground-mounted PV: Pole	6716	37.440	45.916
Solar	178 Maple Hill Rd	Roof-Mounted PV		4.200	5.151
Solar	1799 E Albany Rd	Roof-Mounted PV		1.300	1.594
Solar	290 Elm Street	Roof-Mounted PV		5.100	6.255
Solar	2962 Maple Hill Rd	Roof-Mounted PV		9.200	11.283

Solar	38 Water Street	Roof-Mounted PV		2.200	2.698
Solar	412 May Pond Rd	Ground-mounted PV: Fixed Rack	1196	1.700	2.085
Solar	42 Eldredge Road	Roof-Mounted PV		2.200	2.698
Solar	443 Baird Rd	Ground-mounted PV: Pole	16-1041	3.230	3.961
Solar	732 Leblanc Rd	Roof-Mounted PV		7.000	8.585
Solar	Glover Road	Ground-mounted PV: Fixed Rack	8148	1,890.000	2,317.896
Solar	1915 Lake Region Road	Roof-Mounted PV		8.000	9.811
Solar	21 High St	Roof-Mounted PV		8.000	9.811
Solar	2712 Willoughby Avenue	Roof-Mounted PV		3.000	3.679
			Total Solar Generation Capacity	**1,982.57**	**2,431.424**
Wind	1296 Cook Rd	Small Wind	1634	9.500	16.644
Wind	193 Aldrich Lane	Small Wind	1122	9.500	16.644
			Total Wind Generation Capacity	**19**	**33.288**

Bloomfield

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Solar	2141 VT Route 102	Roof-Mounted PV		**6.500**	**7.972**

Brighton

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Solar	102 Railroad Street	Roof-Mounted PV		2.500	3.066
Solar	1027 E Brighton Rd	Ground-mounted PV: Fixed Rack	1178	2.400	2.943
Solar	265 Cottage Rd	Roof-Mounted PV		3.000	3.679
			Total Solar Generation Capacity	**7.900**	**9.689**

Brownington

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh

Solar	2906 Willoughby Lake Rd	Ground-mounted PV: Pole	6086	3.000	3.679
Solar	327 Veterinary Lane	Hot Water			-
Solar		Roof-Mounted PV		6.000	7.358
Solar	3513 Chilafoux Road	Ground-mounted PV: Fixed Rack	1502	7.900	9.689
Solar	41 Postman Lane	Roof-Mounted PV		6.000	7.358
Solar	853 Willoughby Lake Rd	Ground-mounted PV: Pole	5200	7.000	8.585
			Total Solar Generation Capacity	**29.9**	**36.669**
Wind	1332 Chapdelaine Road	Small Wind	242	**5.000**	**8.760**

Burke

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Solar	101 Hunter Farm Rd	Hot Water			-
Solar	1047 Burke Green Rd	Roof-Mounted PV		4.200	5.151
Solar	12 VT Route 5A	Roof-Mounted PV		9.000	11.038
Solar	146 Rexford Rd	Roof-Mounted PV		5.700	6.990
Solar	170 Maple Lane	Roof-Mounted PV		7.600	9.321
Solar	212 School St	Roof-Mounted PV		14.800	18.151
Solar	28 Burkeland Ln	Roof-Mounted PV		11.300	13.858
Solar	3532 Sugarhouse Rd	Roof-Mounted PV		1.300	1.594
Solar	379 Brook Rd	Roof-Mounted PV		4.700	5.764
Solar	3923 Darling Hill Rd	Roof-Mounted PV		5.000	6.132
Solar	4006 Darling Hill	Hot Water			-
Solar	403 Ridge Rd	Roof-Mounted PV		3.800	4.660
Solar	507 W Darling Hill Rd	Roof-Mounted PV		6.000	7.358
Solar	5198 Darling Hill Road	Roof-Mounted PV		6.000	7.358
Solar	523 Gaskell Hill Road	Roof-Mounted PV		6.000	7.358
Solar	677 E Darling Ridge Rd	Roof-Mounted PV		15.000	18.396

Solar	719 Bugbee Crossing Rd	Roof-Mounted PV		8.600	10.547
Solar	834 Burke Green Road	Roof-Mounted PV		8.000	9.811
Solar	868 Victory Road	Roof-Mounted PV		4.000	4.906
Solar	956 Gaskell Hill Road	Roof-Mounted PV		3.000	3.679
			Total Solar Generation Capacity	**124.0**	**152.074**
Wind	2369 Toll Rd	Small Wind	1187	**100.000**	**175.200**

Canaan

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Hydro	Connecticut River	Hydropower		**1,100.000**	**7,300.000**
Solar	128 Fuller Dr	Roof-Mounted PV		11.900	14.594
Solar	2147 Rt 102	Roof-Mounted PV		3.100	3.802
Solar	390 Christian Hill Road	Roof-Mounted PV		7.700	9.443
Solar	41 Green Hill Rd	Roof-Mounted PV		17.000	20.849
Solar	978 Todd Hill Rd	Roof-Mounted PV		5.700	6.990
			Total Solar Generation Capacity	45.4	55.679

Charleston

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Solar	149 Echo Lake Rd	Ground-mounted PV: Pole	5712	8.000	9.811
Solar	154 Leadership Drive	Roof-Mounted PV		1.700	2.085
Solar	181 Corkins Rd	Roof-Mounted PV		2.600	3.189
Solar	2378 Dane Hill Road	Roof-Mounted PV		5.100	6.255
Solar	304 Dane Hill Road	Roof-Mounted PV		8.860	10.866
Solar	55 Whitcomb Lane	Roof-Mounted PV		4.000	4.906
			Total Solar Generation Capacity	**30.26**	**37.111**
Wind	114 Route 105	Small Wind	527	**9.500**	**16.644**

Concord

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Solar	1239 Cross Road	Ground-mounted PV: Tracker	16-0012	500.000	613.200
Solar	197 Micah Baker Rd	Roof-Mounted PV		7.900	9.689
Solar	2229 Shadow Lake Road	Roof-Mounted PV		3.500	4.292
Solar	310 Beach Dr	Roof-Mounted PV		5.000	6.132
			Total Solar Generation Capacity	**516.40**	**633.313**

Coventry

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Biomass	213 Maxwell Road	Anaerobic Digester		225.000	1,508.000
Biomass	403 Landfill Lane	Landfill Methane		8,000.000	50,506.000
			Total Biomass Generation Capacity	**8,225.00**	**52,014.000**
Solar	224 Coventry Station Rd	Ground-mounted PV: Tracker	1632	5.500	6.745
Solar	380 Heermanville Rd	Ground-mounted PV: Tracker	3983	12.000	14.717
Solar	403 Landfill Lane	Ground-mounted PV: Fixed Rack		2,200.000	2,698.080
			Total Solar Generation Capacity	**2,217.50**	**2,719.542**

Craftsbury

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Biomass	1422 N Craftsbury Rd	Wood Pellet Heat		--	--
Solar	1163 W Hill Rd	Roof-Mounted PV		4.800	5.887
Solar	1291 Town Line Rd	Roof-Mounted PV		2.900	3.557
Solar	1410 South Albany Rd	Roof-Mounted PV		2.900	3.557
Solar	147 Creek Rd	Roof-Mounted PV		6.000	7.358
Solar	1529 Lost Nation Road	Roof-Mounted PV		5.000	6.132

Solar	1543 E Craftsbury Rd	Roof-Mounted PV		144.000	176.602
Solar	1747 King Farm Rd	Ground-mounted PV: Tracker	1582	4.000	4.906
Solar	1859 Mill Village Rd	Roof-Mounted PV		1.350	1.656
Solar	23 Summer Drive	Roof-Mounted PV		6.000	7.358
Solar	230 Dustan Road	Ground-mounted PV: Tracker	1329	8.000	9.811
Solar	2411 South Albany Rd	Roof-Mounted PV		9.000	11.038
Solar	2426 Collinsville Rd	Roof-Mounted PV		3.800	4.800
Solar	266 S. Craftsbury Rd	Roof-Mounted PV		142.500	174.762
Solar	275 Shatney Road	Roof-Mounted PV		5.000	6.132
Solar	288 Dustan Rd	Roof-Mounted PV		4.600	5.641
Solar	295 Creek Rd	Ground-mounted PV: Tracker	1400	4.000	6.568
Solar	306 Seaver Brook Rd	Ground-mounted PV: Tracker	1688	4.000	4.906
Solar	321 N. Craftsbury Rd	Roof-Mounted PV		2.800	3.434
Solar	375 Young Rd	Roof-Mounted PV		6.800	8.340
Solar	407 Wells Pl	Ground-mounted PV: Tracker	1331	4.000	4.906
Solar	450 Whetstone Brk Rd	Roof-Mounted PV		3.900	4.783
Solar	4510 East Hill Road	Roof-Mounted PV		5.000	6.132
Solar	453 Ketchum Hill Road	Roof-Mounted PV		3.500	4.292
Solar	46 Town Garage Road	Roof-Mounted PV		6.200	7.604
Solar	535 Lost Nation Road	Ground-mounted PV: Tracker	1078	41.800	51.264
Solar		Roof-Mounted PV		66.300	81.310
Solar	622 Wylie Hill Road	Roof-Mounted PV		4.200	5.151
Solar	654 N Craftsbury Rd	Ground-mounted PV: Tracker	1328	3.000	4.675
Solar	89 Breitmeyer Dr	Roof-Mounted PV		9.000	11.038
Solar	91 Young Rd	Roof-Mounted PV		1.800	2.208
Solar	948 Wylie Hill Road	Roof-Mounted PV		5.000	6.132
Solar		Ground-mounted PV: Tracker	5606	96.000	117.734
			Total Solar Generation Capacity	**617.15**	**759.671**

Wind	160 Strong Road	Small Wind	657	**9.500**	**16.644**

Danville

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Biomass	148 Peacham Road	Wood Chip Heat		--	--
Hydro	Joes Brook	Hydropower		1,000.000	3,700.000
Hydro	Sleepers River	Hydropower		18.000	73.000
Solar	1148 Jamieson Road	Roof-Mounted PV		5.000	6.132
Solar	1215 Trestle Road	Hot Water		--	--
Solar		Roof-Mounted PV		2.700	3.311
Solar	1220 Jamieson Road	Roof-Mounted PV		5.000	6.132
Solar	1478 Walden Hill Road	Roof-Mounted PV		6.000	7.358
Solar	1511 Bruce Badger Mem Hwy	Roof-Mounted PV		3.800	4.660
Solar	1681 Trestle Road	Roof-Mounted PV		6.000	7.358
Solar	173 Crystal Avenue	Roof-Mounted PV		4.800	5.887
Solar	1923 Peacham Rd	Ground-mounted PV: Fixed Rack		8.000	9.811
Solar	2011 Joes Brook Rd	Roof-Mounted PV		8.000	9.811
Solar	2059 Peacham Rd	Roof-Mounted PV		5.000	6.132
Solar	2181 Walden Hill Rd	Roof-Mounted PV		2.900	3.557
Solar	242 Route 2 East	Roof-Mounted PV		7.000	8.585
Solar	252 Library Rd	Ground-mounted PV: Tracker	3526	14.000	17.170
Solar	2520 Oneida Rd	Roof-Mounted PV		5.700	6.990
Solar	278 Vance Rd	Roof-Mounted PV		3.800	4.660
Solar	28 Sugar Ridge Road	Roof-Mounted PV		7.000	8.585
Solar	2863 Walden Hill Rd	Roof-Mounted PV		1.600	1.962
Solar	3161 McDowell Road	Roof-Mounted PV		1.900	2.330
Solar	32 Meadow Drive	Roof-Mounted PV		6.000	7.358

Solar	3221 Bruce Badger Memorial Hwy	Roof-Mounted PV		9.500	11.651
Solar	326 Greenbanks Hollow Road	Roof-Mounted PV		11.400	13.981
Solar	3512 Joe's Brook Rd	Roof-Mounted PV		4.000	4.906
Solar	371 Redbarn Rd	Roof-Mounted PV		15.600	19.132
Solar	3736 Thaddeus Stevens R	Roof-Mounted PV		6.000	7.358
Solar	4094 McDovell Rd	Roof-Mounted PV		5.000	6.132
Solar	4361 N Danville Rd	Roof-Mounted PV		3.700	4.538
Solar	4402 Bruce Badger Memorial Highway	Roof-Mounted PV		5.000	6.132
Solar	529 Jamieson Rd	Roof-Mounted PV		5.700	6.990
Solar	546 Woods Hill Road	Roof-Mounted PV		7.000	8.585
Solar	582 Stanton Rd	Roof-Mounted PV		5.500	6.745
Solar	611 Route 2 East	Ground-mounted PV: Fixed Rack	7433	500.000	613.200
Solar	621 Pope Brook Road	Roof-Mounted PV		5.700	6.990
Solar	767 Walden Hills Road	Roof-Mounted PV		3.800	4.660
Solar	908 Morill Road	Roof-Mounted PV		3.100	3.802
Solar	960 Parker Rd	Roof-Mounted PV		3.800	4.660
Solar	982 Pumpkin Hill Rd	Roof-Mounted PV		4.800	5.887
Solar		Ground-mounted PV: Fixed Rack	5803	500.000	613.200
Solar				500.000	613.200
			Total Solar Generation Capacity	**1703.8**	**2,089.540**
Wind	148 Peacham Road	Small Wind	85	**9.500**	**16.644**

Derby

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Biomass	57 Junior High Drive	Wood Chip Heat		--	--
Solar	112 Main Street	Roof-Mounted PV		9.600	10.160

Solar	203 Bridge St	Roof-Mounted PV		8.000	9.811
Solar	2361 Hinman Settler Rd	Roof-Mounted PV		2.500	3.066
Solar	300 Dashner Circle	Roof-Mounted PV		1.300	1.594
Solar	400 Quarry Road	Hot Water		--	--
Solar	549 Rt 105	Roof-Mounted PV		5.500	6.745
Solar	966 Glover Rd	Roof-Mounted PV		4.600	4.800
			Total Solar Generation Capacity	**31.5**	**36.177**
Wind	1847 Holland Road	Small Wind	571	9.500	16.644
Wind	2103 Herrick Road	Small Wind	1978	10.000	17.520
Wind	514 Holland Road	Small Wind	169	9.500	16.644
Wind	5141 Nelson Hill Road	Small Wind	723	9.500	16.644
			Total Wind Generation Capacity	**38.5**	**67.452**

East Haven

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Solar	465 School Street	Ground-mounted PV: Tracker	16-0668	5.000	6.132
Solar	472 School St	Roof-Mounted PV		1.500	1.840
Solar	4900 Snake Mt Rd	Roof-Mounted PV		11.400	13.981
			Total Solar Generation Capacity	**17.9**	**21.953**

Glover

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Solar	1070 Andersonville Rd	Roof-Mounted PV		1.600	1.962
Solar	1122 Still Hill	Roof-Mounted PV		3.600	4.415
Solar	144 Borland Rd	Roof-Mounted PV		10.000	12.264
Solar	1516 Rodgers Rd	Ground-mounted PV: Tracker	2708	5.700	6.990
Solar	185 Sand Hill Rd	Roof-Mounted PV		7.700	9.443
Solar	1877 Perron Hill Rd	Roof-Mounted PV		2.900	3.450

Solar	1985 County Rd	Ground-mounted PV: Fixed Rack		8.000	9.811
Solar	2602 Andersonville Rd	Roof-Mounted PV		4.100	5.028
Solar	2878 Perron Hill Road	Roof-Mounted PV		4.200	5.151
Solar	353 Bear Call Rd	Roof-Mounted PV		10.000	12.264
Solar	36 Buchanan Place	Roof-Mounted PV		7.000	8.585
Solar	485 Square Rd	Roof-Mounted PV		7.130	8.744
Solar	753 Heights Rd	Roof-Mounted PV		5.700	6.990
Solar	82 Still Hill	Roof-Mounted PV		3.400	4.170
			Total Solar Generation Capacity	**81.03**	**99.269**
Wind	1070 Andersonville Rd	Small Wind	750	9.500	16.644
Wind	395 Beach Hill Road	Small Wind	1017	9.500	16.644
			Total Wind Generation Capacity	**19**	**33.288**

Greensboro

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Biomass	2183 Gebbie Road	Anaerobic Digester		**150.000**	**1,005.000**
Solar	113 Howard's End	Roof-Mounted PV		2.880	3.532
Solar	140 Firefly Drive	Roof-Mounted PV		3.000	3.679
Solar	202 Edgewood Lane	Roof-Mounted PV		3.000	3.679
Solar	2158 Town Highway 8	Ground-mounted PV: Fixed Rack	483	8.800	10.792
Solar	2207 Town Highway 8	Roof-Mounted PV		3.500	4.292
Solar	2564 Town Highway 8	Ground-mounted PV: Pole	5044	6.000	7.358
Solar	3666 Craftsbury Rd	Ground-mounted PV: Tracker	1930	7.980	9.787
Solar	394 Lauredon Avenue	Roof-Mounted PV		5.300	6.500
Solar	420 Hillcrest Road	Roof-Mounted PV		4.800	5.887
Solar	4881 Center Rd	Ground-mounted PV: Tracker	2743	5.930	7.273
Solar	610 Circus Rd	Roof-Mounted PV		5.200	6.377
Solar	649 Town Highway 8	Ground-mounted PV: Tracker	893	7.600	4.719
Solar		Hot Water			-

Solar	670 Reservoir Rd	Roof-Mounted PV		6.000	7.358
Solar	914 Craftsbury Rd	Roof-Mounted PV		2.100	2.575
			Total Solar Generation Capacity	**72.09**	**83.810**
Wind	2183 Gebbie Road	Small Wind	451	9.500	16.644
Wind	557 Garvin Hill Road	Small Wind	650	9.500	16.644
			Total Wind Generation Capacity	**19**	**33.288**

Groton

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Solar	1035 Scott Hwy	Ground-mounted PV: Fixed Rack	914	143.870	176.442
Solar	2126 Scott Highway	Roof-Mounted PV		120.000	147.168
Solar	3041 State Forest Rd	Roof-Mounted PV		5.700	6.990
Solar	6320 Scott Highway	Hot Water		--	-
Solar	848 West Shore Dr	Roof-Mounted PV		4.200	5.151
			Total Solar Generation Capacity	**273.77**	**335.752**

Guildhall

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Solar	1009 Route 2	Roof-Mounted PV		5.100	6.255
Solar	1814 Route 102	Roof-Mounted PV		11.000	13.490
Solar	2266 Route 102	Roof-Mounted PV		15.200	18.641
Solar	242 Granby Road	Roof-Mounted PV		10.000	12.264
Solar	457 Fellows Road	Roof-Mounted PV		4.000	4.906
			Total Solar Generation Capacity	**45.3**	**55.556**

Hardwick

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Biomass	126 Hazen Union Dr	Wood Chip Heat		--	--

Biomass	36 Maple Street	Wood Pellet Heat		--	--
Solar	1055 Hardwick Farms Rd	Roof-Mounted PV		3.000	3.679
Solar	126 Hazen Union Dr	Roof-Mounted PV		5.100	6.255
Solar	126 Hazen Union Dr	Hot Water		--	-
Solar	1339 Summer Hill Rd	Hot Water		--	-
Solar	134 Swallow Hill Drive	Hot Water		--	-
Solar	1873 Bunker Hill Road	Ground-mounted PV: Fixed Rack	1069	3.100	3.802
Solar	197 Brick House Road	Ground-mounted PV: Tracker	1644	4.200	5.151
Solar	209 Putnam Ave	Roof-Mounted PV		5.000	6.132
Solar	218 Town Farm Road	Hot Water		--	-
Solar	223 Center Rd	Roof-Mounted PV		3.000	3.679
Solar	2371 Center Rd	Roof-Mounted PV		7.600	9.321
Solar	2687 Bridgeman Hill Rd	Hot Water		--	-
Solar	273 Porter Brook Rd	Ground-mounted PV: Fixed Rack	6905	10.000	12.264
Solar	29 Evergreen Manor Dr	Roof-Mounted PV		5.200	6.377
Solar	3413 VT-14	Ground-mounted PV: Tracker	1517	4.000	4.906
Solar	3534 Bayley Hazen Rd	Hot Water		--	-
Solar	37 Riverside Terrace	Roof-Mounted PV		7.500	9.198
Solar	4241 Bridgman Hill Rd	Ground-mounted PV: Tracker	1676	4.000	4.906
Solar	45 Evergreen Manor Dr	Roof-Mounted PV		5.700	6.990
Solar	4623 Bridgman Hill Rd	Ground-mounted PV: Tracker	459	4.000	4.906
Solar	464 Billings Rd	Ground-mounted PV: Fixed Rack	6301	150.000	183.960
Solar	54 School Cir	Ground-mounted PV: Tracker	1673	4.200	5.151
Solar	61 Pearl St	Ground-mounted PV: Fixed Rack	1342	4.000	4.906
Solar	61 Pearl St	Roof-Mounted PV		12.830	15.735
Solar	708 Bridgman Hill Rd	Roof-Mounted PV		3.800	4.660

Solar	824 Pumpkin Lane	Ground-mounted PV: Fixed Rack	6344	24.600	30.169
Solar	87 South Main Street	Hot Water			-
			Total Solar Generation Capacity	**270.83**	**332.146**
Wind	1315 Hopkins Hill Rd	Small Wind	350	10.000	17.520
Wind	2703 Bridgman Hill Rd	Small Wind	362	9.500	16.644
Wind	4623 Bridgman Hill Rd	Small Wind	459	9.500	16.644
Wind	824 Pumpkin Lane	Small Wind	596	9.500	16.644
			Total Wind Generation Capacity	**38.5**	**67.452**

Holland

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Solar	2758 Gore Rd	Roof-Mounted PV		**2.400**	**2.943**

Irasburg

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Solar	1386 Lake Region Rd	Roof-Mounted PV		5.000	6.132
Solar	335 Alexander Lane	Roof-Mounted PV		7.000	8.585
Solar	383 Delano Rd	Roof-Mounted PV		5.000	6.132
			Total Solar Generation Capacity	**17**	**20.849**
Wind	131 Alexander Road	Small Wind	748	9.500	16.644
Wind	700 Kidder Hill Road	Small Wind	1771	8.600	15.067
			Total Wind Generation Capacity	**18.1**	**31.711**

Kirby

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Solar	210 Gorham Dr	Roof-Mounted PV		5.700	6.990
Solar	2490 Ridge Road	Roof-Mounted PV		5.500	6.745
Solar	289 Locust Ridge Road	Roof-Mounted PV		5.000	6.132

Solar	4523 Kirby Mtn Rd	Hot Water			-
Solar	94 Tunny Mtn Rd	Roof-Mounted PV		5.000	6.132
			Total Solar Generation Capacity	**21.2**	**26.000**

Lemington

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Solar	3257 Sims Hill Rd	Roof-Mounted PV		4.800	5.887
Solar	511 Todd Hill Road	Ground-mounted PV: Pole	1308	1.700	2.085
			Total Solar Generation Capacity	**6.5**	**7.972**
Wind	2597 Sims Hill Road	Small Wind	177	**2.800**	**4.906**

Lowell

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Solar	1798 Mines Rd	Roof-Mounted PV		5.500	6.745
Solar	201 Irish Hill Road	Roof-Mounted PV		3.600	4.415
Solar	2170 VT Route 100	Ground-mounted PV: Tracker	2925	148.200	181.752
Solar	365 Eden Road	Ground-mounted PV: Fixed Rack	6287	150.000	183.960
			Total Solar Generation Capacity	**307.3**	**376.873**
Wind	154 Irish Hill Road	Small Wind	105	9.500	16.644
Wind	1798 Mines Rd	Small Wind	2094	2.800	4.906
Wind	Lowell Mountain	Commercial Wind		63,000.000	193,158.000
			Total Wind Generation Capacity	**63,012.30**	**193,179.550**

Lunenburg

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Hydro	Connecticut River	Hydropower		**4,850.000**	**28,000.000**
Solar	1 White Oak Lane	Roof-Mounted PV		6.000	7.358
Solar	126 Colby Road	Roof-Mounted PV		3.500	4.292

Solar	1269 Bobbin Mill Road	Ground-mounted PV: Pole	3198	9.300	11.406
Solar	144 Haggard Hollow Rd	Ground-mounted PV: Fixed Rack	6495	150.000	183.960
Solar		Roof-Mounted PV		5.000	6.132
Solar	162 Powell Road	Ground-mounted PV: Fixed Rack	7102	150.000	183.960
Solar	1912 River Rd	Ground-mounted PV: Pole		9.000	11.038
Solar	218 Lake Road	Roof-Mounted PV		2.100	2.575
Solar	31 Kimball Road	Ground-mounted PV: Tracker		10.000	12.264
Solar	388 Guildhall Hill Rd	Roof-Mounted PV		19.300	23.670
Solar	388 Guildhall Hill Road	Hot Water			-
Solar	564 East Main St	Ground-mounted PV: Tracker	5156	150.000	235.000
Solar		Ground-mounted PV: Tracker	6196	150.000	275.000
			Total Solar Generation Capacity	**664.2**	**956.655**

Lyndon

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Biomass	2591 Lily Pond Rd	Wood Chip Heat		--	--
Hydro	Passumpsic River	Hydropower		**2,250.000**	**11,450.000**
Solar	1064 Couture Flt	Roof-Mounted PV		5.600	6.868
Solar	1078 College Rd	Ground-mounted PV: Fixed Rack		5.400	6.623
Solar	110 Sherburne Place	Roof-Mounted PV		6.900	8.462
Solar	1348 Darling Hill Road	Ground-mounted PV: Fixed Rack	515	2.200	2.698
Solar	1738 Burrington Bridge Rd	Roof-Mounted PV		3.800	4.660
Solar	187 Meadow View Rd	Ground-mounted PV: Fixed Rack	474	4.700	5.764
Solar	1913 Lynburke Road	Ground-mounted PV: Fixed Rack	16-0023	300.000	367.920
Solar	196 Cotton Rd	Ground-mounted PV: Fixed Rack		13.000	15.943
Solar	211 Shieling Lane	Roof-Mounted PV		6.000	7.358
Solar	2559 Darling Hill Road	Roof-Mounted PV		6.000	7.358

Solar	258 Sherburne Place	Roof-Mounted PV		5.000	6.132
Solar	2586 Pudding Hill Rd	Ground-mounted PV: Fixed Rack	1823	23.300	28.575
Solar	2996 East Burke Road	Roof-Mounted PV		1.700	2.085
Solar	30 Lily Pond Rd	Ground-mounted PV: Fixed Rack	1411	4.400	5.396
Solar	32 Fernwood Dr	Roof-Mounted PV		8.900	10.915
Solar	328 Walker Ridge Road	Roof-Mounted PV		7.600	9.321
Solar	3851 Severance Hill Rd	Roof-Mounted PV		15.000	18.396
Solar	645 Diamond Hill Rd	Ground-mounted PV: Fixed Rack	5994	7.000	8.585
Solar	69 Sleepy Hollow Lane	Roof-Mounted PV		0.700	0.858
Solar	695 Sheldon Brook Rd	Roof-Mounted PV		3.800	4.660
Solar	75 Lussier Lane	Roof-Mounted PV		7.600	9.321
Solar	770 York	Roof-Mounted PV		3.200	3.924
Solar	81 Cotton Rd	Roof-Mounted PV		5.000	6.132
Solar	878 Mathewson Hill Rd	Roof-Mounted PV		10.300	12.632
Solar	9 Twilight Ln	Roof-Mounted PV		6.300	7.726
			Total Solar Generation Capacity	**463.4**	**568.314**

Maidstone

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Solar	4175 VT Route 102	Roof-Mounted PV		**10.000**	**12.264**

Morgan

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Solar	182 Lay Drive	Roof-Mounted PV		2.300	2.821
Solar	2140 Rt 111	Ground-mounted PV: Tracker	1709	55.900	68.556
Solar	590 Valley Road	Ground-mounted PV: Tracker	6633	500.000	613.200
			Total Solar Generation Capacity	**558.2**	**684.576**

Newark

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Solar	101 Schoolhouse Rd	Roof-Mounted PV		1.500	1.590
Solar	1224 East Hill Road	Ground-mounted PV: Fixed Rack	373	4.700	2.226
Solar	173 Rivers Farm Road	Roof-Mounted PV		5.000	6.132
Solar	234 Bald Hill Pond Rd	Roof-Mounted PV		4.000	4.906
Solar	250 Newark Street	Roof-Mounted PV		6.000	7.358
Solar	282 Shady Lane	Roof-Mounted PV		11.400	13.981
Solar	459 School House Rd	Ground-mounted PV: Pole	1900	2.880	3.532
Solar	459 Schoolhouse Rd	Roof-Mounted PV		2.800	3.434
Solar	490 Hall Farm Rd	Roof-Mounted PV		6.000	7.358
Solar	60 Abbott Hill Rd	Ground-mounted PV: Fixed Rack	2229	28.500	34.000
			Total Solar Generation Capacity	**72.78**	**84.517**
Wind	282 Shady Lane	Small Wind	2635	**3.500**	**6.132**

Newport City

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Biomass	100 Main Street	Wood Chip Heat		--	--
Biomass	115 Columbia Way	Wood Chip Heat		--	--
Biomass	189 Prouty Drive	Wood Chip Heat		--	--
Biomass	209 Veterans Ave	Wood Chip Heat		--	--
Biomass	2559 Glen Rd	Wood Chip Heat		--	--
Solar	107 Main Street	Hot Water			-
Solar	1197 East Main Street	Roof-Mounted PV		5.300	6.500
Solar	121 Logan Dr	Roof-Mounted PV		1.200	1.472
Solar	137 Hill Street	Roof-Mounted PV		3.100	3.802
Solar	2797 Bushey Hill Road	Roof-Mounted PV		4.100	5.110
Solar	468 Pleasant Street	Roof-Mounted PV		64.000	78.490

Solar	51 Colburn Street	Roof-Mounted PV		2.990	3.667
Solar	52 Bobbin Mill Road	Roof-Mounted PV		47.000	57.641
Solar	5452 US-5	Roof-Mounted PV		17.040	20.898
Solar	89 Blake St	Roof-Mounted PV		10.000	12.264
Solar	964 Clyde St	Ground-mounted PV: Fixed Rack	5383	150.000	183.960
			Total Solar Generation Capacity	**304.73**	**373.803**

Newport Town

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Hydro	Clyde River	Hydropower	(blank)	**4,000.000**	**15,735.000**
Solar	127 Lindsay Rd	Roof-Mounted PV		6.000	7.358
Solar	1768 Number 12 Road	Roof-Mounted PV		15.700	19.254
Solar	1944 Leadville Road	Roof-Mounted PV		2.900	3.557
Solar	2249 Vance Hill Rd	Ground-mounted PV: Fixed Rack	6829	6.000	7.358
Solar	250 Commerce Way	Ground-mounted PV: Fixed Rack	6001	500.000	613.200
Solar	2579 VT-105	Ground-mounted PV: Tracker	2066	5.700	6.990
Solar	3436 Route 100	Ground-mounted PV: Tracker	1635	5.500	6.745
Solar	972 Farrar Road	Roof-Mounted PV		6.400	7.849
			Total Solar Generation Capacity	**548.2**	**672.312**

Norton

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Solar	12 VT-114	Roof-Mounted PV		2.500	3.066
Solar	602 VT-114	Roof-Mounted PV		7.050	8.646
			Total Solar Generation Capacity	**9.55**	**11.712**

Peacham

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Solar	1128 Hollow Wood Rd	Roof-Mounted PV		7.800	9.566
Solar	1183 Slack St	Hot Water			-
Solar	136 Goose Pond Road	Roof-Mounted PV		4.000	4.906
Solar	1614 Bayley Hazen Rd	Ground-mounted PV: Tracker	6575	3.800	4.660
Solar	190 Camp Rd	Roof-Mounted PV		1.000	1.150
Solar	1973 Green Bay Loop	Roof-Mounted PV		5.800	7.113
Solar	1993 Macks Mtn Rd	Ground-mounted PV: Pole	229	5.640	6.917
Solar	2113 Thaddeus Stevens Road	Roof-Mounted PV		4.600	5.641
Solar	313 Taylor Road	Ground-mounted PV: Tracker	16-0002	34.200	41.943
Solar	3752 Macks Mtn Rd	Hot Water			-
Solar	391 Blanchard Hill Rd	Roof-Mounted PV		6.000	7.358
Solar	398 Bailey Hazen Rd	Roof-Mounted PV		3.000	3.679
Solar	400 Green Bay Loop	Ground-mounted PV: Fixed Rack	5743	7.600	9.321
Solar	448 Blanchard Hill Rd	Roof-Mounted PV		5.000	6.132
Solar	4812 Bayley Hazen Rd	Hot Water			-
Solar	561 Blanchard Hill Rd	Roof-Mounted PV		5.000	6.132
Solar	621 Penny Street	Roof-Mounted PV		7.600	9.321
Solar	76 Peacham-Groton Rd	Hot Water			-
Solar		Roof-Mounted PV		2.000	2.453
Solar	904 Green Bay Loop	Hot Water			-
			Total Solar Generation Capacity	**103.04**	**126.292**

Ryegate

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Biomass	247 Weesner Drive	Electricity		**167,627.000**	**154,785.000**

Hydro	Connecticut River	Hydropower		**5,000.000**	**27,000.000**
Solar	166 Elliot Rd	Ground-mounted PV: Fixed Rack	5308	13.000	15.943
Solar	290 Dickey Dr	Roof-Mounted PV		5.700	6.990
Solar	3213 Ryegate Road	Roof-Mounted PV		5.500	6.745
Solar	422 Creamery Road	Hot Water			-
Solar	776 Mosquitoville Rd	Roof-Mounted PV		4.200	5.151
Solar	8 Church St	Roof-Mounted PV		4.000	5.200
Solar	856 Renfrew	Hot Water			-
Solar		Roof-Mounted PV		5.700	6.990
Solar	960 Symes Pond Rd	Roof-Mounted PV		7.900	9.689
			Total Solar Generation Capacity	**46**	**56.709**

Sheffield

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Solar	1570 Sheffield Square Rd	Roof-Mounted PV		4.200	5.151
Solar	733 Trucott Drive	Roof-Mounted PV		4.900	6.009
Solar	771 Mosher Road	Roof-Mounted PV		6.000	7.358
			Total Solar Generation Capacity	**15.1**	**18.519**
Wind	Granby Mountain	Commercial Wind		**40,000.000**	**122,640.000**

St. Johnsbury

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Biomass	36 Eastern Avenue	Wood Chip Heat			
Hydro	Passumpsic River	Hydropower		1,300.000	6,010.000
Hydro	Sleepers River	Hydropower		230.000	700.000
			Total Hydro Generation Capacity	**1,530.000**	**6,710.000**
Solar	1000 Old Bradley Rd	Roof-Mounted PV		2.600	3.189
Solar	1200 Rocky Ridge	Roof-Mounted PV		4.750	5.825

Solar	1221 Rabbit Plain	Ground-mounted PV: Tracker	6678	3.800	4.660
Solar	1270 U.S. 5	Ground-mounted PV: Tracker	3634	500.000	613.200
Solar	130 Summer Street	Roof-Mounted PV		3.900	4.783
Solar	131 Boynton Avenue	Roof-Mounted PV		3.300	4.298
Solar	132 Chestnut Lane	Roof-Mounted PV		7.600	9.321
Solar	1462 Main St	Roof-Mounted PV		3.900	4.783
Solar	161 Snell Rd	Roof-Mounted PV		6.000	7.358
Solar	170 Caledonia St.	Roof-Mounted PV		3.800	4.660
Solar	1869 Mt Pleasant St	Roof-Mounted PV		3.200	3.924
Solar	1877 Elliott Road	Ground-mounted PV: Fixed Rack	6830	7.500	9.198
Solar	198 Church Street	Hot Water			-
Solar	20 Cote St	Hot Water			-
Solar	2090 New Boston Rd	Hot Water			-
Solar	220 Memorial Drive	Roof-Mounted PV		50.000	61.320
Solar	2771 Portland Street	Roof-Mounted PV		6.000	7.358
Solar	280 Lawrence Hill Rd	Roof-Mounted PV		3.100	3.802
Solar	2891 Severance Hill	Roof-Mounted PV		9.100	11.160
Solar	2942 Severance Hill Rd	Hot Water			-
Solar	301 Cliff Street	Roof-Mounted PV		5.000	6.132
Solar	3098 Crepeault Hill Rd	Roof-Mounted PV		5.700	6.990
Solar	347 Emerson Falls Rd	Roof-Mounted PV		16.000	19.622
Solar	36 Buzzell Street	Roof-Mounted PV		4.800	5.887
Solar	390 Portland St	Hot Water			-
Solar	421 Farmer Dr	Roof-Mounted PV		5.200	6.377
Solar	426 Summer St	Hot Water			-
Solar	428 North Danville Rd	Roof-Mounted PV		3.750	4.599
Solar	44 Green St	Roof-Mounted PV		3.800	4.660
Solar	54 Knollwood Terrace	Roof-Mounted PV		4.000	4.906
Solar	606 Summer St	Hot Water			-

Solar	65 Boynton Ave	Roof-Mounted PV		3.800	4.660
Solar	659 Higgins Hill Road	Ground-mounted PV: Fixed Rack	16-0182	7.600	9.321
Solar	674 Mount Vernon St	Roof-Mounted PV		1.400	1.717
Solar	73 Prospect Street	Ground-mounted PV: Fixed Rack	16-0658	12.500	15.330
Solar	81 Sandville Road	Roof-Mounted PV		11.400	13.981
Solar	85 North Ave	Roof-Mounted PV		7.600	9.321
Solar	86 Model A Drive	Roof-Mounted PV		5.000	6.132
Solar	951 US-2	Ground-mounted PV: Tracker	16-0668	7.600	9.321
Solar	956 Libby Rd	Ground-mounted PV: Fixed Rack	1504	2.600	3.189
Solar	98 Harvey St	Roof-Mounted PV		4.400	5.396
			Total Solar Generation Capacity	**730.7**	**896.381**

Stannard

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Solar	41 Old Pasture Rd	Roof-Mounted PV		4.000	4.906
Solar	63 Winchester Rd	Roof-Mounted PV		3.500	4.292
			Total Solar Generation Capacity	**7.5**	**9.198**
Wind	71 Reynolds Road	Small Wind	1123	**9.500**	**16.644**

Sutton

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Solar	103 Chapman Rd	Roof-Mounted PV		5.000	6.132
Solar	1623 Darling Hill Road	Ground-mounted PV: Tracker	16-0527	7.600	9.321
Solar	1708 King George Farm Rd	Ground-mounted PV: Fixed Rack		6.000	7.358
Solar	2649 Wheelock Rd	Roof-Mounted PV		4.800	5.887
Solar	3185 Underpass Rd	Roof-Mounted PV		2.700	3.311
Solar	386 Pierce Hill Road	Roof-Mounted PV		6.500	7.972
Solar	4054 Calender Rd	Roof-Mounted PV		0.500	0.613

Solar	611 Burke Rd	Roof-Mounted PV		9.410	11.540
			Total Solar Generation Capacity	**42.51**	**52.134**

Troy

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Biomass	2473 VT Route 105	Anaerobic Digester		**300.000**	**2,010.000**
Hydro	Missisquoi River	Hydropower		**1,310.000**	**4,700.000**
Solar	165 Old Iron Mine Road	Roof-Mounted PV		2.900	3.557
Solar	564 Vt Route 101	Roof-Mounted PV		7.000	8.585
Solar		Ground-mounted PV: Fixed Rack	6936	145.000	177.828
			Total Solar Generation Capacity	**154.9**	**189.969**

Walden

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Solar	1170 Upper Harrington Hill	Roof-Mounted PV		2.400	2.943
Solar	257 North Pond Road	Roof-Mounted PV		2.500	3.066
Solar	326 Houston Hill	Roof-Mounted PV		7.700	9.443
Solar	332 Stevens Hill Rd East	Roof-Mounted PV		9.000	11.038
Solar	370 Nicholson Road	Ground-mounted PV: Fixed Rack	356	3.100	3.802
Solar	415 Lowe Harrington Hill Rd	Roof-Mounted PV		2.400	2.943
Solar	421 Watson Road	Roof-Mounted PV		7.600	9.321
Solar	536 Eastman Rd	Roof-Mounted PV		5.100	6.255
Solar	593 Eastern Avenue	Roof-Mounted PV		7.800	9.566
Solar	7726 Vt Route 15	Roof-Mounted PV		2.000	2.453
			Total Solar Generation Capacity	**49.6**	**60.829**
Wind	264 Coles Pond Road	Small Wind	651	9.500	16.644

Wind	2998 Route 15	Small Wind	1043	9.500	16.644
Wind	421 Watson Road	Small Wind	234	9.500	16.644
			Total Wind Generation Capacity	**28.5**	**49.932**

Waterford

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Hydro	Connecticut River	Hydropower		**192,000.000**	**251,000.000**
Solar	1130 Remick Road	Roof-Mounted PV		7.600	9.321
Solar	120 Chamberlain Lane	Roof-Mounted PV		6.500	7.972
Solar	134 Spruce Rd	Roof-Mounted PV		6.000	7.358
Solar	196 Woodland	Roof-Mounted PV		6.000	7.358
Solar	199 East Village Road	Ground-mounted PV: Fixed Rack	6703	150.000	183.960
Solar	2394 Duck Pond Road	Ground-mounted PV: Fixed Rack	16-0011	500.000	613.200
Solar	2462 Old County Road	Roof-Mounted PV		5.700	6.990
Solar	274 Stonybrook Rd	Hot Water			-
Solar	2749 Old County Rd S	Roof-Mounted PV		7.700	9.443
Solar	2850 Old Country Rd	Roof-Mounted PV		3.800	4.660
Solar	303 Walsh Road	Ground-mounted PV: Fixed Rack	16-0016	321.000	393.674
Solar	3501 Old County Rd	Roof-Mounted PV		8.400	10.302
Solar	3501 Old County Road	Hot Water			-
Solar	3616 Hale Road	Ground-mounted PV: Fixed Rack	692	3.500	4.292
Solar	471 Remick Road	Hot Water			-
Solar		Roof-Mounted PV		3.800	4.660
Solar	52 Hastings Rd	Roof-Mounted PV		5.700	6.990
Solar	54 Freeman Road	Roof-Mounted PV		9.800	12.019
Solar	98 Blodgett Farm Rd	Roof-Mounted PV		4.800	5.887
			Total Solar Generation Capacity	**1,050.300**	**1,288.088**

Westfield

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Wind	421 Trumpass Road	Small Wind	82	**33.000**	**57.816**

Westmore

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Solar	6385 Vt Route 5a	Roof-Mounted PV		2.300	2.821
Solar	6385 Vt Rte 5A	Hot Water			-
Solar	64 Moses Ln	Roof-Mounted PV		2.600	3.189
			Total Solar Generation Capacity	**4.9**	**6.009**

Wheelock

Category	Address	Sub Category	CPG #	Capacity in kW	Output in MWh
Solar	12 Aldrich Ln	Roof-Mounted PV		5.600	6.868
Solar	4121 Tampico Rd	Roof-Mounted PV		3.250	3.986
			Total Solar Generation Capacity	**8.85**	**10.854**

Town	Net Generation Target (MWh)	Total Potential Generation	Capacity for All Rooftop Solar (Residential & Commercial)		Capacity for Ground-Mounted Solar		Capacity for Wind		Capacity for Biomass/Methane		Capacity for Hydro	
			MW	MWh	MW	MWh	MW	MWh	MW	MWh	MW	MWh
Albany	265.78	14,858.79	0.21	251.66	10.98	13,466.7	0.65	1140.4	--	-	--	-
Barnet	487.84	132,695.51	0.40	493.50	20.00	24,525.1	0.09	153.1	20	105,120	0.686	2,403.74
Barton	779.27	139,396.91	1.18	1,445.19	24.70	30,290.4	1.02	1780.9	20	105,120	0.217	760.37
Bloomfield	63.24	1,823.46	0.08	95.17	1.26	1,544.7	*0.09*	*159.1*	--	-	0.007	24.53
Brighton	345.63	9,957.70	0.66	807.46	7.17	8,792.1	0.20	358.2	--	-	--	-
Brownington	280.06	14,354.51	0.25	305.62	11.13	13,644.1	0.23	404.8	--	-	--	-
Brunswick	34.10	954.86	0.03	40.72	0.44	543.1	*0.21*	*371.1*	--	-	--	-
Burke	501.83	36,156.98	0.73	896.25	28.66	35,147.0	0.01	22.6	--	-	0.026	91.10
Canaan	272.77	6,094.49	0.29	352.71	4.61	5,659.2	0.05	82.6	--	-	--	-
Charleston	290.55	126,720.90	0.31	378.71	16.30	19,994.0	0.58	1017.9	20	105,120	0.06	210.24
Concord	353.79	8,944.97	0.38	460.64	6.87	8,419.4	0.003	5.3	--	-	0.017	59.57
Coventry	305.70	27,642.77	0.20	247.24	21.94	26,906.2	0.28	489.3	--	-	--	-
Craftsbury	340.38	145,076.75	0.34	421.88	32.05	39,311.8	0.13	223.0	20	105,120	--	-
Danville	642.01	146,931.55	0.79	966.89	32.80	40,223.5	0.35	607.2	20	105,120	0.004	14.02
Derby	1,300.92	253,884.18	1.90	2,335.56	31.96	39,190.8	1.21	2117.8	40	210,240	--	-
East Haven	83.93	833.62	0.07	82.90	0.61	746.1	0.003	4.7	--	-	--	-
Glover	317.36	132,725.14	0.34	412.56	20.13	24,684.0	1.42	2494.6	20	105,120	0.004	14.02
Granby	24.77	801.63	0.04	50.04	0.61	746.3	0.003	5.3	--	-	--	-
Greensboro	216.24	20,800.23	0.40	487.62	15.95	19,561.1	0.41	727.0	--	-	0.007	24.53
Groton	292.88	5,076.06	0.30	365.96	3.62	4,443.7	0.04	77.2	--	-	0.054	189.22
Guildhall	74.60	106,979.88	0.07	81.92	1.26	1,543.8	*0.13*	*234.1*	20	105,120	--	-
Hardwick	855.91	237,257.42	0.78	960.03	20.11	24,667.6	0.18	317.6	40	210,240	0.306	1,072.22
Holland	177.77	122,567.92	0.19	229.58	10.19	12,493.3	0.70	1221.0	20	105,120	1	3,504.00
Irasburg	328.44	237,713.61	0.27	335.54	21.60	26,492.3	0.37	645.8	40	210,240	--	-

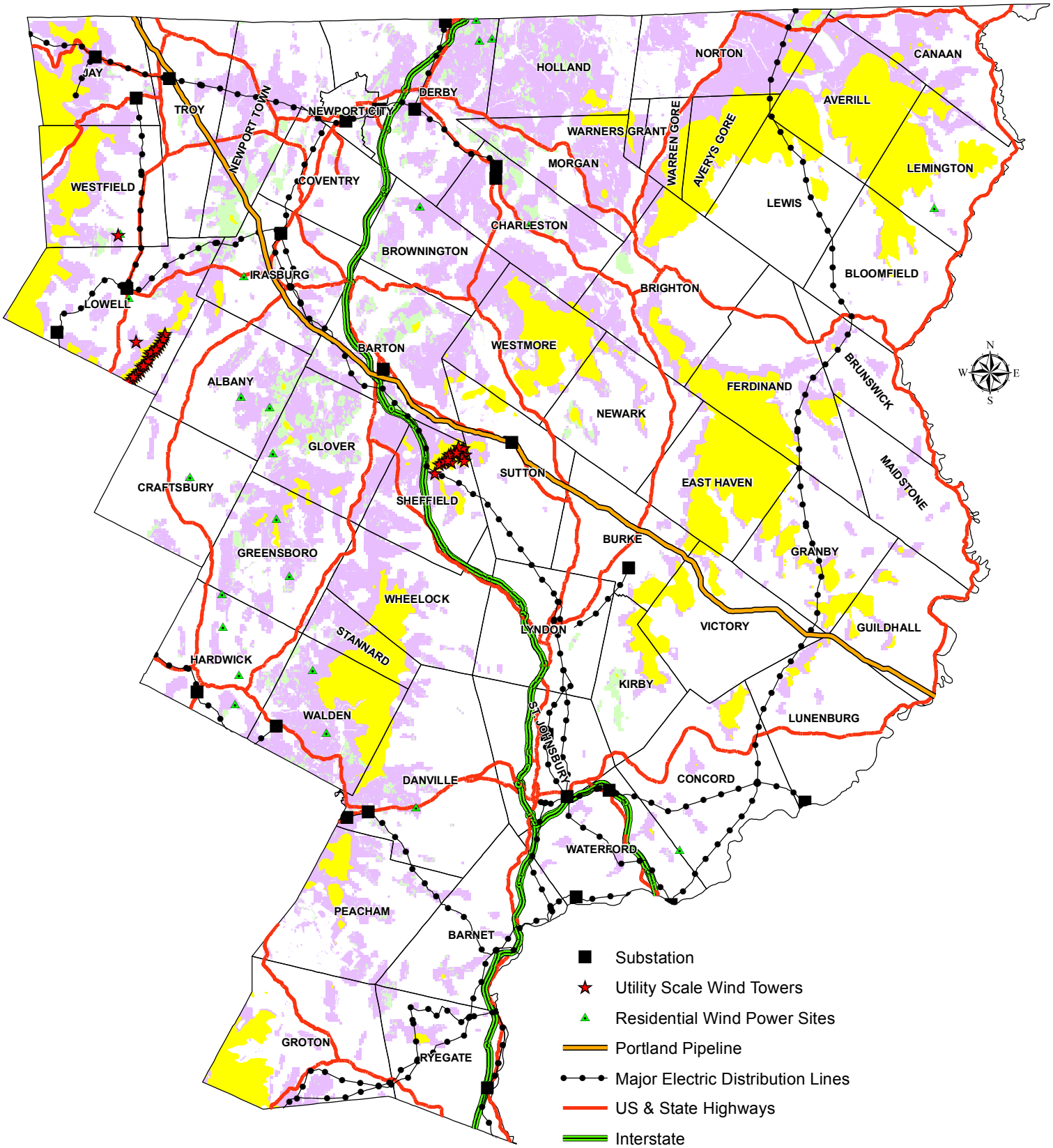
Town	Net Generation Target (MWh)	Total Potential Generation	Capacity for All Rooftop Solar (Residential & Commercial)		Capacity for Ground-Mounted Solar		Capacity for Wind		Capacity for Biomass/Methane		Capacity for Hydro	
Jay	163.20	121,074.08	0.33	410.11	12.48	15,303.6	0.14	240.3	20	105,120	--	-
Kirby	144.84	21,748.13	0.09	106.94	17.14	21,020.7	0.35	620.5	--	-	--	-
Lemington	29.43	1,355.57	0.03	41.21	1.06	1,303.1	0.01	11.3	--	-	--	-
Lowell	248.29	13,642.24	0.21	255.09	10.55	12,934.4	0.26	452.7	--	-	--	-
Lunenburg	373.31	4,299.92	0.33	408.64	3.17	3,884.62	0.004	6.66	--	-	-	-
Lyndon	1,721.44	152,263.74	2.06	2,526.38	36.31	44,526.29	0.05	80.56	20.00	105,120.00	0.003	10.51
Maidstone	59.16	1,756.82	0.13	164.83	1.09	1,335.55	*0.14*	*249.44*	--	-	0.002	7.01
Morgan	215.36	18,825.72	0.35	423.84	14.28	17,514.42	0.51	887.46	--	-	-	-
Newark	167.86	18,762.69	0.24	291.88	14.77	18,113.93	0.20	342.87	--	-	0.004	14.02
Newport City	1,294.51	10,406.27	2.54	3,109.17	5.62	6,890.32	0.23	406.78	--	-	-	-
Newport Town	655.12	189,688.55	0.65	802.07	23.71	29,071.81	1.20	2,103.14	30.00	157,680.00	0.01	31.54
Norton	46.63	1,373.44	0.09	108.90	0.77	947.60	0.13	236.34	--	-	0.02	80.59
Peacham	215.65	8,574.47	0.21	261.47	6.43	7,886.77	0.21	370.16	--	-	0.02	56.06
Ryegate	331.06	121,347.28	0.25	309.05	12.84	15,747.79	0.10	170.43	20.00	105,120.00	-	-
Sheffield	201.67	12,167.43	0.15	189.85	8.34	10,224.50	0.17	298.93	--	-	0.42	1,454.16
St. Johnsbury	2,168.78	153,813.23	3.82	4,681.90	35.88	44,004.66	*0.004*	*6.66*	20.00	105,120.00	-	-
Stannard	65.28	3,194.64	0.05	61.32	2.45	3,005.50	0.07	127.83	--	-	-	-
Sutton	298.13	131,020.66	0.21	257.54	20.83	25,542.03	0.01	9.99	20.00	105,120.00	0.03	91.10
Troy	468.61	25,797.24	0.41	501.35	20.44	25,067.00	0.12	218.37	--	-	0.003	10.51
UTG	33.51	1,355.07	0.14	177.58	0.90	1,108.67	0.02	37.28	--	-	0.01	31.54
Victory	17.49	1,088.39	0.04	43.66	0.74	909.58	*0.08*	*135.15*	-	-	-	-
Walden	269.57	16,649.57	0.23	282.56	12.45	15,267.66	0.63	1,095.84	--	-	0.001	3.50
Waterford	372.44	32,730.39	0.27	331.13	26.33	32,295.40	0.02	37.28	--	-	0.02	66.58
Westfield	150.96	116,178.06	0.17	205.54	8.68	10,644.13	0.12	208.38	20.00	105,120.00	-	-
Westmore	99.08	5,582.43	0.25	307.09	4.06	4,983.07	0.17	292.27	--	-	-	-

Town	Net Generation Target (MWh)	Total Potential Generation	Capacity for All Rooftop Solar (Residential & Commercial)		Capacity for Ground-Mounted Solar		Capacity for Wind		Capacity for Biomass/Methane		Capacity for Hydro	
Wheelock	232.85	8,099.59	0.18	216.83	6.34	7,770.88	0.06	97.87	--	-	0.004	14.02
Total	18,680.00	3,123,045.49	23.63	28,981.30	652.59	800,340.26	13.36	23,405.24	430.00	2,260,080.00	2.92	10,238.69

NVDA Region: Wind Energy Potential

Figure x.x

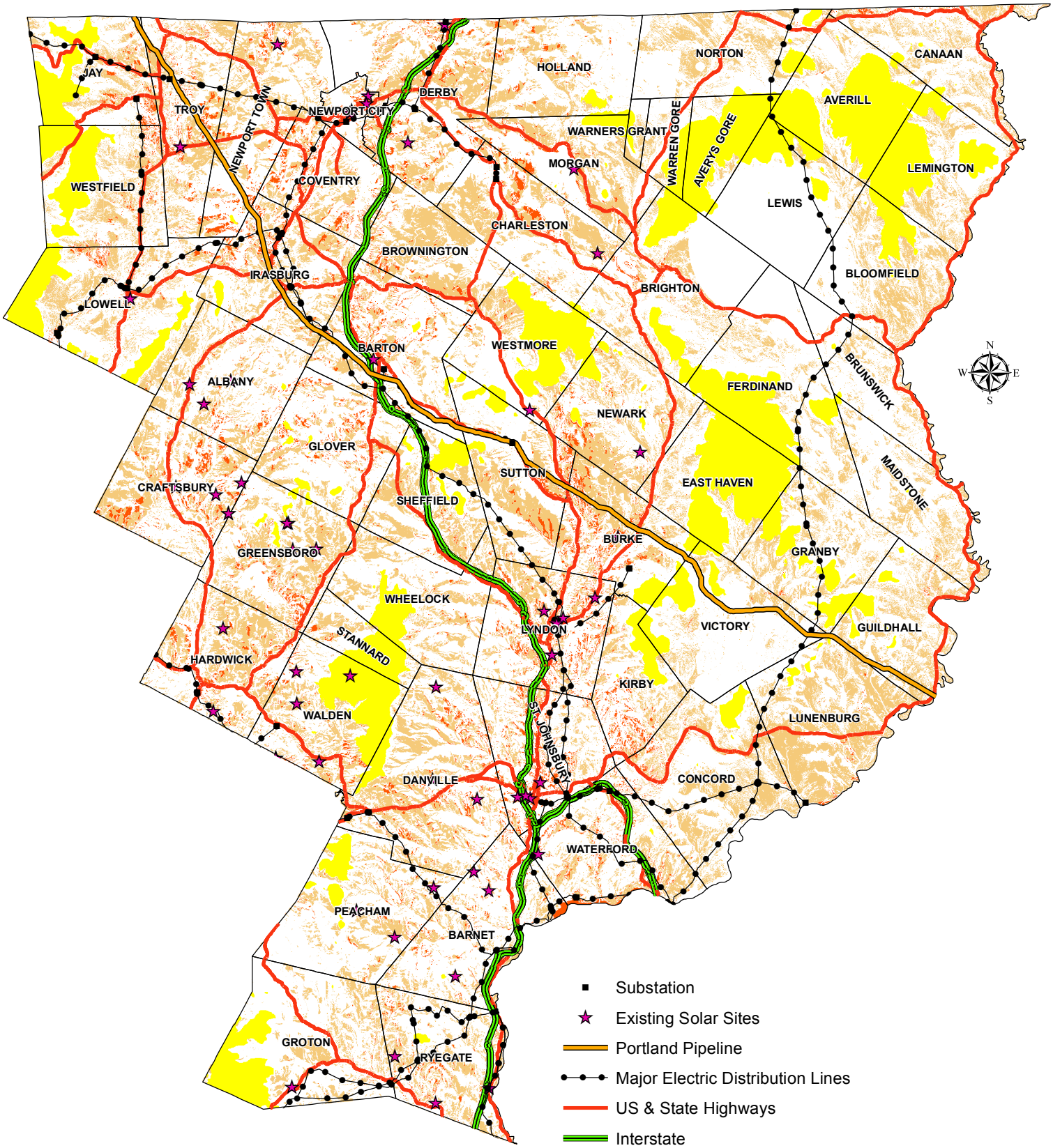
January 2018



NVDA Region: Solar Energy Potential

Figure x.x

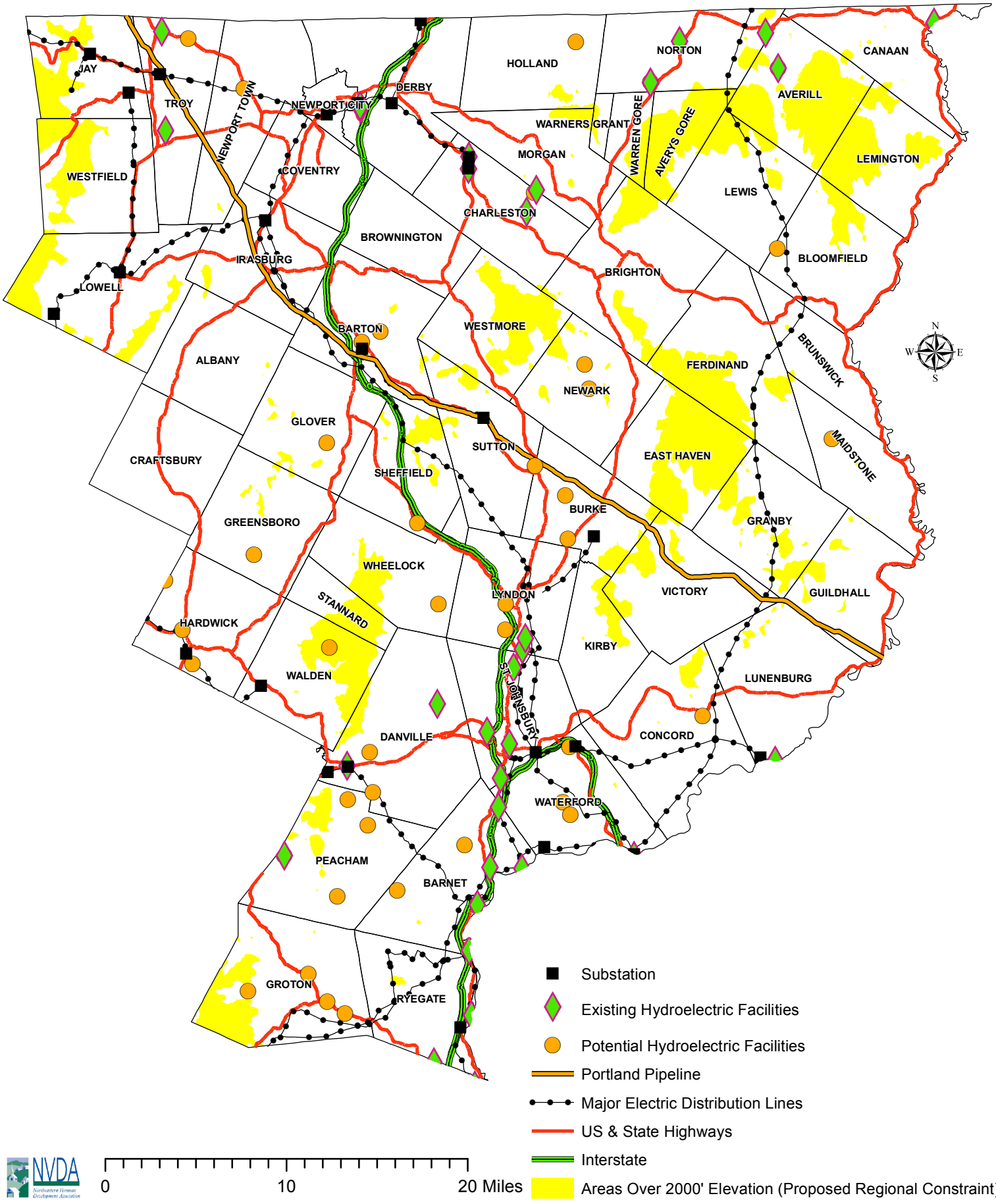
January 2018



NVDA Region: Hydroelectric Energy Potential

Figure x.x

January 2018



NVDA Region: Biomass Energy Potential

Figure x.x

January 2018