

**MEETING OF THE ELMORE PLANING COMMISSION**

**TOWN OF ELMORE, VT**

**Meeting Date: Thursday, July 17, 2025 at 5:30 pm**

**At Elmore Town Offices, 1175 VT-12, Elmore, VT**

**Agenda Status: Draft**

**Planning Commission Members: Dawn Angney-Kress, Nancy Davis,  
Michelle Greeson, Bruce Olsson, Glenn Schwartz, Shorty Towne (alternate)**

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**CALL TO ORDER est. 5:30 pm:**

**Review additions or deletions to the agenda**

**Conflict of Interest review for agenda items**

**Vote for approval of previous meeting's minutes - June 19, 2025**

**Review of Town Plan Chapter 8 - Energy**

**Review Health Facility Resources**

**Potential questions pertaining to Town Plan Chapters 1-7**

**5K Race Planning**

**Elmore's Sestercentennial (250th year) in 5 years**

**Ethics and Open Meeting Law training**

## **CHAPTER 8: Energy Plan**

### **Introduction**

The purpose of this plan is to set clear energy goals for the Town of Elmore ~~and list specific strategies that can be used to reach those goals.~~ Elmore supports the Vermont energy goal of 90% renewable by 2050 and will pursue policies and strategies intended to achieve it while also considering the conservation of undeveloped land, wildlife habitat and the financial needs and limitations of the residents. Energy must be reliable, cost effective and accessible.

### **Equity and Energy Planning**

Consideration for equity in energy planning can take many forms. Elmore's Inclusivity Statement, which can be found here <https://elmorevt.org/>, encourages considering the situations of all socio-economic strata when distributing incentives for energy conservation and conversion. Energy equity known as "energy justice" as described in the 2022 Vermont Comprehensive Energy Plan (VT CEP) "aims to make energy accessible, affordable, cleaner, and democratically managed for all communities." This section will discuss energy equity as it relates to Elmore, Vermont and the Thermal, Transportation, and Electric sectors. The 2022 Vermont Comprehensive Energy Plan highlights the following types of equity when planning for Vermont's energy needs. This framework was utilized in the Vermont Comprehensive Energy Plan, and to discuss equity and energy planning considerations in Elmore.

Distributive Equity is outcome based. As defined in the 2022 Vermont CEP, it "considers the disparities in allocation of resources, benefits, and health outcomes, and the inequities experienced by communities related to living conditions, political power, and the risks and vulnerabilities posed to these communities as a result." It considers whether Vermonters, regardless of racial and other socioeconomic factors, equitably share both the benefits and burdens of the energy system.

Procedural Equity acknowledges equitable planning and implementation and the right of communities to participate in decision-making around policies and programs. This considers which stakeholders and communities have seats at the table, and voices heard during the public engagement process for siting of new generation facilities and infrastructure and who benefits from those facilities.

Contextual Equity recognizes that some communities are more likely to experience adverse impacts because of policies and programs due to vulnerability such as being more vulnerable to natural disasters.

Corrective Equity recognizes the need for a clear process to hold decision makers accountable in communities for equity commitments such as Advisory Committees or oversight boards to review clean energy implementation to ensure impacted communities are being appropriately served.

#### Consideration for Equity in Policies and Actions

The policies and action items stated below are meant to serve Elmore residents. The Municipal Plan is a guiding document that provides flexibility for Elmore to determine its own community needs when considering equitable impacts of renewable energy and future development. People living in rural, remote areas of town may be impacted by energy plan policies due to potential power outages and longer response times. Heavy use of electric technology for heating and cooling and transportation needs will put more strain on an already limited grid system in terms of capacity. This could lead to winter blackouts. Grid system upgrades and energy storage are encouraged to reduce this potential impact. Lower-income households will be impacted most by energy policies due to the financial burden of weatherizing homes or

Energy Burden

According to the 2023 Vermont Energy Burden Assessment, Elmore residents spend on average \$2,657 on thermal energy, \$1,015 on electricity, \$3,666 on transportation combining to a total of \$7,338 energy costs per year. In relation to the median household income, this means that Elmore's Thermal Energy Burden is 2.8%, Electricity Burden is 1.1% and Transportation Burden is 3.8%. In total, the town's Energy Burden is 7.6% and ranked in the lowest tier of Vermont towns, meaning that residents allocate a smaller percentage of their income to energy expenses when compared with residents of other towns in Vermont.

**Current Energy Usage**

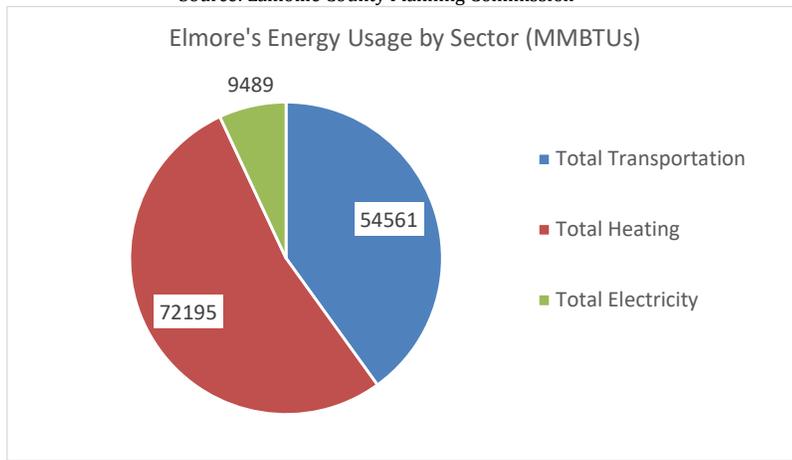
*Overall Energy Use*

Energy used in Elmore is used to provide electricity, heat and cool buildings, and transport people and products. There are various ways to measure energy use. Electricity use can be measured in kilowatt hours, transportation fuel use can be expressed in gallons of gas, and heating fuel use can be tracked by tons of wood pellets, gallons of propane; depending on what kind of fuel is measured. A common measure of usage that can be calculated for any type of energy fuel is a British Thermal Unit (BTU) \*1. While British Thermal Units (BTUs) may be harder to conceptualize in terms of the volume of energy fuel used, they allow for usage comparisons across all energy sectors; i.e. electricity, transportation and heating.

Annually, Elmore uses approximately 136244 million BTUs of energy \*2. Of that, electricity accounts for about 7% (about 8.8 million BTUs), transportation for 40% (about 64.1 million BTUs) and space heating for 54% (about 55.7 million BTUs) (see **Figure 1**).

Figure 1: Annual Energy Consumption in Elmore (136K million British Thermal Units)

Source: Lamoille County Planning Commission



\*1 The British thermal unit (Btu or BTU) is a traditional unit of heat; it is defined as the amount of heat required to raise the temperature of one *pound* of water by one degree Fahrenheit. It is part of the British *Imperial* system of units.

\*2 Estimates of current energy usage are derived from data available from the American Community Survey, the Vermont Agency of Transportation, VT Department of Labor, Efficiency Vermont and the VT Department of Public Service. Lamoille County Planning Commission converted these estimates to British Thermal Units.

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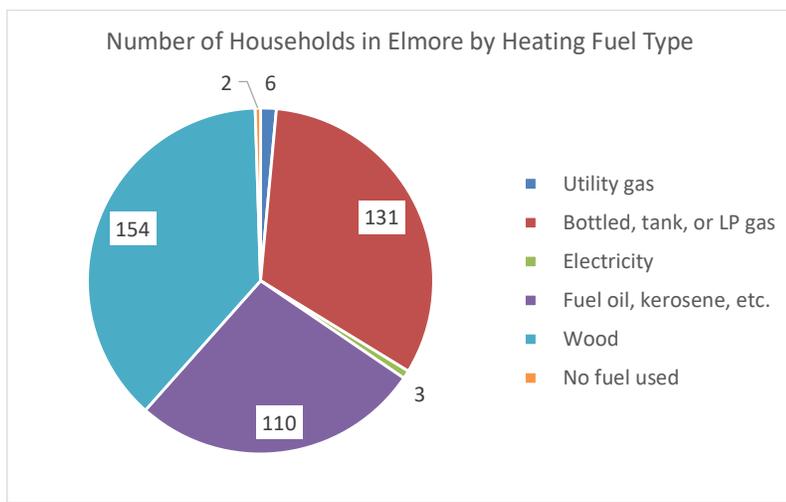
2026-2034

In 2023, according to the [Efficiency Vermont's Statewide Energy Burden report calculations provided by Lamoille County Planning Commission and based on 2016 energy prices](#), the estimated average household spending on energy in Elmore was \$7,338 and split as follows: transportation \$3,666 (49%), heating \$2,657 (36%) and electricity \$1,015 (13%). It is also important to note that the Town's average expenditure on heating and electricity has gone down from 2016 to 2023.\*3

The Municipality (Town Clerks Office, Town Hall, Elmore School, Highway Dept. and Fire Dept.) in 2016 spent \$16,112 on heat and electricity and \$94,989 on transportation (diesel equipment, snow-plows, dump-trucks, fire trucks, and some gas-powered town vehicles).

*Space Heating Energy Use*

The highest need for space heating fuels comes from residences which utilize about 92% of space heating energy used in Elmore. Commercial and municipal establishments utilize the remaining 8%. As far as specific types of heating fuels used by residences, according to American Community Survey data from ~~2023~~, 38% (154) of households heat their homes by wood, 27% (110) by fuel oil, 32% (131) by propane, and 3% (11) from other sources (electricity, LP Gas, passive solar etc.) See **Figure 2**. Commercial and municipal establishments use fuel oil, propane, electricity and wood.



*Electricity Use*

Efficiency Vermont reports that in 2022, Elmore's residents and businesses used 2,780,920 kilowatt hours (KWh) of electricity. Residences used about 91% of electricity, and businesses and municipal buildings remaining 9% of electricity. Average annual residential usage was 6,005 KWh, well below Lamoille County average of 7,077 KWh and lowest in the county.

[DarkSky Policy](#)

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The Town of Elmore has expressed interest in applying for DarkSky status and adopting additional outdoor lighting standards to reduce light pollution and preserve the Town's breathtaking view of Vermont's starry skies. Protecting the night sky from light pollution plays an important role in maintaining Elmore's rural landscape, protecting wildlife habitat, and preserving quality of life. DarkSky certifies outdoor lighting products that are designed to reduce light pollution. To obtain DarkSky status and maintain Elmore's dark skies the Town could explore enhancing outdoor lighting requirements in site plan review standards under Elmore's Town zoning regulations. For more information on the DarkSky Vermont program visit: <https://darkskyvt.org/>.

*Transportation Energy Use*

Most people in Elmore drive out of town to work and shop. The only public transportation that serves Elmore is Micro Transit service provided by Rural Community Transportation. There is no public transportation that currently serves Elmore due to lack of demand and rural nature of Elmore. As of 2023 Drive Electric Vermont had reported currently only two 18 residents owning an electric vehicle in Elmore cars. The church parking lot and area around the town hall serve as an unofficial park and ride although there is no data on how many people use it. According to the Vermont Public Service Department Municipal Consumption Tool, currently gas-powered vehicles in Elmore consume 54,561 million BTUs of energy. The average number of miles traveled per year by Elmore residents is 9,000 miles. Currently, approximately 777 vehicles in Elmore drive

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\*3-2023 Efficiency Vermont Energy Buden Report. Energy prices are derived from information available from US Energy Information Administration.

11,655,000 miles each year and burn 531,468 gallons of gasoline. (Sources: American Community Survey, Vermont Agency of Transportation).

## **LEAP Targets**

### *Overview*

To model pathways and toward reaching the state energy goal, the Vermont Energy Investment Corporation used a program called the Long-Range Energy Alternatives Planning model (LEAP) to project future energy demand in the state, regions and towns. LEAP provided a potential scenario by which the Town of Elmore could achieve the states goals. ~~This scenario includes very specific efficiency, fuel switching and energy generation targets. LEAP modeling baseline estimates and future projections are presented in Tables 1 through 9 below. These targets consider the Vermont Climate Action Plan and Comprehensive Energy Plan goal to meet 90% renewables by 2050. Municipal LEAP targets were proportioned based on total local energy shares estimated by the Vermont Public Service Department's Municipal Consumption Tool. The below projected targets are based on anticipated increased demand in electrification for heating, cooling, and transportation needs.~~

The 2023 LEAP Model also projects energy demand for core sectors: residential, commercial, and industrial. The tool accounts for multiple fuel types including, but not limited to, electricity, wood, solar, heat, and other fossil fuels. There are pathways to meet demand using a "business-as-usual" (baseline) scenario under typical energy planning and programs, and a Climate Action Plan (CAP) mitigation scenario developed to meet GWSA greenhouse gas emissions reduction targets.

### **Projected total energy demand: Residential Sector**

<u>Residential</u>	<u>2025</u>	<u>2030</u>	<u>2035</u>	<u>2040</u>	<u>2050</u>
<u>Baseline</u>	<u>50.00</u>	<u>46.26</u>	<u>44.22</u>	<u>43.47</u>	<u>42.97</u>
<u>CAP</u>	<u>45.10</u>	<u>37.84</u>	<u>32.45</u>	<u>27.86</u>	<u>25.36</u>

### **Projected total energy demand: Commercial Sector**

<u>Commercial</u>	<u>2025</u>	<u>2030</u>	<u>2035</u>	<u>2040</u>	<u>2050</u>
<u>Baseline</u>	<u>7.10</u>	<u>7.00</u>	<u>6.91</u>	<u>6.89</u>	<u>6.91</u>
<u>CAP</u>	<u>6.98</u>	<u>6.90</u>	<u>6.84</u>	<u>6.92</u>	<u>7.07</u>

### **Projected total energy demand: Industrial Sector**

<u>Industrial</u>	<u>2025</u>	<u>2030</u>	<u>2035</u>	<u>2040</u>	<u>2050</u>
<u>Baseline</u>	<u>2.47</u>	<u>2.45</u>	<u>2.43</u>	<u>2.46</u>	<u>2.54</u>
<u>CAP</u>	<u>2.47</u>	<u>2.45</u>	<u>2.43</u>	<u>2.46</u>	<u>2.54</u>

### **Projected total energy demand: Transportation Sector**

<u>Transportation</u>	<u>2025</u>	<u>2030</u>	<u>2035</u>	<u>2040</u>	<u>2050</u>
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Baseline	<u>54.67</u>	<u>49.02</u>	<u>44.87</u>	<u>41.13</u>	<u>36.29</u>
CAP	<u>52.95</u>	<u>43.01</u>	<u>32.91</u>	<u>25.10</u>	<u>18.69</u>

**Target: Percentage of Households heated with wood**

Baseline	2025	2030	2035	2040	2050
# of Households	<u>154</u>	<u>146.6</u>	<u>142.5</u>	<u>142</u>	<u>141.9</u>
% of Households	<u>0%</u>	<u>27%</u>	<u>25%</u>	<u>25%</u>	<u>24%</u>

CAP	2025	2030	2035	2040	2050
# of Households	<u>144.2</u>	<u>129.6</u>	<u>117.1</u>	<u>102.6</u>	<u>77.4</u>
% of Households	<u>27%</u>	<u>24%</u>	<u>21%</u>	<u>18%</u>	<u>13%</u>

**Target: Households heated with electric heat pumps**

Baseline	2025	2030	2035	2040	2050
# of Heat pumps	<u>24.98</u>	<u>75.58</u>	<u>143.45</u>	<u>183.30</u>	<u>202.59</u>

CAP	2025	2030	2035	2040	2050
# of Heat pumps	<u>26.81</u>	<u>161.51</u>	<u>297.27</u>	<u>434.22</u>	<u>572.43</u>

**Target: Commercial Wood Energy Demand**

Baseline	2025	2030	2035	2040	2050
Thousand MMBTUs	<u>0.80</u>	<u>0.85</u>	<u>0.90</u>	<u>0.95</u>	<u>1.08</u>
% of total Demand	<u>11%</u>	<u>12%</u>	<u>13%</u>	<u>14%</u>	<u>16%</u>

CAP	2025	2030	2035	2040	2050
Thousand MMBTUs	<u>0.84</u>	<u>0.93</u>	<u>1.03</u>	<u>1.11</u>	<u>1.27</u>
% of total Demand	<u>12%</u>	<u>14%</u>	<u>15%</u>	<u>16%</u>	<u>18%</u>

**Target: Households weatherized**

Baseline	2025	2030	2035	2040	2050
# of Weatherized Households	<u>42.89</u>	<u>63.35</u>	<u>82.81</u>	<u>102.95</u>	<u>145.52</u>
% of Weatherized Households	<u>0.08</u>	<u>0.12</u>	<u>0.15</u>	<u>0.18</u>	<u>0.25</u>

CAP	2025	2030	2035	2040	2050
# of Weatherized	<u>116.89</u>	<u>200.59</u>	<u>252.62</u>	<u>304.64</u>	<u>408.68</u>

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Households					
% of Weatherized Households	22%	36%	45%	53%	70%

**Target: Passenger electric vehicle use (Passenger Cars & Light Duty Trucks)**

Baseline	2025	2030	2035	2040	2050
# of EVs	1.85	21.11	41.83	642.30	172.33
% of Vehicles Energy demand	0%	2%	4%	8%	16%

CAP	2025	2030	2035	2040	2050
#of EVs	43.46	204.92	475.73	728.49	1015.42
% of Vehicles Energy demand	0%	2%	10%	29%	54%

**Total Green House Gas Emissions**

Baseline (Thousand Metric Tonnes CO2e)	2025	2030	2035	2040	2050
Transportation	5.48	5.01	4.68	4.38	3.91
Residential	1.88	1.68	1.58	1.53	1.5
Commercial	0.79	0.74	0.7	0.69	0.66
Industrial	0.23	0.22	0.22	0.22	0.23
Electricity	0.11	0.09	0.07	0.11	0.21
<b>Total</b>	<b>8.49</b>	<b>7.75</b>	<b>7.26</b>	<b>6.93</b>	<b>6.51</b>

Sector (Thousand Metric Tonnes CO2e)	2025	2030	2035	2040	2050
Transportation	5.19	3.99	2.63	1.57	0.66
Residential	1.54	0.9	0.45	0.14	0.1
Commercial	0.18	0.12	0.07	0.04	0.04
Industrial	0.05	0.04	0.03	0.01	0.01
Electricity	0.12	0.16	0.21	0.16	0.05
<b>Total</b>	<b>7.08</b>	<b>5.21</b>	<b>3.39</b>	<b>1.92</b>	<b>0.87</b>

**Current Energy Sources and Generation**

*Existing Energy Generation*

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Today, electricity generated in Elmore comes from solar and wind generation facilities. At the close of 2017, Elmore was home to 8 solar sites with total generation capacity of 128 kilowatts (KW) and two wind sites with combined generation capacity of 19 KW. Total estimated production from these facilities is 190,267 kilowatt hours (KWh) \*4.

All sites but one are small-scale installations with generation capacity between 3-14 KW. One site is larger, with generation capacity of approximately 80 KW.

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\*4 Generation capacity data is based on information available via Community Energy Dashboard. As new facilities are added, the Energy Dashboard gets periodically updated; <http://www.vtenergydashboard.org>. The generation data here is from November 2017. Estimated production was determined as follows: (For solar: existing generation capacity x 8760 hours per year x solar capacity factor of 0.14; For wind: existing generation capacity x 8760 hours per year x residential wind capacity factor of 0.2)

*Future Energy Generation*

The projected energy generation target for 2050 for Elmore – derived from the LEAP model - is to build generation facilities with total energy output of 9,722,000 kilowatt hours by 2050.

The Solar and Wind Resource Maps show areas with energy generation potential as based on presence of the resource (sun or wind) and environmental attributes of the resource areas. “Prime” areas are lands with available resource and no environmental constraints. “Secondary” areas also have the resource but possess environmental characteristics that may pose an obstacle to development, based on statewide regulations or designated critical resource.

In addition to the Solar and Wind Resource Maps developed on the basis of statewide regulations, Elmore Planning Commission identified local preferences to be considered in the planning of renewable energy facilities. These local preferences are incorporated into the Solar and Wind Resource maps.

The maps can be used for conceptual planning or initial site identification by those interested in developing renewable energy infrastructure. They should not, however, take the place of site-specific investigation for a proposed facility, and should therefore not be thought of as “siting maps.”

In addition to utilizing Wind and Solar to achieve the Towns goals of achieving the 90% goal by 2050, Elmore will be researching the feasibility of installing energy storage facilities which would store renewable energy during off-peak hours to be redistributed during high demand times which could significantly increase the renewable energy output and usage within the Town.

**Future Energy Sources and Generation**

**Generation Targets**

*Solar Generation Potential*

The initial mapping analysis performed by Lamoille County Planning Commission (LCPC) identified that there are there are 4,367 acres of land in Elmore that are potentially suitable for solar power generation. Of this number, 109 acres (about 3%) are lands with prime solar potential and 4,258 acres (about 97%) are lands with secondary solar potential. The siting guidelines in this plan prohibit commercial and utility scale solar generation in certain portions of Elmore (see areas where renewable energy generation is unsuitable). According to the GIS analysis performed by LCPC, the remaining areas of town where solar generation is not restricted contain 2,487 acres of land (114 prime acres and 2,373 secondary) with potential for solar generation. \*5. See Map 8 for areas potentially available for solar.

Based on LCPC’s calculations, to reach the LEAP output levels via only ground-mounted solar facilities, Elmore would need to dedicate about 60 acres of land to this pursuit. This plan finds it feasible that Elmore could support the estimated 60 acres of land, and the Town is committed to working with future energy developers so long as certain guidelines and constraints are followed.

**Commented [MR22]:** This is not necessary because the solar generation targets can be met with various generation size projects.

\*5 Energy generation potential from lands potentially suitable for solar generation

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is 311 MW and 381,410 MWh. Source: Department of Public Service methodology, page 15 of  
[http://publicservice.vermont.gov/sites/dps/files/documents/Pubs\\_Plans\\_Reports/Act\\_174/Regional%20Guidance\\_Final.pdf](http://publicservice.vermont.gov/sites/dps/files/documents/Pubs_Plans_Reports/Act_174/Regional%20Guidance_Final.pdf)

To reduce the amount of land needed for land based solar systems to reach the LEAP goal, Elmore encourages residential rooftop installations. While rooftop solar can supplement land based solar installations, rooftop solar cannot fully replace the land based installation needs to meet the 2050 renewable energy output target. Elmore estimates that if 25% of its households installed rooftop solar facilities with an average capacity of 4 KW per household, the resulting generation output would be about 467,258 KWh which is slightly less than 5% of the 90% by 2050 energy generation target.

The siting of any solar installation must take into consideration the extreme importance that Elmore places on maintaining large tracts of unfragmented forest, wildlife corridors, existing farmland and prime agricultural soils. For the health and well-being of future generations these lands must be preserved. This statement is consistent throughout the Town's Plan and Bylaws and will be a major factor in the appropriate siting of solar installations in Elmore. See map for detailed overlay of Local Constraints. Additionally, the guidelines listed later in this chapter illustrate the process that will assist developers in evaluating the feasibility of solar projects in Elmore.

#### *Wind Generation Potential*

The initial mapping analysis performed by the LCPC identified 1,475 acres of lands potentially suitable for wind energy generation. Of this number, 119 acres (about 8%) are lands with prime wind potential. Lands with secondary wind potential total to 1,356 acres (about 92%).

Elmore's policy on wind development is consistent with that of solar. The siting of any installation must take into consideration the extreme importance that Elmore places on maintaining large tracts of unfragmented forest, wildlife corridors, existing farmland and prime agricultural soils. ~~And u~~Under no circumstances should the Worcester Range be considered for development. [This further limits the number of acres potentially available for commercial and utility scale wind and solar development.](#)

Going forward, residential and commercial scale systems are encouraged provided they follow the siting guidelines below. The siting guidelines prohibit commercial and utility scale wind generation in certain portions of Elmore\*6. See Map 9 for areas potentially available for wind generation.

#### *Hydro Generation Potential*

Elmore may have a potential to produce energy from small or micro hydroelectric facilities. A hydroelectric renewable generation potential map developed by the Lamoille County Planning Commission identifies the Lake Elmore Dam as having 10-49 KW of undeveloped generation potential. Additional potential may exist along Elmore's rivers and streams. The feasibility of harnessing energy via hydroelectric projects may be questionable as potential projects will face a wide range of environmental, economic, and permitting challenges.

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\*6 Energy generation potential from lands potentially suitable for wind generation is 86 MW and 263,676 MWh. Source: VT Department of Public Service methodology, page 16 of: [http://publicservice.vermont.gov/sites/dps/files/documents/Pubs\\_Plans\\_Reports/Act\\_174/Regional%20Guidance\\_Fin al.pdf](http://publicservice.vermont.gov/sites/dps/files/documents/Pubs_Plans_Reports/Act_174/Regional%20Guidance_Fin al.pdf)

Hydroelectric power is the only renewable energy source required to gain approval from numerous state and federal agencies which makes the permitting process very complex and costly. \*7

### *Biomass*

Elmore's farms should consider the use of methane digesters as a way of producing energy.

### *Energy Storage Facility*

Elmore will research the feasibility of installing an energy storage facility. The use of an energy storage facility will allow Elmore to contract with other renewable energy resources, such as Kingdom Community Wind, to purchase renewable power during off-peak hours. This renewable energy will in turn be used as a generation facility for the Town of Elmore to generate renewable energy for the town. The study will need to be conducted in cooperation with the local distribution provider of Elmore to determine whether or not there is potential for building the transmission network needed for such an undertaking. The long-term potential of this project will greatly increase the percentage of renewable energy used by the Town of Elmore. In turn, the study of this project will greatly increase the awareness of the goals set forth by the State to the residents which will help encourage the residents to help achieve the goal of 90% renewable energy usage by 2050.

### **Siting Guidelines**

It is the responsibility of the developer to complete this process, only when presented with a detailed analysis of these constraints will Elmore begin to consider a project.

### *Areas Preferred for Renewable Energy Development*

Areas preferred for renewable energy development are the areas identified as "preferred" in Act 174. In Elmore, relevant examples of Act 174 preferred sites include:

- Parking lots
- Rooftop installations

### *Areas Unsuitable for Renewable Energy Development*

There are certain areas in Elmore where the development of renewable energy generation facilities is not supported because such development would be inconsistent with land use goals for these areas. The land use goals are outlined in the Land Use Chapter of this plan and detailed in the Zoning Bylaws.

Areas where all types and sizes of renewable energy generators are prohibited include:

- Forest Reserve District above 1500'. The Forest District encompasses Mt. Elmore and the Worcester Mountain Range. Elmore's land use goals for this area are to maintain large tracts of unfragmented forests to protect flood hazard areas, shorelines, steep slopes and sensitive habitats. (pp 67, 68 and .70 of the plan)

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\*7 The Undeveloped Hydroelectric Potential of Vermont, <http://www.communityhydro.biz/>

Areas where commercial and utility scale renewable energy development is prohibited include:

- Forest Reserve District above 1200'. The Forest District encompasses Mt. Elmore and the Worcester Mountain Range. Elmore's land use goals for this area are to maintain large tracts of unfragmented forests to protect flood hazard areas, shorelines, steep slopes and sensitive habitats. (pp 67, 68 and .70 of the plan)
- Remote Area Overlay District. This district includes all lands east of VT Route 12 and south of Lacasse Road, Symonds Mill Road, or Brown Hill Road (respectively) that are ¼ mile or more from a State Highway or Class II or III Town Road. Future land uses in the Rural East District include agriculture, forestry, home based occupations, small-scale hospitality businesses and low density residential development. (pp. 68-69 of the plan). Remote Area Overlay is subject to additional standards that aim to protect surface waters, wetlands, wildlife habitat and the habitat's travel corridors as well as forestland.
- Part of Undeveloped Shoreland District. The Undeveloped Shoreland District include all lands which are located within 500 feet of the shorelines of Little Elmore Pond, Little Pond, and Hardwood Pond. This plan does not support commercial and utility scale energy projects within 100 feet from shorelands.
- Part of Developed Shoreland District. The Developed Shoreland District shall include all lands which are located within 500 feet of the shorelines of Lake Elmore. This plan does not support utility scale and ground mounted facilities within 100' from shore. Roof mounted facilities are supported.

Areas where utility scale renewable energy development is prohibited include:

- Agricultural Land in active use. Existing farms are in the Rural East and Rural West districts. Elmore wishes to see farming continue and therefore utility scale renewable projects on the actively farmed land are not encouraged supported.
- Lake Elmore Historic Districts. Utility-scale projects are not supported due to Elmore's interest to retain the historic character of the districts and devote these areas to higher density, small scale development. (p. 68 of the plan)

*Areas Potentially Suitable for Renewable Energy Development:*

The Solar and Wind Resource Maps show areas with energy generation potential as based on presence of the resource (sun or wind) and environmental attributes of the resource areas. "Prime" areas are lands no environmental constraints. "Secondary" areas have possible environmental constraints that may pose a barrier to the development of renewable energy facilities, based on statewide regulations. In some cases, these constraints may prohibit the development and in others the development may be suitable. The secondary areas shown on the Solar and Wind Resource Maps include the following environmental constraints:

- Federal Emergency Management Agency Special Flood Hazard Areas
- Prime Agricultural Soils
- Act 250 Agricultural Soil Mitigation areas
- Protected Lands (State Fee Lands and Private Conservation Lands)
- Deer Wintering
- Hydric Soils
- Vermont Agency of Natural Resources Conservation Design Highest Priority Forest Blocks

*Areas Likely Unsuitable for Renewable Energy Development*

Areas likely unsuitable for renewable energy development include areas with insufficient resource potential (sun or wind) and areas with environmental constraints that signal likely, though not absolute unsuitability for development based on statewide or local regulations or designated critical resource. The solar and wind resource maps, name these areas as “solar likely unsuitable” or “wind likely unsuitable”. The environmental constraints include:

- Federal Emergency Management Agency identified floodways
- River Corridor Areas as identified by the Vermont Department of Environmental Conservation
- Class 1 and 2 Wetlands as noted in Vermont State Wetlands Inventory or advisory layers
- Vernal Pools (confirmed and unconfirmed)
- State-significant Natural Communities and Rare, Threatened, and Endangered Species
- Wilderness Areas, including National Wilderness Areas

## **Goals Objectives, Policies and Recommendations**

### **Goals:**

- Promote the use of [alternative fuel electric](#) vehicles to the residents and businesses of Elmore.
- Research the feasibility of rideshare, bus, or any other form of mass transit.
- Expand infrastructure for electric vehicles [including installing local charging stations.](#)
- Encourage sharing space on delivery vehicles in order to reduce the energy used for the transportation of goods and services (i.e. food, firewood, landscapers, plumbers).
- Incorporate renewable energy principles into the plan.
- Support and promote the organization of community workshops and distribute information on home and business weatherization [and energy efficiency incentives.](#)
- Create an Elmore Energy Committee.

### **Objectives:**

- Develop a local service directory to promote coordination amongst local business and food producers.
- Support the efforts of Efficiency Vermont to promote the use of energy efficient products and appliances.
- Pursue conservation projects within the Elmore footprint.

### **Policies:**

- Elmore recognizes the importance of increasing the use of renewables.
- When considering updating Elmore infrastructure and equipment, Elmore will explore the feasibility/affordability of upgrading to the most energy efficient options.
- Influence behavioral changes to reduce energy consumption. (i.e. distribute free clothes lines at community events, provide information on incentives for energy saving [and electric vehicles](#))
- Encourage the installation of residential and commercial scale renewable energy generation systems.
- Continue to expand on the use of renewable energy technologies in residential and commercial development through the Town's Zoning Bylaws [such as enhancing the bylaws to support electric vehicle charging infrastructure.](#)

**Recommendations:**

- Encourage the use of electric cars by inviting dealerships to bring cars to community events such as the Fire Dept. Chicken BBQ.
- Work with Green Mountain Transit Authority (GMTA) to determine the feasibility of a Morrisville to Montpelier bus route. Build town support for public transportation.
- Create and promote a Community Carpool forum through the town website and Front Porch Forum to connect people with compatible routes such as: Elmore to Copley Hospital, Elmore to Stowe and Elmore to Montpelier.
- Consider installing an electric charging station in the village and/or at the state park. This would also increase revenue as people waiting for their car to charge would likely shop at the Elmore Store.
- ~~Rebuild and replace the 1930s Town Garage and Highway Maintenance building.~~
- ~~Support Morrisville Water and Light outreach around Begin~~ a feasibility study of creating an energy storage facility to harvest renewable energy during off-peak times.
- Encourage the use of the town website as a community forum and information resource.
- Provide information on energy efficient building design and siting when permits are issued.
- Encourage use of wood stoves, pellet burning stoves, and heat pumps in new construction by providing information at the Town Clerks Office and on the website.
- Promote programs that provide financial assistance to low income residents for building and weatherization projects.
- Promote responsible logging practices to protect forest health as the projected demand for wood increases.
- ~~Incorporate DarkSky outdoor lighting requirements into the existing lighting standards in the Elmore zoning bylaws under site plan review.~~
- ~~Investigate if the existing Lake Elmore dam is still generating electricity and determine who is responsible for maintaining the dam in the future.~~

## CHAPTER 9: Housing element

### Housing Demographics

#### Overview

Single-family units are the predominate form of housing in Elmore. A breakdown of housing from the 2012 and 2018 Grand Lists records is as follows:

Mobile homes without land	4	3
Mobile homes with land	14	10
Vacation homes on 6 or less acres	106	105
Vacation homes on 6+ acres	58	57
Operating farms	8	6

Source : Grand List 2017

According to the latest U.S. Census Bureau, in 2010 467 (90.8%) out of 515 total housing units in Elmore were single-family dwellings. While the population from 2000 to 2010 only increased by 6%, the number of housing units increased by 27%. Additionally, during the same time period, the number of vacation units increased from 145 to 159. While the total number of housing units in Elmore has increased, the vacancy rate has raised from 27% in 2000 to 32.6% in 2010. Out of the 515 housing units, approximately 177 are classified as vacant. The rise in vacancy rates may largely be attributed to the increase in vacation homes built over the past 12 years. Overall, 317 housing units are owner-occupied while 159 are seasonal, and only 49 are renter occupied.

#### Median Housing Costs

According to the 2016 American Community Survey, the median value of homes in Elmore is \$271,900. This figure is for property value, whether or not it is for sale. The figures on the table 4 below reflect actual sale prices of houses in Elmore sold in 2012 compared to sale prices of 2016

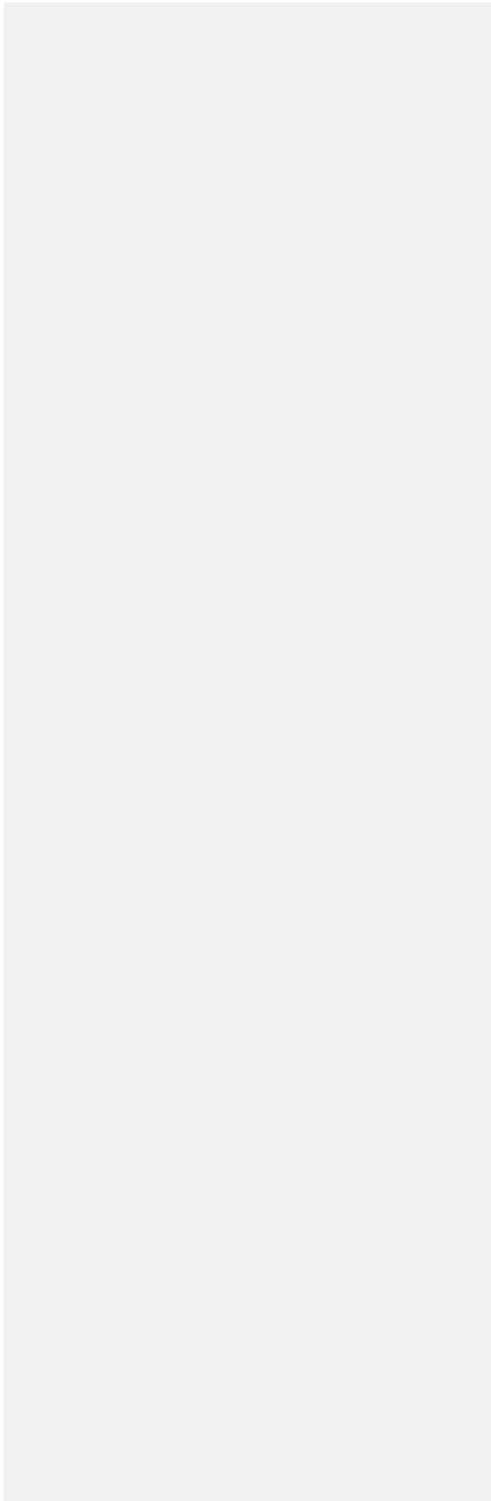
#### Average sale prices in Elmore for 2012

House Type	Sale Price	Number of Valid Sales
House on 6 acres or less	214,500	3
House on 6 acres or more	312,500	2
Open Land/Woodland	32,600	1
Vacation homes 6 acres or less	319,750	4

#### Average sale price in Elmore for 2016

House Type	Sale Price	Number of Valid Sales
House on 6 acres or less	331,666	3
House on 6 acres or more	225,333	3
Open land/Woodland	48,250	4

**Table 4:** Average Sales Prices, Source: Elmore Grand List 2017



The Department of Housing and Community Affairs housing policy states that housing is affordable when the cost of housing does not exceed 30% of a household's income. The affordability figure for Lamoille County is \$1,044.68 per month (\$52,232 median household income; \$41,748.56 is 80% of Lamoille County median income; \$12,535.68 is 30% of the 80% figure; divided by 12 months). During the 2010 Census, figures for homeowners were calculated for Elmore. Median costs were \$1,209 per month for those with a mortgage and \$500 for those without a mortgage. By the definition above, Elmore's housing is not considered affordable to the average county resident. When residents were asked about affordability during the 2010 Census, 21.4% of residents had mortgage payments that were not affordable.

Since 2000, regionally housing affordability has increasingly become a major concern for Lamoille County residents and prospective buyers. Incomes in Lamoille County increased by only 13% between the two census counts (2000- 2010) while housing values rose nearly 50%. In comparison, a similar scenario has played out in the Town of Elmore between 2000 and 2010. Income for the average Elmore resident increased by 16% while housing values rose by over 50%.

### **Housing for All Ages**

As a whole Vermont is aging, and Elmore is not isolated from that trend. As residents age, many may wish to remain in Elmore, but it will become more difficult to take care of large, rural properties. At the same time, housing costs may be prohibitively expensive for younger families and individuals seeking their first home. While Elmore lacks the infrastructure to support large senior housing or affordable housing developments, there are several strategies to address this issue that are in keeping with Elmore's rural character.

### **Accessory Dwellings**

Based on State Statute, homeowners are allowed to add accessory dwellings (frequently referred to as "in-law apartments") to any single-family home. Accessory dwellings are a key component of allowing older residents to "age-in-place." By adding an accessory dwelling, homeowners can provide space within their home to parents or adult children, or supplement their annual earnings with rental income. Accessory dwellings represent an opportunity to create additional housing in Elmore without developing valuable natural areas.

### **HomeShare**

HomeShare Vermont assists elders and persons with disabilities to live independently in their own home by bringing them together with persons who are seeking affordable housing, and/or, care giving opportunities. HomeShare conducts background checks and monitors matches to ensure safety of those involved. HomeShare expands housing opportunities while maintaining open space, farmland, forests, and other critical environmental areas. For more information visit <http://homesharevermont.org/>.

## **Goals Objectives, Policies and Recommendations**

### **Goals:**

- Encourage the planning of housing which preserves the rural character of Elmore, conserves energy, provides for efficient delivery of public services, minimizes the impact on forestry and wildlife, all while accommodating a variety of income levels, ages, and housing preferences.

### **Objectives:**

- Have a variety of housing types to meet the various needs of its residents, including vacation homes, single-family, two-family, mobile homes, and apartments.
- Ensure a pattern of residential growth compatible with Elmore's rural character that does not outstrip the Town's ability to provide necessary services.
- Residents of Elmore should have the opportunity to find affordable housing, for purchase or rent in regards to the Department of Housing and Community Affairs housing policy stating that housing is affordable when the cost of housing does not exceed 30% of a household's income.

### **Policies:**

- Accessory Dwellings are encouraged as they provide needed income for the homeowner and small apartments for residents living alone.
- Vacation homes are encouraged in town where appropriate.
- Sites for manufactured homes are not differentiated from site-built homes in the local permitting process.
- Affordable housing should minimize long-term living costs through high quality design, efficient construction, energy efficiency, and proximity to employment.
- Encourage land use patterns that are inherently more affordable by nature of cost associated with construction (e.g. shorter access roads, smaller lots, proximity to utilities).
- New residential development should be strategically located to protect important natural resources and critical habitat.
- New residential development should be located in areas where existing infrastructure and roads are in place.
- In order to accomplish the policies listed above, new residential development shall be strictly limited at elevations above 1,300 feet and prohibited at elevations above 1,500 feet.

### **Recommendations:**

- Monitor development trends and upcoming US Census data in various areas of town and neighboring communities.
- Work to promote HomeSharing options among residents.
- Work with the Lamoille Housing Partnership to find ways to ensure that working residents have housing they can afford according to the
- Promote the option of utilizing Planned Unit Developments to cluster development on

the least sensitive portion of a property.

- Consider developing mechanisms to allow “transfers of development rights” from areas with important natural resources to areas that are more suitable for development.
- Consider adding Conservation subdivisions language to the bylaws

## **CHAPTER 10: Statement of Regional Impact**

### **How the Elmore Town Plan Relates to Adjacent Municipalities and the Regional Plan**

*Wolcott:* Wolcott shares the full length of Elmore's northeast border and the two are connected by several roads and trails. These areas are primarily rural residential in use and some are considered important north south habitat connectors.

*Hardwick:* Hardwick shares Elmore's eastern corner. Kate Brook Road, the only road that connects the two, is sometimes used by residents to access Brown Hill during inclement weather. Hardwick also functions as an alternative economic hub to Morrystown.

*Woodbury:* Woodbury shares the full length of Elmore's southeast border, this area is mostly undeveloped and no maintained roads connect the towns except for Woodbury Mountain Road that connects to a small area of Woodbury otherwise isolated for the rest of the town, there are several recreational trails that run between this and Eagle Ledge Road in Elmore. This area is primarily used to recreation and timber and is an important piece of the overall regional forest block.

*Calais:* Elmore touches Calais on its southern corner in undeveloped sections of both towns

*Worcester:* Worcester shares the full length of Elmore's southwest border. They are connected by Route 12. This large tract of undeveloped land is considered to be of critical importance as an interior forest and connectivity block in the region. For this reason Elmore created the Rural Area Overlay zoning district to minimize future development and the Vermont Land Trust has been working with the owners of some of the largest parcels to conserve them.

*Stowe:* Stowe contacts Elmore's western corner only but has a greater effect on Elmore than most of its other neighbors as it is a major economic hub in the region and many residents commute there for work and recreation. The towns are connected by the Elmore Mountain Road which, with views of Mt Mansfield and easy access to Stowe and Morrystown villages makes it a desirable location. This has caused land prices and development activity to increase in this area in relation to the rest of Elmore. Residential development pressure stemming from Stowe was the reason Elmore advocated for a 7 acre minimum lot size in the rural west district and a general disregard by some developers for Elmore's zoning bylaws has led to an amendment of the bylaws meant strengthen the Towns ability to take action against the perpetrators.

*Morrystown:* Morrystown shares the full length of Elmore's northwest border and is also a major economic driver in the region. The two are connected primarily by Route 12 and Elmore Mountain Road which has numerous side roads connecting it to Randolph Road in Morrystown. This area of Morrystown is primarily residential with 2 acre minimum lot size. Currently some of the farms in this area are being subdivided and there is a moderate amount of developmental pressure.

*The Regional Plan:* The Elmore Town Plan falls within the parameters of the Lamoille County Regional Plan.

## **CHAPTER 11: Flood Resilience Plan**

Elmore has been proactive in planning for flood resiliency, examples of this can be found throughout this plan's transportation and land use chapters as well as the Town's bylaws. In 2017 Elmore created Flood Hazard regulations intended to protect river corridors and special flood hazard areas and to ensure that development in these areas is done in a reasonably safe manner.

Also in 2017 Elmore developed a stand alone Local Hazard Mitigation Plan which will assist in recognizing possible hazards in the community, (many from flooding), and in developing strategies to address them. Elmore should continue to maintain and strengthen these documents into the future to insure the health and safety of its residents and water resources.

## **CHAPTER 12: Implementation of Recommendations**

### *Overview*

The following list of goals which have been taken from all of the different chapters of this plan are designed to guide growth in the Town of Elmore in a manner which will achieve its overarching goals and community vision statement listed in Chapter 1 of this plan. These goals address strategies to maintain and protect the town's rural character, scenic beauty, historic resources, productive working landscapes, and the quality of natural habitats and water resources. Greater detail of the goals and recommendations are provided within each individual chapter.

In order to achieve these goals, the Planning Commission will work with the residents of Elmore and the various governing bodies in Elmore and surrounding communities to determine which goals will be set at the highest priority. Once the higher priority goals have been identified, time and resources will be allocated in order to achieve the goals.

### **Forestland**

#### *Goal:*

- Retain, conserve, and protect the existing forest; improve the ecology of the forest.
- Maintain and support current low impact public and private recreational land use.

### **Water**

#### **Resources**

#### **Goals:**

- To control the spread of invasive nuisance aquatic plants and animals in Lake Elmore and other bodies of water.
- To maintain the existence of the lake through the dam with the goal being to research ownership and long-term maintenance of the dam.

### **Agriculture**

#### *Goal:*

- To improve and expand the use of existing agricultural lands.

### **Residences**

#### *Goal:*

- To encourage responsible residential development where appropriate.

### **Commercial**

#### *Goal:*

- To encourage development in areas where the town economically and environmentally can afford it, (i.e. in areas which have access to Class 1, 2, and 3 roads, have power, have suitable soils, and do not have excessive slopes).

- To encourage commercial development which will maintain the rural character of Elmore.

**Industrial**

*Goal:*

- To allow industrial development which preserves the environment and rural character of Elmore

**Floodplains and Wetlands**

*Goal:*

- To protect the safety of residents from flood and erosion hazards, and to maintain water quality.

**Transportation**

*Goals:*

- To provide a transportation network that is efficient, safe, resilient and well maintained for all forms of transportation.
- To provide a transportation network that does not adversely affect water quality or further habitat fragmentation.
- To reduce the amount of energy used in transportation by Elmore's residents.

**Utility and Facility Plan**

*Goal:*

- To ensure adequate public facilities and services are available to protect and enhance the lives of residents and visitors of Elmore.

**Historical & Archaeological Resources**

*Goal:*

- To record, identify and preserve Elmore's heritage (town history, archeological records & resources, and structures & districts of historical value) for the enjoyment of current and future generations.

**Education Plan**

*Goals:*

- To continue Elmore's history of providing access to high quality education to all children without placing an undue burden on taxpayers.
- To maintain a strong and active school board with participation from the community to guide them.

**Economic Development Plan**

*Goals:*

- Explore options in the renewable energy industry that would add new industry to Elmore.

- Manage growth and economic development in order to attract and welcome visitors, new residents, and businesses with opportunities while preserving the rural scenic character.

**Energy Plan**

*Goals:*

- Promote the use of alternative fuel vehicles to the residents and businesses of Elmore.
- Research the feasibility of rideshare, bus, or any other form of mass transit.
- Expand infrastructure for electric vehicles.
- Encourage sharing space on delivery vehicles in order to reduce the energy used for the transportation of goods and services (i.e. food, firewood, landscapers, plumbers).
- Incorporate renewable energy principles into the plan.
- Support and promote the organization of community workshops and distribute information on home and business weatherization.
- Create an Elmore Energy Committee.

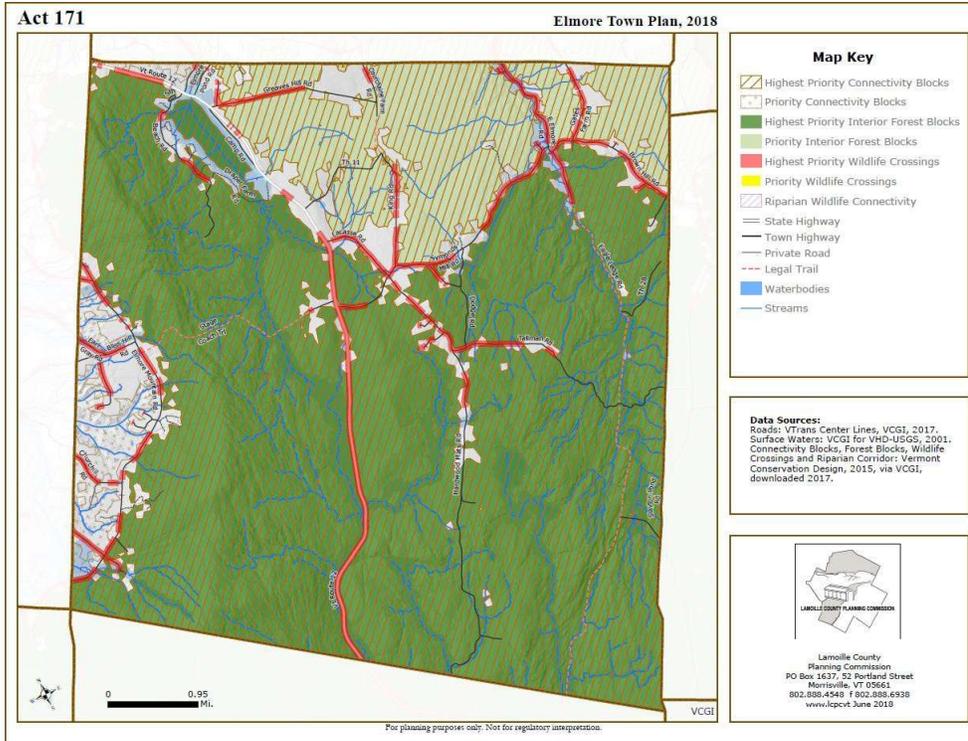
**Housing element**

*Goal:*

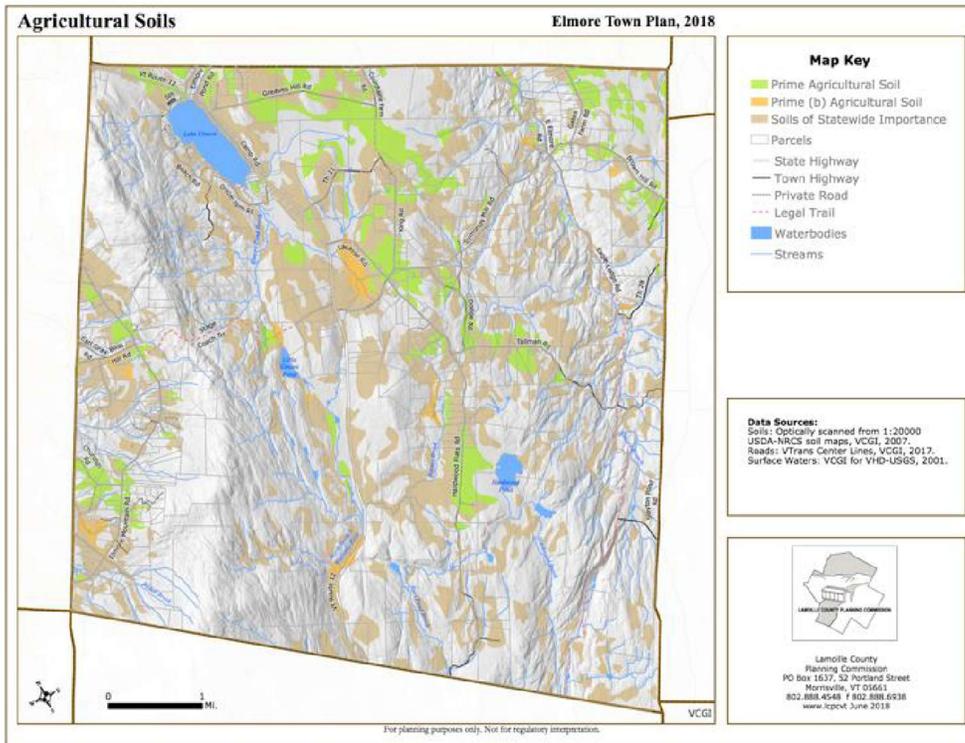
- Encourage the planning of housing which preserves the rural character of Elmore, conserves energy, provides for efficient delivery of public services, minimizes the impact on forestry and wildlife, all while accommodating a variety of income levels, ages, and housing preferences.

## Maps

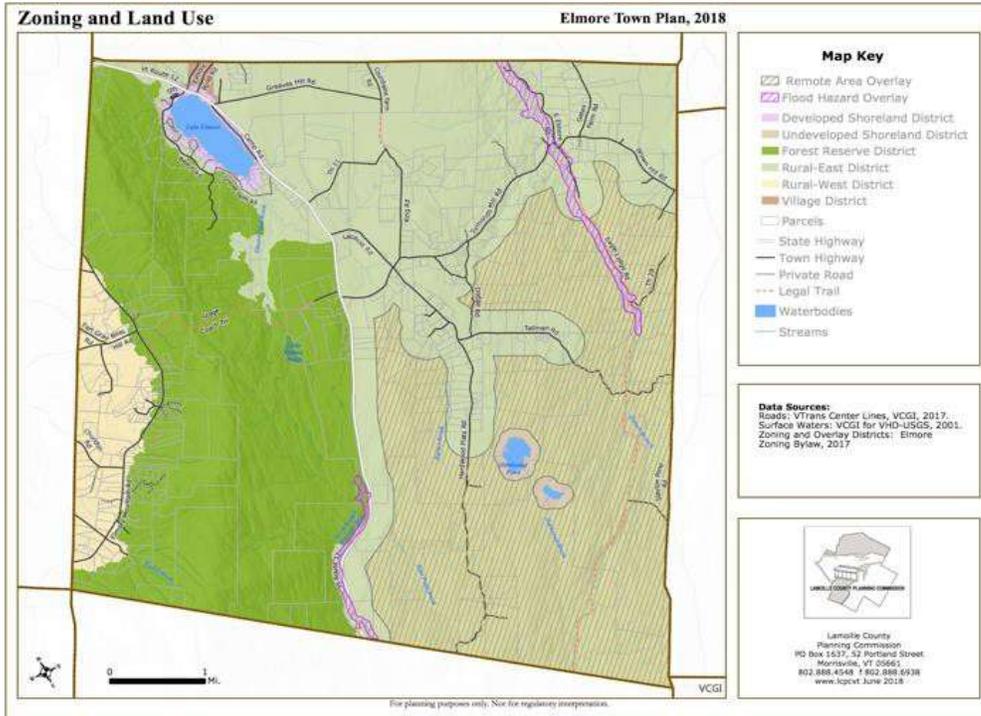
### Map 1: Land Use and Forest Blocks



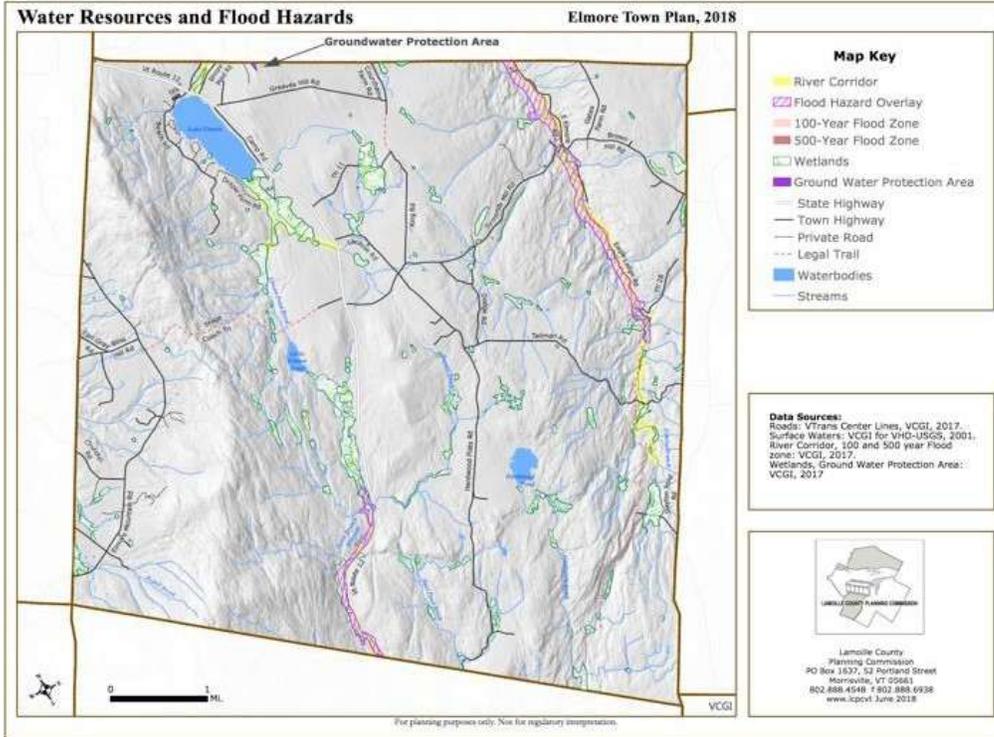
## Map 2: Agricultural Soils



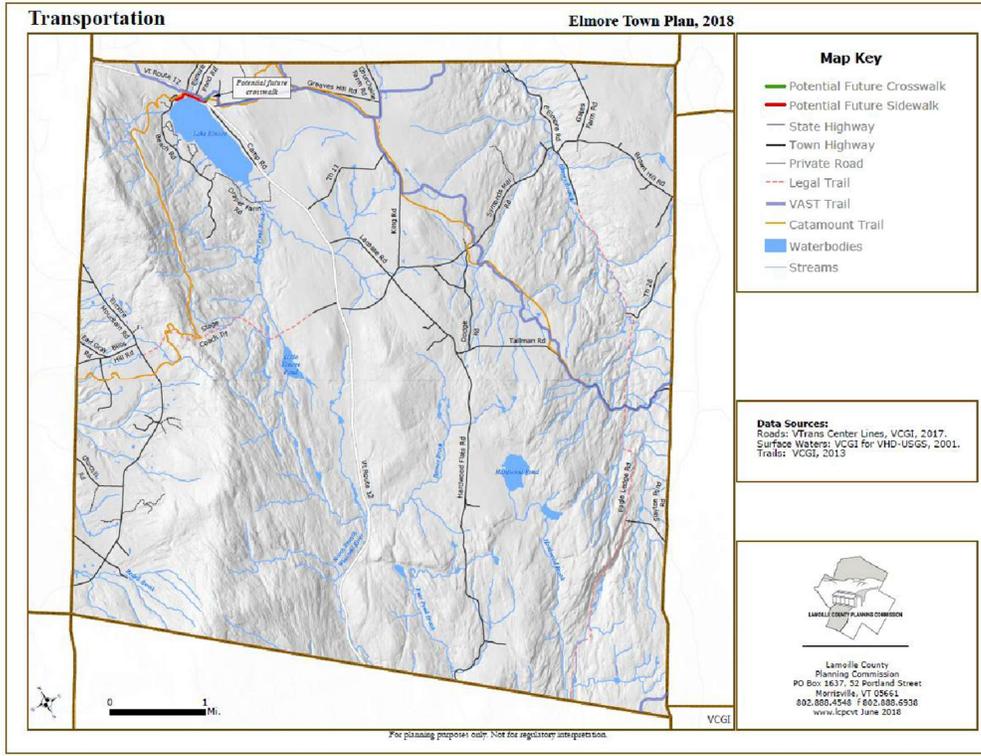
### Map 3: Zoning Districts



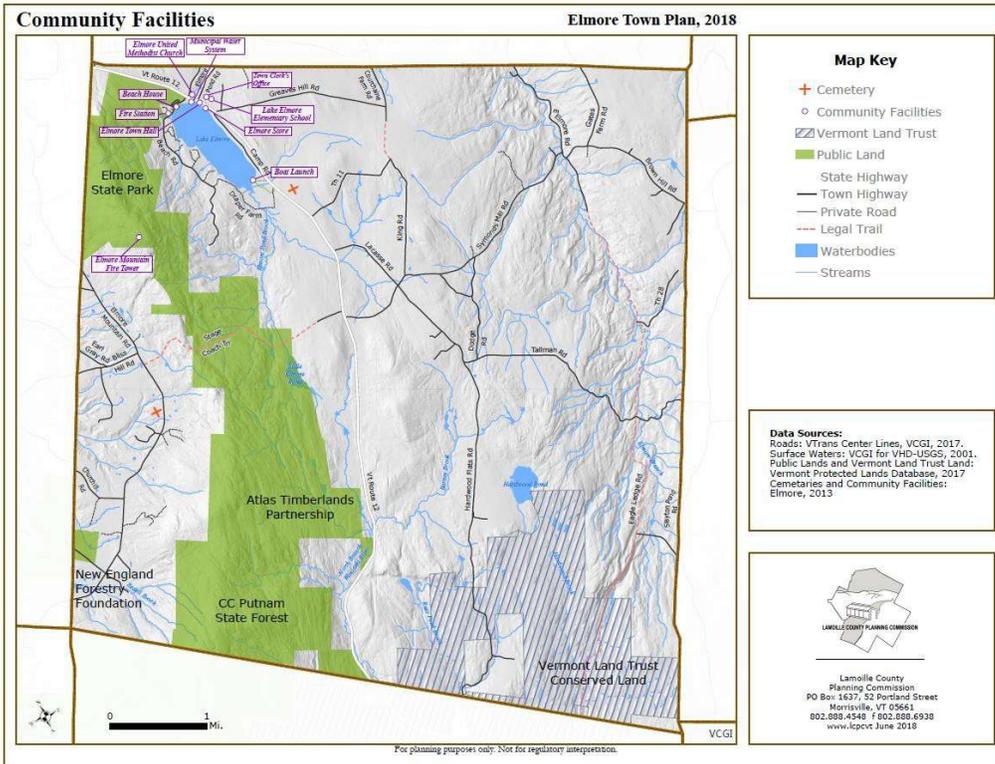
### Map 4: Water Resources and Flood Hazards



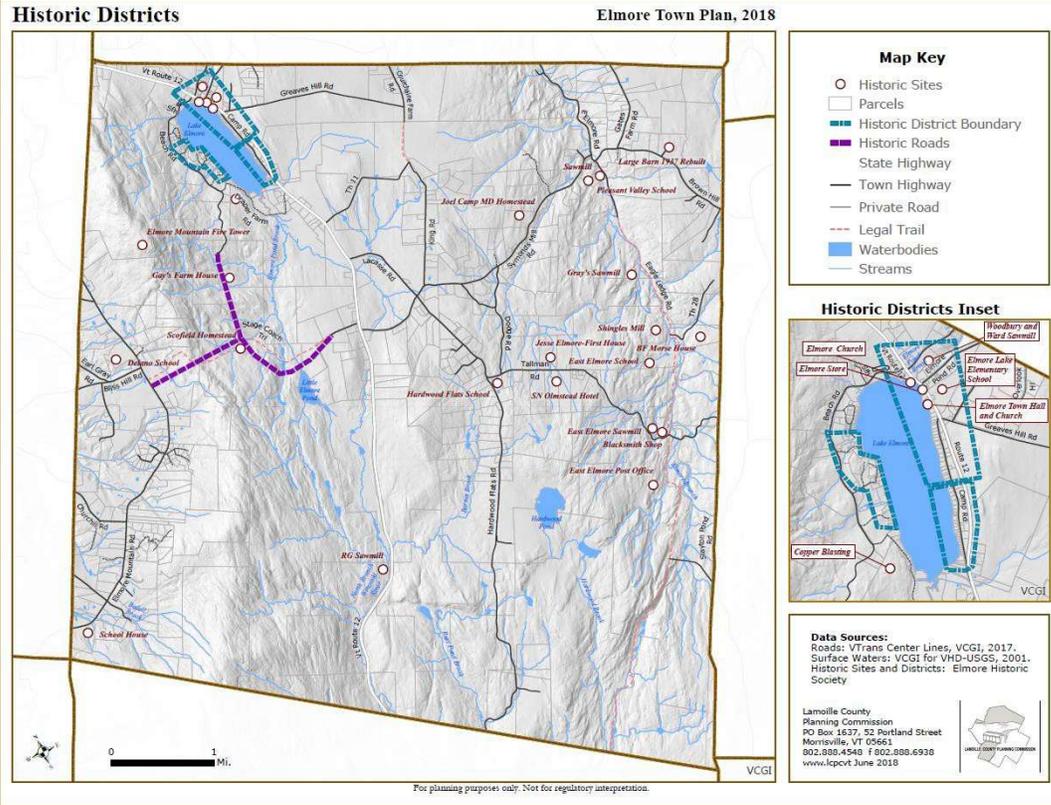
### Map 5: Transportation



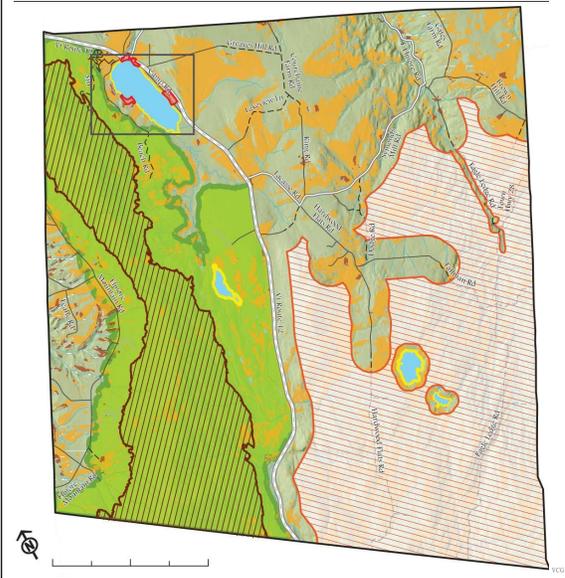
### Map 6: Community Facilities



### Map 7: Historical Resources



**Map 8: Solar Resources**



- c:J** Historic Districts (see note in Energy Plan)
- [SSJ]** Remote Area Overlay
  - Above 1,200 ft in Forest Reserve District (Worcester Range and Mt. Elmore)
  - Within 100 ft of shore in the Developed/Undeveloped Shoreland District (see note in Energy Plan)



**IZZJ** Above 1,500 ft in the Forest Reserve District

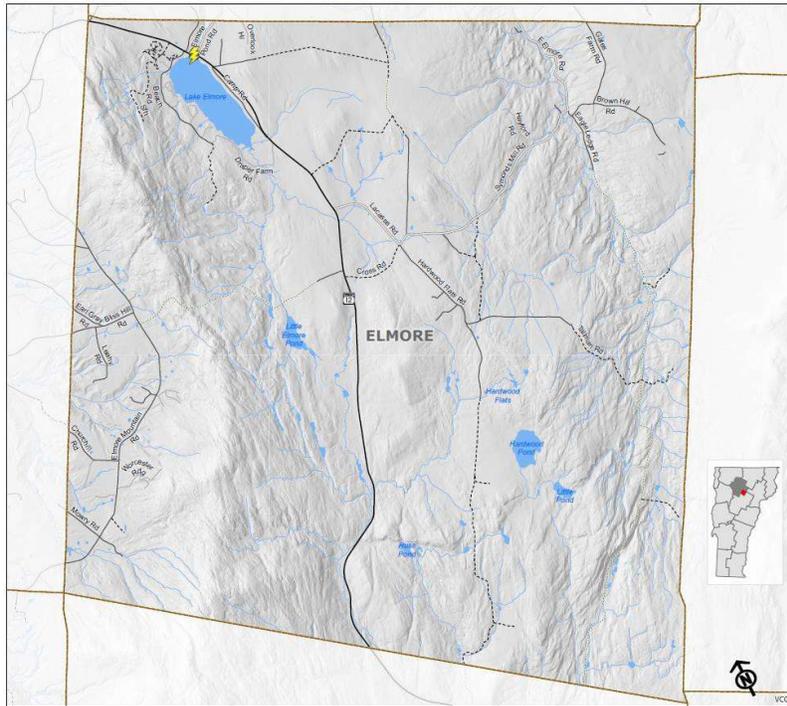
- No Constraint
- Possible
- Constraint
- State Highway
- Class 2 Road
- Class 3 Road
- Class 4 Road
- Private Road
- Legal Trail





**Map 10: Hydro Resources**

2026-2034



**Elmore Renewable Energy Potential: Hydroelectric**  
 This map illustrates potential for energy development but not necessarily suitability

Hydroelectric Facilities	Energy Infrastructure
Operational Facilities	Substations
Potential sites	Transmission Lines
● < 50 kW Capacity	3 Phase power line data for areas served by Montville Water and Light was not available.
● > 50 kW Capacity	

**Hydroelectric Likely Unsuitable**  
 Areas with low hydroelectric potential or environmental constraints have been removed and are not shown in any way on this map.

AOTCLASS	
— State Highway	— Class 2 Road
— Streams	— Class 3 Road
— Waterbodies	— Class 4 Road
— Town Boundary	— Private Road
	— Legal Trail

**Methodology**  
 This map shows areas of resource potential for renewable energy generation from hydroelectric, i.e. dams that could be converted into hydroelectric facilities as well as active hydroelectric sites. Existing hydroelectric dam information was extracted from the Vermont Dam Inventory, while potential hydroelectric sites were derived from a study conducted by Community Hydro 2007. Based on estimates conducted within the report, this map categorizes dams based on their potential hydroelectric generation capacity, and the downstream hazard risk that would be involved in hydroelectric production at each site.

**Data Sources:**  
 POTENTIAL HYDROELECTRIC SITES: VCGI, 2017  
 SUBSTATIONS: VCGI, 2017  
 3 PHASE POWER LINES: Data from town utilities and GreenMountain Power  
 POLITICAL BOUNDARIES: 1:24000 USGS Quadrangles, VCGI, 1991.  
 ROADS: 1:5000 VTrans Road Data, 2017.  
 SURFACE WATER: On-screen digitized from 1:5000 digital color infrared aerial photography as additional source material, VCGI for VHD-USGS, 2001.  
 Map created by LCPC, 2018

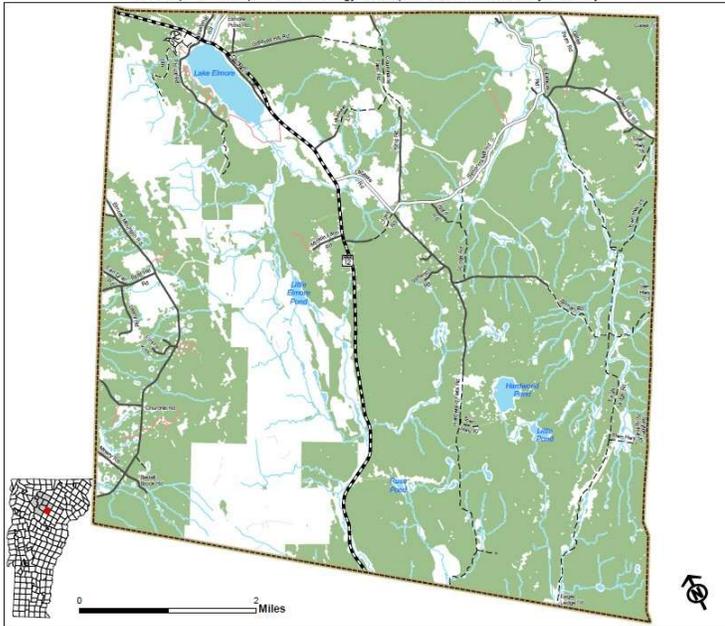
Data has not been field verified and is subject to change. Use for planning purposes only.

0 2 Miles

## Map 11: Biomass Resources

### Forest Area With Biomass Potential: Elmore, Vermont

*This map illustrates potential for energy development but not necessarily suitability*



- Potential Woody Biomass Areas
- State Highway
- Class 2 Road
- Class 3 Road
- Class 4 Road
- Legal Trail
- Private Road
- Streams
- Waterbody
- Town Boundary

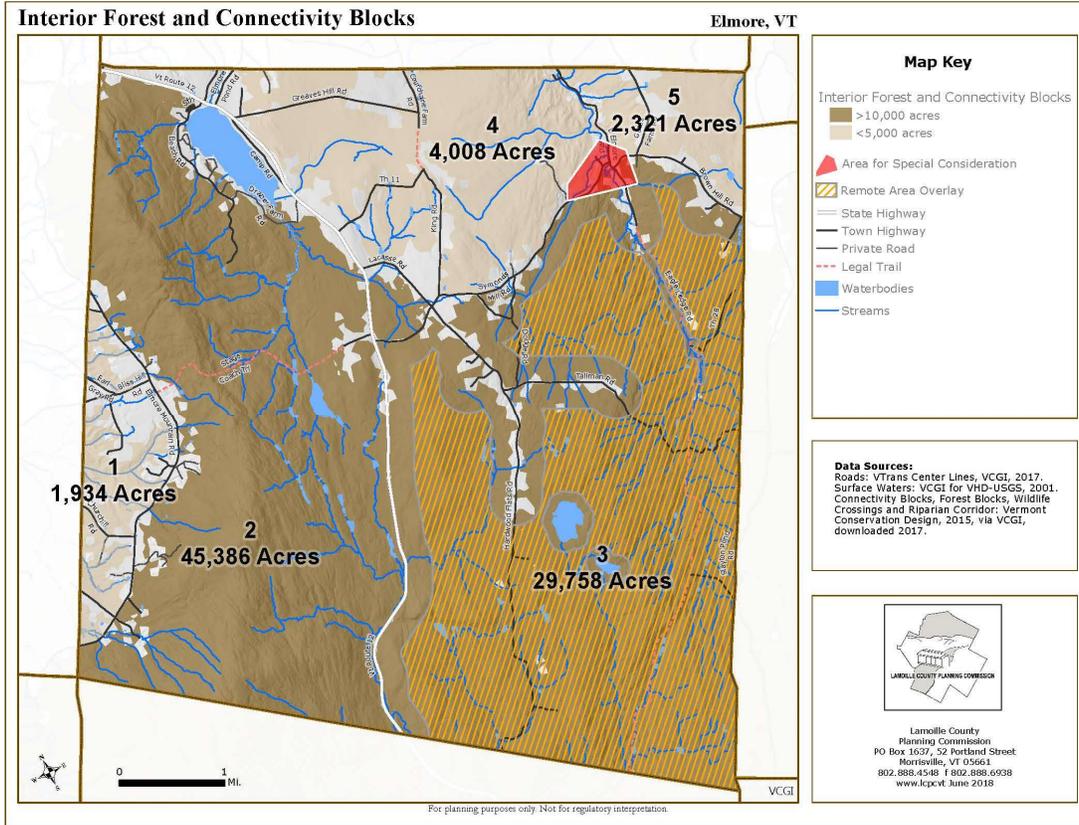
This map shows areas of potential for woody biomass harvest and potential locations for combined heat and power facilities fed by woody biomass. The map also illustrates conditions that may limit the feasibility of extensive harvesting of wood for energy use. These conditions are referred to as constraints. Physical features (primary constraints) that make extensive harvesting infeasible which have been extracted from the biomass potential layer in this map include: FEMA floodways, River Corridors, Class 1 and 2 Wetlands, Vernal Pools, State-significant Natural Communities, Rare, Threatened, and Endangered Species, and Wilderness Areas. Secondary constraints not currently shown on this map may also pose limitations to biomass potential in these areas. Secondary constraints include: Agricultural soils (local, prime and statewide classifications) FEMA special flood hazard areas Protected lands Act 250 agricultural soil mitigation areas Deer wintering yards Highest priority forest blocks Hydric soils Secondary constraints should be evaluated on a case by case basis for all energy projects.

**Data has not been field verified and is subject to change. Use for planning purposes only.**

**DATA SOURCES:**  
 VT POTENTIAL WOODY BIOMASS AREA: VCGI, 2017  
 POLITICAL BOUNDARIES: 1:24000 USGS Quadrangles, VCGI, 1991.  
 ROADS: 1:50000 Vermont Road Data, 2017.  
 SURFACE WATER: On-screen digitized from 1:5000 digital orthophotos using USGS 7 1/2' quadrangles and 1:25000 color infrared aerial photography as additional source material, VCGI for VHD-USGS, 2001.

Map created by LCPC, May 2018  
 For planning purposes only. Not for regulatory interpretation.

**Map 12: Interior Forest and Connectivity Blocks**



**Appendices**

# CHAPTER 8: Energy Plan

## Introduction

The purpose of this plan is to set clear energy goals for the Town of Elmore. Elmore supports the Vermont energy goal of 90% renewable by 2050 and will pursue policies and strategies intended to achieve it while also considering the conservation of undeveloped land, wildlife habitat and the financial needs and limitations of the residents. Energy must be reliable, cost effective and accessible.

## Equity and Energy Planning

Consideration for equity in energy planning can take many forms. Elmore's Inclusivity Statement, which can be found here <https://elmorevt.org/>, encourages considering the situations of all socio-economic strata when distributing incentives for energy conservation and conversion. Energy equity known as "energy justice" as described in the 2022 Vermont Comprehensive Energy Plan (VT CEP) "aims to make energy accessible, affordable, cleaner, and democratically managed for all communities." This section will discuss energy equity as it relates to Elmore, Vermont and the Thermal, Transportation, and Electric sectors. The 2022 Vermont Comprehensive Energy Plan highlights the following types of equity when planning for Vermont's energy needs. This framework was utilized in the Vermont Comprehensive Energy Plan, and to discuss equity and energy planning considerations in Elmore.

Distributive Equity is outcome based. As defined in the 2022 Vermont CEP, it 'considers the disparities in allocation of resources, benefits, and health outcomes, and the inequities experienced by communities related to living conditions, political power, and the risks and vulnerabilities posed to these communities as a result.' It considers whether Vermonters, regardless of racial and other socioeconomic factors, equitably share both the benefits and burdens of the energy system.

Procedural Equity acknowledges equitable planning and implementation and the right of communities to participate in decision-making around policies and programs. This considers which stakeholders and communities have seats at the table, and voices heard during the public engagement process for siting of new generation facilities and infrastructure and who benefits from those facilities.

Contextual Equity recognizes that some communities are more likely to experience adverse impacts because of policies and programs due to vulnerability such as being more vulnerable to natural disasters.

Corrective Equity recognizes the need for a clear process to hold decision makers accountable in communities for equity commitments such as Advisory Committees or oversight boards to review clean energy implementation to ensure impacted communities are being appropriately served.  
Consideration for Equity in Policies and Actions.

The policies and action items stated below are meant to serve Elmore residents. The Municipal Plan is a guiding document that provides flexibility for Elmore to determine its own community needs when considering equitable impacts of renewable energy and future development. People living in rural, remote areas of town may be impacted by energy plan policies due to potential power outages and longer response times. Heavy use of electric technology for heating and cooling and transportation needs will put more strain on an already limited grid system in terms of capacity. This could lead to winter blackouts. Grid system upgrades and energy storage are encouraged to reduce this potential impact. Lower-income households will be impacted most by energy policies due to the financial burden of weatherizing homes or upgrading heating/cooling systems.

## Energy Burden

According to the 2023 Vermont Energy Burden Assessment, Elmore residents spend on average \$2,657 on thermal energy, \$1,015 on electricity, \$3,666 on transportation combining to a total of \$7,338 energy costs per year. In relation to the median household income, this means that Elmore's Thermal Energy Burden is 2.8%, Electricity Burden is 1.1% and Transportation Burden is 3.8% In total, the town's Energy Burden is 7.6% and ranked in the lowest tier of Vermont towns, meaning that residents allocate a smaller percentage of their income to energy expenses when compared with residents of other towns in Vermont.

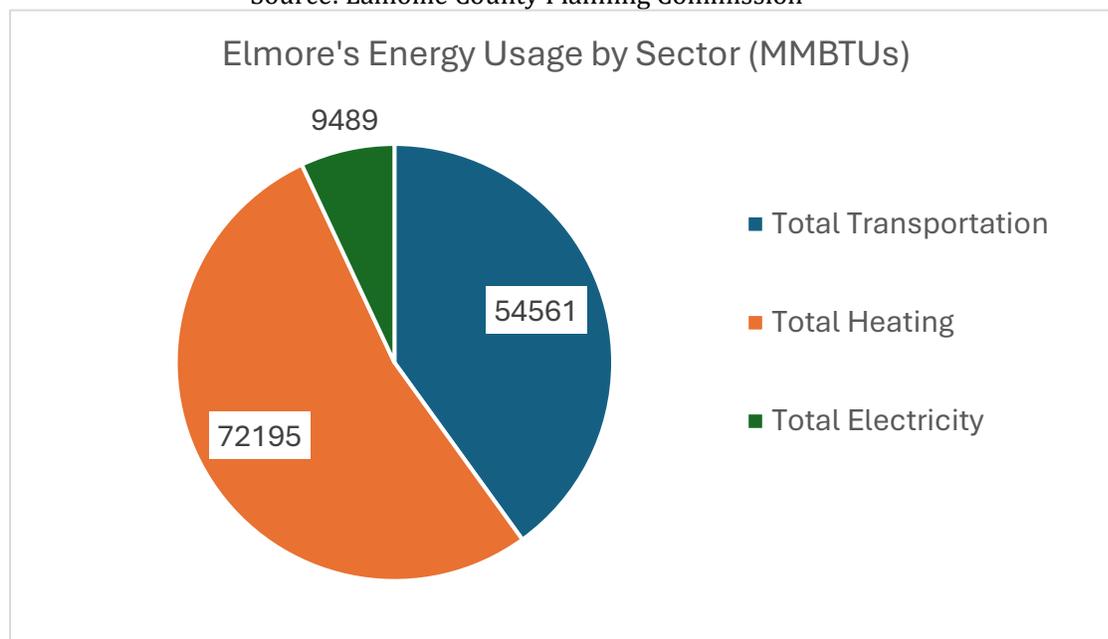
## Current Energy Usage

### Overall Energy Use

Energy used in Elmore is used to provide electricity, heat and cool buildings, and transport people and products. There are various ways to measure energy use. Electricity use can be measured in kilowatt hours, transportation fuel use can be expressed in gallons of gas, and heating fuel use can be tracked by tons of wood pellets, gallons of propane; depending on what kind of fuel is measured. A common measure of usage that can be calculated for any type of energy fuel is a British Thermal Unit (BTU) \*1. While British Thermal Units (BTUs) may be harder to conceptualize in terms of the volume of energy fuel used, they allow for usage comparisons across all energy sectors; i.e. electricity, transportation and heating. Annually, Elmore uses approximately 136,244 million BTUs of energy \*2. Of that, electricity accounts for about 7% (about 9.5 million BTUs), transportation for 40% (about 54.5 million BTUs) and space heating for 53% (about 72.2 million BTUs) (see **Figure 1**).

**Figure 1: Annual Energy Consumption in Elmore (136K million British Thermal Units)**

Source: Lamoille County Planning Commission



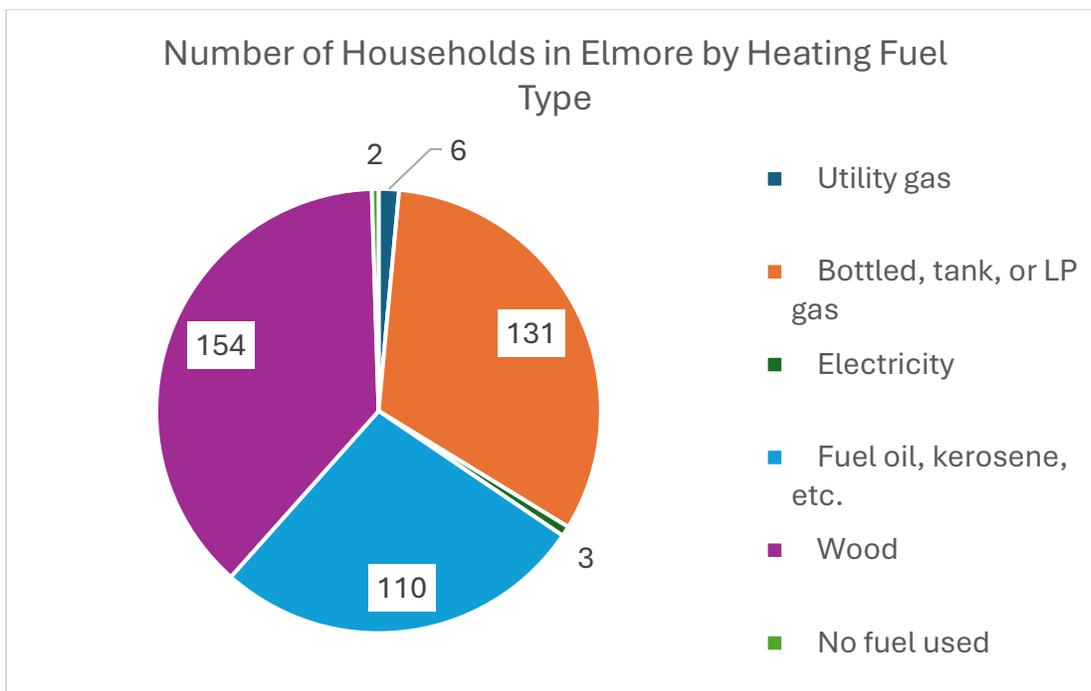
\*1 The British thermal unit (Btu or BTU) is a traditional unit of heat; it is defined as the amount of heat required to raise the temperature of one *pound* of water by one degree Fahrenheit. It is part of the British *Imperial* system of units. \*2 Estimates of current energy usage are derived from data available from the American Community Survey, the Vermont Agency of Transportation, VT Department of Labor, Efficiency Vermont and the VT Department of Public Service. Lamoille County Planning Commission converted these estimates to British Thermal Units.

In 2023, according to the Efficiency Vermont’s Statewide Energy Burden report, the estimated average household spending on energy in Elmore was \$7,338 and split as follows: transportation \$3,666 (49%), heating \$2,657 (36%) and electricity \$1,015(13%). It is also important to note that the Town’s average expenditure on heating and electricity has gone down from 2016 to 2023. \*3

The Municipality (Town Clerks Office, Town Hall, Elmore School, Highway Dept. and Fire Dept.) in 2016 spent \$16,112 on heat and electricity and \$94,989 on transportation (diesel equipment, snow-plows, dump-trucks, fire trucks, and some gas-powered town vehicles).

### Space Heating Energy Use

The highest need for space heating fuels comes from residences which utilize about 92% of space heating energy used in Elmore. Commercial and municipal establishments utilize the remaining 8%. As far as specific types of heating fuels used by residences, according to American Community Survey data from 2023, 38% (154) of households heat their homes by wood, 27% (110) by fuel oil, 32% (131) by propane, and 3 % (11) from other sources (electricity, LP Gas, passive solar etc.) See **Figure 2**. Commercial and municipal establishments use fuel oil, propane, electricity and wood.



### Electricity Use

Efficiency Vermont reports that in 2022 Elmore’s residents and businesses used 2,780,920 kilowatt hours (KWh) of electricity. Residences used about 91% of electricity, and businesses and municipal buildings remaining 9% of electricity. Average annual residential usage was 6,005 KWh, well below Lamoille County average of 7,077 KWh and lowest in the county.

### DarkSky Policy

The Town of Elmore has expressed interest in applying for DarkSky status and adopting additional outdoor lighting standards to reduce light pollution and preserve the Town’s breathtaking view of

Vermont's starry skies. Protecting the night sky from light pollution plays an important role in maintaining Elmore's rural landscape, protecting wildlife habitat, and preserving quality of life. DarkSky certifies outdoor lighting products that are designed to reduce light pollution. To obtain DarkSky status and maintain Elmore's dark skies the Town could explore enhancing outdoor lighting requirements in site plan review standards under Elmore's Town zoning regulations. For more information on the DarkSky Vermont program visit: <https://darkskyvt.org/>.

### *Transportation Energy Use*

Most people in Elmore drive out of town to work and shop. The only public transportation that serves Elmore is Micro Transit service provided by Rural Community Transportation due to lack of demand and rural nature of Elmore. As of 2023 Drive Electric Vermont had reported 18 residents owning an electric vehicle in Elmore. According to the Vermont Public Service Department Municipal Consumption Tool, currently gas-powered vehicles in Elmore consume 54,561 million BTUs of energy. The average number of miles traveled per year by Elmore residents is 9,000 miles.

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\*32023 Efficiency Vermont Energy Buden Report. .

# LEAP Targets

## Overview

To model pathways and toward reaching the state energy goal, the Vermont Energy Investment Corporation used a program called the Long-Range Energy Alternatives Planning model (LEAP) to project future energy demand in the state, regions and towns. LEAP provided a potential scenario by which the Town of Elmore could achieve the states goals. These targets consider the Vermont Climate Action Plan and Comprehensive Energy Plan goal to meet 90% renewables by 2050. Municipal LEAP targets were proportioned based on total local energy shares estimated by the Vermont Public Service Department’s Municipal Consumption Tool. The below projected targets are based on anticipated increased demand in electrification for heating, cooling, and transportation needs.

The 2023 LEAP Model also projects energy demand for core sectors: residential, commercial, and industrial. The tool accounts for multiple fuel types including, but not limited to, electricity, wood, solar, heat, and other fossil fuels. There are pathways to meet demand using a “business-as-usual” (baseline) scenario under typical energy planning and programs, and a Climate Action Plan (CAP) mitigation scenario developed to meet GWSA greenhouse gas emissions reduction targets.

### Projected total energy demand: Residential Sector

Residential	2025	2030	2035	2040	2050
Baseline	50.00	46.26	44.22	43.47	42.97
CAP	45.10	37.84	32.45	27.86	25.36

### Projected total energy demand: Commercial Sector

Commercial	2025	2030	2035	2040	2050
Baseline	7.10	7.00	6.91	6.89	6.91
CAP	6.98	6.90	6.84	6.92	7.07

### Projected total energy demand: Industrial Sector

Industrial	2025	2030	2035	2040	2050
Baseline	2.47	2.45	2.43	2.46	2.54
CAP	2.47	2.45	2.43	2.46	2.54

### Projected total energy demand: Transportation Sector

Transportation	2025	2030	2035	2040	2050
Baseline	54.67	49.02	44.87	41.13	36.29
CAP	52.95	43.01	32.91	25.10	18.69

### Target: Percentage of Households heated with wood

Baseline	2025	2030	2035	2040	2050
# of Households	154	146.6	142.5	142	141.9

% of Households	0%	27%	25%	25%	24%
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CAP	2025	2030	2035	2040	2050
# of Households	144.2	129.6	117.1	102.6	77.4
% of Households	27%	24%	21%	18%	13%

**Target: Households heated with electric heat pumps**

Baseline	2025	2030	2035	2040	2050
# of Heat pumps	24.98	75.58	143.45	183.30	202.59

CAP	2025	2030	2035	2040	2050
# of Heat pumps	26.81	161.51	297.27	434.22	572.43

**Target: Commercial Wood Energy Demand**

Baseline	2025	2030	2035	2040	2050
Thousand MMBTUs	0.80	0.85	0.90	0.95	1.08
% of total Demand	11%	12%	13%	14%	16%

CAP	2025	2030	2035	2040	2050
Thousand MMBTUs	0.84	0.93	1.03	1.11	1.27
% of total Demand	12%	14%	15%	16%	18%

**Target: Households weatherized**

Baseline	2025	2030	2035	2040	2050
# of Weatherized Households	42.89	63.35	82.81	102.95	145.52
% of Weatherized Households	0.08	0.12	0.15	0.18	0.25

CAP	2025	2030	2035	2040	2050
# of Weatherized Households	116.89	200.59	252.62	304.64	408.68
% of Weatherized Households	22%	36%	45%	53%	70%

**Target: Passenger electric vehicle use (Passenger Cars & Light Duty Trucks)**

Baseline	2025	2030	2035	2040	2050
# of EVs	1.85	21.11	41.83	642.30	172.33
% of Vehicles Energy demand	0%	2%	4%	8%	16%

CAP	2025	2030	2035	2040	2050
#of EVs	43.46	204.92	475.73	728.49	1015.42
% of Vehicles Energy demand	0%	2%	10%	29%	54%

### Total Green House Gas Emissions

Baseline (Thousand Metric Tonnes CO2e)	2025	2030	2035	2040	2050
Transportation	5.48	5.01	4.68	4.38	3.91
Residential	1.88	1.68	1.58	1.53	1.5
Commercial	0.79	0.74	0.7	0.69	0.66
Industrial	0.23	0.22	0.22	0.22	0.23
Electricity	0.11	0.09	0.07	0.11	0.21
<b>Total</b>	<b>8.49</b>	<b>7.75</b>	<b>7.26</b>	<b>6.93</b>	<b>6.51</b>

Sector (Thousand Metric Tonnes CO2e)	2025	2030	2035	2040	2050
Transportation	5.19	3.99	2.63	1.57	0.66
Residential	1.54	0.9	0.45	0.14	0.1
Commercial	0.18	0.12	0.07	0.04	0.04
Industrial	0.05	0.04	0.03	0.01	0.01
Electricity	0.12	0.16	0.21	0.16	0.05
<b>Total</b>	<b>7.08</b>	<b>5.21</b>	<b>3.39</b>	<b>1.92</b>	<b>0.87</b>

## Current Energy Sources and Generation

### *Existing Energy Generation*

Today, electricity generated in Elmore comes from solar and wind generation facilities. At the close of 2017, Elmore was home to 8 solar sites with total generation capacity of 128 kilowatts (KW) and two wind sites with combined generation capacity of 19 KW. Total estimated production from these facilities is 190,267 kilowatt hours (KWh) \*4.

All sites but one are small-scale installations with generation capacity between 3-14 KW. One site is larger, with generation capacity of approximately 80 KW.

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\*4 Generation capacity data is based on information available via Community Energy Dashboard. As new facilities are added, the Energy Dashboard gets periodically updated; <http://www.vtenergydashboard.org>. The generation data here is from November 2017. Estimated production was determined as follows: (For solar: existing generation capacity x 8760 hours per year x solar capacity factor of 0.14; For wind: existing generation capacity x 8760 hours per year x residential wind capacity factor of 0.2).

## *Future Energy Generation*

The projected energy generation target for 2050 for Elmore – derived from the LEAP model - is to build generation facilities with total energy output of 9,722,000 kilowatt hours by 2050.

The Solar and Wind Resource Maps show areas with energy generation potential as based on presence of the resource (sun or wind) and environmental attributes of the resource areas. “Prime” areas are lands with available resource and no environmental constraints. “Secondary” areas also have the resource but possess environmental characteristics that may pose an obstacle to development, based on statewide regulations or designated critical resource.

In addition to the Solar and Wind Resource Maps developed on the basis of statewide regulations, Elmore Planning Commission identified local preferences to be considered in the planning of renewable energy facilities. These local preferences are incorporated into the Solar and Wind Resource maps.

The maps can be used for conceptual planning or initial site identification by those interested in developing renewable energy infrastructure. They should not, however, take the place of site-specific investigation for a proposed facility, and should therefore not be thought of as “siting maps.”

In addition to utilizing Wind and Solar to achieve the Towns goals of achieving the 90% goal by 2050, Elmore will be researching the feasibility of installing energy storage facilities which would store renewable energy during off-peak hours to be redistributed during high demand times which could significantly increase the renewable energy output and usage within the Town.

## **Future Energy Sources and Generation**

### **Generation Targets**

#### *Solar Generation Potential*

The initial mapping analysis performed by Lamoille County Planning Commission (LCPC) identified that there are there are 4,367 acres of land in Elmore that are potentially suitable for solar power generation. Of this number, 109 acres (about 3%) are lands with prime solar potential and 4,258 acres (about 97%) are lands with secondary solar potential. The siting guidelines in this plan prohibit commercial and utility scale solar generation in certain portions of Elmore (see areas where renewable energy generation is unsuitable). \*5. See Map 8 for areas potentially available for solar.

Based on LCPC’s calculations, to reach the LEAP output levels via only ground-mounted solar facilities, Elmore would need to dedicate about 60 acres of land to this pursuit. This plan finds it feasible that Elmore could support the estimated 60 acres of land, and the Town is committed to working with future energy developers so long as certain guidelines and constraints are followed.

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\*5 Energy generation potential from lands potentially suitable for solar generation is 311 MW and 381,410 MWh. Source: Department of Public Service methodology, page 15 of [http://publicservice.vermont.gov/sites/dps/files/documents/Pubs\\_Plans\\_Reports/Act\\_174/Regional%20Guidance\\_Fin al.pdf](http://publicservice.vermont.gov/sites/dps/files/documents/Pubs_Plans_Reports/Act_174/Regional%20Guidance_Fin al.pdf)

To reduce the amount of land needed for land based solar systems to reach the LEAP goal, Elmore encourages residential rooftop installations. While rooftop solar can supplement land based solar installations, rooftop solar cannot fully replace the land based installation needs to meet the 2050 renewable energy output target. Elmore estimates that if 25% of its households installed rooftop solar facilities with an average capacity of 4 KW per household, the resulting generation output would be about 467,258 KWh which is slightly less than 5% of the 90% by 2050 energy generation target.

The siting of any solar installation must take into consideration the extreme importance that Elmore places on maintaining large tracts of unfragmented forest, wildlife corridors, existing farmland and prime agricultural soils. For the health and well-being of future generations these lands must be preserved. This statement is consistent throughout the Town's Plan and Bylaws and will be a major factor in the appropriate siting of solar installations in Elmore. See map for detailed overlay of Local Constraints. Additionally, the guidelines listed later in this chapter illustrate the process that will assist developers in evaluating the feasibility of solar projects in Elmore.

### *Wind Generation Potential*

The initial mapping analysis performed by the LCPC identified 1,475 acres of lands potentially suitable for wind energy generation. Of this number, 119 acres (about 8%) are lands with prime wind potential. Lands with secondary wind potential total to 1,356 acres (about 92%).

Elmore's policy on wind development is consistent with that of solar. The siting of any installation must take into consideration the extreme importance that Elmore places on maintaining large tracts of unfragmented forest, wildlife corridors, existing farmland and prime agricultural soils. Under no circumstances should the Worcester Range be considered for development. This further limits the number of acres potentially available for commercial and utility scale wind and solar development.

Going forward, residential and commercial scale systems are encouraged provided they follow the siting guidelines below. The siting guidelines prohibit commercial and utility scale wind generation in certain portions of Elmore\*6. See Map 9 for areas potentially available for wind generation.

### *Hydro Generation Potential*

Elmore may have a potential to produce energy from small or micro hydroelectric facilities. A hydroelectric renewable generation potential map developed by the Lamoille County Planning Commission identifies the Lake Elmore Dam as having 10-49 KW of undeveloped generation potential. Additional potential may exist along Elmore's rivers and streams. The feasibility of harnessing energy via hydroelectric projects may be questionable as potential projects will face a wide range of environmental, economic, and permitting challenges.

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\*6 Energy generation potential from lands potentially suitable for wind generation is 86 MW and 263,676 MWh. Source: VT Department of Public Service methodology, page 16 of: [http://publicservice.vermont.gov/sites/dps/files/documents/Pubs\\_Plans\\_Reports/Act\\_174/Regional%20Guidance\\_Fin al.pdf](http://publicservice.vermont.gov/sites/dps/files/documents/Pubs_Plans_Reports/Act_174/Regional%20Guidance_Fin al.pdf)

Hydroelectric power is the only renewable energy source required to gain approval from numerous state and federal agencies which makes the permitting process very complex and costly. \*7

### *Biomass*

Elmore's farms should consider the use of methane digesters as a way of producing energy.

### *Energy Storage Facility*

Elmore will research the feasibility of installing an energy storage facility. The use of an energy storage facility will allow Elmore to contract with other renewable energy resources, such as Kingdom Community Wind, to purchase renewable power during off-peak hours. This renewable energy will in turn be used as a generation facility for the Town of Elmore to generate renewable energy for the town. The study will need to be conducted in cooperation with the local distribution provider of Elmore to determine whether or not there is potential for building the transmission network needed for such an undertaking. The long-term potential of this project will greatly increase the percentage of renewable energy used by the Town of Elmore. In turn, the study of this project will greatly increase the awareness of the goals set forth by the State to the residents which will help encourage the residents to help achieve the goal of 90% renewable energy usage by 2050.

## **Siting Guidelines**

It is the responsibility of the developer to complete this process, only when presented with a detailed analysis of these constraints will Elmore begin to consider a project.

### *Areas Preferred for Renewable Energy Development*

Areas preferred for renewable energy development are the areas identified as "preferred" in Act 174. In Elmore, relevant examples of Act 174 preferred sites include:

- Parking lots
- Rooftop installations

### *Areas Unsuitable for Renewable Energy Development*

There are certain areas in Elmore where the development of renewable energy generation facilities is not supported because such development would be inconsistent with land use goals for these areas. The land use goals are outlined in the Land Use Chapter of this plan and detailed in the Zoning Bylaws.

Areas where all types and sizes of renewable energy generators are prohibited include:

- Forest Reserve District above 1500'. The Forest District encompasses Mt. Elmore and the Worcester Mountain Range. Elmore's land use goals for this area are to maintain large tracts of unfragmented forests to protect flood hazard areas, shorelines, steep slopes and sensitive habitats. (pp 67, 68 and .70 of the plan)

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\*7 The Undeveloped Hydroelectric Potential of Vermont, <http://www.communityhydro.biz/>

Areas where commercial and utility scale renewable energy development is prohibited include:

- Forest Reserve District above 1200'. The Forest District encompasses Mt. Elmore and the Worcester Mountain Range. Elmore's land use goals for this area are to maintain large tracts of unfragmented forests to protect flood hazard areas, shorelines, steep slopes and sensitive habitats. (pp 67, 68 and .70 of the plan)
- Remote Area Overlay District. This district includes all lands east of VT Route 12 and south of Lacasse Road, Symonds Mill Road, or Brown Hill Road (respectively) that are ¼ mile or more from a State Highway or Class II or III Town Road. Future land uses in the Rural East District include agriculture, forestry, home based occupations, small-scale hospitality businesses and low density residential development. (pp. 68-69 of the plan). Remote Area Overlay is subject to additional standards that aim to protect surface waters, wetlands, wildlife habitat and the habitat's travel corridors as well as forestland.
- Part of Undeveloped Shoreland District. The Undeveloped Shoreland District include all lands which are located within 500 feet of the shorelines of Little Elmore Pond, Little Pond, and Hardwood Pond. This plan does not support commercial and utility scale energy projects within 100 feet from shorelands.
- Part of Developed Shoreland District. The Developed Shoreland District shall include all lands which are located within 500 feet of the shorelines of Lake Elmore. This plan does not support utility scale and ground mounted facilities within 100' from shore. Roof mounted facilities are supported.

Areas where utility scale renewable energy development is prohibited include:

- Agricultural Land in active use. Existing farms are in the Rural East and Rural West districts. Elmore wishes to see farming continue and therefore utility scale renewable projects on the actively farmed land are not encouraged.
- Lake Elmore Historic Districts. Utility-scale projects are not supported due to Elmore's interest to retain the historic character of the districts and devote these areas to higher density, small scale development.

#### *Areas Potentially Suitable for Renewable Energy Development:*

The Solar and Wind Resource Maps show areas with energy generation potential as based on presence of the resource (sun or wind) and environmental attributes of the resource areas. "Prime" areas are lands no environmental constraints. "Secondary" areas have possible environmental constraints that may pose a barrier to the development of renewable energy facilities, based on statewide regulations. In some cases, these constraints may prohibit the development and in others the development may be suitable. The secondary areas shown on the Solar and Wind Resource Maps include the following environmental constraints:

- Federal Emergency Management Agency Special Flood Hazard Areas
- Prime Agricultural Soils
- Act 250 Agricultural Soil Mitigation areas
- Protected Lands (State Fee Lands and Private Conservation Lands)
- Deer Wintering
- Hydric Soils
- Vermont Agency of Natural Resources Conservation Design Highest Priority Forest Blocks

#### *Areas Likely Unsuitable for Renewable Energy Development*

Areas likely unsuitable for renewable energy development include areas with insufficient resource potential (sun or wind) and areas with environmental constraints that signal likely, though not absolute unsuitability for development based on statewide or local regulations or designated critical resource. The solar and wind resource maps, name these areas as “solar likely unsuitable” or “wind likely unsuitable”. The environmental constraints include:

- Federal Emergency Management Agency identified floodways
- River Corridor Areas as identified by the Vermont Department of Environmental Conservation
- Class 1 and 2 Wetlands as noted in Vermont State Wetlands Inventory or advisory layers
- Vernal Pools (confirmed and unconfirmed)
- State-significant Natural Communities and Rare, Threatened, and Endangered Species
- Wilderness Areas, including National Wilderness Areas

## Goals Objectives, Policies and Recommendations

### Goal

- s:
- Promote the use of electric vehicles to the residents and businesses of Elmore.
  - Research the feasibility of rideshare, bus, or any other form of mass transit.
  - Expand infrastructure for electric vehicles including installing local charging stations
  - Encourage sharing space on delivery vehicles in order to reduce the energy used for the transportation of goods and services (i.e. food, firewood, landscapers, plumbers).
  - Incorporate renewable energy principles into the plan.
  - Support and promote the organization of community workshops and distribute information on home and business weatherization and energy efficiency incentives.
  - Create an Elmore Energy Committee.

### Objectives:

- Develop a local service directory to promote coordination amongst local business and food producers.
- Support the efforts of Efficiency Vermont to promote the use of energy efficient products and appliances.
- Pursue conservation projects within the Elmore footprint.

### Policies:

- Elmore recognizes the importance of increasing the use of renewables.
- When considering updating Elmore infrastructure and equipment, Elmore will explore the feasibility/affordability of upgrading to the most energy efficient options.
- Influence behavioral changes to reduce energy consumption. (i.e. distribute free clothes lines at community events, provide information on incentives for energy saving and electric vehicles)
- Encourage the installation of residential and commercial scale renewable energy generation systems.
- Continue to expand on the use of renewable energy technologies in residential and commercial development through the Town’s Zoning Bylaws such as enhancing the bylaws to support electric vehicle charging infrastructure.

## Recommendations:

- Encourage the use of electric cars by inviting dealerships to bring cars to community events such as the Fire Dept. Chicken BBQ.
- Work with Green Mountain Transit Authority (GMTA) to determine the feasibility of a Morrisville to Montpelier bus route. Build town support for public transportation.
- Create and promote a Community Carpool forum through the town website and Front Porch Forum to connect people with compatible routes such as: Elmore to Copley Hospital, Elmore to Stowe and Elmore to Montpelier.
- Consider installing an electric charging station in the village and/or at the state park. This would also increase revenue as people waiting for their car to charge would likely shop at the Elmore Store.
- Support Morrisville Water and Light outreach around a feasibility study of creating an energy storage facility to harvest renewable energy during off-peak times.
- Encourage the use of the town website as a community forum and information resource.
- Provide information on energy efficient building design and siting when permits are issued.
- Encourage use of wood stoves, pellet burning stoves, and heat pumps in new construction by providing information at the Town Clerks Office and on the website.
- Promote programs that provide financial assistance to low income residents for building and weatherization projects.
- Promote responsible logging practices to protect forest health as the projected demand for wood increases.
- Incorporate DarkSky outdoor lighting requirements into the existing lighting standards in the Elmore zoning bylaws under site plan review.

## CHAPTER 12: Health and Wellness

This Health and Wellness Chapter emphasizes the role the Elmore residents community can play an important role in promoting the health and well-being of its community residents. Wellness, in its broadest sense, includes not only physical health but also mental, emotional, social, and environmental well-being, all of which contribute to a vibrant, thriving community. By addressing various aspects of health, the town can create an environment where individuals have access are aware of to the resources and opportunities needed to live healthier, more fulfilling lives. For a one-stop-shop site to find resources like food, housing, financial assistance, health care, and more visit <https://www.findhelp.org/>. This chapter promotes health equity for all Elmore residents. As defined by the Center for Disease Control, health equity is “the state in which everyone has a fair and just opportunity to attain their highest level of health”. Achieving this requires ongoing societal efforts to overcome economic, social, and other obstacles to health and health care, and eliminate preventable health disparities. Health equity in community planning links traditional concepts of planning (land use, transportation, community facilities, parks and open space) with health themes such as physical activity, public safety, healthy food access, mental health, air and water quality, and social well-being. The key focus areas below address these aspects of health equity. For more information on health equity planning visit the Health Equity Planning Toolkit at <https://www.lcpcvt.org/>.



*Planning for Healthy Communities, Change Lab Solutions*

Key areas of focus to foster health and wellness in the community include:

- Access to healthcare
- Access to healthy food
- Substance prevention, treatment, recovery, and mental health
- Active living, active transportation, and recreation
- Promoting health equity
- Social inclusion, engagement, and sense of community
- Age-inclusive environments
- Prompt and effective services in the event of an emergency

The Town of Elmore is committed to fostering the health and well-being of all residents and visitors, and it will prioritize community health when making local level decisions and establishing and reviewing existing Town policies. ~~We recognize our responsibility to reduce risks in our community that contribute to negative individual and community wellness outcomes.~~ Additionally, ~~the Town we aims~~ to enhance protective factors for youth and individuals of all ages and support older residents in aging in place through intentional planning. This includes building a town culture that promotes healthy behaviors and social well-being while reducing risk behaviors, such as substance misuse.

~~In 2024X the Town of Elmore adopted an Inclusivity Statement posted on the Town of Elmore website at <https://elmorevt.org/>. In 2024 the Elmore Planning Commission worked with the LCPC to develop an Elmore Welcome Packet to welcome new residents and visitors to town and provide basic resources. The Elmore Welcome Packet is available on the Town website at <https://elmorevt.org/>.~~

~~Although the Community Health and Wellness Element is not a required element of the Town Plan, the Town believes that its inclusion in the Plan ensures that public health and wellness remains a top priority for the Town of Elmore.~~

#### **-Access to Health Care**

~~Equitable access to healthcare ensures that everyone, especially populations that historically experience challenges, can access the care they need and desire to meet their full potential for health and well-being.~~ Resources for healthcare are outside the borders of Elmore. Knowledge of resources and how to access them are available ~~by through-calling~~ 2-1-1 or Lamoille Find Help Social Services at [www.findhelp.org](http://www.findhelp.org).

The primary health care facility serving the greater Lamoille County is Copley Hospital in Morristown. Copley operates as the emergency care center for local emergency services, and provides in-patient, outpatient, and long-term care. Copley functions as part of the larger Vermont health care system, with the University of Vermont Medical Center Medical Center Hospital of Vermont (MCHV) in Burlington acting as the major tertiary referral hospital.

The Hardwick Area Health Center is a regional medical and dental center which serves the communities of Walden, Woodbury, Wolcott, Craftsbury, Greensboro, Hardwick, and Stannard. Staff at the Center include family practitioners, internists, and nurse practitioners. The Center provides a wide array of medical services, with the exception of obstetrics. The Center is a component of the non-profit Northern Counties Health Care organization and provides its services on a sliding scale based on need and ability to pay.

**Commented [MR1]:** These two items need to be posted on the Elmore Town website. I could not find the Welcome Packet or the Inclusivity Statement on the Town of Elmore's website.

Lamoille Health Partners, in the neighboring town of Morristown, and is another Federally Qualified Health Center. Lamoille Health Partners offers Urgent Care, Primary Care, Dental, and Mental Behavioral Health Services.

Elmore residents must all travel outside of the community for medical services due to lack of doctors or dentists practicing in town.

Residents of Elmore can search for available health-promoting services related to physical health, mental health, and substance abuse treatment and recovery services and prevention initiatives through the town website, newsletter and social media channels to promote 2-1-1 and Lamoille Find Help. <https://lamoille.findhelp.com/> (towns should make sure the resources their residents use most are listed in the above resource).

The availability of quality childcare has become an increasing issue across Vermont. (add town specific asset and need)

### **Community Partners**

Health and Wellness services, information and assistance in Elmore are provided by a number of different agencies around the region. Some are private commercial enterprises, a few are private not-for-profit organizations, and others are governmental agencies.

Likely regional partners for health and wellness initiatives for our town include:

- 4-H Program
- AWARE Domestic and Sexual Violence Services (Hardwick)
- Building Bright Futures
- Center for an Agricultural Economy (Hardwick)
- Child Care Facilities
- Clarina Howard Nichols Center
- Copley Hospital
- Dentist Offices
- Food Shelves (in many towns)
- Grass Roots Art and Community Effort (GRACE) (Hardwick)
- Green Mountain Support Services
- Hardwick Area Community Coalition and other Hardwick area organizations and groups
- Hardwick Area Food Pantry

- Hardwick Area Neighbor to Neighbor
- Healthy Lamoille Valley, a program of the Lamoille Family Center
- Jenna’s Promise
- Johnson State College, Vermont State University Johnson
- Lamoille Area Cancer Network
- Lamoille Area Recovery Network (LeARN) – Community Lead Disaster Response
- Lamoille Community House
- Lamoille County Mental Health
- Lamoille Health Partners
- Lamoille Home Health and Hospices
- Meals on Wheels
- People in Partnership Lamoille Interagency Network Team
- River Arts
- RSVP Bone Builders / Central Vermont Council on Aging
- Salvation Farms
- Tamarack Family Medicine
- The Civic Standard (Hardwick)
- UCC Resource Center
- United Way of Lamoille County
- Vermont Department of Health – Morrisville District Office

[For more information on health services see chapter 4 of this plan; Utility and Facility Plan.](#)

~~Rural locations such as Elmore are served by health care facilities in neighboring towns that can assist residents with general health care needs but may not be suited for more complex acute care services that require specialized services and equipment. The nearest Hospital to Elmore is Copley Hospital located approximately 15 minutes away in the Town of Morrystown. Elmore residents have access to a range of health care providers in Morrystown including the Lamoille Health Partners network. The next closest hospital and healthcare service center is located approximately 45 minutes away in Barre, Vermont including the Central Vermont Medical Center.~~

**-Healthy Food Access:**

**Commented [MR2]:** This is the community resources section Alison Link suggested.

Access to healthy ~~culturally appropriate~~ foods enhances thriving communities and supports economic development. Elmore residents access healthy foods from their own gardens, local farms, and from various sources in the village center and neighboring towns. Elmore residents without a car or mode of transportation can access grocery stores by requesting public transportation through Rural Community Transportation's (RCT) On-Demand Service. For more information visit <https://www.riderct.org/>. Local food resources include the Lamoille County Food Share (<https://www.lcfoodshare.org/>) and Meals on Wheels (<https://www.mowlc.org/>).

#### **Substance Misuse Prevention:**

Building a positive town culture that promotes healthy behaviors also reduces behaviors such as substance misuse. Town policies are an important mechanism for creating a healthy culture. Citizens, especially youth, get "messages" from what they see in their communities, thereby influencing their choices.

Mental health and substance misuse present significant challenges across communities, impacting both youth and adults. The effects of individual struggles can ripple through households, neighbors, and friends, and affect the broader community. When one person struggles, we all feel the impact. ~~Community support is essential for achieving our health goals, and its success benefits everyone. Effective interventions are necessary at individual, relationship, organizational, community, and policy levels.~~ Local resources related to prevention, treatment, recovery and mental health include Healthy Lamoille Valley, Lamoille County Mental Health, Lamoille Health Partners, LHP-Behavioral Health and Wellness, North Central Vermont Recovery Center and Jenna's Promise. However, we all play a role in prevention-- parents and caregivers, local and state government, faith-based institutions, organizations, businesses, adult-use substance retailers, schools, health care providers, law enforcement and the media.

Early substance use increases the likelihood of dependency and negative health outcomes later in life. When young people are exposed to community messages that normalize substance use, it can have damaging effects. Our youth are surrounded by tactics from the substance industry that encourage misuse. The more we normalize substance use in our daily lives, the more likely young people are to use substances at an earlier age. Mental health challenges, ongoing pressures, and cumulative stressors on families can lead to higher rates of misuse, impacting some families more than others.

#### **Active Living & Active Transportation:**

Bicycles are used both for transportation and recreation. Many bicyclists can be seen riding throughout Elmore and the Lamoille County region. Recreational users include local residents who seek the health benefits of the sport and visitors who come to Vermont to experience the

outstanding scenery. Walking is an important part of community life and much like bicycling, actively contributes to vitality, reduces our dependence on the automobile, and provides a healthy recreational opportunity.

Elmore has many examples of recreational opportunities; for example, hiking, swimming and boating at Elmore State Park, and walking and cross-country skiing along the local VAST and Catamount trail network. [The Lamoille Valley Rail Trail is a nearby trail network that crosses northern Vermont \(93 miles long\) and is a great place to walk and bike. For more information visit https://railtrails.vermont.gov/trails/lamoille-valley-rail-trail/.](https://railtrails.vermont.gov/trails/lamoille-valley-rail-trail/)

### **Social Inclusion, Engagement and Sense of Community:**

Social well-being plays an important role in a person's health. Promoting a sense of community and public spaces for community members to gather can play a positive role in the lives of Elmore residents and visitors. The Town of Elmore can continue to promote a sense of community by enhancing community green space for all users and ages to enjoy. Continuing to promote community events such as live music by Lake Elmore, [the Polar Plunge](#), Community Pancake Breakfasts, ~~and~~ Fire Department BBQs, [the 5k race, and 4<sup>th</sup> of July boat parade](#), [Father's Day Tractor Parade](#), and [Bingo Night](#) help promote social well-being among Elmore residents.

### **-Goals**

- Support a community vision for health and wellness.
- Support health equity planning in Elmore.

### **Policies**

- The Town of Elmore supports universal school meals and Farm to School programs.
- Promote local farmers' markets and access to healthy food options.
- Promote a healthy, vibrant and socially connected community.
- Promote a healthy environment and programs/community greenspace that support physical activity.

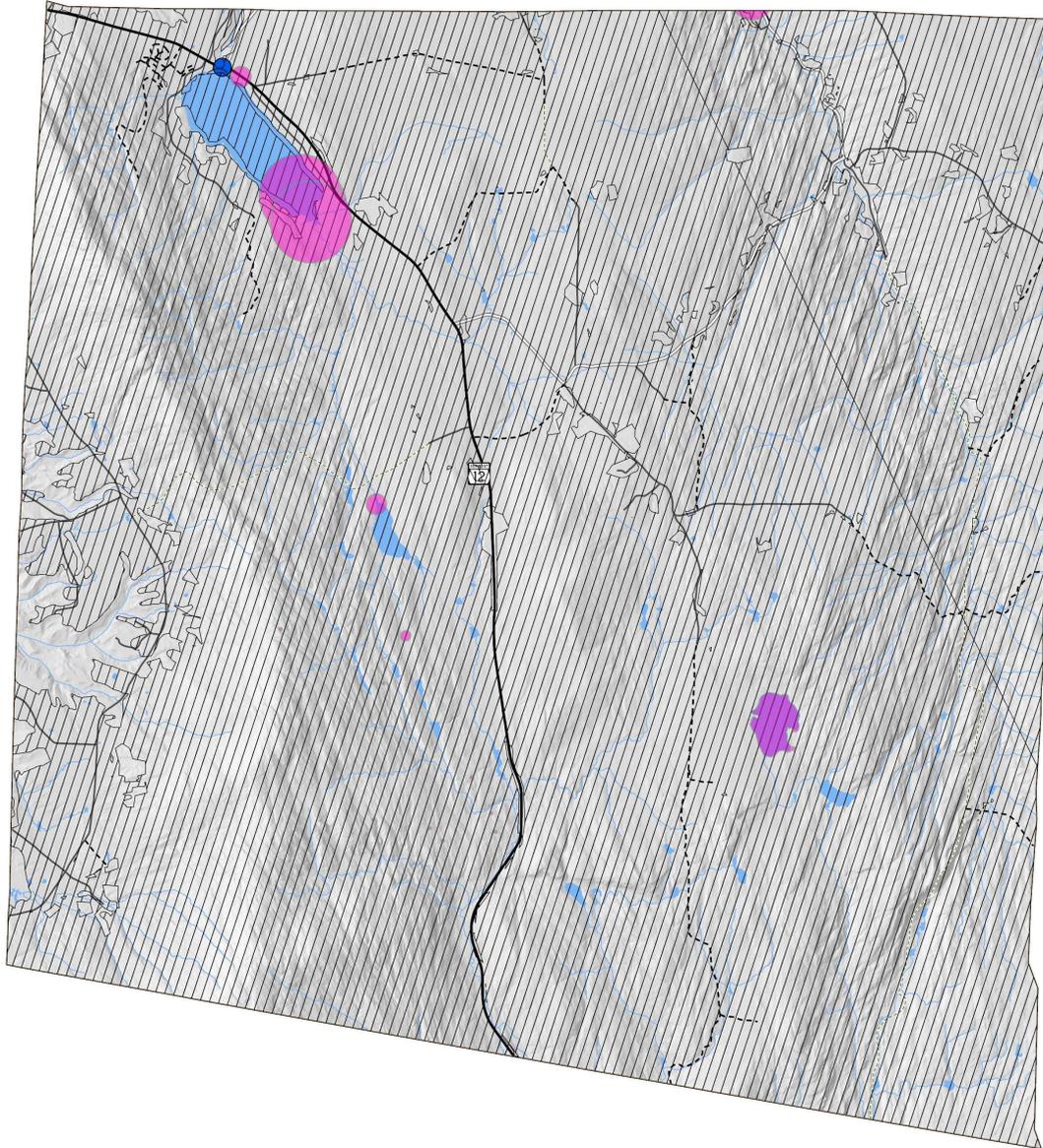
### **Recommendations**

- ~~Explore strategies to increase healthy food access such as mobile markets, year-round Farmer's Markets, or food hubs.~~
- Make the community aware of local health, mental health and substance abuse treatment and recovery services and prevention initiatives like Healthy Lamoille Valley and others. Utilize the town website, newsletter and social media channels to promote 2-1-1 and the Lamoille Find Help webpage.

- Obtain community input regarding improvements to health and wellness infrastructure by conducting a variety of strategies such as walk audits, community surveys, community engagement events, and targeted project studies.
- ~~Install substance-free signage in public spaces as appropriate.~~
- Explore Create and maintain recreational facilities and opportunities for all community users, with special attention to the needs of handicapped, youth, elders, those with low incomes and people from a variety of ethnic groups that may not be current users.
- Consider opportunities for establishing community garden space.
- Promote community events to support social wellbeing and connecting community members.
- Promote the Elmore Welcome Packet to Elmore residents and visitors. This could include hosting it on the Elmore website and posting flyers at Town facilities to direct people to where they can view the Welcome Packet online.

# Elmore Renewable Energy Potential: Hydroelectric

*This map illustrates potential for energy development  
but not necessarily suitability*



## Hydroelectric Facilities

Operational Facilities

## Potential sites

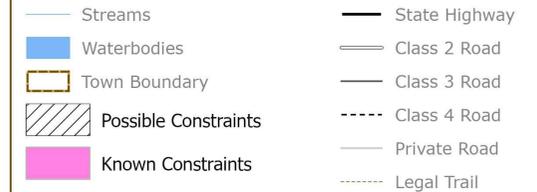
<50 kW Capacity  
 >50 kW Capacity

## Energy Infrastructure

Substations  
 3 Phase Power Lines  
 Transmission Lines  
3 Phase power line data  
for areas served by Morrisville Water  
and Light was not available.

## Hydroelectric Likely Unsuitable

Areas with low hydroelectric potential or environmental constraints have been removed and are not shown in any way on this map.



## Methodology

This map shows areas of resource potential for renewable energy generation from hydroelectric, i.e. dams that could be converted into hydroelectric facilities as well as active hydroelectric sites. Existing hydroelectric dam information was extracted from the Vermont Dam Inventory, while potential hydroelectric sites were derived from a study conducted by Community Hydro 2007. Based on estimates conducted within the report, this map categorizes dams based on their potential hydroelectric generation capacity, and the downstream hazard risk that would be involved in hydroelectric production at each site.

## Data Sources:

POTENTIAL HYDROELECTRIC SITES: VCGI, 2020  
SUBSTATIONS: VCGI, 2017  
3 PHASE POWER LINES: Data from town utilities, Vermont Electric Co-op, and Green Mountain Power  
POLITICAL BOUNDARIES: 1:24000 USGS Quadrangles, VCGI, 1991.  
ROADS: 1:5000 VTrans Road Data, 2021.  
SURFACE WATER: On-screen digitized from 1:5000 digital orthophotos using USGS 7 1/2' quadrangles and 1:20000 color infrared aerial photography as additional source material, VCGI for VHD-USGS, 2001.

Map created by LCPC, 2024



# Elmore Renewable Energy Potential: Regional Considerations



## Sites identified in Municipalities energy plans as preferred for certain types of energy generation

- Preferred Combined Heat and Power Generation Sites
  - Preferred Solar Sites
  - Streams
  - Waterbodies
  - Town Boundary
  - Substations
  - 3 Phase Power Lines
  - Transmission Lines
- 3 Phase power line data for areas served by Morrisville Water and Light was not available.

## Other Regional Considerations

- Ground Water Source Protection Areas: Zones 1, 2 and 3
- Additional High Priority Forest Blocks
- Highest Priority Forest Blocks
- State Highway
- Class 2 Road
- Class 3 Road
- Class 4 Road
- Private Road
- Legal Trail

### DATA SOURCES:

GROUNDWATER SOURCE PROTECTION AREAS: VCGI, 2017  
 ADDITIONAL HIGH PRIORITY FOREST BLOCKS: Working Forest Lands not within in High Priority Interior Forest Blocks, VCGI, 207  
 SUBSTATIONS: VCGI, 2017  
 3 PHASE POWER LINES: Data from town utilities, Vermont Electric Co-op, and Green Mountain Power  
 POLITICAL BOUNDARIES: 1:24000 USGS Quadrangles, VCGI, 1991.  
 ROADS: 1:5000 VTrans Road Data, 2021.  
 SURFACE WATER: On-screen digitized from 1:5000 digital orthophotos using USGS 7 1/2' quadrangles and 1:20000 color infrared aerial photography as additional source material, VCGI for VHD-USGS, 2001.  
**Map created by LCPC, 2024**



# Lamoille County Renewable Energy Potential: Solar

*This map illustrates potential for energy development  
but not necessarily suitability*

<b>Solar Energy Potential</b>		<b>Energy Infrastructure</b>	
	Prime Solar		Substations
	Secondary Solar		3 Phase Power Lines
	Unsuitable for Solar Development		Transmission Lines
<b>Existing Solar Energy Generation Sites</b>		3 Phase power line data for areas served by Morrisville Water and Light was not available. Solar generation sites with >15kw capacity are shown. Sites of all sizes are mapped at <a href="http://www.vtenergydashboard.org/">http://www.vtenergydashboard.org/</a>	
	Solar Energy Generation Sites		

	Streams		State Highway
	Waterbodies		Class 2 Road
	Town Boundary		Class 3 Road
	Possible Constraints		Class 4 Road
	Known Constraints		Private Road
			Legal Trail

### Methodology

This map shows areas of resource potential for renewable energy generation from solar, i.e. locations where renewable energy generation would likely be most feasible according to the natural conditions of an area. This map also considers various other conditions, such as ecological zones, that may impact the feasibility of renewable energy development. These conditions are referred to as constraints.

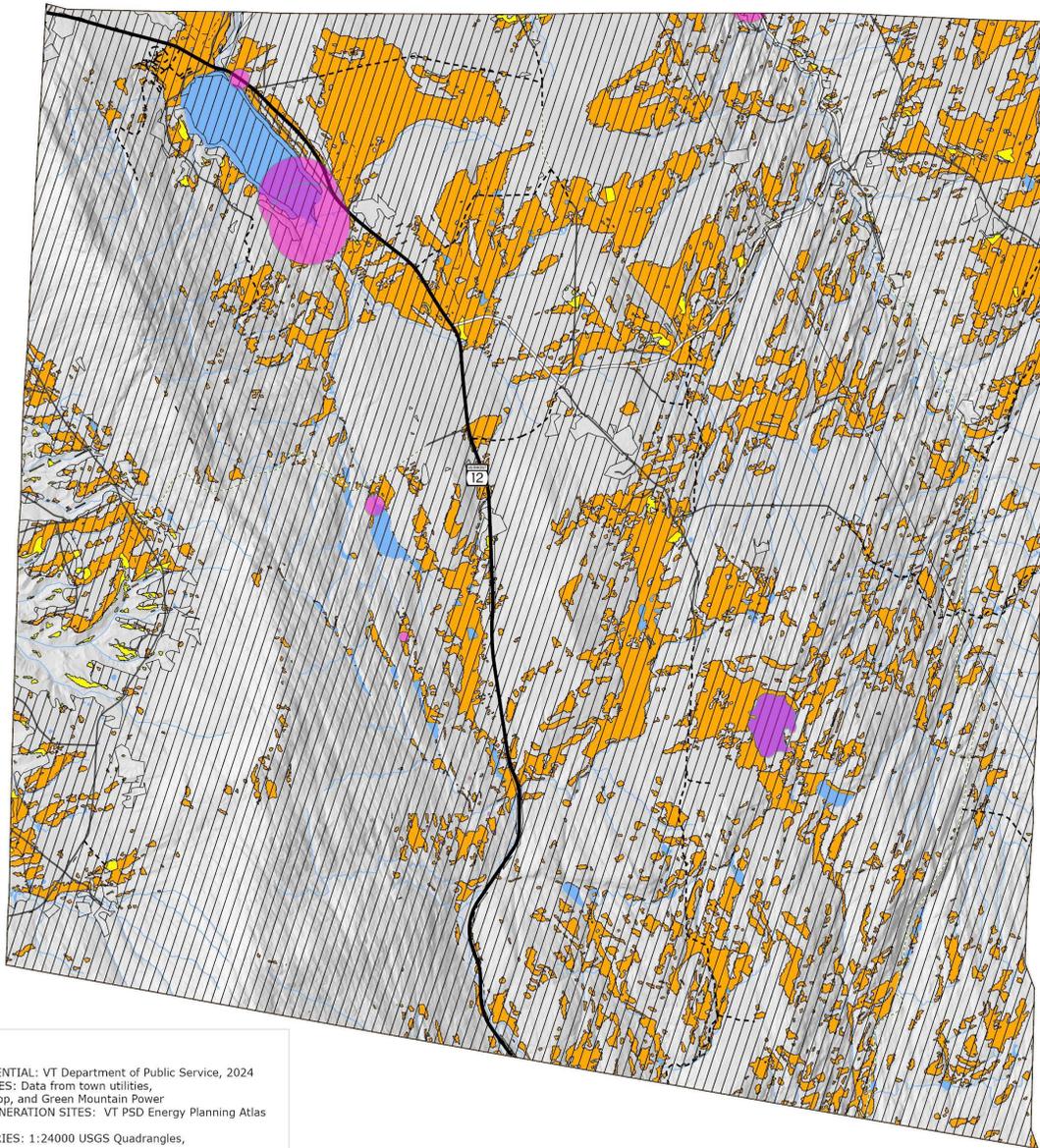
### Prime Solar

Areas with high solar potential and no environmental constraints.

### Secondary Solar

Areas with high solar potential and environmental constraints that may pose an obstacle to development. These areas are shown on the map and include the following constraints:

- Agricultural soils (local, prime and statewide classifications)
- FEMA special flood hazard areas
- Protected lands
- Act 250 agricultural soil mitigation areas
- Deer wintering yards
- Highest priority forest blocks
- Hydric soils



DATA SOURCES:  
 SOLAR ENERGY POTENTIAL: VT Department of Public Service, 2024  
 3 PHASE POWER LINES: Data from town utilities, Vermont Electric Co-op, and Green Mountain Power  
 EXISTING SOLAR GENERATION SITES: VT PSD Energy Planning Atlas 2024  
 POLITICAL BOUNDARIES: 1:24000 USGS Quadrangles, VCGI, 1991.  
 ROADS: 1:5000 VTrans Road Data, 2021.  
 SURFACE WATER: On-screen digitized from 1:5000 digital orthophotos using USGS 7 1/2' quadrangles and 1:20000 color infrared aerial photography as additional source material.  
 VCGI for VHD-USGS, 2001.

Map created by LCPC, 2024

# Lamoille County Renewable Energy Potential: WIND

*This map illustrates potential for energy development but not necessarily suitability*

**Wind Energy Potential**

 Prime Wind	 Secondary Wind
 Unsuitable for Wind Development	

**Energy Infrastructure**

 Substations	 Transmission Lines
 3 Phase Power Lines	

3 Phase power line data for areas served by Morrisville Water and Light was not available.

 Elevation above 1500 feet	 State Highway
 1 km Residential Buffer	 Class 2 Road
 Streams	 Class 3 Road
 Waterbodies	 Class 4 Road
 Town Boundary	 Private Road
 Possible Constraints	 Legal Trail
 Known Constraints	

### Methodology

This map shows areas of resource potential for renewable energy generation from wind, i.e. locations where renewable energy generation would likely be most feasible according to the natural conditions of an area. This map also considers various other conditions, such as ecological zones, that may impact the feasibility of renewable energy development. These conditions are referred to as constraints.

### Prime wind

Areas with high wind potential and no environmental constraints.

### Secondary wind

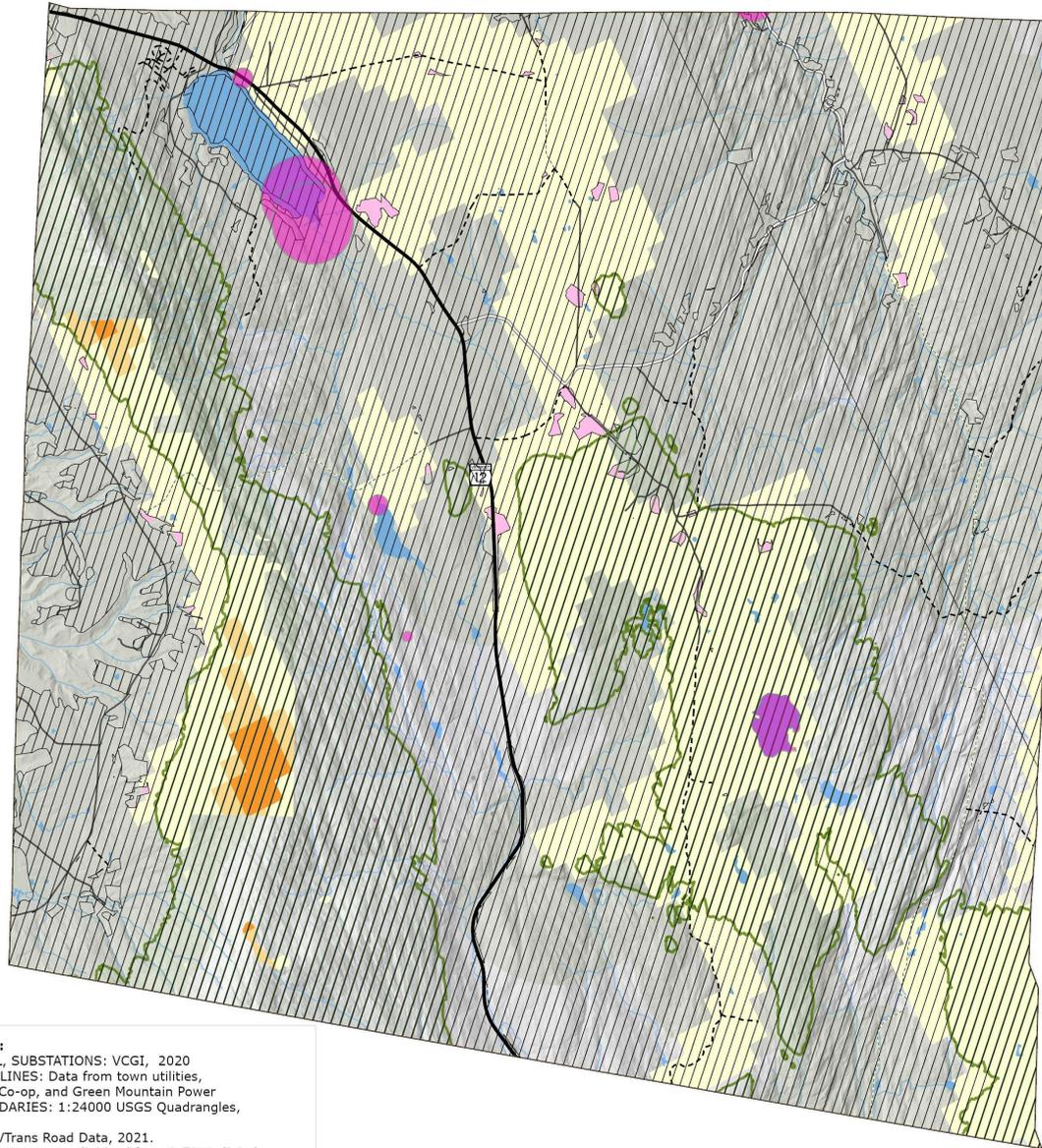
Areas with high wind potential and environmental constraints that may pose an obstacle to development. These areas are shown on the map and include the following constraints:

- Agricultural soils (local, prime and statewide classifications),
- FEMA special flood hazard areas, Protected lands,
- Act 250 agricultural soil mitigation areas, Hydric soils,
- Deer wintering yards, Highest priority forest blocks

### Areas where wind energy is likely unsuitable

Areas with low wind potential or environmental constraints likely to prohibit development. These areas have been removed and are not shown in any way on this map. Environmental constraints are:

- Vernal Pools from VCE (potential and probable layers)
- FEMA Special Flood Hazard Areas
- Protected Lands (State fee lands and private conservation lands)
- Deer Wintering Areas
- Surface Water and Riparian Areas – Highest Priority
- Hydric Soils
- Regionally or Locally Identified Resources



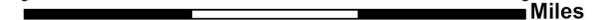
### DATA SOURCES:

WIND POTENTIAL, SUBSTATIONS: VCGI, 2020  
 3 PHASE POWER LINES: Data from town utilities, Vermont Electric Co-op, and Green Mountain Power  
 POLITICAL BOUNDARIES: 1:24000 USGS Quadrangles, VCGI, 1991.  
 ROADS: 1:5000 VTrans Road Data, 2021.  
 SURFACE WATER: On-screen digitized from 1:5000 digital orthophotos using USGS 7 1/2' quadrangles and 1:20000 color infrared aerial photography as additional source material, VCGI for VHD-USGS, 2001.  
 ELEVATION ABOVE 1500 FT: Derived from VCGI LIDAR  
 1 KM RESIDENTIAL BUFFER: Created using residential locations from E911 site data, VCGI/E911 site board, 2017  
**Map created by LCPC, 2024**

Data has not been field verified and is subject to change. Use for planning purposes only.



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Miles