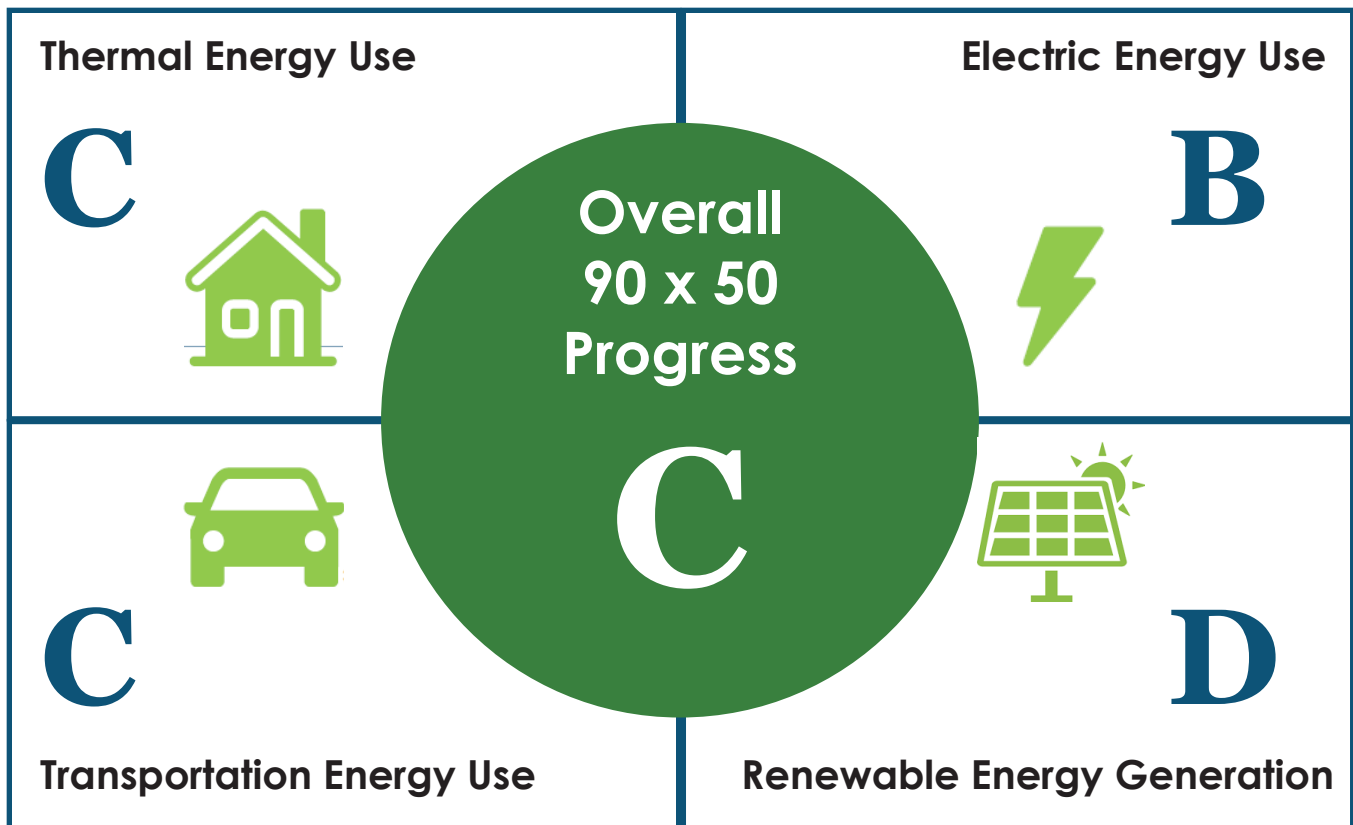


Town of Barnard Energy Progress Report Card

This report was generated by



Data for this report card was gathered from the American Community Survey, Energy Action Network, Vermont Public Service Department, Efficiency Vermont, and the Vermont Energy Dashboard.



The goals of the 2016 Comprehensive Energy Plan (CEP) are the following:

- Reduce total energy consumption per capita by 15% by 2025, and by more than one-third by 2050.
- Meet 25% of the remaining energy need from renewable sources by 2025, 40% by 2035, and 90% by 2050.

This report card is organized into the following components:

- I. Thermal Energy Use for Space Heating
- II. Electricity Use
- III. Transportation Energy Use
- IV. Renewable Energy Generation



I. Thermal Efficiency



Selected Goals: New Heat Pump Units

2025	2035	2050
37	96	203

Progress: New Heat Pumps & Wood Heat

Projects	Total (2016-2020)
Cold Climate Heat Pump Installations - Residential	9
Cold Climate Heat Pump Installations - Commercial	0
Heat Pump Hot Water Heaters Installations	8
Wood Heating Installations	1

% of Residences to be Weatherized

2025	2035	2050
33%	67%	100%

(of 633 residential premises)

Progress: Residential Weatherization

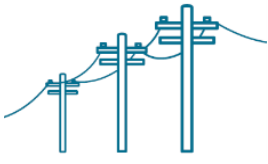
Projects	Total (2016-2020)
Home Performance with Energy Start Projects	3
Other Weatherization Projects	0
Home Energy Visits	0

Remaining Progress to Reach 2025 Goal:

Install 28 new Cold Climate Heat Pumps
Weatherize 630 additional Residences

Example Implementation Actions to Reach Your Goal

1. Coordinate with Efficiency Vermont and other weatherization service providers to encourage residents to participate in weatherization programs.
2. Promote the use of the residential and commercial building energy standards by asking the Zoning Administrator to distribute information about Vermont's Energy Codes to permit applicants and explaining options for energy efficiency.
3. Conduct an energy audit of municipal buildings to identify weatherization retrofits and consider the recommendations for incorporation into the municipal capital budget.
4. Explore opportunities and pursue funding to upgrade efficiencies in all municipal buildings. and encourage efficiency measures in private residential and commercial buildings
5. Pursue external funding to support the conversion of municipal buildings to efficient, and renewable heat sources.



II. Electrical Energy Use

B

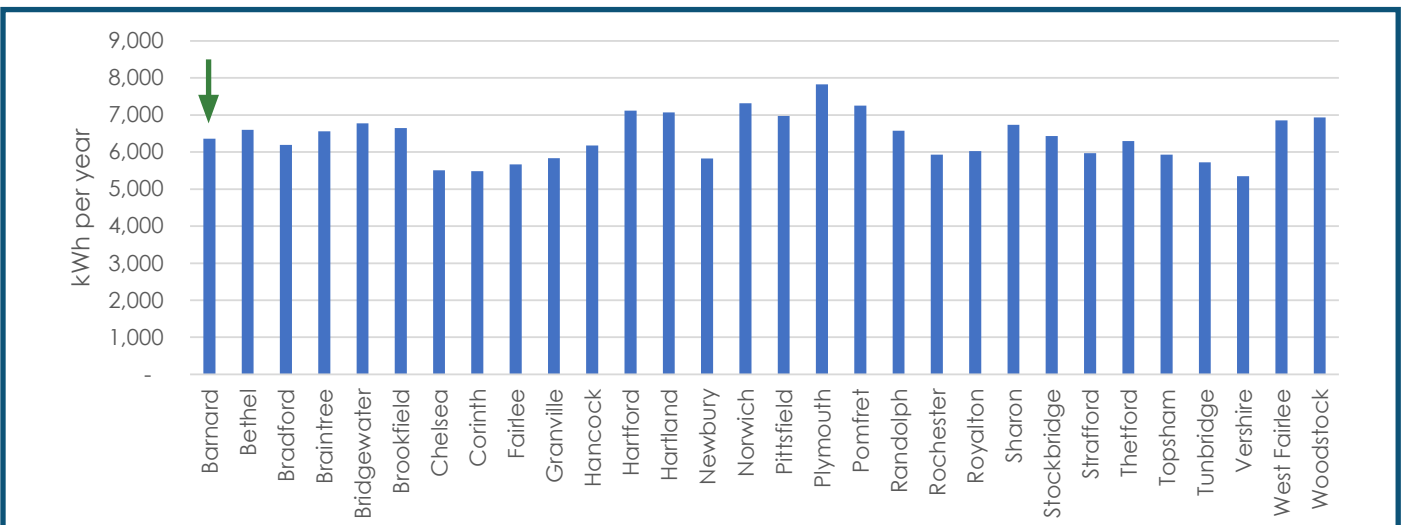
Selected Goal: Electricity Efficiency Targets

2025	2035	2050
0.0%	5.7%	9.9%

Progress: Electricity usage by year and sector (kWh)

Sector	2017	2018	2019
Commercial & Industrial	1,477,445	1,489,356	1,210,663
Residential	4,282,430	4,492,872	4,024,833
Total kWh	5,759,875	5,982,228	5,235,496

Average Residential Electricity Usage compared to TRORC Region



Remaining Progress to Reach 2025 Goal:
 Reduce average residential electricity use by 375 kWh/year to 6,203 kWh/year

Example Implementation Actions to Reach Your Goal

1. Promote the use of the residential and commercial building energy standards by distributing information about Vermont’s Energy Codes to permit applicants and explaining energy efficiency options.
2. Plan for and encourage electric vehicle charging infrastructure in the community.
3. Investigate the installation of municipal solar and/or wind net-metering facilities to offset municipal electric use.
4. Support installation of community-based renewable energy project(s) to allow TOWN’s citizens to participate in the economic benefits of local energy production.
5. Explore opportunities and pursue funding to upgrade efficiencies in all municipal buildings.
6. Encourage the incorporation of electric vehicle ready standards into building code.



III. Transportation Energy Use

C

Selected Goal: Electric Vehicles in Use

2025	2035	2050
47	332	691

Progress: Registered Electric Vehicles

Sector	2017	2018	2019
All Electric	0	3	2
Plug in Hybrid	0	1	0
Total	0	4	2

Remaining Progress to Reach 2025 Goal:

42 electric vehicles in use

Example Implementation Actions to Reach Your Goal

1. Work with your local public transportation agency to understand the ways in which service to your could be improved.
2. Encourage the installation of electric vehicle charging infrastructure.
3. Review municipal road standards to ensure that they reflect all “complete streets” principles applicable to our village and rural roads in order to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities.
4. Consider purchasing electric vehicles or high mileage per gallon vehicles to replace aging municipal fleet.
5. Support and educate citizens about Vermont’s motor idling law (23 V.S.A. § 1110)
6. Encourage the use of Park & Rides in your community, or look into creating a municipal Park & Ride facility in your town.



III. Renewable Energy Generation

Selected Goal: Renewable Generation Target (MWh)

2050
5,317-6,498

Based off of the LEAP model, the 2050 goal is displayed as a range.

Progress: Current Renewable Energy Generation

Type	# of Sites	Total Production Capacity (kW)	Total Generation (MWh/year)	Capacity installed since 2017 (kW)	Additional Generation since 2017 (MWh/year)
Solar	43	159.43	196.52	138.20	169.49
Wind	0	0	0	0	0
Hydro	0	0	0	0	0
Biomass	0	0	1	0	0
Total Existing Generation	43	159.43	196.52	138.20	169.49

Remaining Progress to Reach 2025 Goal:
 5,148-6,328 MWh of new renewable energy generation
 (approx. .59-.72 MW)

Example Implementation Actions to Reach Your Goal

1. The Energy Committee will work closely with the Planning Commission, DRB and Zoning Administrator on any proposed energy development projects.
2. Investigate the installation of municipal solar and/or wind net-metering facilities to offset municipal electric use to identify where installation is economically feasible.
3. Investigate installation of community-owner renewable energy project(s) to allow citizens to participate in the economic benefits of local energy production.
4. Identify potential properties for a town-owned community solar array.