

Renewable Energy Resources

Solar

Sunlight falls on the earth with great long-term predictability. Yearly averages are available for all geographical areas. All areas of the USA have ample sunlight for producing solar electricity. In fact Vermont has only 22% less sunshine than Florida. Also Vermont has 35% more sun than Germany, the leading nation on earth in terms of success with solar power! Photovoltaic solar does not rely on the sun's warmth, just the sunlight. As a matter of fact PV is more efficient when it's cold. A good solar site simply has an opening to the southern sky and will have no shading issues for 6 hours during the middle of the day. Solar energy is by far the easiest form of renewable energy to use.

Solar energy potential is greater than all of the other forms of renewable energy combined.

Source: US Department of Energy

Wind

Wind power is a tremendous resource for electrical power generation. However the steady wind speeds necessary for a good wind site simply do not occur where most homes and businesses in Vermont are located. Typically, good wind sites in Vermont are found at high elevations. "Class 2 Wind Sites" are defined as averaging from 11.5mph to 13.2mph wind speed. Generally a Class 2 wind site (or better) is required to site a successful wind generation system. Furthermore sites with turbulent, or gusty, winds are not good for wind power production. For optimum power production turbines need to be mounted on a tower that places them at least 30 feet higher than treetops, buildings, or anything within 300 feet of the tower. Earth Turbines is a new Vermont wind manufacturer that claims success with their turbines at average wind speeds of 10mph and up. www.earthturbines.com

Hydro

Vermont relied on water power to meet its needs for many generations. That power still exists today, much of it untapped, or underutilized. Lori Barg of Community Hydro has done a great job identifying many megawatts of small hydro sites in Vermont. Many of these sites still have dams, but they need to be upgraded for sustainability and greater efficiency. Lori has also been working to simplify state and federal permitting. To learn more go to www.communityhydro.biz

There are other RE resources such as **biomass** and **geothermal** that also offer great potential.

