

Renewable Energy on Conservation Lands in Vermont

New Hampshire Land Trust Coalition
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VERMONT HOUSING &
CONSERVATION BOARD

Vermont Housing and Conservation Board

Mission

- The dual goals of creating affordable housing and conserving and protecting Vermont's agricultural land, forestland, historic properties, important natural areas, and recreational lands.
- Maintain the essential characteristics of the Vermont countryside, and to support farm, forest, and related enterprises, and assist in creating affordable housing and in preserving the State's agricultural land, forestland, historic properties, important natural areas and recreational lands, and in keeping conserved agricultural land in production and affordable for future generations of farmers.



VHCB co-holds easements with a number of conservation partners, including the Vermont Land Trust, Upper Valley Land Trust, The Nature Conservancy and the Preservation Trust of Vermont.

Since 1987, VHCB has:

- Contributed \$120 million in state funds towards conserving 1108 projects on 407,600 acres;
- Contributed over \$144 million in state funds to create 11,000 units of affordable housing;
- Provided \$4 million to preserve 62 historic sites;
- Conserved 646 farms on 153,300 acres;
- Conserved 315 natural area and public recreation projects on 254,000 acres.

Vermont's Renewable Energy Goals

- 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.
- Three end-use sector goals for 2025: 10% renewable transportation, 30% renewable buildings, and 67% renewable electric power.

From Vermont Department of Public Service, Vermont Comprehensive Energy Plan. 2016

Definitions

Renewable energy is defined as “energy available for collection or conversion from direct sunlight, wind, running water, organically derived fuels, including wood and agricultural sources, waste heat, and geothermal sources.” Under the state of Vermont’s renewable energy programs, renewable energy is further defined as energy produced using a technology that relies on a resource that is being consumed at a harvest rate at or below its natural regeneration rate.

Agricultural Activity

Farming as defined by the State of Vermont includes the on-site production of **fuel or power** from agricultural products or wastes produced on the farm. The production of electrical power from methane or creating biofuels from a variety of seed crops is defined as an agricultural activity if at least 50% of the inputs come from the farm operation. As such, these agricultural activities are permitted in farm easements and do not require prior approval. If more than 50% of the agricultural inputs are from off the farm, the energy or fuel production is considered a commercial activity, but may be defined as rural enterprises under VHCB farmland conservation easements.

Rural Enterprises:

Agricultural, forestry and other commercial uses on conserved farms or working forests operated at a scale that does not detract from the easement purposes and which enables the farm or forest owner to supplement their agricultural or forestry income. Renewable energy installations may be approved as rural enterprises generally following VHCB’s Guidelines for Rural Enterprises on Farmland.

VHCB Renewable Energy Guidelines Guiding Principles

- Climate Change will continue to have significant impacts on Vermont ecosystem and land uses. Utilizing renewable energy is one important tool mitigating such impacts.
- Renewable energy installations must be located to minimize impacts to the natural resources, primary agricultural soils, conservation purposes and each property's unique attributes;
- Recognizing that VHCB's mission includes maintaining the essential characteristics of the Vermont countryside, renewable energy installations shall be located with careful consideration of impacts to the scenic qualities of conserved properties;
- VHCB supports renewable energy installations where the energy is used to support the energy needs of the conserved property or associated properties;
- Renewable energy installations whose production exceeds the energy needs of the conserved property will be reviewed on a case by case basis and may be conditioned or denied based on resource impacts, scale and scenic impacts to the conserved lands;
- Renewable energy installations will not impact mapped natural heritage sites or special treatment areas.
- VHCB recognizes that the renewable energy sector is dynamic and that these guidelines may need to be revised as the technology evolves.

VHCB Renewable Energy Guidelines Siting Criteria:

- All projects should be designed to be neutral or enhance conservation easement purposes and to minimize impacts to conservation values on the property.
- Preference is given to projects inside of established complexes.
- Preference is given to locating these facilities on less productive portions of working lands (but not in sensitive natural areas or wetlands).
- Special Treatment Areas must not be impacted.
- The installations should not be located in mapped river corridors or floodways.
- Installations located within a mapped floodplain, but outside the river corridor and floodway, should be adequately anchored to resist collapse, flotation, or lateral movement during flooding events.

VHCB Renewable Energy Guidelines Siting Criteria (continued):

- All development should be a minimum of 50' from the top of bank of any surface water.
- All projects may be required to have a decommissioning plan.
- All projects must secure necessary local, state, and federal permits and approvals, including a Certificate of Public Good from the Public Service Board and any permits that may be required by the Vermont Agency of Natural Resources.
- All projects with third party owners/operators must disclose the legal arrangements underpinning the project and any such agreements will be reviewed to determine whether or not they are consistent with the conservation easement restrictions.

Easements clauses under which renewable energy may be considered:

Rights-of way/utilities/easements

no rights-of-way, easements of ingress or egress, driveways, roads, utility lines, other easements or use restrictions shall be constructed, developed, granted or maintained into, on, over, under, or across the Protected Property, without the prior written permission of Grantees. Grantees may grant such permission if they determine, in their sole discretion, that any such improvement would be consistent with the Purposes of this Grant.

Future Technologies

No use shall be made of the Protected Property, and no activity thereon shall be permitted which is or is likely to become inconsistent with the Purposes of this Grant. Grantor and Grantees acknowledge that, in view of the perpetual nature of this Grant, they are unable to foresee all potential future land uses, **future technologies**, and future evolution of the land and other natural resources, and other future occurrences affecting the Purposes of this Grant. Grantees, therefore, in their sole discretion, may determine whether (a) proposed uses or proposed improvements not contemplated by or addressed in this Grant, or (b) alterations in existing uses or structures, are consistent with the Purposes of this Grant.

Farm Structures

The right to construct, maintain, repair, renovate, replace, enlarge, rebuild, and use new and existing barns, sugar houses, or similar non-residential structures or facilities, together with necessary access drives and **utilities for agricultural and forestry uses**, on the Protected Property; provided, however, that (a) the structures are used exclusively for agricultural or forestry purposes, and (b) any new construction, other than normal maintenance and repair, has been approved in writing in advance by Grantees. Grantees' approval may include designation of a “complex” (meaning an area or areas of the Protected Property within which certain structures are or shall be grouped together) surrounding the structures and shall not otherwise be unreasonably withheld or conditioned; provided, however, that the structure or other improvement is located in a manner which is consistent with the Purposes of this Grant. Grantor shall not deem unreasonable a condition by Grantees that certain structures must be located within an existing complex or a complex which may be designated in the future as provided in this Section III.

Rural Enterprises

The right to conduct rural enterprises consistent with the Purposes of this Grant, especially the **economically viable use** of the Protected Property for agriculture, forestry and open space and the conservation of agriculturally and silviculturally productive land. In connection with such rural enterprises, the right to maintain, repair, enlarge, replace and use permitted structures with **associated utility services**, drives and appurtenant improvements within a designated complex permitted by this Section III. Grantees may approve a new, non-residential, structure for an approved rural enterprise only if an existing structure is not suitable and the new structure is:

- a) located within a permitted designated complex;
- b) fewer than 1500 square feet as an exterior measure of the footprint and no more than 25 feet from the lowest undisturbed ground level to the roof peak;
- c) inclusive of all storage space so that no part of the business is conducted outside of the structure;
- d) of a nature, intensity, scope, size, appearance, type and quantity compatible with the existing agricultural structures;
- f) located in a way that minimizes negative impact on future operations and expansion of agricultural uses, does not interfere with current agricultural operations and does not displace farm or forestry storage, use or functions; non-residential; and
- g) not inconsistent with the Purposes of this Grant.

Farm easements funded under the NRCS ACEP/ALE program (starting in 2014) allow renewable energy production as a permitted use:

On-Farm Energy Production - **Renewable energy production** is allowed for the purpose of **generating energy for the agricultural and residential needs of the Protected Property**. Renewable energy sources on the Protected Property must be built and maintained in accordance with any local zoning ordinance and applicable State and Federal laws. Renewable energy sources must be approved by Grantees', in their sole discretion, and at a minimum shall be built and maintained within impervious surface limits, with minimal impact on the conservation values of the Protected Property and consistent with the Purposes of this Grant as determined by Grantees'.

The following are allowed under ACEP/ALE restricted uses:

2. Industrial or Commercial Uses - Industrial or commercial activities on the Protected Property are prohibited except for the following:

(v) **the sale of excess power** generated in the operation of alternative energy structures and associated equipment or other energy structures that Grantees approve in writing as being consistent with the Purposes of this Grant;

3. Construction on the Protected Property – All new structures and improvements must be located within the Farmstead Building Envelope. Utilities to serve approved buildings or structures, **including on-farm energy structures** allowed under Section IV(6) and agricultural structures that neither individually nor collectively have an adverse impact on the agricultural use and future viability and related conservation values of the Protected Property may be built outside of the Farmstead Building Envelope with prior written approval of the Grantees provided that the utilities or agricultural structures follow applicable NRCS-approved conservation practices consistent with the Agricultural Land Easement Plan



Examples of Renewable Energy on Conserved Land in Vermont



3.6 MW Solar array on land excluded from conservation
on dairy farm in Essex



Two 60 kW solar tracker arrays power the processing and value-added equipment at an apple orchard in Shoreham



Anaerobic manure digester on a dairy farm in Charlotte offsets the farm's electric costs and produces bedding



150 kW solar array on land owned by the Town of Williston powers municipal buildings and street lights



181 kW roof top solar array on goat barn at Ayers Brook Goat Dairy in Randolph



Utility-owned 100 kW Wind Turbine on large dairy farm in Ferrisburg



500 kW array on beef farm with associated slaughterhouse



Solar arrays elevated to allow grazing by beef cattle in concentration area in barn complex