

Town of Vermont Energy Plan

1. Goal

The goal of this Energy Plan is to support current and future Town of Vermont residents to adjust to a rapidly changing economy and environment, and to transition away from fossil-based fuels to more renewable energy sources.

2. Context

In recent years there have been notable technological improvements in the generation of electricity, especially solar energy and improvements in the storage of energy. Advances have also been made in improving the efficient use of electricity. These developments can potentially lower costs for electricity to consumers who have also become capable of generating their own electricity without using fossil fuels.

Along with these technological advances, we are experiencing dramatic climate distortions expressed as the heavy rains and flooding of last spring and summer, the polar vortexes that have hit us this past winter, and sporadic drought periods. We can expect more climate distortions with increasing frequency and ferocity. A contributing cause to such distortions is the rising levels of CO₂ in our atmosphere, due in large part to the burning of fossil fuels in electrical generating facilities and in transportation. The electrical grid's dependence on long distance and complex electricity transmission is vulnerable to these climate distortions and other threats.

The Vermont Town Comprehensive Plan (revised July 10, 2017) is a good foundation for our Town's residents and Board to "think globally, act locally", with its Section 7.7 (page 14) on Energy Efficiency:

Wisconsin's Statutes 1.12(3) state that the energy goals of the State include:

- 1. Energy efficiency. It is the goal of the state to reduce the ratio of energy consumption to economic activity in the state.*
- 2. Renewable energy resources. It is the goal of the state that, to the extent that it is cost-effective and technically feasible, all new installed capacity for electric generation in the state be based on renewable energy resources, including hydroelectric, wood, wind, solar, refuse, agricultural and biomass energy resources.*

To contribute to achieving these State of Wisconsin energy goals, Vermont Town Government, residents and businesses cooperate to develop or enhance the energy system upon which our community relies and to adhere to these energy investment priorities:

- 1. Maximize cost-effective energy conservation, efficiency of energy use, and electrical energy load management;*
- 2. Rely to the greatest extent possible on local, renewable generation of electricity;*
- 3. Support local ownership of energy generation that includes dispersed renewable energy to support the local economy, including the creation of sustainable jobs;*
- 4. Minimize the size, scale, voltage, and environmental impacts of electric transmission and generation."*

3. Resolution

Based on these principles, we propose the following resolution to implement the Energy Plan of the Town of Vermont:

Whereas, new technologies are lowering costs of locally generated renewable energy and of local energy storage to levels below the cost of the electricity produced by the existing large scale, fossil fuel based energy generation and long distance transmission system;

Whereas, new technologies are available for improving the efficiency of electricity use;

Whereas, historically high levels of CO2 from burning of fossil fuels for the generation of electricity, transportation and more contribute to increasing frequency of extreme weather events;

Whereas, the electricity grid composed of large-scale generation and long-distance transmission is vulnerable to extreme weather events and other threats;

Therefore, the Board of Supervisors of the Town of Vermont, Dane County, Wisconsin approves this plan with the goal of encouraging Town residents to take advantage of increased energy use efficiency and renewable energy technologies that can help reduce both financial and environmental costs of our electrical system.

4. Plan

Four Action Areas describe the components of this plan for maximizing the energy efficiency of Town residents and dealing with the causes of and impacts of extreme weather events. While they are listed in sequence, action on all four can and should be simultaneous. The four action areas are:

Action Area 1: Communication/Awareness Building

Background: The following three Action Areas will all need to be supported by community awareness and engagement. There are existing communication channels and organizations that need to be proactively involved via regular updates and standing web pages.

Elements:

- Gather data on existing renewable energy adoption by residents, as well as interest in future renewable energy systems;
- Share experiences of town residents and neighbors who have already invested in solar, wind, and/or geo-thermal energy sources, either living “off the grid,” or “grid-tied.”
- Organize and motivate people to attend events for learning about renewable energy and energy efficiency options, such as the Midwest Renewable Energy Fair in Custer, WI;
- Use available resources to engage community residents.

Resources:

Resources include our township website, Vermont Voice newsletter, The Black Earth Creek Watershed Association, the Gateway to the Driftless, local newspapers and the NextDoor community website. We can also enlist the support of our local banks, area faith communities, Premier Co-operative and others.

There are also neighboring communities with aligned interests in taking similar action, such as the villages of Mt. Horeb, Cross Plains, Black Earth and Mazomanie and adjacent townships. All have been seriously affected by recent flooding and residents are increasingly aware of technological developments in renewable energy generation and storage which can help get us free of fossil fuels.

Lead: Individual(s) from the Town who would lead this action

Possible Town Government Action to Support: Authorize data gathering, access to Town’s web site and Vermont’s Voice, an information table at the Town Picnic, etc. Encourage regular review and feedback to the Board from lead individual(s).

Action Area 2: Support Energy Efficiency

Background: Updating outdated, inefficient appliances and equipment to newer more energy efficient technology and building standards that provide the quickest payback toward more efficient use of electricity, and thereby the reduced use of fossil fuel produced electricity while we move to renewable energy production of electricity.

Elements:

- Make information available about possible efficiencies and standards and resources available for financing.

Available Resources: WI Focus on Energy, Joel Roltgen, rep for Dane County. Offers a wide range rebates and incentives for energy efficiency upgrades.

Lead: Individual(s) from the Town who would lead this action.

Possible Town Government Action to Support: The Town will encourage residents to improve the efficiency of use of electricity in their homes and businesses.

Action Area 3: Support Expansion of Renewable Energy

Background: Cost of solar energy production and battery storage has steadily declined in recent years. There more than a dozen solar energy installations at homesites in the township.

Elements:

- **Individual solar:** Support Town residents in learning more about on-site solar energy installation, benefits and payback potential. Current 30% federal tax credit and up to \$4000 rebate from WI Focus on Energy.
- **Utility solar:** Encourage utilities serving Town of Vermont residents to install local community solar projects if they can be proven to reduce costs and increase reliability for local services.

Examples of Available Resources:

- One Energy, Eric Udelhofen– Community Solar
- Eagle Point Solar, Dave Pluym – Group Solar Buy for individual property owners.
- MadiSUN: WI Renewable Energy, Sam Dunaiski – Group Solar Buy for individual property owners.
- Legacy Solar Cooperative, Kurt Reinhold—for expertise and advice on site assessments, technical support for solar+battery installations, support for dealing with utilities and the Public Service Commission

Lead: Individual(s) from the Town who would lead this action.

Possible Town Government Action to Support:

- Encouragement of “group buy” arrangements for lower cost installation of solar PV panels (plus in some cases battery storage) on privately owned homes and buildings.
- A resolution asking each of our local utilities — Black Earth Electric, Mt. Horeb Electric and Alliant Energy— to provide their customers with lower cost, renewable generated electricity through the

installment of community solar arrays plus storage facilities or through other arrangements as may prove advantageous.

- Contact neighboring units of government to consider same or similar requests.
- Maintain a section of the Town's web site containing information on energy efficiency improvements and on area solar installers they can use when the time is right.
- Conduct energy efficiency and renewable energy assessments of the Town Hall buildings and parcel owned by the Town to determine potential cost benefits.

Action Area 4: Disruptive Weather Event Preparation as it affects Power Supplies

Background: The current and most immediate threat to Town residents is increasingly out-of-norm weather events. The flooding from August, 2018, as well as the extreme cold of this past winter are two recent local examples.

Elements:

- Assess Town roads for adequate drainage in heavy rains.
- Availability of emergency generators if electric power is disrupted.
- Communication to residents in case of disasters.

Available Resources:

- Dane County and Wisconsin emergency preparedness services and strategies.
- Town patrolman and Town Road Committee

Action: To be carried forward via Town's Emergency Action Plan, which Town Board agreed needs to be updated.

Additional Background; Sources of Information and Financial Support

As an example of useful information for our energy plan, Alyssa Gross, Clerk of the Village of Mt. Horeb informed us that the 123 Town of Vermont residents served by Mt. Horeb Electric Utility consumed 2,305,366 KwH of electricity in 2018 (including Tyrol Basin). Excluding Tyrol, the average annual electricity usage is 13,049 KwH per meter (for the 122 Mt. Horeb Electric meters/customers) in the Town of Vermont for the 12 months of 2018. Such data provide a snapshot of our electrical energy situation which we can continue to monitor to see how our Town is doing with reducing use of electricity from the fossil fuel dependent grid.

Black Earth Utilities (Vanguard) does not yet have the ability to separate its Town of Vermont customers. We have contacted Alliant Energy for similar figures on usage and on renewable energy installations for their service area within the Town of Vermont.

These three utilities distribute all of the grid provided electricity to our Town residents.

Resource Detail

There are several existing organizations that can network with us or help find needed information and funding of options for investing in energy efficiency and renewable energy generation. Some of these (with links to their related programs) include:

- Our local utilities – [Black Earth Utilities](#), [Vanguard](#), [Mt. Horeb Utility](#) and [Alliant Energy](#) –
- [Dane County Office of Energy and Climate Change](#) ,
- [UW-Extension Environmental Resource Center](#),
- [WI Sierra Club John Muir Chapter](#) ,
- [Focus on Energy](#),
- [Renew Wisconsin](#),
- [Town of Stark Energy and Information Committee](#),
- [Wisconsin Conservative Energy Forum](#),
- [Legacy Solar Cooperative](#)

The following people have offered to work with the Town of Vermont on implementing its Energy Plan:

Keith Reopelle (Director of the Dane County Office of Energy and Climate Change),
reopelle.keith@countyofdane.com

Sherrie Gruder (Sustainable Design Specialist/Energy Program Manager-UW Extension), SHERRIE G
 GRUDER (sherrie.gruder@wisc.edu)

Scott Coenen (Executive Director of the Wisconsin Conservative Energy Forum). scoenen@wiscef.org

Rob Danielson (Secretary, Town of Stark, Energy Planning and Information Committee), Rob Danielson
 (type@mwt.net)

Joel Roltgen (Energy Advisor Agriculture, Schools and Government, Focus on Energy)
joel.roltgen@focusonenergy.com

Feedback: Karen Carlock, July 2: My main question is: since the action-steps are all communication related, what does the next step look like?

Do you want to design a paper survey that is sent out? Are you wanting to do some sort of online survey and we just send out a link to it or make a link available online? Do we do one comprehensive mailing with a survey and materials related to energy efficiency? Do we ask folks in the survey if they'd like an energy consult - do we have a way to coordinate those?

Feedback: Doug Meier, July 5: I'm fully supportive of the energy plan, but experience tells me that unless we have tangibles, it's not likely to have traction nor success. Can SMART criteria be woven into the plan; Specific, Measurable, Achievable, Relevant, and Time-bound?

Then we can engage the community on setting the criteria, and follow up with routine updates on progress which should keep everyone engaged?