

HARTFORD ENERGY COMMISSION (HEC)

The Hartford Energy Commission (HEC), established by the Selectboard in 2007, exists to help Hartford's residents, businesses, and government:

- **promote energy conservation**
- **improve efficiency of energy use**
- **increase the use of renewable energy sources**

To date, Town residents have indicated to us that home energy conservation is their most important priority from among these topics. We hope this year's newsletter will give you some useful tips to help you save energy at home, bring you up to date on some of the Commission's projects, and guide you to other available resources to learn more.

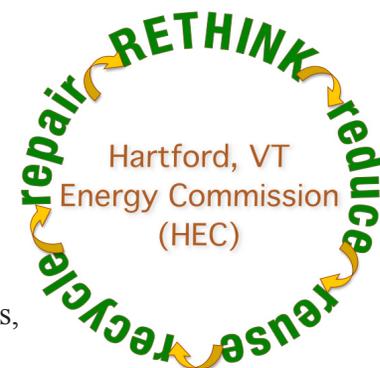
The Commission presently consists of six Town resident members, one liaison member each from the Selectboard and the Conservation Commission, and the Director of Planning and Development Services. Want to join the Commission (there is one seat still open), or to volunteer for projects? We also welcome your questions, comments, and suggestions.

CONTACT us by email at alan@datdec.com or mcdaniel_martha@yahoo.com or by phone, Lori Hirshfield, 802-295-3075.

SUBSCRIBE to our email list by sending your request to hec-request@datdec.com, with "subscribe" written in the subject line.

Current members are:

Alan Johnson, Chair; Martha McDaniel, Vice Chair; Lynn Bohi, Clerk; Mike Heeremans; Meredith Angwin; and Ananda Hartzell



HEC ACTIVITIES

Button-Up, Vermont! Workshop:

On October 22, 2009 the HEC sponsored a Button-Up Vermont! Workshop. This workshop was developed and cosponsored by a number of Vermont agencies. Michael Goetinck (Snowdog Construction) described the rationale and techniques for decreasing cold air infiltration into homes; he and Molly Luft, of COVER (Corps of Volunteers Effecting Repair, WRJet, VT) demonstrated these techniques using actual door and window installations.

You can watch a reprise of this session by visiting your local library and checking out the DVD "BUTTON UP VERMONT: Simple Weatherization Measures to Button Up Your Home." For information and diagrams of the techniques discussed at the workshop, visit:

http://www.encyvermont.com/pages/Residential/Home_Heating/Home_Information/.

Street light efficiency project: Update:

Last year in this insert, we reported on the extraordinary annual cost of supplying electricity to Town street lights (over \$120,000 per year). With the help of the Two Rivers - Ottauquechee Regional Commission, the town surveyed its street lights. About 40% of them were serving no useful purpose or actually detracting from safety (and were requested to be removed), and installation of seven new lights was requested. This should result in an overall savings of about \$54,000 per year.

Additionally, lighting technology is making rapid advances. As LED (light-emitting diode) technology matures, we may soon be able to replace our remaining street lights with models that use only a small percentage of the electricity required by existing lights. Even though this would require the replacement of our light fixtures, the diminution in power required is such that the up-front investment will be paid back in between three and four years - and ongoing electricity use may go below \$20,000 per year.

For more information or questions, call:

- Lori Hirshfield, Director, Department of Planning & Development Services, at 295-3075
- Allyn Ricker, Highway Superintendent, DPW at 295-3622



West Hartford Library project: Update:

Good news! Guided by the findings of an energy audit of the Library, members of the West Hartford Board of Trustees rolled up their sleeves and carried out energy-saving measures such as those outlined in the Button-Up program. Their work resulted in a 66% decrease in air infiltration as measured in average winter conditions. The next steps in improving heating efficiency at the Library will include making some more improvements in the building envelope and improving the heating system, funded by federal funds allocated to Hartford by the Energy Efficiency and Conservation Block Grant program.

EPA* Energy Star 10% Challenge:

"The ENERGY STAR Challenge is a national call-to-action to improve the energy efficiency of America's commercial and industrial buildings by 10 percent or more." Hartford was fortunate to host the work of an EPA-funded intern over the summer of 2009. Guided by his mentors at the University of New Hampshire, Jim Potter gathered data about town building energy use for future use by the Energy Commission as we seek to further conserve Town resources.

*Environmental Protection Agency

SOLAR HOT WATER FOR VERMONT

Solar hot water in Vermont? When you think of solar you may think of sunny Arizona but solar renewable energy makes sense here in Vermont too! Germany is a world leader in solar energy and they have fewer sunny days than we do (see diagram below).

Solar hot water can be one of the most cost-effective renewable energy investments a homeowner can make, even in Vermont. A domestic solar hot water system can cost as little as \$8,000, and provide 50-80% of the annual hot water use for a family, depending on how much hot water you use and how much access you have to solar resources. With VT state rebates and federal tax credits, payback times tend to be only a few years, making solar hot water a reasonable investment as a home improvement.

And using Solar helps keep Vermont green!



SOLAR RESOURCES

Solar energy resources available in Germany and the Eastern U.S.

Darker colors represent better solar locations.

Source:
Solar Energy Industries Association

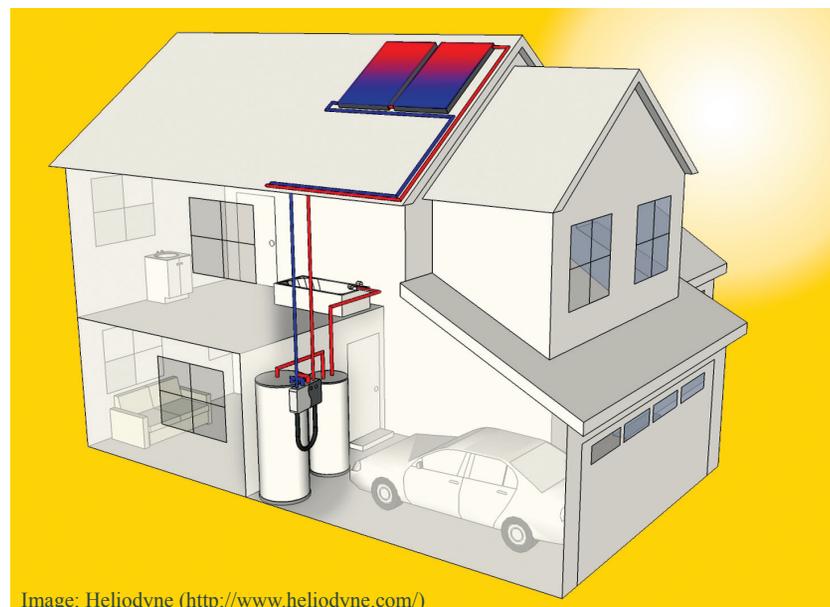
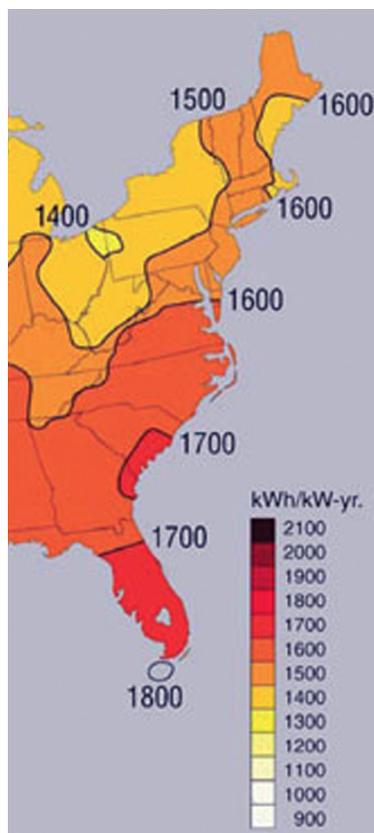


Image: Heliodyne (<http://www.heliodyne.com/>)

Is Solar Hot Water Right for Your Home?

Solar hot water systems are widely used in Northern Europe, and they work well in Vermont. There are several types of systems utilized throughout the world, but any method used in Vermont needs to have freeze protection. Two types of freeze protection are available. One type is the closed-loop system with glycol-based heat transfer solutions (anti-freeze). The second type (drain-back system) uses only water and drains the water when necessary to prevent freezing. Most systems include solar collectors, a heat exchanger, pumps and a storage tank, but system designs may vary. Two types of collectors are illustrated below: evacuated tube (left) and flat plate (right). While most reputable solar contractors can help you decide on the best application, the following website can help you decide if solar hot water is right for you.

www.energysavers.gov



Solar Hot Water System Costs and Incentives:

- A typical residential domestic hot water system can cost between \$8,000 and \$12,000 installed depending on the size of the system, installation complexity, and application.
- Hot water fuel costs may be reduced by 50-80%. Solar also helps protect you against future increases in fuel costs, and reduces harmful emissions from conventional fuels.
- Rebates are available from the state of Vermont and a 30% federal tax credit to help offset the cost of installing a solar hot water system. See the following websites for more information and to find a qualified installer:
 - Renewable Energy Resource Center:
<http://www.rerc-vt.org/solar.htm>
 - Database of State Incentives for Renewables and Efficiency:
<http://www.dsireusa.org>
 - Renewable Energy Vermont:
<http://www.revermont.org>
 - Sustainable Energy Resource Group:
<http://www.serg-info.org/>

Hot Water Energy Efficiency Strategies For All:

- Wash and rinse clothes in cold water.
- Turn your hot water on and let it run for a couple of minutes. If it is too hot to hold your hand under the water, turn the thermostat on your hot water tank down to 120 degrees (or what is allowed by local code).
- Use low flow shower heads and faucets – readily available at building supply stores.
- Run dishwasher fully-loaded. Scrape dishes, but don't pre-rinse and avoid soaking. Always use air-dry: no heat-dry. When needed, your dishwasher's supplemental water-heating is more efficient than storing hotter water in your hot water tank.
- If you have a solar system, coordinate hot water use with solar availability when possible.