



# Acorn Energy Co-op e-News

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Member Owned  
Renewable Energy Products and Services

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Dear ,

This is the 38th edition of the Acorn Energy Co-op's e-Newsletter, published periodically to keep you apprised of happenings in the Co-op and informed of upcoming events.

See below for news about:

- The Co-op's Latest Solar Project
- EV Presentation at SolarFest
- Heating Strategy Comparisons
- Cold Climate Heat Pump Info Session
- Valuable Membership Discounts

Finally, we encourage you to visit our website frequently at [www.acornenergycoop.com](http://www.acornenergycoop.com) to access the wealth of information about energy efficiency, renewable energy, and other money-saving strategies available there.

Please pass this e-Newsletter along to friends, neighbors and family who may not be aware of the Co-op and its activities and plans.

Thank you for your ongoing support,

The Acorn Energy Co-op Team



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## MNFC/MKF Project under construction

Those of you who attended our annual meeting back in March may recall our announcement of the collaborative solar project that we facilitated between the Middlebury Natural Foods Co-op, Misty Knoll Farm, and Encore Redevelopment of Burlington. We're excited to say that construction by the contractor, Peck Electric, began last week on the approximately 500-solar-panel project, located just east of Route 7 off Town Hill Road in New Haven.



Installation underway at Misty Knoll Farm.

The 150 kW array is being built by Encore without cost to either Misty Knoll Farm or MNFC. Both MNFC and Misty Knoll Farm will receive an annual payment as compensation for their roles as "off-taker" and site provider. The service term runs for an initial 20-years, beginning when the array starts to produce electricity, with a renewal option for an additional five years.

Misty Knoll Farm and MNFC have the option to purchase the array at a depreciated fair market value after the seventh anniversary of when MNFC begins using electricity generated by the array.

The project will increase the amount of locally-generated electricity in Addison County by around 190,000 kilowatt hours-enough to provide most of what MNFC consumes every year.

We are very pleased to have played a constructive role in getting this project off the ground.

### Electric Vehicle Presentation at SolarFest

Electric vehicles are becoming much more common, but few realize what a pivotal role they will likely play in future sustainable systems. Acorn Energy Co-op board member **Taborri Bruhl** will be discussing this issue at SolarFest on Sunday, July 20<sup>th</sup>, from 10:30-11:30 a.m.



His presentation, "**Electric Vehicles, Beyond the Basics**" will explore the current state of EV technology, rates of market penetration, and the potential for EV's as part of future renewable systems. Topics to be discussed will include new and in-development models, adoption rates and trends, charging infrastructure expansion, longevity of current EV battery packs and other components, current and likely battery advances, vehicle-to-grid and smart grid use of EVs, inductive charging, residential dwellings that support net-zero transportation, and how self-driving systems will likely affect public transportation and transportation in general.

Taborri will also participate in a panel discussion on Saturday

the 19<sup>th</sup> from 3-4 p.m., led by David Roberts of Drive Electric Vermont, where EV owners will discuss charging with solar panels and real-world driving experiences here in New England. If you're going to be attending SolarFest this year, check out both of these workshops!

## A Guide to Comparing Heating Sources

Are you interested in switching your heating system, or supplementing the one you have with a less costly system? Shown below is a table listing most of the fuel sources that you might want to compare. The column on the right estimates a common measurement that you can use to compare "apples to apples": dollars per million Btu's (MMBtu) delivered to the heating space. Not considered, however, is the cost of new systems because there is an extremely wide range of size, quality, and features, so showing averages would be misleading (there are local dealers ready to offer pricing for all heating units mentioned).

Therefore, we'll focus on the fuel cost itself, but first a caution. There are many factors that affect the fuel cost of a given system, new or old. Say you burn wood in a stove. Is it new enough to be tight and have a secondary burn feature that extracts heat out of the volatile gasses emitted from the primary combustion? How dry is your firewood? Also, average prices can vary with time and whether or not the fuel is delivered (e.g., pellets and firewood). So you should check your cost and operating efficiency numbers with our estimates to get a more accurate picture.

<b>Comparison of Heating Fuels</b>	Cost per MMBtu
<i>Fuel and type of Heating Unit</i>	Delivered as heat
No. 2 Fuel oil - boiler or furnace	\$33.97
Propane - boiler or furnace	\$47.90
Natural Gas - boiler or furnace	\$11.88
Wood Stove - hardwood	\$15.91
Wood Pellets - pellet stove	\$20.55
Wood Pellets - boiler	\$20.55
Electric - resistance heating	\$43.95
Electric - geothermal heating	\$12.56
Electric - cold climate heat pump	\$14.65

[Cost estimates above by AEC, based on a number of sources]

As you can see from the above chart, propane, electric resistance heating, and No.2 fuel oil, are at the high end of the heating cost range, while natural gas, geothermal heating, cold climate heat pumps, hard wood and pellets are in the lower cost range. Next month, we'll offer some detailed examples of reducing your heating costs (and perhaps your carbon footprint) by substituting (entirely or partially) one heating strategy for another."

## Cold Climate Heat Pump Presentation Draws a Crowd

The Cold Climate Heat Pump Information Session, held the evening of Wednesday, June 25 at the Ilsley Library



Community Room in downtown Middlebury was a great success. Despite the rain, over 60 Energy Co-op members as well as members of the general public crowded into the meeting room to hear the presentations, which featured Acorn Energy Co-op

board member Gary Barnett, and Rick Shappy from Middlebury's Structural Energy Corporation.

After their presentations, Gary and Rick took a series of excellent questions from the audience that covered a wide range of issues.

A video of the presentations is available at [Middlebury Community TV](#). The Acorn Energy Co-op sponsored the event as part of our ongoing Energy Education Series.

If you are seriously interested in finding out more about Cold Climate Heat Pumps, and our **member discount of \$300** off the cost of having one installed in your home, [visit our Website](#), or call Gwen Nagy-Benson at 385-1911.

### Partner Discounts Save Members Money!

Membership in the Acorn Energy Co-op can save you loads of money on your big renewable energy projects: 5% off a solar PV system, \$300 off the installation of a cold climate heat pump, or 30% off a solar hot water system. Many of our partners also offer discounts on smaller energy investments, such as energy audits, pellet stoves, or insulation materials, to name a few. But were you aware that your current Acorn Energy Co-op membership card also entitles you to **discounts on everyday purchases?**

You could stop at Main Street Stationery in Middlebury or Kimball Office Supplies in Bristol and pick up a few items at 10% off. Then head over to a Marbleworks Pharmacy branch for a birthday card and get 25% off (or 10% off any other non-prescription item). You can use your card for gifts too - 10% off a framing job at Otter Creek Custom Framing or 10% any non-sale item at Middlebury Mountaineer. Pick up a few bottles of wine at Vergennes Wine and Liquor (11% off 3 or more bottles) and get 10% off your bike repair at Little City Cycles. Or, if you're in Rutland, stop by Book King for 10% off regularly priced books or get 10% off your hotel stay at Mendon Mountain Orchards Motel. Your favorite restaurants offer discounts too: American Flatbread (Middlebury), A Single Pebble (Burlington), Mary's (Bristol), and Storm Café (Middlebury). A complete list of partners can be found [here](#).



Another Acorn partner, Junction Auto Center in New Haven, comes highly recommended from co-op member Graham Pringle. "I'm having a new muffler installed on my Subaru by Junction Auto, with the 10% Acorn discount on parts. A single

repair that includes parts can more than cover a member's annual dues, as it did for me a couple of years ago. My wife and I have always been extremely pleased with their work, as well as with their friendly service."

So don't forget to **keep your membership up-to-date** and to carry your card with you. If you remember to use it, it will pay for itself in no time!

### Don't Forget - Join or Renew Online!

It's easy to **join the co-op or renew your membership** online at our [website](#). To join, click on "**Join Today**." To renew, enter your username (your email address) and click on "**Forgot Your Password**" to set up your password.

## Upcoming Events

### SOLARFEST

July 18-20

Tinmouth, VT

20th year of the annual festival. All the details at <http://www.solarfest.org>.

## Some Helpful Links to More Renewable Energy Information

### [RENEWABLE ENERGY VERMONT](#)

Visit Renewable Energy Vermont's website for summaries on statewide renewable energy initiatives and incentives and professional training opportunities. REV is comprised of renewable energy companies, institutional and academic partners and concerned citizens of Vermont working to ensure the expansion of renewable energy statewide. Contact REV to locate your local renewable energy professional. REV members are available to speak to schools and civic groups on the many benefits of renewable energy.



### [EFFICIENCY VERMONT](#)

Efficiency Vermont provides technical assistance and financial incentives to Vermont households and businesses, to help them reduce their energy costs with energy-efficient equipment and lighting and with energy-efficient approaches to construction and renovation.



For years it focused on improving electrical costs. Several years ago it expanded and helped Vermont launch **Button Up! Vermont** to help homeowners improve the thermal envelope of their buildings for improved heating and cooling. You can go to its website and click on "**Ask the Home Team**" for common sense answers to your building efficiency questions.

In addition, don't miss the current Efficiency Vermont supported deals in your local hardware store on all types of efficient CFL and LED lighting.

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Thank you again for your continued support and enthusiasm. Our member-owned co-op continues to grow thanks to people like you. If you have specific questions about the Co-op, please e-mail us at [info@acornenergycoop.com](mailto:info@acornenergycoop.com) or call us at 802-385-1911.

Sincerely,

Greg Pahl, President  
Acorn Energy Co-op