

EAST MONTPELIER Signpost



Volume XXIV—Number One

Fall 2013

THE ENERGY ISSUE

Washington Electric Co-op, Vital Partner in Saving Energy

by Michelle A.L. Singer



The powerful WEC women:

Beth Ouellette, Dawn Johnson, Susan Golden, Elaine Gonier & Patty Richards

When we sat down to plan the *Signpost* issue on alternative energy use in East Montpelier, someone immediately exclaimed, "I heard that Washington Electric Co-op (WEC) is the only power company in the U.S. with all of its power investments in renewable resources." We decided instantly that if true, this story about our local cooperative should be featured.

One call to Patty Richards, new general manager of WEC but a 24-year veteran of the electric utility industry, including working with WEC, gave us our answer. "WEC has invested in power that originates solely from renewable resources. We are certainly one of few that can make that claim." Renewable power sources are sustainable; they don't deplete. WEC's power sources include wind, water (hydro), and the Coventry Land Fill project that turns methane gas, a natural by-product of decaying trash, into fuel for combustion engines. This

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Mark & Charlie Catlin & friends

Off and On the Grid

by Charlie Catlin

I remember the definition of "energy" as "the ability to do work." Over our forty-four years together, Mark and I have thought a lot about where to get that energy. In the early 1970s we built a stone house, following the techniques used by Helen and Scott Nearing. Our house was not connected to the power company's lines; we were "off the grid." We used wood for heating and cooking, and we had a gravity-feed water system. We didn't have kids yet, and we had free access to all the stones we wanted from a friend's stream.

Fast forward to 1998, three kids, and several houses later. We were empty-nesters looking to downsize. The use of energy was becoming a huge concern as the world became aware not only of the cost of energy, but also, and more importantly, the impact of different kinds of energy use on the planet. We became interested in the viability of using solar energy instead of fossil fuels.

We contacted Leigh Seddon, at Solar Works, an alternative energy consultant in Montpelier. He was willing to work with local

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Top of the *Signpost*

East Montpelier Folks Use Alternative Energy

by Edie Miller

The idea to focus this issue of the *Signpost* on the use of alternative energy by East Montpelier individuals, groups and organizations has allowed us to tap into a deep well. The stories told here just begin to describe the experiences of residents trying to decrease their carbon footprints in a variety of ways and for many reasons. We hope that the personal experiences described here will encourage others to think about ways, large and small, to do things differently and in the process save wear and tear on our planet and on our pocketbooks.

East Montpelier's Home Energy Challenge: Get Onboard

by Emily Levin

East Montpelier is one of 77 towns participating in the 2013 Vermont Home Energy Challenge. Statewide, the goal is to get 80,000 homes weatherized by 2020. Right here in East Montpelier, our Energy Committee has a goal to weatherize 33 homes in 2013.

Many Vermont homes can save \$500-1,000 a year in home heating costs by sealing air leaks and adding insulation. The first step is to get a professional energy audit and blower door test on your home. You'll get a comprehensive evaluation of your house's insulation, air flow, heating system, lighting, appliances, and windows. The contractor will give you specific recommendations to improve the efficiency of your home, including predicted cost savings.

If you decide to complete the recommended work, rebates are available from Efficiency Vermont and energy efficiency loans are available from a number of local banks and credit unions. You can even do the work yourself and still qualify for the rebates.

Now is the time to do that energy efficiency project you've been putting off. You'll help East Montpelier meet its Energy Challenge goal, and be able to take advantage of limited time offers from Efficiency Vermont:

- A \$100 discount on an energy audit.
- Up to \$2,000 upon completing qualifying energy efficiency improvements.
- An additional \$500 bonus for completing the improvements by December 31, 2013.

For more information or to find a contractor, connect with Efficiency Vermont at 888-921-5990 or www.encyvermont.com/homeperformance. Or contact Emily Levin of the East Montpelier Energy Committee at emilylevin@gmail.com.

East Montpelier Charter Discussion October 9 at U-32 Cafeteria

By Edie Miller

Vermont state law allows municipalities to change aspects of their governance structure by creating a charter which must be approved first by a vote of its residents and then by the state legislature. In other words, a municipal (town) charter for East Montpelier would change state law only with respect to how things operate in this town.

Since the selectboard (SB) created the East Montpelier Charter Committee this spring, the group has been researching and analyzing the issues suggested by the SB for potential inclusion in a charter for East Montpelier as well as following up with other ideas. Now the group is preparing to share its preliminary work seeking both feedback and suggestions at 7 pm on Wednesday, October 9, at the U-32 cafeteria. The committee hopes to complete its work in time for a charter proposal to be included on the Town Meeting ballot in March.

The focus of issues under consideration is to make the governing structures of the town more effective. We will recommend that some positions, such as treasurer, which have become more complex over the years and require specific skills, become employees of the town hired by the select-

board. Other positions are being examined also with an eye to whether they should be elected or hired or, in a few cases, abolished because they no longer have any independent function.

We are examining how to bring consistency to the way various groups operate—for instance by making sure all persons working on behalf of the town are subject to an enforceable conflict-of-interest policy. In some cases, the committee will recommend that items be included in a charter if that is the only or the best way to accomplish what needs to be done. For other things, the recommendation may be for the town to create an ordinance that doesn't require legislative approval.

Members of the Charter Committee are Edie Miller, chair; Richard Brock, vice-chair; Carl Etnier, secretary; Ed Deegan, Michael Duane, Karen Gramer, Norman Hill, Rick Mastelli, Jack Pauly, Julie Potter and Kim Watson. Please contact the chair at emillervt@comcast.net or any other member with your ideas or questions.

Please come to the U-32 cafeteria on Wednesday, October 9 at 7 pm and be part of this important process.

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Paulie's Recipes

Mince Meat

- 3 lbs. lean beef
- 1/2 lb. suet
- 5 qts. chopped apples
- 5 lbs. sugar or part or all maple if desired
- 3 lbs. raisins
- 3 lbs. currants
- 3 doz. oranges
- 1/2 doz. lemons grated rind of 2 each
- 1/2 package cinnamon (start with 1 tbs)
- 1 tbs. cloves
- 1 tbs. allspice
- 1 tbs. nutmeg
- Salt your meat well
- 1 pt. boiled cider or more if desired
- Cook all together well.

by Mrs. Lewis Coburn (Dave Coburn's grandmother)

—From *Friendly Circle Community Cook Book*

architects Greg Gossins and Tom Bachman to design a house for us that was “off the grid” —only this time we wanted electricity in our house.

Our ten-acre, south-facing lot in East Montpelier was, at that time, a half mile from any power lines. We installed a system with 16 two-watt solar panels, a 3.2 KW display. The energy captured from the sun by these panels is stored in 24 deep cell marine batteries in our basement. The design of our house and its orientation take full advantage of passive solar energy.

Our system was exactly what we wanted. We buy the most energy-efficient appliances available. We use power strips for plugged-in appliances. This allows us to completely turn off televisions, alarm clocks, computers, and many other electric appliances. In fact, many appliances are constantly drawing energy in the form of lights or internal parts which are designed to stay “warmed up” and snap instantly to life when the switch is flipped.

It’s 2013 and we are “on the grid” because we now have net metering. Due to the increase in the number of new houses on our road, there are now power lines that run right by our driveway. When we heard of the law that requires power companies to buy back any power that a consumer has to sell, we knew it would be advantageous to connect to the power grid. Our panels keep our batteries full when there’s sun, but when the batteries are low, the system seamlessly switches to the power lines and tides us over until the sun gets back to work.

There’s no doubt we take pride in trying to be responsible stewards of our resources. There are good and bad choices we make every day that have an impact on the health of our planet. We’ll never be perfect, but even doing a little bit feels good.

Doing All We Can

by Tony Klein

We have lived in our 1967 raised ranch since 1986. We have always used propane as our heat, cooking and dryer fuel and to fire Jennifer’s pottery kiln. Over the years as the price of propane and electricity continued to rise, we did all the reasonable things that we knew to make our home more efficient and, just as important, more comfortable. We had more blown-in insulation added to our attic, replaced storm doors, and finally replaced almost every window in the house. But we never had an official Efficiency Vermont energy audit to see whether or not we did the right things or whether what we had already done actually reduced our energy use. Finally, just this past spring, we had an official audit.

Our house actually came through with flying colors. There is nothing more that is cost effective that we can reasonably do to the house to make it more energy-efficient. However Jennifer’s pottery studio was a different story. With the help of Efficiency Vermont we were able make some \$4,000 worth of improvements and gain 60% efficiency. And with all the incentives, our out-of-pocket cost was about \$1,000. Well worth the investment!

Finally, we have just installed in our home an air-source heat pump system. This will provide us much needed air conditioning in the summer and should greatly reduce our propane heating use and costs while not greatly increasing our electricity use in the winter. Coupled with the fact that our electric utility, WEC, provides our electricity with mostly renewable energy, we feel good about any minor increase in our electric use, especially since our propane consumption will be greatly reduced. We’ll let you know how this all worked out next spring!



TERRY ALLEN

Art checks out the masonry heater.

Decades of Energy Saving

by Art and Jo Chickering

When we moved back to East Montpelier after being out of state for 19 years, we carved out eleven acres from the homestead we bought back in 1964. With expert help from sons-in-law John Ayers and Kris Hammer we built a story and a half, nineteen hundred square foot, timber frame house. We wrapped it in six inch stress skin panels and used triple glazed windows. Jim Pearson built us a “masonry heater”—a large brick mass like a Russian stove. It has a fire box that takes 12-20 inch wood with a four-burner cook surface that we can also bake in. In the fire box we installed a water front that thermally circulates water from an upstairs tank to preheat water for our propane heater. It also has an inside six-inch pipe that takes air from the cellar upstairs. We included a small fireplace, mainly for aesthetics when we entertain.

About three and a half cords of wood comfortably heat our whole house, even during 20-below-zero weather. The water from our drilled well comes in at 46 degrees but is up to 80 degrees or so by the time it gets to the propane heater in the winter and is in the 60s during the summer. When Andy Shapiro did his inspection and blower door test we got a 5 Star + energy efficiency rating.

For the last 17 years thinning our eleven-acre plot has supplied all the wood we need. We made the enlarged garage floor the same level as the house so I can wheel well-seasoned wood from a two-year supply in next to the fire box.

During fall and spring, when it is too warm to fire up the heater, a smaller Rinnai takes the morning chill off. That and the hot water heater use about 160 gallons of propane a year. With an electric stove and frig, and energy-efficient light bulbs throughout, we buy 8 KWH per day from Washington Electric.



Steve and his electrifying alpacas.

Using the Hayfield to Save Electricity

by Martha Holden

When I built in 2005 I sited the house for optimal solar gain—and thankfully put in good windows so the heat this summer hasn't been too horrific. Given the design of the house and the way I live, Jim Grundy (the saint, may he rest in peace and rise in glory to a greener and healthier world) decided that solar hot water wouldn't make sense, but photovoltaic panels would.

Given the siting, it made the most sense to have a freestanding solar array down in the meadow-hayfield. Because it might be pasture at some point, he put the array high enough above the ground so that itchy heifers wouldn't be scratching against it.

Whether I have made up the initial investments in these few years, I doubt, but it feels very much worth it. The electricity excess over what I use goes into the grid via Washington Electric Co-op. In the winter months I don't make as much as I use, but every year, overall, I end up having made more than I used. The only problem is that I am less frugal with electricity than I otherwise would be—not that I really squander it, but I am more generous with myself than is appropriate given that we all share.

Saving Energy Is No Miracle

by Steve Miracle

We live on Barnes Road in a house that was built in 1985. The house was constructed with energy-saving measures in mind, but poor workmanship and inherent design flaws made it somewhat uncomfortable especially in the winter. There was

excessive infiltration with a strong chimney effect pulling cold air into the cellar and sending all the heat out through the attic. The wood/coal-fired boiler was so inefficient we stopped using it and were throwing six cords of wood into a Defiant in the living room. It was not the best setup.

When the roof began leaking we refinanced and started in on a major renovation. This included a redesign of the front of the house so as to capture more passive solar heat during the winter, and we were then able to better insulate a good portion of the exterior walls. We also added a thick layer of foam on the inside of the roof and sealed and insulated the rim joist in the cellar. This, along with new windows, made a huge reduction in air infiltration and radiant heat loss.

Then we added solar thermal panels on the roof of the house that make about half our hot water, and a new propane boiler for the other half. These reduce the cost of heating during the spring and fall. We also put in a pellet-burning boiler to heat the house when it's below freezing and to heat water—further reducing our propane consumption.

To reduce our electric burden on the grid, and take advantage of the \$.06/kwh GMP offers, we put 4,600 watts of photovoltaic panels on the garage roof. Now all this stuff is expensive, and we're not rich so it took some courage to make the leap, but from the other side it feels pretty good. All the systems were installed properly and are working well so over time they will pay for themselves. The house is much more comfortable with more even temperature and humidity and our utility bills are greatly reduced. I have to say though, it was a lot of work and we're still not done.

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Town Offices

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Friday 9 AM–12 PM

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eastmonttct@comcast.net

Town Treasurer: Don Welch
eastmonttr@comcast.net

Town /Zoning Administrator: Bruce Johnson
eastmontadmin@comcast.net
Hours: Mon.-Fri. 9AM-5PM

Collector of Delinquent Taxes: Karen Gramer
karengramer@comcast.net

Fire Permits: EMFD 225-6247

First Constable/Animal Control Officer:
Sandy Conti 479-3169

2nd Constable: Paul Haynes 223-1651

Listers: Rob Chickering, Putnam Clayton, Ross Hazel
223-3313 x206, eastmontlstr@comcast.net

Health Officer: Dave Grundy 476-4300

Service Officer: Rachael Grossman
223-3177

Selectboard

Seth Gardner, Chair
sethgardner@hotmail.com

Carl Etnier Casey Northrup
Steve Sparrow Kim Swasey

Planning Commission

Rick Hopkins, Chair, 229-4375

Development Review Board

Richard Curtis, Chair
rcurtis841@comcast.net

U-32 Jr./Sr. High School

Kari Bradley@u32.org
Emily Goyette egoyette@u32.org

Elementary School

Rubin Bennett, Chair
rbennett@thatitguy.com

Kimberly Kendall Priscilla Gilbert
Stephen Looke Flor Diaz-Smith

State Representative

Tony Klein, 793-6032
twk@tonyklein.com

Town Weathervane

MILESTONES*

Milestones

Births

- James Francis Bair, son, born March 24, 2013 to Leila & Daniel Bair
- Cora Grogan Badillo, daughter, born May 9, 2013 to Alison Grogan & Howard Badillo
- Liam Allen James LaFountain-Powers, son, born June 18, 2013 to Jaimie LaFountain & Justin Powers
- Orion Sage McCormick, son, born June 23, 2013 to Marya Sunflower Gendron & Nicholas McCormick
- Mikeljon Hollister St. Cyr Mascitti, son, born June 24, 2013 to Emily & Mikeljon Mascitti
- Zoe Tate Pryce, daughter, born July 19, 2013 to Sara & Spencer Pryce
- Russell Van Den Berg, son, born August 16, 2013 to Laura Stone & Nicholas Roger Van Den Berg

Deaths

- Maurice LaPerle died April 5, 2013, longtime E. Montpelier resident
- Stanley Dale Goodrich died April 18, 2013, spouse of Helen Payette
- Paul Louis Seguin died April 24, 2013, spouse of Millicent Fleurrey
- Richard Joseph Weeks died May 1, 2013, spouse of Ruth Brehaut
- Earl Julian Montague died May 11, 2013, father of Arthur Montague
- Sally Shepard Longhi died June 10, 2013, mother of Christopher Longhi and Julia Haynes
- Alexander Paul Kowalewicz Jeldres died June 29, 2013

Marriages

- Clara Elizabeth Hall & Dana Barton Ayer, July 6, 2013
- Lisa Mase & Ryan Case, July 13, 2013
- Jenny Rebecca Prosser & Sarah Anne Lindberg, August 17, 2013
- Ami Virginia Curtis & Nathan Edwin Rankin, August 17, 2013
- Kimberly Ann Foran & Robert Jewett Kimball, August 24, 2013

Property Transfers

- Daniel & Angelina Buzzi to Johannes Wheeldon & Elizabeth Suiter, single family dwelling & 3.20 acres, Wheeler Rd
- Carol McKenna & Michael Thiemann to Lara Sobel & Tim Faryiarz, single family dwelling & 16.55 acres, Lyle Young Rd
- Bruce & Joan Richardson to Bruce & Joan Richardson, Amy Jo Williams, Bradley Richardson, & Cory Richardson, single family dwelling & 4.08 acres, Bragg Hill Rd

- Timothy & Carmon Pudvah to Ronald & Emily Marion, single family dwelling & 3.0 acres, Phillips Rd
- Darrell Sprague to Monica Kulp, single family dwelling & 13.59 acres, Old Trail Rd
- Raymond & Jody Brown Trust to Kevin Ellis & Kimberly Hackett, single family dwelling & 0.77 acres, County Rd
- Sally Kelly to Amanda Blake & Gregory Allard, single family dwelling & 0.91 acres, US2
- Clayton & Joyce Copping to Julie Burnor, single family dwelling & 2.00 acres, VT14N
- David Spidle to Ryan & Kelsi Alger, mobile home, Sandy Pines Rd
- State of Vermont Agency of Transportation to The Old Brick Church United Church of East Montpelier, 0.02 acres, VT14
- Town of East Montpelier to East Montpelier School District, easement, Vincent Flats Rd
- William & Catherine Swift to Steve Folsom, mobile home & 1.5 acres, Drake Rd
- Phillip Crawford & Joshua Keels to Robert & Julie Brown, single family dwelling & 1.64 acres, Barnes Rd
- Travis & Hilary Paquet to The Paquet Living Trust, single family dwelling & 2.31 acres
- Brendan Johnson to Natalie Jarnis & Seth Chapell, multi-family dwelling & 8.10 acres, Sanders Circle
- Susan Rounds to Tregea Bevan, mobile home & 7.02 acres, Guyette Rd.
- Donald & Rosemarie Runnalls to East Montpelier Acres LLC, 36.5 acres, US2
- Julie Rochat & Mark McEathron to Karen Vatz & David Pasco, single family dwelling & 10.10 acres, Hagggett Rd
- Kevin Spidle & Susanna Paye to David Spidle, mobile home, Sandy Pines Rd
- Justin Sayers & Carley Coffey to David Nault & Lindsay Guillette, mobile home, Robinson Rd
- Donald & Barbara Cote to Jason Cote-Wong & Elizabeth Bevins, single family dwelling & 3.60 acres, US2
- William Craig, Trustee, Riley Craig Trust to William Craig, single family dwelling & 26 acres, North St
- Roger & Barbara Clark to Roger, Barbara, & Stephen Clark, 74.10 acres, Dodge Rd
- Alan & Janice Aldrich to Aldrich Family Trust, single family dwelling & 0.34 acres, Quaker Rd
- Randolph Donald to US Bank National Association, mobile home & 1.57 acres, Pine Ridge Rd
- James & Janetlee Goodall to Justin Sayers & Carley Coffey, single family dwelling & 8.10 acres, Clarke Rd.

Continued on page 7



EMES Project on Time, on Budget, and Decreasing Carbon Footprint

by Flor Diaz Smith

Kids are back to school, and the renovation project continues on time and within budget. A big thank you to Wright and Morrissey's Inc., TruexCullins Architects, Alicia Lyford our project manager, Bill Ford our clerk of the works, and our school staff for doing an amazing job of getting the school ready on time.

Right in step with the focus of this issue, the renovation project includes many energy conservation upgrades.

Examples include:

- Building walls will get 4" of foil-faced foam on the inside—a 4-fold improvement over most of what is now in place.
- Windows will be new triple-glazed R-5 windows, another 4-fold improvement.
- Air leakage will be reduced significantly.
- Each classroom will have its own energy-recovery ventilator, which will automatically adjust the airflow to the number of occupants, saving energy while maintaining optimum air quality. The old system over-ventilates, causing excessive (and sometimes severe)

dryness in the winter. The higher moisture levels are healthier and more comfortable.

- New controls for the building will allow central monitoring and control as well as remote check-in on systems to help systems stay in top operating condition.
- The lower heat load combined with the new controls will allow the wood-chip boiler to make a higher percentage of the heat and hot water, so we will use less oil, saving money and carbon dioxide emissions.
- New lighting will be two-level to allow adjustment of light levels for the best learning environment and to save energy. Lights near the windows can be turned off separately from other lights, and occupancy sensors (required by code now) will turn off the lights if you forget to when you leave the room.

The renovated building—including the addition—will require less heat load, even though space is being added.

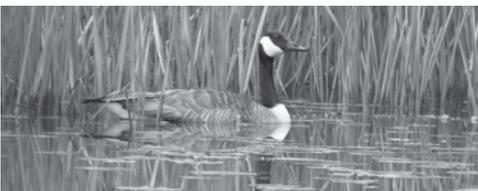
Andy Shapiro will be on site periodically, keeping an eye on all this during construction, to help ensure all our energy upgrades are properly implemented. Please feel free to contact him with any questions or comments about the energy features of the building at 229-5676. He's happy to share more detail for those interested.

Please visit the Facilities blog <http://emesfacilities.blogspot.com/> and if you have any questions about the project please email Alicia Lyford alyford@u32.org or Flor Diaz Smith diazsmith.flor@gmail.com

Continued from page 6

- Shellie & Linda Janawicz to Kevin Spidle & Susanna Paye, mobile home, Sandy Pines Rd
- Kyle Gover to Marie Baril, mobile home, Robinson Rd
- Teresa Doyle to Teresa Doyle & Christopher Reed, single family dwelling & 1.5 acres, VT214
- Estate of Robert Vivian to Stephen & Andrew Ribolini, single family dwelling, farm buildings, & 2.00 acres, County Rd
- Edward Burgess to Christie Burgess, single family dwelling & 1 acre, Cherry Tree Hill Rd
- Peter & Vera Pratt to Christopher Pratt, single family dwelling & 7.60 acres, Johnson Rd
- Morris Wyman to Fairmont Farms, 120.2 acres, US2

*Due to lack of space, minutes of meetings of EM's civic boards may be found on the Signpost website at www.emsignpost.com.



PACE Clean Energy Financing Now Available in EM

What if you could make your home more energy-efficient and comfortable, and the project would pay for itself? With Property Assessed Clean Energy, or PACE, the annual energy savings can be higher than the loan payments on many qualifying projects. Efficiency Vermont recently opened a subscription period to homeowners in towns that have voted to enable and implement the PACE program, including East Montpelier. That means homeowners can now apply for PACE financing for their energy efficiency and renewable energy projects.

PACE allows homeowners to make a wide range of approved energy investments—efficiency retrofits, solar hot water, solar PV, pellet stoves and more—without taking out a bank loan. It provides flexibility for those who might not know how long they will stay in their homes, like young families or older folks. The assessment costs stay with the property, not the person, if the home is sold. Unlike a traditional bank loan, the PACE program also allows people to make the energy investment today, and then pay back the cost of that investment over a much longer period—up to 20 years.

PACE financing will be available several times a year, and this first subscription period is for projects completed by Dec. 31.

Find out more about the steps to participate in PACE at www.encyvermont.com/pace, or contact Efficiency Vermont at 888-921-5990 or pace@efficiencyvermont.com.



TERRY J. ALLEN

Kingsbury Dam, 200+ Years of Renewable Energy

by Robby Porter

Since the 1790s, with a few interruptions, a wheel of some design has been capturing the energy of falling water in North Montpelier and turning it to a useful purpose. The efforts of the first mill were consumed locally as lumber or flour and then more widely as the mill started producing woolen textiles. In 1983, after being unused for more than a decade, Tom Stuwe and Bill Porter (of Adamant) revived the mill as a hydroelectric facility, and it started pushing electrons into the New England grid. The hydro plant, now owned by Robby and Beth Ann Porter, still sends electricity into the grid, but since July of 2012, through a group net metering contract between U-32 and Kingsbury Hydro, that renewable energy is once again consumed locally.

The easiest way to understand group net metering is to think of the electric grid as a bank. Kingsbury generates electricity and pushes it into the grid/bank. This electricity production is metered and credited to U-32 and WCSU's meters/accounts where it offsets their consumption. The offset consumption results in cost savings for U-32. For the first year of group net metering U-32 saved approximately \$11,000 in electricity costs.

The group net metering partnership makes sense financially for U-32 and Kingsbury, but it makes sense in other important ways as well. The connection with Kingsbury is an opportunity for U-32 students to study the history of a local energy source and how it fits into the current state of renewable energy generation in Vermont. For Kingsbury, U-32 is a well-fitting, local partner with electricity usage that lessens in the summer months just like the water flow in the Kingsbury Branch.

Neighbors Helping Neighbors

by Doug and Renee Kievit-Kylar

More than 25 years ago with the spirit of Thoreau in our hearts, a box of building books in our hands, and a cardboard mass model of a house, we set out to convince a loan officer at the Northfield Savings Bank that we could build our own house. In the end, she only wanted to know how much we proposed to borrow. We had absolutely no idea. It wasn't until after we'd gotten a local lumber yard to do a "take off" on our blueprints and estimates for work to be contracted out that we could return to the bank with the one answer they were truly interested in.

From today's vantage point, that seems like an eternity ago—and likely not a possibility for owner-builders today. But that was the case then, and it allowed us to build a timber-framed, super-insulated passive solar home that allowed us to keep ourselves warm each winter with no more than two and a half to three cords of wood. More recently, when the stock market collapsed, we finally decided to make the investment we'd always intended to make. Facing solar south, with a broad and

uninterrupted solar horizon and with a 45 degree pitched roof, the house was designed to take advantage of solar energy.



Jim & Nancy Grundy

Late in 2007 we contacted Jim and Nancy Grundy at East Montpelier's own Elemental Energy about installing

photovoltaic panels to begin generating our own electrical energy.

In 2008 Jim steered us through the process of securing a certificate of public good, and he and his small crew completed placement of 15 photovoltaic panels on the roof. Grid-tied, the system is design-rated to produce 2,925 watts—meeting nearly our entire electrical energy demand. To date the system has generated nearly 16,000 kilowatt-hours.

Thank you, Jim and Nancy. Jim died peacefully in his sleep on May 16, 2011. He is missed by many.

Solar Hot Water System

by Dave Grundy

I purchased a two-panel solar hot water system quite a number of years ago. It is mounted at ground level, so I can keep the snow off during the winter months. Many folks feel that, with our cloudy weather, it is not feasible to try to make hot water in Vermont with a solar collector. My experience belies that myth. It should be emphasized that the panels collect light. It doesn't have to be blazing sunlight. Even the light

that hits the panels on a cloudy day can be collected and converted to heat.

Mine is a flat-plate system that uses propylene glycol as the liquid which is pumped through the panels and into a heat exchange tank in my basement. I use a propane water heater if the heat collection is not sufficient.

What I can say is that I am still amazed at the ability of the system to make hot water on cloudy or winter days. I will be in my basement on a day that I would not expect the system to work, and it will kick on. I have not done an analysis of the savings in propane compared to the cost of the system. I was able to purchase the system used, at very low price, and my son installed it for me. So, my experience would not be typical. The system has required minimal service, and I expect it to last a long time.

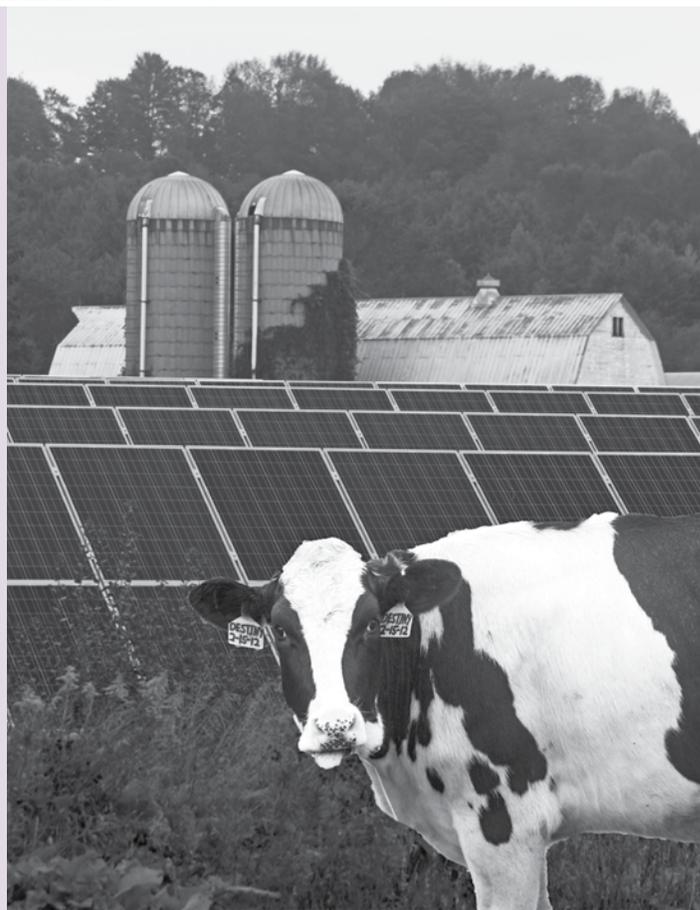
Technology Plus Conservation Equals Saved Energy

by Sari Wolf as told to Barbara Ploof

When my 200-year-old house on Lyle Young Road burned down in 2005, I realized that replicating it would not really get it back, so I turned to a new plan: building an energy-efficient home hoping to become free of fossil fuel use. I now have a five-star energy-rated house. Efficiency Vermont recommended builders that would make the structure as energy-efficient as possible. When the house was complete, Efficiency Vermont conducted a blower door test and it received a number one rating—pretty much unheard of. The builders had done a great job.

I had solar panels installed on the roof to heat my hot water, and a photovoltaic panel on a tracker supplies one-half to one-third of my other electrical needs. Excess electricity is sent out to the grid. I'm very careful with electrical use. All appliances are energy-star rated, all light bulbs are CFLs, all electronic equipment is on surge protectors which are turned off when the equipment is not in use. I also dry clothes on a line, summer and winter, and turn off lights when not in use.

In 2005 I had an efficient oil furnace installed for hot water baseboard heat and planned to use bio-diesel fuel, but it didn't become available. Because I had hoped to stop using oil, I explored the possibility of heating with a heat pump. In 2011 I had a deep well dug which provided the water from which the heat could be extracted. It was estimated that even though the heat pump uses electricity, the overall cost to heat the house would be reduced by at least one-third. But in February the heat pump failed, and I had to revert to the oil furnace. I plan to have a different brand of pump installed this year and am still committed to the goal of using no fossil fuel.



TERRY J. ALLEN / COMPOSIT PHOTO

Destiny goes solar at the McKnight Farm.

Farming with Solar

By Sophia Gardner and Kim Watson

Seth Gardner, an organic dairy farmer residing in East Montpelier at the intersection of Snow Hill Road and Kelton Road, recently installed 416 solar panels in a field next to his farm. Seth decided to install the solar panels to meet long-term needs for energy. In addition, he wanted to have a fixed power bill (the monthly loan payment) instead of dealing with the rising costs of non-renewable energy.

Seth made the decision to reduce his carbon footprint and increase sustainability in the spring of 2012. He started the construction process in December 2012, working with WEC, VEDA, and Catamount Solar (owned by Kevin McCollister of East Montpelier) on the plans, funding, and construction costs. Seth did the site work and formed the concrete on a portion of land which is the buffer zone between the organic pasture and non-organic field (non-usable to an organic farmer). The solar system was constructed by Catamount Solar and was online by January 2013. The system is projected to make 100 kilowatts per hour in full sun, and 100,000 kilowatts over the course of a year.

Seth's farm, the McKnight Farm, uses electricity for almost everything, including milking, lighting, ventilation, cooling and

Continued on page 8

circulating milk, and household needs. About 71% of the power is allocated to the barn, 10% to the house, and 18.5% for lighting in the freestall area—with an additional 0.5% required to convert the power and keep the meter going. Seth has fulfilled his long-term dream of energy independence and making his own power. The system has been easy to maintain and convenient, and he enjoys not having a power bill.

Bicycling—Not Just for Fun Anymore

By Carl Etnier

Perhaps surprisingly for a rural state, Vermont is ranked second in percentage of people walking or bicycling to work according to the most recent numbers from the Alliance for Biking and Walking. (In first place is the even colder, more rural state of Alaska.) And Vermont ties with South Dakota as being the safest state for bicycling, with NO deaths annually per 10,000 daily bicyclists. (Yes, 0.)

My impression is that everyday, practical cycling is on the rise even in hilly, rural East Montpelier. Nationwide, the number of commuters bicycling to work in the first decade of this century increased 57%. I've noticed the rise in cyclists both in East Montpelier and Montpelier. Even in winter, when I used to be almost the only cyclist on the road, I now see plenty of other warmly-clad commuters. Hopefully, most of them have also discovered the amazing advantages of studded bike tires.

No way of commuting beats the clear-headed feeling of coming in to work from a bike ride. It's no wonder that study after

study shows that bicycle commuters have higher on-the-job productivity than their colleagues.

Our town's narrow, winding roads can be an impediment to cycling, but one simple trick can make a world of difference. The Ride Smart program of the League of American Bicyclists has the mantra, "Bicyclists fare best when they act and are treated as drivers of vehicles." That means, for example, act predictably; obey traffic laws. Take the left lane when you're turning left at an intersection. And if the lane is too narrow for a car to pass in the same lane with four feet clearance, and the road is too winding or hilly to see oncoming traffic, then get in the middle of the lane to signal to drivers to wait until they can see it's safe before they pass. Bicyclists are part of traffic, too.

Signpost Update

Signpost volunteers continue with plans to cut expenses for this year by publishing just two issues—fall and spring—rather than the usual four. After losing our major fundraiser (the Rally Day Silent Auction), we devised this short-term strategy, and plan to ask the town for ongoing funding.

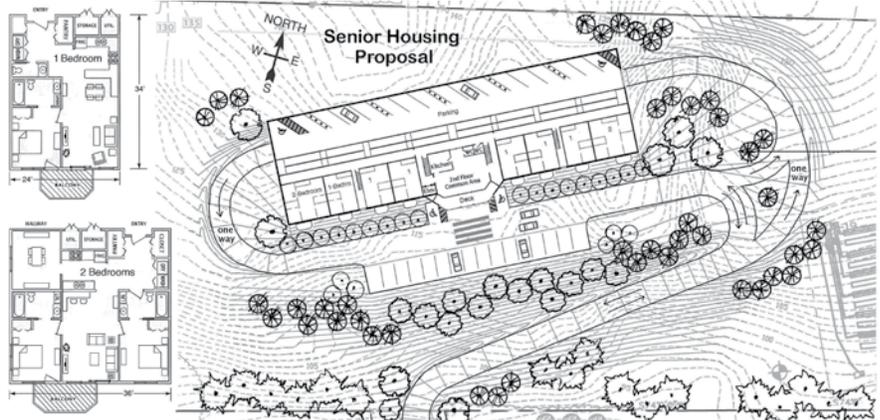
For some time the selectboard has generously offered to help fund the Signpost. But, we would like residents to determine at Town Meeting whether the Signpost should continue and how. If you are willing to collect signatures to put this on the ballot, please contact Edie Miller at signposteam@comcast.net.

Senior Housing Plans Energy Features

by Ross Hazel

EMSLI (East Montpelier Senior Living Initiative) was founded in 2005 with the goal of providing affordable housing for seniors within our town. We have a contract to purchase a property in the village and are working to secure permits and funding. A major task of this project will be to construct an energy-efficient building with the smallest carbon footprint practical. Here are our planned strategies:

- All apartments under one roof, reducing heat loss in winter and heat gain in summer from exposed walls
- Orient the building with all large windows facing southeast for good winter solar gain and reduced summer gain.
- Covered garage to shield living areas from north winds, with hallway



between garage and apartments serving as an airlock

- White roof to reflect summer sun's heat, reducing heat gain and need for air conditioning
- Heat (and cool) with water-sourced heat pumps, by transferring heat from groundwater to heating system in the winter and vice-versa from air-conditioning system in the summer. Conservative estimate of efficiency of this process is three times greater than

- heating directly with electricity
- Install solar panels on south-sloping hillside. One year of electricity credits earned from the solar panels, leveraged with efficiency of heat pumps, could provide free heat and may also reduce overall electrical costs

Interested in living in such a space? Please let us know so we can add your name to the prospective residents' waiting list. Contact Ross Hazel 454-1255 rhazel@ezcloud.com

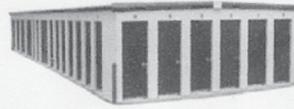
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(relatively) new addition to WEC's power portfolio now generates 55% of its power and is expected to provide as much as 75% in the future. "Not many utilities can tout this mix of power investments," says Richards. WEC sells 60% of its mix through renewable energy credits but it retains roughly 40% renewable power in its mix which is predominantly hydro-based.

By contrast, in the United States nationwide, 40% of power is generated by the burning of coal, 30% natural gas, and 20% nuclear power. Renewable resources create only 10% of the power consumed in the nation. It's no accident that East Montpelier looks different from the rest of the country. "There has been a large push in the last 30 years," says Richards, "from a group of active WEC board members to replace oil and nuclear-based power with renewable sources. Over time, dedicated members were able to move the portfolio to what it is today which is dominated by renewable resources. That's a big deal—the result of an active strategy."

Richards is quick to point out that WEC took cost as seriously as renewability. "WEC has one of the least expensive portfolios in the state, region, and even nationally." WEC's kilowatt-hour cost is one of the lowest in the state at seven cents. And this cost is before counting revenue from selling renewable energy credits. The

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largest drivers of WEC's costs are fixed: the cost of the wires, poles and infrastructure to move power. Because East Montpelier has fewer houses per mile than other places, it means that the cost of poles, lines, and maintenance is shared by fewer people. Therefore, the cost to members of WEC is not necessarily low even

if the cost of generating the power is. This is the cost we pay for the space we enjoy, and most think it's worth it.

I asked about recent changes in WEC's policy on net metering (buying back power made by individuals). Richards explained that WEC has exceeded the state's requirement by 50% and continues to accept applications. However as of October 1, it will consider only smaller systems—5 kilowatts and under. WEC actively supports net metering and is working with lawmakers to modify the law to assure that the program is sustainable into the future.

I encourage those who are curious to read WEC's newsletter *Co-op Currents*, visit their website, www.washingtonelectric.coop or stop by the WEC building for a conversation about power in our community. It was a worthwhile education to learn the details of where our power comes from and why. It was another moment when I've been proud of this corner of Vermont.

—Michelle Singer is a mother of three, writer and editor, and lives in East Montpelier.

CALENDAR

- **Sat. Oct 5, 12 p.m., 5 p.m. & 7 p.m.:** Chicken Pie at Old Meeting House, \$12 adults, \$6 kids. Reservations needed 223-6934
- **Wed. Oct 9, 7 p.m.:** EM Charter Committee Update at U-32 cafeteria. Come and share your ideas about how EM might be governed more effectively

&

IMPORTANT DATES

- **Mon. Nov. 11:** Veteran's Day, Town Office closed
- **Fri. Nov. 15:** Property Tax installment due by 5:00 pm to avoid late payment interest of 1% and 8% penalty
- **Thurs. Nov. 21 & Fri. Nov. 22:** Thanksgiving—Town Office closed
- **Wed. Dec. 25:** Christmas—Town Office closed
- **Wed. Jan. 1, 2014:** New Year's Day—Town Office closed

Deadline for Next Issue: January 24, 2014

COMMITTEE MEETINGS

Conservation Fund Advisory Committee	as needed 7:30 p.m.	Town Office Building
Development Review Board (DRB)	1st & 3rd Tues 7:00 p.m.	Town Office Building
East Montpelier Charter Committee	2nd and 4th Wed 7 p.m.	Town Office Building
East Montpelier Elementary School Board (EMES)	3rd Mon 6:30 p.m.	Elementary School
East Montpelier Fire Department (EMFD)	Every Tues 7:00 p.m.	EMFD Community Room
East Montpelier Fire District No. 1	2nd Tues 7:00/6:00 p.m.	EMFD Community Room
East Montpelier Historical Society	3rd Tues 7:00/6:00 p.m.	Four Corners Schoolhouse/E. Calais
East Montpelier Senior Living Initiative	2nd & 4th Tues 6:30 p.m.	Town Office Bldg
Four Corners Schoolhouse Association	2nd Wed 7:00 p.m.	Four Corners Schoolhouse
EMES Parent Teacher Neighbor Org. (PTNO)	2nd Wed 6:30 p.m.	Elementary School, Art Room
Planning Commission (PC)	1st & 3rd Thurs 7:00 p.m.	Town Office Building
Recreation Board	2nd Mon 7:15 p.m.	Elementary School
Selectboard	1st & 3rd Mon 6:30 p.m.	Town Office Building
U-32 School Board	1st & 3rd Wed 6:00 p.m.	U-32 School